

## RESEARCH STUDY

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## Contribution of the Sustainable Food Yard Program (P2L) to Accelerating the Stunting Reduction in Sleman Regency during Covid-19 Pandemic

### *Kontribusi Program Pekarangan Pangan Lestari (P2L) terhadap Upaya Percepatan Penurunan Stunting di Kabupaten Sleman selama Masa Pandemi Covid-19*

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## ABSTRACT

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**Background:** There are disparities in the level of household food security achievements between regions and getting worse with Covid-19 pandemic which has also inhibited nutritional improvement acceleration. The P2L is one of the priority programs in maintaining community food security. However, the implementation of this program is still vulnerable to sustainability.

**Objectives:** This study aims to examine the contribution of P2L during Covid-19 pandemic in maintaining community food and nutrition security and its role to accelerate stunting reduction in Sleman Regency.

**Methods:** This research was a descriptive qualitative with case study approach. Sample selection used a purposive maximum variation sampling method for parties actively involved in the P2L. Data collection methods were carried out using in-depth interviews, closed question types questionnaires, documentation, and participatory observation by directly involved in group activities.

**Results:** The P2L acted as a living food barn that can provide food during Covid-19 pandemic. Vegetables were the main commodity that were able to fulfill household needs at 60% and 40% at the medium level. Meanwhile, other food commodities had not been developed optimally in the yard. However, the P2L not only had a positive impact on improving nutrition and the household economy of KWT members, but also for vulnerable communities in the surrounding area. To accelerate stunting reduction, the results from P2L were also used to support Integrated Healthcare Center activities such as providing PMT.

**Conclusions:** The P2L program has a positive impact for the community, but it is necessary to innovate crop-livestock-fruit integration in each area and strengthen institutions in order to make the program sustainable.

## INTRODUCTION

Food and nutrition development in Indonesia continues to face significant challenges, including a high reliance on rice imports, calorie intake below nutritional adequacy standards, Indonesian society's less-than-ideal consumption patterns, and malnutrition and stunting in children under the age of five. Stunting is a disorder characterized by persistent nutritional deficit or

malnutrition, which can impede children's growth and development. According to the results of the 2022 Indonesian Nutrition Status Study (SSGI), the prevalence of stunting in Indonesia is 21.6%. This value remains quite high because it surpasses the WHO's specified maximum limit of 20%. To achieve the goal of reducing stunting prevalence to 14% by 2024, the government established the National Movement for the Acceleration of Nutrition Improvement as a collaborative effort

between the government and society to realize the vision of being free of food insecurity and malnutrition by raising awareness and committing to ensuring people's access to nutritious food<sup>4</sup>.

Increasing food security is one of the cornerstones to achieving optimal community nutrition. However, the presence of complex variables such as physical land, socioeconomic conditions, and community features implies that the amount of food security reached in the home sector is still expected to result in discrepancies between regions<sup>5</sup>. Furthermore, the COVID-19 epidemic has slowed attempts to enhance nutrition and health. Even though the Covid-19 epidemic has been contained, its influence continues to threaten the majority of the population's health, socioeconomic, food security, and nutritional situations, potentially impeding gains made so far<sup>6</sup>.

Yogyakarta Special Region Province is one of the regions most affected by the Covid-19 pandemic. According to the DIY Provincial Central Statistics Agency, the poverty rate in the Special Region of Yogyakarta would reach 475,072 persons in 2020, accounting for 12.28% of the entire population. This figure climbed by 27.25 thousand persons compared to 2019, surpassing the national average of 9.78%<sup>7</sup>. The economic downturn, interruption in labor availability, and blockage of the food supply chain have reduced people's capacity to satisfy their daily food demands, affecting family food security<sup>8</sup>.

Sleman Regency had the highest rise in impoverished individuals during the Covid-19 pandemic, with 9.61 thousand people<sup>9</sup>. Even though it is located in a food safe area, achieving food security at the household level must be considered in light of other factors that have the potential to threaten Sleman Regency's food security, such as the decline in the number of farming households, the development of Yogyakarta City toward Sleman Regency, and the condition of Sleman Regency with its diverse topography<sup>10-14</sup>. Sleman Regency, as one of Yogyakarta City's buffer zones, is experiencing urbanization, or the process of converting rural areas into urban areas, which has an influence on land use changes in security and food security areas in Sleman Regency, which reached 57.33 km<sup>2</sup> (33.93%) from 2012 to 2018<sup>11</sup>. This rise in agricultural land conversion reduces the average number of harvests obtained by farmers, potentially disrupting attempts to preserve food self-sufficiency<sup>15</sup>. As a result, new techniques are required to assure food and nutrition security, especially during emergency situations.

