



Economic empowerment through strengthening the role of farmer groups in TNBTS

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ARTICLE INFO	ABSTRACT
<p>Article history Received: 2023-05-02 Revised: 2023-05-22 Accepted: 2023-07-18 Published: 2023-08-19</p> <p>Keywords Agricultural sector Economics empowerment TNBTS</p>	<p><i>Bromo Tengger Semeru National Park (TNBTS) is one of the attractive natural tourist destinations in Indonesia, especially in East Java. Besides having natural wealth and beautiful scenery, TNBTS not only offers tourism, but also a fertile agricultural sector. However, the development and management of the sector has not yet been optimized so that it has not had an equitable impact on improving the economy of citizens and the welfare of the community, especially in Tosari District, Pasuruan Regency. Therefore, the purpose of this service is to empower the economy of the community in the Bromo Tengger Semeru National Park (TNBTS) Tosari District, Pasuruan Regency. The findings show that there are 9 farmer groups in the Tosari sub-district that have developed superior products, namely potatoes. The problems experienced by farmer groups in the Tosari sub-district are subsidized fertilizers and the weather that often changes. Another problem faced by farmers in Tosari District is the purchase of harvested goods at low prices by middlemen. So, in this case, the government needs to play a role in supplying subsidized fertilizers and educating farmers regarding climate change. Farmers' groups can synergize with Karang Taruna groups to market and promote Tosari's specialty processed products. Farmers' groups can also synergize with academics in making Tosari's specialty products.</i></p>
<p>Kata Kunci Pemberdayaan ekonomi Sektor pertanian TNBTS</p>	<p>Taman Nasional Bromo Tengger Semeru (TNBTS) merupakan salah satu destinasi wisata alam yang menarik di Indonesia, khususnya di Jawa Timur. Selain memiliki kekayaan alam dan pemandangan yang indah, TNBTS tidak hanya menawarkan wisata, tetapi juga sektor pertanian yang subur. Namun pengembangan dan pengelolaan sektor tersebut belum optimal sehingga belum memberikan dampak yang merata bagi peningkatan perekonomian warga dan kesejahteraan masyarakat khususnya di Kecamatan Tosari Kabupaten Pasuruan. Oleh karena itu tujuan dari pengabdian ini adalah untuk memberdayakan perekonomian masyarakat di kawasan Taman Nasional Bromo Tengger Semeru (TNBTS) Kecamatan Tosari Kabupaten Pasuruan. Hasil temuan menunjukkan bahwa terdapat 9 kelompok tani di Kecamatan Tosari yang telah mengembangkan produk unggulan yaitu kentang. Permasalahan yang dialami kelompok tani di Kecamatan Tosari adalah pupuk bersubsidi dan cuaca yang sering berubah-ubah. Masalah lain yang dihadapi petani di Kecamatan Tosari adalah pembelian hasil panen dengan harga murah oleh tengkulak. Maka dalam hal ini, pemerintah perlu berperan dalam penyediaan pupuk bersubsidi dan mengedukasi petani terkait perubahan iklim. Kelompok tani dapat bersinergi dengan kelompok Karang Taruna untuk memasarkan dan mempromosikan produk olahan khas Tosari. Kelompok tani juga bisa bersinergi dengan akademisi dalam membuat produk unggulan Tosari.</p> <p style="text-align: right;">Copyright © 2023, Wahyudi et al. This is an open access article under the CC-BY-SA license</p> <div style="text-align: right;">  </div>

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INTRODUCTION

Tourism is one of the potential sectors in the economy of a country, Indonesia is no exception. Because inbound tourism is contributing more and more to long-term economic growth, its significance has increased dramatically. In the research conducted by Rasool et al. (2021) the World Tourism Organization reported that in 2013, there were over 1.087

billion Foreign Tourist Arrivals and foreign tourism receipts amounted to US \$1075 billion. It is projected that by the end of 2026, the contribution of travel and tourism to the gross domestic product (GDP) will reach 10.8% (World Travel and Tourism Council, 2016). These figures not only demonstrate economic strength but also highlight the significant potential of tourism in addressing crucial global challenges such as socio-economic growth and inclusive development. Developing countries are increasingly recognizing their economic potential and are emerging as key players in the tourism industry.

