

## COMMUNITY EMPOWERMENT THROUGH THE UTILIZATION OF P2L (PEKARANGAN PANGAN LESTARI) TO SUPPORT FOOD SECURITY IN SINDANGKARYA VILLAGE, KUTAWALUYA DISTRICT, KARAWANG

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**Abstrak:** Upaya untuk meningkatkan ketersediaan pangan masyarakat dalam mendukung kemandirian pangan adalah dengan memanfaatkan pekarangan rumah menjadi Pekarangan Pangan Lestari (P2L). Desa Sindangkarya merupakan desa yang mayoritas penduduknya bekerja di sektor pertanian. Masyarakat memiliki potensi sumberdaya alam yang baik berupa lahan pekarangan, tetapi belum dimanfaatkan secara optimal. Tujuan pengabdian kepada masyarakat adalah untuk meningkatkan pengetahuan dan keterampilan petani dalam mengoptimalkan pemanfaatan P2L untuk mendukung kemandirian pangan petani di Desa Sindangkarya. Kegiatan pengabdian dilaksanakan di Desa Sindangkarya, Kecamatan Kutawaluya Kabupaten Karawang pada bulan Mei 2024. Partisipan dalam kegiatan ini adalah wanita tani di Desa Sindangkarya sebanyak 28 partisipan. Metode pelaksanaan kegiatan adalah *Participatory Action Research (PAR)* yang berorientasi pada pengembangan dan mobilisasi ilmu pengetahuan di tengah masyarakat agar masyarakat dapat menjadi aktor perubahan, bukan obyek pengabdian. Evaluasi program menggunakan kuesioner dan disebarkan kepada 28 partisipan melalui pretest dan posttest yang terdiri dari aspek pengetahuan, sikap dan keterampilan yang diukur dengan skala likert. Hasil pengabdian menunjukkan bahwa kegiatan ini meningkatkan pengetahuan dan keterampilan petani dalam mengoptimalkan pemanfaatan Pekarangan Pangan Lestari (P2L). Keberhasilan implementasi P2L menunjukkan bahwa pendekatan partisipatif dapat secara efektif meningkatkan solusi berbasis masyarakat untuk kemandirian pangan petani di Desa Sindangkarya. Peningkatan pengetahuan dan keterampilan ini merupakan langkah positif dalam membangun ketahanan pangan dan resiliensi di Desa Sindangkarya.

**Kata Kunci:** Pemberdayaan; Pekarangan Pangan; Ketahanan Pangan.

**Abstract:** Efforts to increase community food availability to support food independence utilize Pekarangan Pangan Lestari (P2L) home gardens. Sindangkarya Village is where most of the population works in the agricultural sector. The community has good natural resource potential in the form of yard land, but it has yet to be used optimally. This community service activity aims to increase farmers' knowledge and skills in optimizing the utilization of P2L to support the food independence of farmers in Sindangkarya Village. The service activity occurs in Sindangkarya Village, Kutawaluya District, Karawang Regency, in May 2024. Participants in this activity were 28 female farmers in Sindangkarya Village. The method for implementing the activity is *Participatory Action Research (PAR)*, which is oriented towards developing and mobilizing knowledge in society so that society can become an actor in change, not an object of service. The program evaluation used a questionnaire distributed to 28 participants through a pretest and post-test consisting of aspects of knowledge, attitudes, and skills, which were measured using a Likert scale. The service results indicate that these activities have increased farmers' knowledge and skills in optimizing the utilization of Pekarangan Pangan Lestari (P2L). The successful implementation of P2L shows that a participatory approach can effectively improve community-based solutions for farmers' food independence in Sindangkarya Village. This increase in knowledge and skills is a positive step in building food security and resilience in Sindangkarya Village.

