

The Role of Sidorukun Farmers Group through the Food Security Program

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Abstract. This study aims to describe and analyze the empowerment of the Sidorukun Farmer Group in strengthening food security in Kendalpecabean Village, Candi Sub-district, Sidoarjo Regency. The research employed a qualitative method with a descriptive approach, purposive sampling technique, and data collection through observation, interviews, and documentation. Data were analyzed using an interactive model, which includes data reduction, data display, and conclusion drawing. The theoretical framework applied is empowerment theory, which consists of five indicators: welfare, access, critical awareness, participation, and control. The findings indicate that the welfare indicator has improved through the development of irrigation channels, water gates, pumping houses, and pest control to reduce crop failure risks. The access indicator is reflected in the utilization of farmland, pumping houses, and irrigation networks, as well as efforts to stabilize grain prices and maintain solidarity among members. The critical awareness indicator emerges from farmers' initiatives such as collective riverbank rehabilitation, simultaneous planting, and crop schedule recording. The participation indicator is seen in involvement in village meetings and planting coordination, though still largely facilitated by the government. Meanwhile, the control indicator has begun to develop through the farmer group's organizational structure, but strategic decisions remain dependent on the village and agricultural offices. Overall, the empowerment of the farmer group has proven effective in strengthening local food security, although further improvement in participation and control aspects is needed to achieve sustainable farmer independence.

Keywords: Empowerment; Farmer Groups, Food Security, Farmer Participation

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INTRODUCTION

Food security is an important foundation for national development and a measure of a nation's sovereignty. Adequate, nutritious, safe, equitable, and accessible food is not only a basic need but also a pillar of economic and social stability (Lermating et al., 2024; Shobachiyah & Choiriyah, 2024). In Indonesia, the issue of food security has always been a strategic agenda due to the large population, increasing consumption, and the threat of climate change, which has a real impact on the agricultural sector (Khasanah et al., 2024; Mulyasara & Anti, 2024). This is emphasized in Law Number 18 of 2012 concerning Food, which states that food fulfillment is a fundamental right of every individual and the state's obligation to fulfill it sustainably (Undang-Undang Republik Indonesia, 2012; Fernanda & Agustina, 2025; Rumawas et al., 2021; Tama & Priyanti, 2022).

However, maintaining national food security is not an easy task. Indonesia faces various challenges, ranging from the reduction of agricultural land due to conversion, limited access to water, capital, and technology, to market price fluctuations and the threat of floods, droughts, and the increasingly extreme effects of climate change (Chasan & Choiriyah, 2024; Meo et al., 2023; Shobachiyah & Choiriyah, 2024). These conditions can hamper farmers' productivity and impact their ability to maintain food security. Data from the Ministry of Agriculture shows that the average rate of land conversion is 16,000 hectares per year between 2019 and 2024, which threatens the sustainability of food production (demakkab.go.id, 2025; Fadilah, 2024). This situation has been anticipated through Law Number 41 of 2009 concerning the Protection of Sustainable Food Agricultural Land, which emphasizes the importance of protecting rice fields from excessive conversion, although its implementation still faces obstacles in the field (Undang-Undang Republik Indonesia, 2009). Based on the 2023 Global Food Security Index (GFSI), Indonesia ranks 63rd out of 113 countries, with a low score in terms of sustainability. The GFSI uses four key aspects, including food affordability, availability, nutritional quality and food safety, and natural resources and resilience (Kementerian Pekerjaan Umum, 2023; Ramadhani & Safira, 2025). This condition emphasizes the importance of strengthening the capacity of farmers to adapt to global changes while maintaining domestic food independence.

The role of the agricultural sector in the national economy remains important even though its contribution to the Gross Domestic Product (GDP) in 2024 is recorded at less than 12.40% (Nefi, 2025). According to IDNFinancials, the largest contribution actually comes from the manufacturing and trade sectors (IDN Financials, 2022, 2025). Nevertheless, nearly one-third of Indonesian workers still rely on the agricultural sector as their source of livelihood (BPS, 2025; Mirta, 2023). However, the position of farmers in the field is often still vulnerable, both to commodity price fluctuations, limited access to capital, and delays in technology adoption (Wakerkwa et al., 2022). This situation highlights the need for measures to empower farmers so that they are not only objects of development but also key subjects in the food system. This condition necessitates policy interventions that favor farmers (Mutmainna et al., 2020). This situation is in line with the provisions of Law Number 19 of 2013 concerning the Protection and Empowerment of Farmers, which emphasizes farmers' rights to price protection, access to means of production, and capacity building through education and extension (Mirta, 2023; Mutmainna et al., 2020). To support these rights, Law No. 6 of 2014 on Villages provides space for village governments to allocate village budgets to strengthen the agricultural sector, so that villages are not merely recipients of policies but also become the main drivers of community-based