Tourism and the travel sector are significant economic activities worldwide (World Travel and Tourism Council, 2018). They play a crucial role in generating employment and income in both formal and informal sectors in many countries. For example, Hwang and Lee (2019) highlight the rapid growth of economic development in Korea attributed to the rise in elderly tourism. This increase indicates that tourists experience inner satisfaction, which positively influences their future behavioral intentions (2019). In developing countries, tourism serves as a primary source and foundation for economic development and growth (Shahzad et al., 2017). Additionally, tourism revenue complements the foreign exchange earned through international trade of goods and services. Furthermore, as the economy expands, it can be argued that the growth in GDP may lead to job layoffs (Brida et al., 2016).

Indonesia itself is an archipelagic country with abundant natural tourism potential and is able to attract tourist visits from various regions, both domestic and foreign. In 2018, the Indonesian tourism sector managed to absorb foreign exchange of IDR 229.5 trillion, an increase compared to the previous year of IDR 198.89 trillion (Ministry of Tourism, 2018). From the statement, it can be inferred that the tourism industry in Indonesia has a significant component of the country. This indicates why eventually overall development from tourism industry receiving significant attention as a priority program by the government. Starting from 2016, the tourism sector in Indonesia has been identified as the second largest contributor to foreign exchange earnings for the government (Mayasari & Rahardjo, 2018).

One of the natural tourism potentials that are in great demand by tourists is the Bromo Tengger Semeru National Park (TNBTS) located in East Java. The great demand seen from the number of visitors, for example in 2022, tourist visits to Bromo will reach 318 thousand people. This number showed that there is an increase compared to the previous year which amounted to 138 thousand visits. Of that number, 138 tourists came from within the country while only 240 foreign tourists (Antara, 2023). The location of TNBTS is in 4 (four) regencies in East Java, namely Pasuruan Regency, Probolinggo Regency, Malang Regency and Lumajang Regency. The National Park itself is a conservation area that has native ecosystems and is managed with a zoning system and its benefits are utilized for many purposes, such as research, science, education, supporting cultivation, recreation and tourism.

This TNBTS area consists of several interesting spots, such as climbing hills. Pananjakan peak tourism which is one of the good view point locations is the main destination for tourists to enjoy the sunrise which is located in Pasuruan Regency, precisely in Tosari District. The presence of the TNBTS tourist area has an impact on the surrounding area, especially the Tosari community. In addition, the area is also a protected forest area, so it is necessary to build infrastructure facilities to attract tourists to come and stay. The concept of carrying capacity is based on the idea that the environment has the maximum capacity to support the growth of an organism. Carrying capacity is commonly perceived and conceptualized as a crucial element in ensuring the sustainability of tourism. It is widely applied in protected areas, popular cultural and natural attractions, and plays a significant role in supporting the local community's way of life and the overall potential of tourist destinations (Josef & Jaroslav, 2014).

However, businesses that are developing in the TNBTS tourist area such as food and snacks, souvenirs, transportation and lodging can be constrained due to the ongoing COVID-19 pandemic. This has caused the number of tourists in the Tosari Pasuruan TNBTS area to decrease. Therefore, this service activity is carried out, it is hoped that the tourism potential in TNBTS can be further explored and developed. This is based on the statement by Soeswoyo et al. (2021), tourist villages are regarded by certain individuals as a compelling option for tourist destinations amidst the Covid-19 pandemic. In addition to the allure of natural attractions such as mountainous scenery, rice fields, and plantations, which generally offer fresher air and are distant from pollution, the manageable visitor density in tourist villages is often attributed to their expansive land area.

Tosari as a tourist gateway in Pasuruan district still has several obstacles in supporting the tourism sector in the Bromo Tengger Semeru National Park area, namely the bumpy road. The lack of factors supporting the increase in tourists visiting the TNBTS area is the category of accessibility and amenities. Accessibility in TNBTS can be reached using various modes of transportation. Road access is a complaint that often arises from tourists because the roads they take are bumpy and lack of lighting. In the amenities category, hotels and places to eat are still lacking in facilities than those from Malang and Probolinggo routes.

People often complain about the toilets in the area as they are inadequate, unpleasant smelling, costly, and not separated by gender. Despite this, the area around Mount Bromo, particularly Tosari District, has the potential for significant economic development as a source of income for the local population. The high number of visitors to this region can positively impact local businesses at the household level, including food and snacks, souvenirs, transportation, and lodging. A study by Wandani (2020) further supports this notion, which aimed to identify the strengths and weaknesses of TNBTS by gathering reviews from informants on the TripAdvisor platform. The study revealed that TNBTS has been visited by tourists from 38 different countries worldwide, indicating that it is known and visited by various nationalities. However, the study also highlighted the shortage of toilets in the area, which was the most frequent

complaint among tourists due to inadequate facilities, unpleasant odors, high fees, and the absence of gender segregation.