**Keywords:** Empowerment; Food yard; Food security

## Introduction

Food independence is not only for a region or country but also for farmer families. Food independence conditions can be met through farmer production results and supported by the social conditions of farmers in their homes. Food security and independence for a farmer's household are influenced by food production from their farming activities (Mulyo, Sugiyarto, & Widada, 2015). Mariyani, Pandjaitan, & Sihalo (2022) stated that uncertainty about planting times due to changes in rainfall is also one of the causes of crop failure, resulting in decreased agricultural production and farmer income, making it difficult for farmers to meet their food needs. In macro terms, food security may show sufficient numbers. However, food security may not be guaranteed in terms of households, especially if there are still households with family members who are farmers (Saputro, Santoso, & Salamah, 2021). The problem of national food security and independence is a problem that must be solved together, not only relying on the government, but must be supported by active community participation starting from the smallest part of society, namely the family (Mariyani, Sulandjari, & Raihani, 2022).

Food is a basic need for human survival. If food is not available, life-threatening conditions will occur. Therefore, adequate food is a human right (Komisi Nasional Hak Asasi Manusia, 2017). On average, the food calorie energy requirement for each individual in Indonesia has met the recommendation, namely 2100 kcal/capita/year. However, the level of consumption of several foodstuffs needs to be increased, such as the consumption of tubers, nuts, vegetables, and fruit (Bappenas, 2023). Fulfilling the need for consumption of vegetable and fruit commodities can be done by utilizing Pekarangan Pangan Lestari (P2L). It also increases community food availability by supporting food independence by utilizing home gardens in P2L. Saputro et al., (2021) stated that fulfilling citizens' constitutional rights in food security can be achieved through the P2L program. Utilizing food yards to meet household consumption needs is a way that can support the second SDGS of zero hunger.

P2L is a concept for utilizing yard land in both rural and urban areas to support national food independence by empowering local food potential (Heryadi, Alexandri, & Sari, 2021). The yard creates beauty and coolness and can improve the family economy for personal consumption and sale. Saputro et al., (2021) stated that P2L is an activity carried out by community groups who jointly manage yard land as a sustainable food source to increase availability, accessibility utilization, and income. Community empowerment in the program is very beneficial, among others, for fulfilling family food security and gaining experience, knowledge, and food ingredients with high nutritional and economic value.

Karawang Regency is a regency known as the National Food Barn and is the second largest rice-producing area after Indramayu Regency. In 2020, the rice harvest area in Karawang Regency was 181,915.22 hectares, with a total production of 1,087,873.90 tons and a productivity of 59.80 kg/ha (BPS Kabupaten Karawang, 2024). Karawang Regency has a Food Security Index (IKP) of 86.03, which is ranked 24th out of 416 regencies in Indonesia in 2022 (Tono, et al., 2022). Although it is a district known as a supporter of the national food barn, there are still many underdeveloped villages in Karawang Regency, namely 297 villages, and it

is ranked first in terms of the number of underdeveloped villages in West Java. The problem faced by farmers in achieving food independence is the decreasing availability of agricultural land (Pemerintah Daerah Kabupaten Karawang, 2022). Rice fields in Karawang Regency are under threat due to the increasing development of the region's industrial sector (Haryanto, 2014). The reduction in agricultural land will impact farmers' harvest production, thus threatening the availability and independence of farmers' food (Purwaningsih, 2008).

Sindangkarya Village is one of the villages in Kutawaluya District, Karawang Regency, where most of the population works in the agricultural sector. Sindangkarya Village has an area of 300 Ha consisting of agricultural land of approximately 200 Ha (BPS Karawang Regency, 2024). Most of the agricultural land in Sindangkarya Village is planted with rice and some with vegetables such as broccoli. Based on the results of the pre-survey interview with the Secretary of Sindangkarya Village, many people are still left behind and underprivileged. Many people work as farm laborers and odd jobs. The community has good natural resource potential in the form of yard land, but it has yet to be utilized optimally. Nurholis (2021) conveyed that the community has the potential for large yards and land around households but has not yet utilized it as a source of family food. Although some farmers have used their yards to grow vegetables such as kale, they do not currently have a Women Farmers Group (KWT). The Women Farmers Group plays a role in strengthening networks and information to support food independence and the empowerment of women farmers. KWT makes economic contributions through agricultural activities and product processing, strengthening its members' social networks and self-confidence (Luthfitah, Nurhadi, & Parahita, 2023).