development (Ariyanti & Sukmana, 2024; Sabeera et al., 2024). Collaboration between the central, regional, and village governments is key to building a resilient and sustainable food system (Herianto et al., 2025; Simatupang, 2018).

A similar reality can be seen in Kendalpecabean Village, Candi Subdistrict, Sidoarjo Regency, which faces challenges in agricultural areas such as flood-prone rice fields, irrigation infrastructure in need of repair, and recurring pest threats that reduce agricultural productivity (Lermating et al., 2024). These conditions highlight the importance of farmer groups as institutions that not only serve as administrative bodies but also as means of empowerment to increase farmers' independence, capacity, and competitiveness in making strategic decisions about their farming businesses (Ramli, 2018; Rosidin et al., 2023; Wijaya et al., 2022). Empowerment is the process of providing knowledge, skills, and opportunities to the community so that they can be more independent and improve their quality of life (Chasan & Choiriyah, 2024; Kapoh et al., 2022).

In its implementation, field assistants from various parties, including the community itself, are needed (Shobachiyah & Choiriyah, 2024). According to Lesnussa (2019), empowerment covers five main aspects: (1) welfare, (2) access, (3) critical awareness, (4) participation, and (5) control. In line with this, Minister of Agriculture Regulation No. 82 of 2013 concerning Guidelines for the Development of Farmer Groups and Gapoktan emphasizes that farmer groups play a role in optimizing the capabilities of their members, expanding access to information, and strengthening cooperation in managing farming businesses (Londa & Tampongangoy, 2021). This empowerment is carried out through various efforts, including training and technical guidance so that farmers acquire new skills, adopt modern technology, and increase productivity (Mutmainna et al., 2020; Selli et al., 2025; Yudha & Kurniawan, 2022). Through solid organization, farmer groups serve as a means of cooperation for farmers, village governments, and external partners to fight for common interests. With this approach, farmer groups act as the driving force behind local food security and an important pillar in realizing independent, competitive, and sustainable agriculture (Sukma Sulistya Aji, 2020; Syariani Br Tambunan & Muhammad Yassir, 2023).

Demographic data shows that Poktan Sidorukun 1 has 35 members and Poktan Sidorukun 2 has 25 members, with a total rice field area of approximately 74 hectares. The majority of farmers are hired laborers, not rice field owners, and Kendal Cabe has the potential for two harvests per year. Poktan Sidorukun 1 appears to be more active in utilizing this opportunity than Poktan Sidorukun 2. This condition shows that the success of farmer group programs is highly

dependent on the active participation of its members and their ability to utilize the existing land potential. Amidst these conditions, the Sidorukun Farmer Group in Kendalpecabean Village plays a strategic institutional role in strengthening local food security. Together with the village government, the farmer group implements various mutually supportive programs. These programs focus on water management and pest control, which are important foundations for agricultural sustainability and increased land productivity. In addition to implementing infrastructure and pest control programs, the Sidorukun Farmer Group also distributes business capital and processes its members' products.

This effort shows that the Sidorukun farmer group not only functions as a manager of agricultural resources, but also as an economic facilitator that supports the overall welfare of its members (Londa & Tampongangoy, 2021; Sabeera et al., 2024). These steps are consistent with the provisions of Law Number 19 of 2013 concerning the Protection and Empowerment of Farmers, which emphasizes the importance of strengthening institutions and providing support facilities for farmers (Mirta, 2023). One of the programs implemented is the construction of irrigation channels and floodgates in 2022–2024, which will then be supported by the normalization of irrigation channels in 2023–2024. These two programs ensure that water distribution can run smoothly and evenly to the rice fields downstream. With more organized channels, the risk of drought and excess water can be minimized so that agricultural productivity is maintained.