The P2L program is one of the priority programs in maintaining community food security during the Covid-19 pandemic to support government efforts to reduce stunting, both in priority areas for stunting intervention, in areas vulnerable to food insecurity, and in areas where food security is being strengthened. This activity is carried out by using unproductive land such as yards, idle land, and vacant land as market-oriented food producers, so helping to satisfy family food demands and increasing household income<sup>16</sup>. However, early interviews with the Sleman Regency Agriculture, Food, and Fisheries Service indicate that the P2L program's implementation in Sleman Regency is sensitive to sustainability. The monitoring and evaluation method for the P2L program

is only carried out throughout the program assistance phase, since groups tend to discontinue the P2L program or execution is not as ideal as in the program's early stages. As a result, the purpose of this study is to look at the implementation of the P2L program in Sleman Regency and how it contributes to community food and nutrition security, particularly during emergency situations like the Covid-19 pandemic. So it is believed that it will serve as a standard for the government to maximize integrative programs and appropriate cooperative efforts to prevent stunting in Indonesia.

## METHODS

This study employed a descriptive qualitative methodology to investigate the implementation and contribution of the P2L program during the Covid-19 epidemic in Sleman Regency. The research was conducted from December 2021 to February 2022. The study was conducted at P2L at KWT Srikandi Padukuhan Mrican, Caturtunggal, as a representative for implementing P2L in urban areas, and P2L at KWT Soka Nata Padukuhan Merdikorejo, Tempel, as a representative for implementing P2L in rural regions. This region was chosen because it got the P2L initiative, which aimed to stabilize food areas in Sleman Regency.

The participants in this study were individuals directly involved in the P2L program, including food security informants and instructors from the Sleman Regency Agriculture, Food, and Fisheries Service; UPT BP3K or P2L program companions; the chairman of the Women's Farmers Group (KWT); and members of the Sustainable Food Yard. In this study, informants were selected using purposive maximum variation sampling or heterogeneous sampling. The inclusion criteria for selecting informants are as follows: the informant is willing to participate in the research as evidenced by a verbal and nonverbal statement and is on duty at the research location; the informant has been actively involved in P2L activities for at least one year; and the P2L implementing informant has carried out independent planting in the yard of the house and has already harvested. The interviewees for this study included the head of the food security and diversity sector (1 informant), the head of the food availability sector (1 informant), the P2L program assistant (2 informants), the head of the KWT (2 informants), and the P2L members (30 informants).

The data collecting strategy employed four kinds of techniques: observation, interviews, questionnaires, and documentation. Observations were conducted by directly engaging in KWT activities, allowing you to witness and observe the current situation. Meanwhile, each informant was interviewed for 30-60 minutes to obtain information about the P2L program's role in promoting food security and accelerating stunting reduction in Sleman Regency, as well as the impact of the Covid-19 pandemic on the program's implementation. According to Sugiyono (2017), a questionnaire is a data gathering approach in which respondents are given a series of questions or written comments about the study problem<sup>17</sup>. The questionnaire method was used in this study to target P2L members, with a questionnaire in the form of closed questions in the form of multiple choices,

consisting of 10 questions about the impact of the Covid-19 pandemic on household food provision and 20 questions about the role of the P2L program in household food provision. The documentation research involved gathering supporting data such as technical instructions for implementing the P2L software, activity report data, and KWT profile data. To guarantee the trustworthiness of the data in this study, method triangulation was used, which involved comparing data gathered from observation, interviews, questionnaires, and documentation techniques.

The data analysis process started with the collecting of data and continued until it was completed. According to Seiddel<sup>18</sup>, qualitative data analysis consists of several stages, including: (1) taking field notes with codes to allow the data source to be traced; (2) collecting, sorting, classifying, synthesizing, summarizing, and creating an index; and (3) thinking by making data categories meaningful, looking for and finding patterns and relationships, and making general findings. This study's data analysis employed thematic analysis, which identified noteworthy patterns or themes in the data gathered to assist identify problems and explain the amount to which a phenomena occurs<sup>19</sup>. The Ethics Commission of the Faculty of Medicine, Public Health, and Nursing of Gadjah Mada University has accepted the research ethics (KE/FK/0572/EC/2021).

## RESULTS AND DISCUSSION

### Food Conditions at Household Level during the Covid-19 Pandemic in Sleman Regency

Restriction regulations aimed at slowing the spread of Covid-19 had a wide-ranging impact on people's life, including their economic standing and capacity to satisfy their basic food needs. According to the Central Statistics Agency (BPS), Indonesia's economy expanded at a modest rate of 2.97% in the first quarter of 2020, followed by a slowdown in each area<sup>20</sup>.