Farmers' production results can support food availability and independence. One way to increase food availability for farmers in supporting food independence in Sindangkarya Village is by utilizing home yards to become Pekarangan Pangan Lestari (P2L). In addition to supporting food independence, using sustainable food yards also provides benefits to help farmers' income. The P2L program has an impact on increasing the income of rice farming households by 5% (Suhardi, et al., 2021). Yards provide benefits such as being a source of food for the family, increasing household income for farmers, a source of plant diversity, controlling the microclimate, and creating an optimal living environment for the family (Fauzi et al., 2022). The harvest from RPL helps families access fresher and safer food while reducing dependence on food from the market (Bahua, Musa, & Irsan, 2020). These harvests will help farmers meet food needs on a household scale for the broader community if the harvest is enormous.

The utilization of P2L is applied in community service activities in Sindangkarya Village to increase food availability and improve welfare. The application of IPTEKS in the implementation of community service will provide benefits to partners. The benefits received are increased knowledge of home yard management and food diversification. Based on these problems, it is necessary to conduct socialization and counseling on using P2L to support food independence, packaged in Community Service (PkM) activities in Sindangkarya Village. This community service program aims to increase farmers' knowledge and skills in optimizing the utilization of P2L to support the food independence of farmers in Sindangkarya Village.

## Method

The community service activities in Sindangkarya Village, Kutawaluya District, Karawang Regency, were in May 2024. The community service implementation team consisted of five lecturers from the Faculty of Agriculture, University of Singaperbangsa Karawang, namely four lecturers from the Agribusiness Study Program and one from the Agrotechnology Study Program. In addition, it also involved three students from the Agribusiness Study Program. Participants in this activity were 28 female farmers in Sindangkarya Village.

This PKM uses the Participatory Action Research (PAR) method to overcome the problems in Sindangkarya Village. PAR is also oriented towards developing and mobilizing knowledge in the community so the community can become actors of change, not objects of devotion (Afandi et al., 2022). This method helps farmers understand the knowledge and technology provided and plan and implement P2L activities to improve food availability and farmer welfare. The community service uses the PAR method because it is an approach technique through participatory learning and practice (Darmawan et al., 2020). Figure 1 depicts all the stages of this community engagement program.



**Figure 1.** Community Service Implementation Flow

### Preparation Stage

The preparation stage is distributing tasks to the service team. Then, coordinate with the Sindangkarya Village government to carry out community service. The team prepares tools and materials to use in service activities. The tools used are booklets, PowerPoint, LCD projector, and practical tools such as demonstration plots, hoes, sprinklers, and polybags. The materials used are soil to fill polybags and vegetable seeds, including kale, mustard greens, and bok choy seeds.

### Implementation Stage

The service activity occurred in Sindangkarya Village on May 25, 2024. Participants in this activity were 28 women farmers from Sindangkarya village. Participants are women farmers who work as housewives and help with the farming activities of their husbands who work as farmers. Community service activities include outreach and counseling on using sustainable food to partner with community groups. Socialization and counseling are material for cultivating vegetable plants in the yard and institutional material for women farmers. Then, participants continued utilizing the food yard by planting vegetables. The training activities included planting vegetables in demonstration plot locations, polybag planting media, and their respective home gardens.