In addition, in 2023, the Sidorukun farmer group also built a pump house as a solution when irrigation water discharge was insufficient. This facility allows land that is difficult to irrigate to become productive again. The presence of the pump house demonstrates the farmer group's ability to adapt to field conditions with simple but highly effective technical innovations. To protect their harvests, the Sidorukun farmer group also implemented a rat control program in 2022–2023. Rat infestations often pose a serious threat to farmers, so control measures are carried out collectively for greater effectiveness. This program helps reduce losses due to crop failure, while also strengthening the spirit of mutual cooperation among group members.

In addition, farmer groups also receive support in the form of high-quality seeds and fertilizer from the agricultural office, private parties, and through fertilizer subsidies from the government. Although this assistance is not always provided regularly every year, it is still very helpful for farmers in reducing production costs and increasing agricultural yields. The series of programs implemented by the Sidorukun Farmer Group shows that every effort plays a major role in strengthening food security in Kendalpecabean Village. Thus, the experience of the Sidorukun

Farmers Group shows that national food security actually relies on the strength of empowered and independent local communities.

Findings from various previous studies support the importance of empowering farmer groups in strengthening local food security in a sustainable manner. The first is a study conducted by Alaia and Darto (2024) entitled “Empowering Farmer Groups in Strengthening Local Food Security in a Sustainable Manner in Ciwangi Village.” This study aimed to examine the success of empowering farmer groups in increasing farmer independence and access to resources that support agricultural sustainability. The results show that the empowerment of farmer groups in Ciwangi Village through the dimensions of enabling, empowering, and protecting plays a significant role in advancing the agricultural sector. The enabling dimension includes the provision of resources and supporting facilities, empowering emphasizes increasing the independence of individuals and groups, while protecting aims to protect groups from the risks and threats of farming. The integration of these three dimensions provides a solid foundation for agricultural sustainability. Synergistic support from various parties, including the government and local stakeholders, strengthens the capacity of groups to adapt to technological innovations while maintaining local wisdom. These findings provide important insights for the development of holistic, adaptive, and sustainable farmer group empowerment models in other regions (Sabeera et al., 2024).

Second, research conducted by Selli, et al (2025) entitled “Empowering Rice Farmers to Improve Food Security in Sungai Dua Indah Village.” This study aims to examine the role of empowering rice farmers to strengthen food security and the aspects that influence it in Sungai Dua Indah Village. The results of the study state that the empowerment of rice farmers in the village plays an important role in increasing the productivity and welfare of farmers, but its implementation still faces obstacles such as limited access to resources and inconsistent regulatory support. Supporting factors such as training, the availability of quality seeds and fertilizers, and adequate agricultural infrastructure help strengthen the capacity of farmers in a sustainable manner. These findings provide important insights for the development of agricultural empowerment models in other regions (Selli et al., 2025).

Third, Research by Kristiani Nindi, et al (2024) entitled “The Role of Farmer Groups in Household Food Security (Case Study of the Kamubheka Village Food Barn in Maukaro District, Ende Regency)”. This study shows that farmer groups in Kamubheka Village play a crucial role in strengthening household food security through food barn management, food access provision, and member support. These food barns help maintain food availability even when production

declines or disasters occur. However, the empowerment of farmer groups still faces obstacles, such as management that is not yet fully transparent, limited resources, and uneven member participation. The debt management strategy implemented helps stabilize members' economies, although its implementation is sometimes inconsistent. These findings emphasize the importance of village government support and regular training to strengthen the capacity and effectiveness of farmer groups (Nindi et al., 2024).

Based on field observations, several major problems were found in the implementation of the empowerment of the Sidorukun Farmer Group in Kendalpecabean Village. First, the role of the farmer group and access to technology are still not optimal. The farmer group has not fully functioned as a center for agricultural innovation and education, so that members, especially tenant farmers, still have difficulty accessing the latest agricultural technology and techniques that encourage increased production. This condition hinders productivity and the sustainability of farming, while the role of the farmer group in education, innovation, and member assistance is still limited. Second, the availability of infrastructure and coordination between related parties is still inadequate. Irrigation channels, floodgates, pump houses, and river normalization still require major repairs, while rice fields located 3.5 meters below sea level are often flooded during the rainy season, causing crop failures in 2022 and part of 2024. In addition, coordination between Poktan, village governments, and related parties is not yet optimal, the bureaucratic structure and SOPs for LP2B implementation are unclear, so that the handling of major problems has not been effective. Third, the uneven distribution of program benefits and member capacity is also an obstacle. The benefits of the empowerment program have not been felt evenly, so that some farmers are less motivated to actively participate. Food production is still unable to optimally meet the needs of the community, compounded by the gap in crop yields between the hamlets of Kendal Cabe and Kendal Doyong. In addition, training and extension services for Poktan members are still limited in terms of improving their capacity. These conditions indicate that even though the empowerment program has been implemented, there are significant challenges that need to be overcome so that the Sidorukun Farmer Group can play a maximum role in strengthening local food security.