*"...during this pandemic, the economy of the people here is really destroyed, Sis. The laundry is about to open, so no one wants to do laundry. There are no boarding house residents, so the boarding house is empty. I want to sell food at the stall, but it's quiet because the boarding house residents usually buy it ..."* – NH (Head of program I)

According to the findings of interviews, the majority of interviewees stated that the Covid-19 pandemic had reduced household income. In a study of 30 women who were members of the Women's Farmers Group (KWT) as P2L implementers, 87% reported a decrease in income during the Covid-19 pandemic. Reduced working hours, wage cutbacks, lower business turnover, volatile agricultural commodity prices, and other factors all contributed to the drop in household income. Economic upheaval reduces people's purchasing power, particularly the ability to satisfy their basic nutritional demands. As many as 57% of respondents said the Covid-19 pandemic had impacted their household's food supply. This also caused changes in eating habits

prior to and during the Covid-19 pandemic. Respondents said that they reduced their intake of a variety of foods, including 47% who consumed less animal protein sources, 33% who consumed fewer fruits, and 33% who consumed fewer dairy products. According to the Sleman Regency Central Statistics Agency, during the onset of the epidemic, average household food spending decreased by 2.6% from the previous year. In 2020<sup>21</sup>, average daily calorie intake declined by 5.2%, while average protein consumption decreased by 5.6%. This suggests that the reduction in income during the Covid-19 pandemic has caused people to limit their food consumption. Research on the projected impact of lower income during the Covid-19 pandemic on family food consumption in Bogor Regency and City also revealed a drop in energy and protein intake levels, particularly among low-income households<sup>22</sup>. According to Hasanah et al. (2021) research on impoverished families in Bandung City, there was a 6.64% decline in energy consumption levels prior to the pandemic, as well as a 10.33% and 17% fall in nutritional adequacy levels for energy and protein sources, respectively<sup>23</sup>.

*"I think it's important to eat because your immune system is strong. Wow, but because the prices are increasing... it's like... eee.. it's like eggs, chili, oil, staples are increasing, why is the family's income decreasing, so if you want to buy it, you have to reduce it. Other needs have not increased yet"* - YA (Executive of P2L program I)

*"My income is the same, ma'am, it doesn't go up or down. But in these times, it's better to save money. The price of food is going up. But I always try to make food at home, there are side dishes and fruits too. Usually, I just keep looking for the cheapest one. The question is to eat nutritious food to be healthy, right?"* – S (Executive of P2L I program)

The community makes numerous changes to meet the family's food demands. Lower-middle-class groups tend to cut their purchases of various meal products, particularly animal side dishes and fruit. People's buying power decreased as a result of lower family income and higher food prices during the Covid-19 epidemic. However, among upper-income groups, the drop in income levels during the Covid-19 epidemic had no impact on their food consumption patterns. Because of their high awareness of the necessity of healthy eating habits during the epidemic, these households likely to consume more of a variety of foods. Households in this group made a variety of adjustments based on their needs, such as replacing only certain types of side dishes, reducing other non-food family expenses, or seeking alternative sources of income to ensure the family's balanced nutrition during the pandemic rather than reducing food spending. In line with the findings of Sujana et al.'s (2022) study on the expenditure of Bandung City residents during the Covid-19 pandemic, middle to upper economic groups tended to spend more on all types of food, particularly those containing vitamins and protein, while lower economic groups spent less on certain types

of food<sup>24</sup>. According to the findings of a United Nations Children's Fund / UNICEF (2021) survey, households of all income levels witnessed a decrease in income. Upper-income groups, on the other hand, have greater resources (income, savings, financial access, assets) to insulate themselves from the impact of economic downturns and food insecurity in households<sup>25</sup>.

*"The hardest thing is even the middle economic class like this, Ms. Like me. How come, the people I help do not get anything, but why is the income decreasing? Where did the expenditure increase during the pandemic, especially for the purchase of school children's packages? So whether you want to or not, you should reduce - reduce to buy food, buy other goods too..." - YA (Executive of P2L program I)*

Concerns regarding food vulnerability are not limited to lower-income groups; middle-income persons have emerged as a new susceptible category that need care during the Covid-19 epidemic. According to interviews, food insecurity among middle-income groups is also caused by This organization receives very little government aid. In 2020, the government expanded the social assistance program from lower-income communities to middle-income communities and small businesses that are vulnerable to the Covid-19 pandemic due to restrictions on economic activity, resulting in a sudden economic slowdown<sup>26</sup>. However, there are inefficiencies in the implementation of social assistance distribution, such as inappropriate recipient targeting, uneven and untimely distribution of aid, fund misuse, illegal levies, a reduction in the nominal amount and resources received, inclusion and exclusion errors, and the politicization of social assistance<sup>26</sup>. According to Khoiriyah et al. (2020), everyone is impacted by the epidemic, resulting in social rivalry when one home does not receive aid<sup>27</sup>. According to study findings from Saiful Mujani study & Consulting (SMRC), up to 60% of respondents claimed that people who should be entitled for social assistance were not yet receiving it<sup>28</sup>.