### Evaluation Stage

Evaluation occurred by giving assessment questionnaires to participants to measure participants' knowledge, attitudes, and skills before (pretest) and after (post-test), following

socialization and counseling. The questionnaire consists of statements on aspects of knowledge, attitudes, and skills, each with five statements, so the number of statements answered by participants is 15. Statements are measured using a Likert scale with the following criteria: 1). Strongly disagree; 2). Disagree; 3). Agree; and 4). Strongly agree. Questionnaires were given to 28 participants by census. The sample was determined by census because all participants involved were used as samples to fill out the service activity evaluation questionnaire. Machali, 2021) stated that the census is a sampling technique if samples are from all population members and if the population is small, less than 30 people.

## **Results and Discussion**

Community service activities in the form of socialization and counseling on the use of Pekarangan Pangan Lestari (P2L) to support food independence in Sindangkarya Village, Kutawaluya District, Karawang were carried out on May 25, 2024. Twenty-eight participants, including homemakers or farmers' wives, did this activity.

### **Preparation Stage**

The preparation of activities is done by dividing tasks and responsibilities based on the competence of each member. Then, prepare the tools and materials used in the service activities. The team also coordinated with Sindangkarya Village officials through discussions at the Sindangkarya Village Office, which representatives of the lecturer and student team, the village secretary, and the PKK of Sindangkarya village attended—preparation for service activities by determining the time and place of activity and demonstration plot for practical P2L. The lecturers and students prepared tools and materials for service activities and made booklets to deliver during socialization and counseling activities.

### **The implementation**

The implementation of community service activities began with remarks and opening by representatives of the Sindangkarya Village government. Before the socialization and counseling materials were delivered, participants completed a pretest questionnaire to measure the training participants' knowledge, attitudes, and skills. The participants targeted for community service activities were housewives expected to form the Sindangkarya Village Women's Farmer Group (KWT)—however, this activity was attended by heads of farmer households.

The core part of the event, in the form of a lecture and discussion, was delivered by the speaker about the institution of the Women Farmers Group (KWT) and the utilization of Sustainable food yards. The material was delivered and supported by booklet media, making it easier for participants to understand and repeat it when the community service activity finished. [Figure 2](#) depicts activities through socialization and counseling on the utilization of P2L.





**Figure 2.** Community Service Activities Through Socialization and Counseling

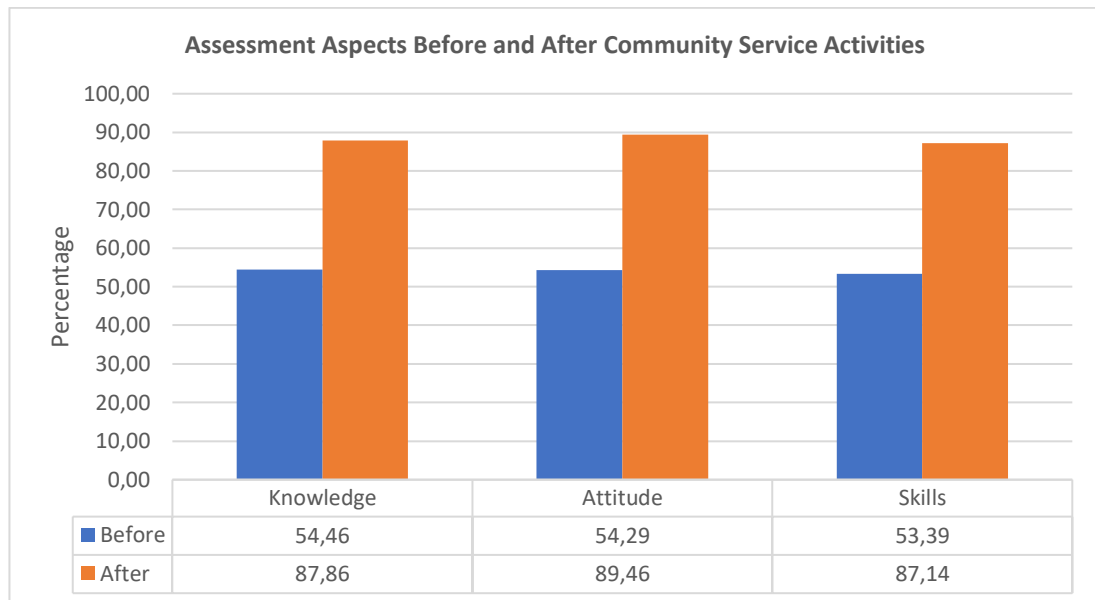
After the delivery of the material, the next step was to practice planting vegetables in the form of kale and mustard green seeds in the yard, which was the location of the demonstration plot. This planting practice fosters the community's attitude to using sustainable food yards in their environment and yards. [Figure 3](#) depicts the practice of utilizing Pekarangan Pangan Lestari (P2L).