Based on this issue, the author is interested in identifying the implementation of empowerment of the Sidorukun Farmer Group in improving food security in Kendalpecabean Village using Lesnussa's (2019) empowerment theory, namely: Welfare, Access, Critical Awareness, Participation. This study highlights the assessment of the implementation of

empowerment of the Sidorukun Farmer Group by looking at the extent to which these indicators are applied and responded to in practice.

METHODS

This study applies a descriptive qualitative approach to examine the empowerment of the Sidorukun Farmer Group to strengthen food security in Kendalpecabean Village, Candi District, Sidoarjo Regency. The research location was chosen in Kendalpecabean Village because this village faces agrarian problems such as flood vulnerability, the need for irrigation infrastructure improvements, and pest attacks, which require the empowerment of farmer groups as a solution. This research focuses on Lesnussa's (2019) empowerment theory, which is key to analyzing the process of empowering farmer groups. This theory explains that empowerment includes five main indicators, namely: (1) Welfare: the fulfillment of basic needs for a safe and peaceful life. (2) Access: the ability to utilize programs and resources to increase capacity. (3) Critical Awareness: the understanding that social inequality can be changed. (4) Participation: active community involvement in decision-making. (5) Control: all levels of society participate in managing resources fairly and transparently. Informants were selected using purposive sampling techniques, consisting of Mr. Sutrisno (Head of the Sidorukun I Farmer Group), Mr. Mistar (Head of the Sidorukun II Farmer Group), Mr. Junaidi (Village Treasurer), and Mr. Subiyanto (Secretary of Kendalpecabean Village). The research data was divided into primary and secondary data, which was then collected through observation, in-depth interviews, and documentation. Data analysis was carried out using the interactive model of Miles and Huberman (1984), which included three stages: data reduction, presentation, and conclusion drawing, accompanied by triangulation to ensure the validity of the information.

RESULTS AND DISCUSSION

Empowerment is the process of increasing the capacity, independence, and participation of communities in managing resources so that they can make important decisions for their lives. In agriculture, empowering farmer groups is a strategy to strengthen the position of farmers, increase productivity, and create sustainable food security. This study discusses the empowerment of the Sidorukun Farmer Group using Lesnussa's (2019) theory with five indicators: Welfare, Access, Critical Awareness, Participation, and Control. These indicators are used to analyze the role of the Sidorukun Farmer Group in daily practices and its contribution to food security in Kendalpecabean Village.

Welfare

According to Lesnussa (2019), welfare is a condition in which the basic needs of the community are met, including food, clothing, shelter, clean water, education, training, and decent

work. Welfare is not solely assessed based on income, but also on quality of life, sense of security, and ability to cope with risks such as crop failure or natural disasters. In the context of Poktan empowerment, farmers' welfare is influenced by their ability to obtain stable harvests, access to means of production, and government interventions that increase productivity and village food security. In Kendalpecabean Village, farmers' welfare still faces major obstacles in the form of flooding, rat infestations, and limited irrigation infrastructure. Before the construction of irrigation channels, floodgates, and pump houses, farmers often experienced crop failures, especially during the rainy season. Assistance in the form of subsidized seeds or fertilizers was not yet routine, so farmers remained dependent on external resources. However, the allocation of village funds for infrastructure programs has begun to provide hope for increased crop yields and farmer income.