There were several previous studies that also discuss ecotourism in the TNBTS area, in addition to some of the descriptions from the activities that the tourists can do above. One of them was a research belonging to Sunardi et al. (2019), they stated that TNBTS has the opportunity to be developed into a tourism area that is in line with sustainable development programs and has a positive impact on tourism needs in Indonesia. In addition, there was also another study belonging to Hakim (2016) which supports this research by using the concept of a biosphere reserve, the TNBTS area has a high potential in spurring economic development and community welfare (especially people who live in biosphere reserve areas). Furthermore, this statement was also supported by Kratzer & Ammering (2019) with his statement that the existence of biosphere reserves helps improve the welfare of local communities because the community uses natural resources innovated to improve the quality of their economy.

The difference between this research and previous research is that this research focuses on economic empowerment using the SWOT method. The SWOT analysis is an essential tool for conducting a comprehensive evaluation of enterprises. It assesses the strengths, weaknesses, opportunities, and threats faced by the organization, taking into account both internal and external factors that impact its operations (Sarbjit, 2017). The SWOT matrix compares strengths, weaknesses, opportunities and threats (Rangkuti, 2006). In the SWOT matrix, strategy formulation is carried out by combining these four factors so that four alternative strategies are produced, namely SO, WO, ST and WT strategies. SO Strategy (Strength – Opportunity) is a strategy by using the internal strength of a business to seize existing opportunities. The WO (Weakness – Opportunity) strategy is a strategy with the aim of minimizing the internal weaknesses of a business by taking advantage of external opportunities. ST strategy (Strength – Threat) is a strategy with the aim of utilizing internal strengths to avoid or reduce the impact of external threats. The WT (Weakness – Threat) strategy is a strategy with the aim of surviving by reducing internal weaknesses and avoiding threats (Yohanes Prince Dosinaen, 2019). Advantages of SWOT analysis is a universal method that is applicable in a wide variety of areas of economics. It can be adapted to any level of research object. SWOT analysis is a flexible method with a free choice of the analyzed elements depending on the goals set and can be used both for operational assessment and for strategic planning over a long period (Ilhomovna, 2021).

With the pioneering of the Makmur farmer group, it is hoped that it can improve the skills of the residents of Tosari and its surroundings in terms of processing agricultural products. So that it is not only marketed in the form of agricultural products, but also agricultural products that have added value. In addition, there is also assistance on the processing of these agricultural products, presentation and product marketing. Main agricultural products from the Tosari area are leeks and potatoes. Thus, the processing of these two commodities is the focus of this service, but it is possible to develop agricultural products from commodities other than leeks and potatoes. Based on the above, the goal of this programs is to form a Makmur farmer group by synergizing skills in processing, presenting and marketing products, especially scallions and potatoes.

In this study, the SWOT analysis method was used. The SWOT analysis reveals both internal and external factors that are deemed significant in attaining objectives, which involves identifying strengths, weaknesses, opportunities, and threats. This analysis operates under the notion that when formulating policy strategies, an organization should leverage its strengths and opportunities while minimizing weaknesses and threats to achieve a harmonious alignment between internal and external conditions (Mayasari & Rahardjo, 2018). In addition, SWOT is relatively easy to implement for the general public as well as the parties involved in this service activity. Phadermrod et al. (2019) through their finding indicated that the SWOT analysis conducted in the case study effectively represented the current state of the organization.

Therefore, this community service aims to enhance the economic potential for the primary agricultural commodities in Tosari Sub-district, Pasuruan Regency. This objective aligns with the SDGs, specifically eradicating poverty in all its forms, which remains one of the greatest challenges facing humanity. The community service involves several stages, including farmer training, agricultural product education, and post-harvest processing.

METHOD

This community service was carried out in Tosari District, Pasuruan Regency. Tosari is a district located in the southeastern part of Pasuruan Regency, East Java Province, Indonesia, and it is the district with the highest geographic position in East Java Province (see Figure 1). Tosari District serves as one of the access points to Mount Bromo from the direction of Pasuruan and is included in the Bromo Tengger Semeru National Park tourist area. The majority of the population in Tosari are native Tenggerese people. To provide a clearer picture, the following is a map depicting the location of Tosari sub-district.