**Figure 3.** Practice of utilizing Pekarangan Pangan Lestari (P2L)

### Evaluation Stage

At the end of the activity, a post-test was conducted on participants by filling out a questionnaire covering aspects of participants' knowledge, attitudes, and skills. The post-test questionnaire measures community knowledge, attitudes, and skills after participating in community service activities through socialization and counseling on using Pekarangan Pangan Lestari (P2L). [Figure 4](#) depicts the results of the pretest and post-test of the community in community service activities.



**Figure 4.** Assessment Aspects Before and After Community Service Activities

The pretest and post-test results using a questionnaire to participants about the socialization and counseling of using P2L in Sindangkarya Village showed increased knowledge, attitudes, and skills. The knowledge aspect increased from 54.46% to 87.86%, attitudes increased from 54.29 to 89.46%, and skills increased from 53.39 to 87.14%.

Knowledge is the most influential factor in using Kawasan Rumah Pangan Lestari (KRPL) activities (Sukanata, Budirohman, & Nurmaulana, 2015). The knowledge aspect increased to 87.86%, including participant knowledge about the benefits of being a KWT member and cultivation techniques in the yard. The results of the increase in the knowledge aspect of this community service activity are also in line with the results of the community service activities carried out (Rangga, et al., 2022), optimizing the use of yards by implementing the Pekarangan Pangan Lestari (P2L) concept in Bandar Lampung City shows that participants' average level of knowledge before the counseling was 70.3% and increased to 96.3% after the counseling. In addition, (Fauzi et al., 2022) stated that members of KWT Sakinah and Air Baling experienced an increase in knowledge of 67% after attending counseling on group administration. Sukanata et al., (2015) conveyed that the higher the knowledge received by the farmer group, the more optimal the use of yard land in sustainable food house area activities will be.

The attitude aspect has the highest percentage increase, 89.46%, compared to the knowledge and skills aspects. The result can be seen from the questionnaire results, such as the statement that after participating in community service activities, participants felt interested in becoming members of KWT, participants were aware that the utilization of P2L can help household food needs, and participants were interested in implementing P2L.

The improvement of three aspects of knowledge, attitudes, and skills from PkM activities in Sindangkarya village supported by the results of research conducted on farmer groups in Purwakarta Regency that Farmers' knowledge after the extension in the form of making compost fertilizer increased to 73.3%. The attitude of farmers towards extension activities gave an

excellent response, namely 80% (Mariyani et al., 2022). Based on the aspects of knowledge, attitudes, and skills of the community that increased after the socialization and utilization of P2L activities in Sindangkarya Village, it can be concluded that the PkM activity was booming by the objectives of the PkM Activity.

## Conclusion

Community service activities through socialization and utilization of P2L in Sindangkarya Village have increased farmers' knowledge and skills in optimizing the utilization of Pekarangan Pangan Lestari (P2L). The successful implementation of P2L demonstrates that participatory approaches can effectively enhance community-led solutions for food independence of farmers in Sindangkarya Village. This enhancement in knowledge and skills signifies a positive step toward fostering food security and community resilience in Sindangkarya Village.

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