Based on interviews with farmers from Poktan Sidorukun I and II, it can be concluded that the construction of irrigation channels and floodgates has had a significant positive impact on land management and rice crop resilience. These facilities help reduce the risk of crop failure due to flooding during the rainy season, allowing farmers to plan and carry out their agricultural activities with greater peace of mind. In addition, rat control has also played a role in reducing losses, although not completely covering them. The normalization of water channels has also reduced production costs because the land is easier to cultivate and irrigation is more regular. Overall, these interventions have increased the efficiency of farmers' work and provided protection against agricultural risks, even though crop yields are not yet optimal. With continuous improvement and maintenance, it is hoped that the quality and quantity of rice production will increase in the future. In addition to the farmers' own efforts in managing their land and reducing the risk of crop failure, the role of the village government is also very important. One of these efforts is through the allocation of village funds focused on agricultural infrastructure development, such as irrigation channels, floodgates, and pump houses, which are expected to support successful planting and harvesting despite the rainy season.

The data in Table 1 shows the allocation of village funds from 2022 to 2024 for programs that support farmers' food security. The construction of irrigation channels and floodgates received the highest budget, reflecting the village government's priority to tackle flooding. Pump houses were only allocated in 2023, while rat pest control and water channel normalization were carried out on an ongoing basis. This data shows that empowerment through physical programs and pest control are the main foundations for improving farmers' welfare and productivity.

Based on Lesnussa's (2019) theory, welfare includes the fulfillment of basic needs and improvement of the quality of life of the community. The implementation of infrastructure and pest control programs in Kendalpecabean Village indicates that the village government is trying to

improve the welfare of farmers through the empowerment of farmer groups. These findings support the results of previous research conducted by Selfi, et al. (2025), which states that the empowerment of rice farmers plays an important role in increasing productivity and welfare, with the support of training, access to quality seeds and fertilizers, and adequate agricultural infrastructure. These findings are in line with the conditions in Kendalpecabean Village, where the construction of irrigation channels, floodgates, and pump houses has helped reduce the risk of crop failure, lower production costs, and strengthen farmer independence. Thus, the integration of village government programs and Poktan empowerment has proven effective in improving farmers' welfare, in line with the theory and practice proven in previous studies (Selli et al., 2025).

Table 1. Budget for the Sidorukun Farmer Group Empowerment Program in Kendalpecabean Village for 2022-2024

No.	Program Name	Beneficiaries	2022	2023	2024
01	Construction of irrigation channels and water gates	Farmers	Rp. 67.000.000,-	Rp. 209.000.000,-	Rp. 242.000.000,-
02	Construction of pump houses	Farmers	Rp. 25.000.000,-	Rp. 25.000.000,-	Rp. 25.000.000,-
03	Rat pest control	Farmers	Rp. 14.000.000,-	Rp. 20.000.000,-	-
04	Irrigation channel normalization	Farmers	Rp. 20.000.000,-	Rp. 20.000.000,-	Rp. 20.000.000,-

Access

Access to empowerment reflects the ability of individuals and groups to utilize available programs, services, and resources to increase capacity, overcome various problems, and improve quality of life. When this access is limited, the process of improving welfare is hampered. Social inequality widens the gap in opportunities to obtain resources, especially for economically disadvantaged groups. These resources include time, energy, land, information, knowledge, and skills. In the village of Kendalpecabean, farmers make optimal use of their time and energy in the planting and harvesting cycle, which takes place twice a year. The Sidorukun Farmer Group plays an active role in coordinating its members to ensure that agricultural activities run smoothly. In addition, the Sidorukun Farmer Group also maintains stable grain prices to protect farmers from losses due to market fluctuations.

Based on the informants' explanations in the interview, it can be concluded that farmers' groups' efforts to maintain stable grain prices are very important to protect farmers from losses

during the harvest season. Through coordination with middlemen and buyers, grain prices are kept reasonable so that farmers can cover production costs and make a profit, even though the results are not always optimal. This shows the role of farmer groups in controlling the local market to maintain the welfare of their members. In addition to maintaining prices, Poktan emphasizes the principles of solidarity and togetherness. Mutual cooperation in overcoming planting and harvesting obstacles, as well as fairness in the distribution of assistance, shows that the welfare of farmers does not only depend on crop yields, but also on the strength of togetherness among members. Togetherness and solidarity are important foundations for the sustainability of farmer groups. The principle of fairness in the distribution of aid, as well as the spirit of mutual cooperation when facing planting and harvesting obstacles, shows that the welfare of farmers is not only determined by crop yields, but also by the strength of togetherness among members. This proves that farmer groups do not only function as a means of production, but also as a social space that strengthens relationships between farmers. The success of farmer groups is also greatly influenced by the availability of supporting resources.