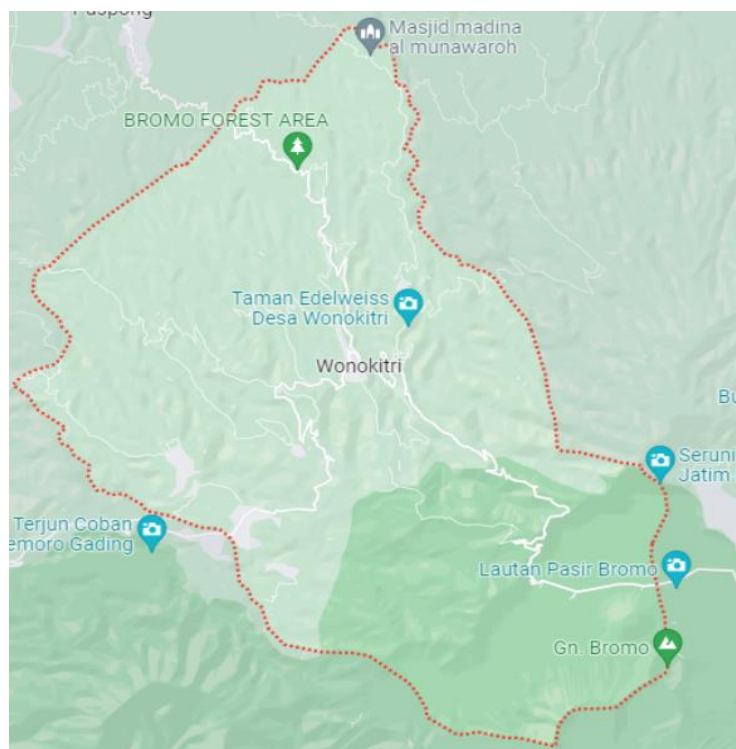


Figure 1. Location of Tosari Sub-District on map

Overall, this community service took place for approximately 3 months, starting from communication with the sub-district authorities until the analysis results were obtained based on the collected data. During the process of this community service activity, two Focus Group Discussions (FGDs) were conducted and two sessions were held to present materials on business prospects and how to diversify agricultural processed products. The field visits were conducted for approximately 2 weeks and were not carried out sequentially.

Focus Group Discussion

Focus Group Discussion (FGD) is a commonly employed qualitative method that allows for a comprehensive exploration of social phenomena (O.Nyumba et al., 2018). This approach is designed to gather data from a targeted group of individuals rather than from a statistically representative sample of the larger population. Despite its widespread use in conservation research, there has been a lack of critical evaluation regarding the application of this technique. Furthermore, readily accessible guidelines specifically tailored for conservation researchers are currently unavailable.

FGD serve as a fundamental medium for qualitative research, which aims to explore and capture subjective opinions and emotions from participants, as opposed to the collection of numerical data in quantitative research. Through FGD and other qualitative methods, researchers can delve into detailed discussions and uncover unexpected perspectives on consumer perceptions of a product. Unlike precise and structured quantitative research studies, FGD offer broader and more in-depth insights into the brand and related topics (Yayeh, 2021). The FGD aims to identify various problems faced by farmers in Tosari sub-district.

1. Mechanisms carried out in FGD activities include:
 - a) Invite farmers who are members of farmer groups in each village in Tosari sub-district,
 - b) Capture and identify various problems faced by farmers,
 - c) Provide feedback to farmers related to various problems faced,
2. Assistance and identification of commodity processing
This activity is carried out by providing understanding to farmers in terms of increasing added value. have economic added value.
3. Manufacture of processed products for chili gendot, which is a superior commodity but does not have economic added value.
4. Preparation of pocket books and product labeling.
The pocket book that is expected to be produced includes a digital economy pocket book to boost product marketing and regional potential. In addition, the design and labeling of processed products is also made.

SWOT Analysis

This study uses the SWOT analysis method to examine the potential of Tosari District, both economic potential and tourism potential. A SWOT analysis determines which priorities must be prioritized or managed first. The SWOT description based on the explanation of phenomena and empirical studies is summarized in Table 1.

Table 1 SWOT Analysis

Strengths (S)	Weaknesses (W)
<p>Internal strengths related to the economic, agricultural and tourism potential of Tosari District, Pasuruan.</p> <p>Economic: The large number of visitors in this area will certainly have a good impact on the surrounding population to develop businesses both on a household scale, such as food and snacks, souvenirs, transportation, and lodging.</p> <p>Agricultural: Land in TNBTS Area Tosari District, Pasuruan is fertile and very supportive for agricultural facilities. Therefore TNBTS can further make the agricultural sector as leading sector and the economy can increase. This statement supported by Kristi, Nafia and Handriyono, (2021) that income from the tourism and agricultural sectors is also very promising.</p> <p>Tourism: TNBTS Area Tosari District, Pasuruan has a lot of tourism spot. The tourism spot at TNBTS Area Tosari District are Bromo-Tengger-Semeru tourism destination area, composed of 4 regencies (Lumajang, Malang, Pasuruan and Probolinggo) and the city of Malang. It has been established as one of the National Tourism Strategic Areas in 2015, is a UNESCO World Network Biosphere Reserve since 2015 as well as, from 2019. The area includes key natural assets such as Mount Bromo, Tengger caldera and Mount Semeru (Nizette, Parman, Esposito, Arifin, and Gorjux, 2022).</p>	<p>Weaknesses related to the economic, agricultural and tourism potential of Tosari District, Pasuruan.</p> <p>Economic: Businesses that are developing in the tourist area of TNBTS such as food and snacks, souvenirs, transportation, and lodging can be constrained due to the ongoing COVID-19 pandemic. This causes the number of tourists in the TNBTS Area Tosari District, Pasuruan to decrease.</p> <p>Agricultural: In addition, the agricultural sector has also been affected by the pandemic as vegetable prices have decreased. This causes the selling price of vegetables to decrease and results in a decrease in the profits of the sellers. This statement supported by Kristi, Nafia and Handriyono, (2021) that vegetable prices have decreased at pandemic.</p> <p>Tourism: The tourism sector has experienced a decline due to COVID-19 which still exists today. This resulted in a decrease in the number of tourists visiting. Beside that the process commodities such as potatoes, the production process requires food technology tools that are not cheap.</p>
Opportunities (O)	Threats (T)
<p>Potential opportunities from external factors that help to develop the economic, agricultural and tourism potential of Tosari District, Pasuruan.</p> <p>Economic: Community service carried out can encourage an increase in product diversification from processed harvests.</p> <p>Agricultural:</p> <ul style="list-style-type: none"> - The potato commodity produced from the harvest can be processed into snacks to increase added value and the economy at TNBTS Area Tosari District, Pasuruan. For increase the value added, farmers can involve academics to help increase product diversification. - Assistance in debriefing from relevant agencies to improve the quality of agricultural products - The development of organic fertilizer business from goat manure in collaboration with Keren Tani Muda in Bali can improve the quality of fertilizer and increase production. <p>Tourism: The absence of a large-scale restriction policy encourages an increase in the number of tourists. Moreover, Covid-19 is subsiding and the availability of a COVID-19 vaccine can potentially increase tourist's interest in visiting TNBTS because vaccines reduce the risk of transmission.</p>	<p>Potential opportunities from external factors that threaten the economic, agricultural and tourism potential of Tosari District, Pasuruan.</p> <p>Economic: The potato commodity, which is a superior product in Tosari, has lost competitiveness with the potato commodity from Batu, Malang. Therefore, the farmer need creativity and renewable innovation in the processing of agricultural products to produce products with high selling value.</p> <p>Agricultural:</p> <ul style="list-style-type: none"> - The cost of making or creating food technology is not cheap so that production capacity becomes less than optimal. - Market fluctuations and price volatility can affect the income of farmers. <p>Tourism: Approaching the moment of the holiday and weekend makes the area in TNBTW congested and the presence of COVID-19 has the potential to encourage an increase in the number of tourists affected by COVID-19.</p> <p>Institutional and Technology</p> <ul style="list-style-type: none"> - Support, direction, and cooperation between farmers and related elements in supporting the maximum increase in Tosari's agricultural productivity. - Provision of capital and systematic cooperation with competent parties in their fields in the context of improving the quality of agriculture. - Limited access to capital and technology may hinder the development of agriculture in Tosari District.