Tabel 2. Agricultural Resources of Kendalpecabean Village

Type of Resource	Quantity / Condition	Description
Rice Fields	74 ha	Divided into 2 farmer groups
Pump Houses	2 units	Used for rice field irrigation
Irrigation channels	13,45 km	Covering all rice fields

Based on Table 2, Kendalpecabean Village has adequate agricultural resources to support rice production. The 74 hectares of land managed by two farmer groups are a major asset to the farmers' economy. The existence of two pump houses and 13.45 km of irrigation channels further strengthens the agricultural infrastructure in this village. The data shows that the availability of land supported by adequate irrigation facilities is an important factor for the sustainability of rice farming. With these conditions, Kendalpecabean Village is strategically located for agricultural development, especially rice. The rice fields surrounding the village provide great opportunities for farmers to improve their welfare while maintaining local food security.



Pictures 1. Documentation of Rice Fields in Kendalpecabean Village

Source: Kendalpecabean Village Documentation

Access to resources in Kendalpecabean Village is adequate and supports the economic empowerment of farmers. The farmers' group optimally utilizes 74 hectares of rice fields, two pump houses, and a 5 km irrigation channel to support rice production. In addition, the farmers' group also plays a role in maintaining the stability of grain prices so that farmers do not suffer losses, while also facilitating the efficient use of time, energy, and land. This condition is in line with Lesnussa's (2019) theory, which emphasizes that access to resources is a key factor in improving welfare. This finding also supports the research by Selfi et al. (2025) in Sungai Dua Indah Village, which shows that the empowerment of rice farmers plays an important role in food security, even though it is still constrained by access and policy support. Thus, the access indicators in Kendalpecabean Village prove that effective resource utilization can strengthen farmers' capacity, maintain local economic sustainability, and improve food security (Selli et al., 2025).

Critical Awareness

According to Lesnussa (2019), critical awareness is the ability of communities to realize that the socio-economic conditions they experience are not solely the will of God or fate, but rather the result of social structures that can be changed. In the context of Poktan empowerment, critical awareness refers to farmers' understanding of food production constraints such as floods, pests, or limited access to technology, and their ability to respond collectively by seeking real solutions. This awareness is an important foundation for motivating active involvement and local innovation in optimizing village food security.

In Kendalpecabean Village, farmers' critical awareness began to emerge when they realized that crop failure was not only an individual problem, but also a result of inadequate village infrastructure and limited access to agricultural technology. For example, river flooding that inundated rice fields caused crop failure in the rainy season. Farmers began to realize that this problem could be overcome through group coordination, deliberation with the village government, and the application of more adaptive agricultural practices. The following is documentation of rice fields flooded by floods.



Pictures 2. Documentation of Flooded Rice Fields in Kendalpecabean Village

Source: Kendalpecabean Village Documentation

The image in Figure 2 shows the condition of rice fields in Kendalpecabean Village that were flooded due to river overflow during the rainy season. This situation is a major obstacle faced by farmers, as flooding can disrupt and even damage the rice cultivation process, both during planting and harvesting. To gain a clearer picture of the strategies employed to address these challenges. From the interview with the informant, it can be concluded that flooding caused by overflowing rivers is a serious challenge for farmers in Kendalpecabean Village. However, through deliberation and cooperation, the community took the initiative to repair the riverbanks as a preventive measure so that the rice fields would not continue to be flooded. This mutual assistance effort demonstrates a collective awareness of the need to maintain agricultural sustainability. As a tangible form of this effort, the following is documentation of the river normalization activities carried out by the residents of Kendalpecabean Village.

Based on the interview results, unity and togetherness among farmer group members are important factors in the success of agricultural activities. By planting simultaneously, recording planting and maintenance schedules, and sharing experiences, Poktan members are able to control pests, increase crop yields, and optimize the use of facilities such as pumps and irrigation channels. Farmers now have a critical understanding of the causes of crop failure and no longer passively wait for external assistance, but instead plan collective strategies to deal with challenging natural conditions. This awareness has triggered local innovation, increased adaptability, and strengthened the group's capacity to maintain food security while creating better operational efficiency.