RESULTS AND DISCUSSION

FGD (Focus Group Discussion) is an effective method for gathering data and information since it entails group discussions that promote open sharing of thoughts and ideas among participants. This approach enables researchers to obtain insights from various perspectives and identify common themes and patterns that may not have emerged through individual interviews or surveys. FGDs can be conducted with diverse participants, including community members, stakeholders, experts, or practitioners, depending on the research objectives.

In the context of community service through the Doctoral Service scheme, FGDs can help researchers better understand the needs, challenges, and opportunities of the target community. By engaging community members in the discussion, FGDs can also promote participation, collaboration, and ownership in the research process. Furthermore, FGDs can generate rich and nuanced data that can inform the design and implementation of interventions that are contextually relevant and responsive to the local context.

It is great to hear that the Doctoral Service activity has been welcomed by the local community and officials (Figure 2). The speech delivered by the Head of the Brawijaya University Service Team provided clarity on the aims and objectives of the activity, which is essential for gaining support and participation from the community. It is also positive that the Secretary of the Tosari Sub-district emphasized the importance of understanding Tengger culture, as this can help build rapport and trust with the local community.

The participation of approximately 20 farmers, who are also part of farmer groups, is also promising as it helps ensure community involvement in the service activity and effective coordination among them regarding production inputs. Involving key stakeholders such as farmers in the FGDs can also help identify the most pressing economic problems facing the community, as well as potential solutions that are relevant and feasible. Overall, the success of the Doctoral Service activity depends on the engagement and collaboration of all stakeholders involved, including the service team, community members, and local officials. By working together, it is possible to identify and address the economic problems faced by the people of Tosari and promote inclusive and responsive sustainable development that addresses the needs of the local community.



Figure 2. Forum Group Discussion with farmer groups in Tosari District

It is important to have a clear overall picture of the activity and the expected outputs, but it is also important to remain flexible and make adjustments to field conditions as necessary. This approach can help ensure that the activities are responsive to the local context and can produce meaningful and relevant outputs that contribute to the economic empowerment of the community in the Bromo Tengger Semeru National Park (TNBTS), Tosari District, Pasuruan Regency.

The background of the activity provides important context and justification for the Doctoral Service program. Understanding the economic challenges faced by the Tosari community, as well as the potential of agriculture and tourism, is essential for designing effective interventions that can empower the community economically. The activity plan should outline the specific activities that will be carried out to achieve the program's objectives, along with the expected timeline and required resources. This plan should be flexible and adaptable to changes in the field while maintaining a clear focus on the goals and objectives of the program.

The program can yield both tangible and intangible outputs. Tangible outputs may include the development of training materials, the establishment of farmer groups, the provision of inputs for agriculture or tourism activities, and the creation of market linkages. Intangible outputs may encompass increased community awareness and participation,

enhanced community empowerment and self-reliance, and strengthened networks and partnerships among stakeholders. These outputs should be clearly defined and measurable, allowing for progress tracking and evaluation over time.

The information and data obtained from the farmer groups in Tosari District through the FGD session provide valuable insights into the current state of agriculture in the area (Figure 3). The existence of 64 farmer groups in eight villages indicates that there is already a certain level of organization and coordination among farmers, which can be built upon to promote more sustainable and profitable agricultural practices.

The significance of agriculture to the local economy is evident as most the area's population is employed in the agricultural sector and actively involved in farmer groups. However, it's worth noting that there are still individuals who are not part of these groups, suggesting a potential requirement for heightened awareness and outreach initiatives to encourage broader participation in organized farming activities.

The assumption that larger farms do not need to be part of farmer groups may also hinder increasing membership. It is important to recognize that even large farms can benefit from the resources and support provided by farmer groups, such as access to inputs, training, and market information. Encouraging more farmers, including those with larger farms, to join farmer groups can help strengthen the overall agricultural sector in the area. Overall, the information obtained through the FGD session can help inform the development of targeted interventions that can support the economic empowerment of the Tosari community, with a particular focus on agriculture and tourism. By building on the existing strengths and addressing the barriers to participation, it is possible to create a more inclusive and sustainable economic development strategy that benefits the entire community.



Figure 3. FGD session with farmer groups in Tosari District

The statement made by the representative of the farmer group from Mororejo Village highlights the importance of having access to subsidized inputs, such as fertilizer, for smallholder farmers. The requirement that farmers must be members of a farmer group in order to receive subsidized fertilizer is a common practice in many countries. This practice not only encourages the formation of farmer groups but also improves their organization and coordination. However, it is also important to recognize that the benefits of membership in a farmer group go beyond access to subsidized inputs. Farmer groups can provide a range of services and support to their members, including access to credit, training, and market information. Moreover, they serve as a platform for collective action and advocacy, facilitating a stronger voice for farmers in their community.

The fact that some residents are not members of farmer groups because they are able to meet their fertilizer needs and have other jobs besides farming highlights the need to consider the diverse needs and circumstances of the community when designing interventions to promote economic empowerment. In some cases, it may be more appropriate to focus on supporting non-farm activities or promoting the diversification of income sources. In this case Odoh et al. (2019) through their study recommended that government should improve rural infrastructures like good road network, electrification, potable water, telecommunication service, and affordable healthcare system since they are important for enhancing socio-economic activities. It is also recommended that government should initiate policy for reducing risk and uncertainties inherent in agricultural activities in order to encourage farmers to remain in the business of farming.

It's encouraging to learn about the various empowerment efforts that have been implemented, such as savings and loans programs, training on potato seed production, and collaboration with Keren Tani Muda in Bali to establish an organic fertilizer business. However, it is concerning that farmers still rely on non-organic fertilizers when cultivating commodity crops like potatoes, and the use of both organic and non-organic fertilizers persists to address fertilizer

scarcity. Finding a sustainable solution to this issue is crucial, as the use of non-organic fertilizers can have detrimental effects on the environment and human health. Perhaps the service team can play a role in providing education and training on the benefits of using organic fertilizers and effective methods for their production. Additionally, they can incentivize farmers to transition to organic farming practices by offering incentives or assistance in obtaining organic certification.

Several studies show the impactful of farmer empowerment. Research by Mwololo et al. (2021) results show that farmer empowerment in agriculture increases per capita farm incomes. Interestingly, improving the income domain for female farmers increases their farm incomes more than for their male counterparts. They conclude that farmer empowerment in agriculture is a necessary driver of farm incomes, with the production, leadership and income domains being the viable impact pathways. Thus, development interventions should target specific empowerment domains while controlling for sex differences among the target farmers.

There are multiple research-based approaches to promoting organic farming. Firstly, educating farmers about the advantages of organic farming through extension services and training programs can be effective. This involves sharing information on the economic, environmental, and health benefits associated with organic practices, as well as providing practical methods for managing pests and diseases without relying on synthetic chemicals. Secondly, offering financial incentives can encourage farmers to transition to organic farming. This may include subsidies for organic certification, grants for procuring organic inputs, and price premiums for organic products. These measures can collectively contribute to the adoption and expansion of organic farming practices in the agricultural community.

Furthermore, Ndlovu et al. (2022) also found that support organizations/groups demonstrated higher levels of collaborative innovative practices in market and consumer engagement compared to other areas. The significance of innovative practices varied across the dimensions of organic farming sustainability, namely environmental, social, political, and economic aspects. It is crucial to enhance organic farming innovations in order to address various challenges, such as improving area productivity, promoting environmentally friendly and safer agricultural practices, and ensuring food security.

The case about fair price also analyzed by Crowder et al. (2015). They examined the financial performance of organic and conventional agriculture over a period of 40 years, encompassing 55 crops grown across five continents. The researchers discovered that, despite lower yields, organic agriculture proved to be considerably more profitable than conventional agriculture, indicating its potential for global expansion. Furthermore, due to its environmental advantages, organic agriculture can play a significant role in sustainably addressing global food needs.

Research also plays an important role in encouraging organic farming. For example, a study conducted in 2017 by Driscoll from the University of California, Berkeley, found that organic farming can be more profitable than conventional farming, especially for small and medium-sized farms. The study analyzed data from 44 strawberry farms in California and discovered that organic farms had higher net returns than conventional farms, despite experiencing lower yields. This research finding provides substantial evidence that can be shared with farmers to highlight the economic benefits of organic farming and promote its adoption.

It appears that farmers in the Tosari District are facing challenges in obtaining fair prices for their harvested goods due to their reliance on middlemen who provide financing for spraying costs. This puts the farmers at a disadvantageous position and affects their income. One potential solution could be to explore alternative financing options for spraying costs, such as microcredit or government support programs. These alternatives may reduce their dependence on middlemen and provide them with more bargaining power in the market. Additionally, diversifying their income sources or exploring other crops could also be considered to reduce their vulnerability to price fluctuations and market uncertainties.