The critical awareness of farmers in Kendalpecabean Village has proven to trigger concrete actions that support food security. Efforts such as simultaneous rice planting, coordination of water pump utilization, deliberations on irrigation improvements, and recording of planting schedules have succeeded in reducing losses due to pests and floods while facilitating collective planning. This shows that critical awareness translates into shared innovation that strengthens internal coordination, resource use efficiency, and farmers' ability to adapt to natural conditions. These findings are in line with Lesnussa's (2019) theory, which states that critical awareness is the foundation of community empowerment, as well as supporting the research of Alaia and Darto (2024), which emphasizes the role of critical awareness in increasing independence and local food security. Thus, developing critical awareness is an important strategy for maintaining the sustainability of food production and the welfare of farmers (Sabeera et al., 2024).

Participation

According to Lesnussa (2019), participation is the direct involvement of the community in decision-making processes and group activities that are considered important. In the context of Poktan empowerment, farmer participation includes participation in deliberations, planting

planning, rice field maintenance, decision-making related to agricultural programs, and program implementation supervision. A high level of participation reflects effective empowerment, because the community is not only the beneficiary, but also helps determine the direction and quality of the activities carried out.

In Kendalpecabean Village, farmer participation is evident through regular deliberations with the village government, especially when discussing issues such as flooding, rat infestations, and planting schedules. However, this involvement is still limited to formal deliberation forums and coordination when government programs are implemented, while participation in long-term planning or production innovation remains low. Farmers tend to wait for instructions from the government or agricultural extension workers to determine the actions that need to be taken, so control over the agricultural process is not yet fully in the hands of farmer groups. In line with these conditions.

The interview results show that farmer participation in Kendalpecabean Village is quite active through deliberations and Poktan coordination, including sharing experiences with other groups to overcome pests and flooding. This involvement not only supports production success but also strengthens solidarity among members. The following is documentation of farmer deliberation and coordination activities in Kendalpecabean Village that support production success and solidarity among members.



Pictures 3. Documentation of Socialization and Deliberation Activities of the Sidorukun Farmer Group in Kendalpecabean Village

Source: Kendalpecabean Village Documentation

Based on the documentation of socialization and deliberation activities, farmer participation appears to be quite active, especially in formal activities such as coordination meetings and deliberations. However, their involvement is still limited to program implementation, while strategic decision-making and independent initiatives tend to be minimal. Dependence on the government and agricultural extension workers, as well as limited technical knowledge, are factors that limit farmers' ability to take initiative on their own. However, participation in deliberations still increases a sense of ownership of the program and allows local input to be channeled. An average of 25–30 Poktan members participate in group activities, although the frequency is still limited and more focused on formal activities than on innovation or long-term

planning.

Based on an interview with the village secretary, it appears that the village government actively encourages residents to participate in deliberations, training, and coordination between Poktan, so that farmers do not just wait for assistance but are also involved in planning agricultural activities. This approach helps increase productivity and strengthen food security in the village.

The participation of Poktan members in Kendalpecabean Village is evident through deliberations, coordination prior to planting, and innovations such as simultaneous rice planting to combat pests, in line with Lesnussa's (2019) theory that participation improves quality of life and food security. This finding is supported by research by Kristiani Nindi et al. (2024) in Kamubheka Village, which emphasizes the importance of member involvement in food management and decision-making. Active participation facilitates coordination, encourages innovation, and strengthens cooperation, although unequal participation is a challenge that requires the role of leaders and government support. Thus, the experience of the Kendalpecabean Farmer Group confirms that high member participation is the key to empowering farmer groups for sustainable food security (Nindi et al., 2024).

Control

According to Lesnussa (2019), control in community empowerment is the ability of the community to participate in the management of available resources and determine decisions that affect their lives. In the context of farmer groups (Poktan), control includes the active involvement of farmers in making decisions related to production, distribution, and the use of agricultural resources. A high level of control indicates the community's independence in managing local potential and minimizing dependence on external parties, thereby ensuring greater food security.