Assouto et al. (2020) also said that farmers face many types of risks that affect their behavior and well-being. Among these risks, the one related to the price of products appears the most economically sensitive. Their research examine the choices made by farmers at the individual farm level to demonstrate that they are expanding their production and cultivating larger areas in response to price fluctuations. This indicates that price volatility serves as a motivating factor for increased maize production in Benin. The paper recommends considering the impact of risk aversion when formulating policies aimed at stabilizing agricultural prices, particularly in developing nations.

As previously mentioned, SWOT incorporates both internal and external factors. The internal factors are reflected in the terms "strengths" and "weaknesses." "Strengths" refer to aspects of an organization or entity that give it an advantage over its competitors, while "weaknesses" pertain to characteristics that put the entity at a relative disadvantage compared to the competition. On the other hand, the external factors consist of "opportunities" and "threats." "Opportunities" are favorable conditions in the external environment that can be leveraged for the entity's benefit, whereas "threats" are external factors that may pose challenges or problems for the entity. Based on the results of this Focus Group Discussion (FGD) activity, a SWOT analysis can be obtained in Table 2.

Table 2. SWOT Analysis on Farmers' Groups in Tosari District

Strength	Weakness
<ol style="list-style-type: none"> 1. Main commodity in the form of potatoes 2. Farmer groups with large numbers 	<ol style="list-style-type: none"> 1. Processing of agricultural products that have not been maximized 2. Problems with capital and budgeting for farmers 3. Empowerment of farmer groups that have not been maximized 4. The use of non-organic fertilizers in the process of planting commodity crops such as potatoes increases production costs and may harm the environment.
Opportunity	Threat
<ol style="list-style-type: none"> 1. Assistance in debriefing from relevant agencies to improve the quality of agricultural products 2. Increasing the selling value of products through the development of TNBTS tourism potential 3. The development of organic fertilizer business from goat manure in collaboration with Keren Tani Muda in Bali can improve the quality of fertilizer and increase production. 4. There is potential for the development of agro-tourism in Tosari District, which can increase income for farmers. 	<ol style="list-style-type: none"> 1. Support, direction, and cooperation between farmers and related elements in supporting the maximum increase in Tosari's agricultural productivity 2. Creativity and renewable innovation in the processing of agricultural products to produce products with high selling value 3. Provision of capital and systematic cooperation with competent parties in their fields in the context of improving the quality of agriculture. 4. Climate change and natural disasters may affect crop yields and production. 5. Market fluctuations and price volatility can affect the income of farmers. 6. Limited access to capital and technology may hinder the development of agriculture in Tosari District.

CONCLUSION

From the findings of the Focus Group Discussion (FGD), it was concluded that the agricultural sector in Tosari has several weaknesses, which include the underutilization of agricultural product processing, inadequate capital and budgeting for farmers, and the underutilization of farmer groups. On the other hand, the agricultural sector also presents opportunities such as the provision of support and guidance from relevant agencies to improve the quality of agricultural products and the potential to increase the selling value of products through the development of TNBTS tourism potential. Then, the threats faced by the agricultural sector in Tosari are the high dependence on non-organic fertilizers, the lack of access to market information, and the low selling prices of agricultural products due to the presence of middlemen. Finally, the strengths of agricultural sector in Tosari are the availability of fertile land, a large population working in the agricultural sector, and the existence of farmer groups that can be empowered. Based on these conclusions, the service team can develop strategies and recommendations to improve the economic empowerment of the community in the agricultural sector in Tosari District.

Hence, there are various recommendations that can be proposed. The farmer groups can collaborate with Karang Taruna groups to advertise and market the specialty processed goods of Tosari. Additionally, the farmer groups can cooperate with academics to enhance the processing of Tosari's specialty products. One of Tosari's distinctive processed products is BroChi, which was initiated by the Tosari Service Team. Thus, the team has put forward several suggestions for the farmer groups in Tosari. Firstly, the farmer groups should work together with Karang Taruna to endorse and trade Tosari's premium products. Secondly, to improve the efficiency of processing harvested products, the farmer groups should collaborate with academics in creating Tosari's specialty products. In line with the second recommendation, the Tosari Service Team has introduced a product sample called Brochi as Tosari's specialty processed products.

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