In Kendalpecabean Village, farmers' control over agricultural resources is still limited. Decisions related to planting, the use of high-quality seeds, and rice field maintenance often depend on the instructions of the village government or the agricultural office. Despite the existence of Poktan structures, strategic decisions such as seed distribution, use of subsidized fertilizers, and harvest schedules are still adjusted to external policies. Another obstacle is the lack of clear SOPs related to Poktan governance, so that some farmers do not fully understand their rights and obligations in land management. To provide a clearer picture of the organizational structure and division of tasks in each Poktan, the following table lists the names of the administrators along with their positions and duties in managing the farmer groups.

From the data result that both Poktan, Sidorukun I and II, have a systematic organizational structure with specific allocation of responsibilities. The chairperson is responsible for decision-making, coordination, and the smooth running of group activities. The secretary focuses on

administration and record-keeping, the treasurer manages finances, and the coordinator handles promotion, marketing, education, and social activities. This structure reflects the existence of organized roles in the management of the farmer groups, although strategic decisions related to large resources still depend on the village or agricultural office. Based on the structured organization of the farmer groups, the following interviews explore how members and group administrators actually carry out their roles, especially in relation to decision-making and coordination with external parties. Based on the interviews, it can be concluded that although the Poktan has a clear organizational structure, major decisions regarding assistance and resources are still controlled by the village and the agricultural office. Members tend to follow these instructions because they are not yet accustomed to making their own decisions, so their control over Poktan activities is limited. However, internal coordination remains important to ensure that activities run smoothly and that mutual agreements, such as simultaneous harvesting, can be implemented properly.

Indicators of control in the empowerment of Poktan in Kendalpecabean Village are beginning to emerge through a clear organizational structure and participatory decision-making mechanisms. Members of the Sidorukun I and II Poktan are actively involved in planning, maintaining, and harvesting the rice fields, as well as coordinating with the village government to improve infrastructure that reduces the risk of crop failure. Although major strategic decisions are still controlled by the village and agricultural services, members can still provide input and adjust activity schedules, so their control over Poktan activities remains evident. Member involvement also encourages more efficient internal coordination and optimal resource utilization. These findings are in line with research conducted by Kristiani Nindi, et al. (2024), which shows that the participation of farmer group members strengthens food security, despite obstacles such as transparency and limited facilities. Thus, empowerment through increased member control not only encourages agricultural productivity but also strengthens independence and the sustainability of food security at the village level (Nindi et al., 2024).

CONCLUSION

Based on the results of the study, the empowerment of the Sidorukun Farmer Group in Kendalpecabean Village through the five Lesnussa (2019) indicators showed mixed results. The welfare indicator shows that agricultural infrastructure in the form of irrigation channels, floodgates, and pump houses has had a tangible impact in reducing the risk of crop failure and lowering production costs. Although crop yields have not yet reached their maximum potential, these interventions have succeeded in increasing work efficiency and giving farmers a greater sense of security in managing their land. In terms of access, farmers in Kendalpecabean Village

have adequate facilities in the form of land, pump houses, and irrigation channels that support rice production. In addition, the farmer group plays an active role in maintaining the stability of grain prices and promoting solidarity, so that access to economic and social resources can be maintained well, even though it is not yet completely equitable. The critical awareness indicator is evident in farmers' understanding that floods and pests are not merely fate, but structural problems that can be overcome through mutual cooperation. This awareness has triggered collective actions, such as riverbank repairs, simultaneous planting, and recording planting schedules, which have been proven to increase efficiency and adaptability to agricultural risks. In terms of participation, farmers are actively involved in village deliberations, planting coordination, and group activities, although their involvement is still predominantly in formal programs facilitated by the government. Participation has contributed to production success and strengthened solidarity, but long-term strategic decision-making remains limited. The final indicator, control, shows that although the farmer group has a clear organizational structure, strategic decisions regarding the use of large resources still depend on the village and the agricultural office. However, members still have room to manage planting schedules, divide tasks, and provide input, so that internal control continues to function even though it is not yet fully autonomous. Overall, the empowerment of the Sidorukun Farmer Group in improving food security in Kendalpecabean Village has been well implemented in terms of welfare, access, and critical awareness. However, the indicators of participation and control still need to be strengthened so that farmer independence can be optimized and village food security can be sustainable. Closing conclusions and suggestions. The conclusions describe the answers to the hypotheses and/or research objectives or findings obtained. Conclusions do not contain a repeat of the results and discussion, but rather a summary of the findings as expected in the objectives or hypotheses. Suggestions present things that will be done related to further ideas from the research.

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