*"Yes, sometimes I worry, ma'am, if no one invites the workers to eat tomorrow, what will happen? I want to fit the season - the season like this is not stable. Why do I rely on the daily earnings of the workers? You must be a worker, ma'am. When I usually want to buy rice like that, I think, at least I buy 15 kg a week for a long time. What do you want to eat during the day?" - SR (Executive of P2L II program)*

Instability during the Covid-19 outbreak has raised worries about the majority of persons working in the informal economy's capacity to meet their family's food needs. According to the poll results, 13% of respondents were concerned about their family's lack of food on an irregular basis (1-2 times per month), 13% on an occasional basis (3-10 times per month), and 7% often (>10 times per month). According to research in Depok City, the pandemic that happened in 2019 affected families' capacity to provide quality and sufficient food, and many moms expressed similar worries as a result of

a loss in income<sup>28</sup>. Meanwhile, a UNICEF poll (2021) reveals a rise in the number of households experiencing food insecurity. According to the study, over a third (30%) of respondents expressed concern about not being able to feed their families<sup>25</sup>.

This state was inversely proportional to the Sleman Regency's regional condition. According to the 2022 Food Security and Vulnerability Atlas (FSVA), Sleman Regency was rated as a food secure location, with a food security rating of 83.16<sup>29</sup>. In 2021, Sleman Regency will likewise have no food insecure communities. However, substantial economic disparities lead to discrepancies in household food security levels. So, although though Sleman Regency is regarded food safe regionally, this does not imply that family food security has been attained as a total due to disparities in food access in each home.

### **Implementation of the P2L Program during the Covid-19 Pandemic in Sleman Regency**

The Sleman Regency Government is working to secure food supply for the people throughout the Covid-19 outbreak through a variety of initiatives. Food independence is a critical factor in achieving family food security. To ensure sustained food security at the home level, the government suggests that individuals cultivate food crops in their yards. The Sustainable Food Yard Program (P2L) offers one potential innovation: yard optimization.

*"So, this program is from the Ministry of Agriculture and prioritizes empowering women farmers so that households can be independent in food and nutrition. In its focus, this P2L program is more on vegetable production. Because the level of vegetable consumption in society is still below standard. The hope is that this program can increase people's consumption of vegetables, save food costs, especially vegetables, and the further impact can increase household income from the use of this yard" - JDH (Food Security and Food Diversity Division)*

The Sustainable Food Yard Program was launched by the Ministry of Agriculture's Food Security Agency (BKP). This initiative is an extension of the Sustainable Food Home Area program in an effort to broaden beneficiaries and land usage. The goal of adopting P2L activities is to help government programs reduce stunting prevalence, both in priority regions for stunting intervention and/or in areas prone to food insecurity<sup>35</sup>. Activities are carried out by employing unproductive land such as yards, idle land, and vacant land as a market-oriented sustainable food producer in order to fulfill household food and nutritional needs while also increasing household income<sup>35</sup>. The Sustainable Food Yard (P2L) initiative aims to benefit community groups including as youth organizations, Islamic boarding schools, women's agricultural groups, PKK moms, and others. However, in Sleman Regency, the P2L initiative benefits a group of female farmers.

According to documentation studies and declarations from the Food Security and Food Diversity Sector, Sleman Regency Agriculture, Food and Fisheries



Service, the utilization of yards as a food source in Sleman Regency began in 2011 under the Acceleration of Food Consumption Diversity (P2KP) program. From 2011 to 2016, 46 communities received the P2KP program. Furthermore, in 2018, the P2KP program was renamed the Sustainable Food Home Area (KRPL) initiative. Until 2019, Sleman Regency had six KRPL. In 2020, KRPL's efforts were renamed Sustainable Food Yards (P2L) in order to extend beneficiaries and land usage. The Covid-19 pandemic impeded plans to scale up the new P2L program in 2020. Informants from Sleman Regency's Food Security and Food Diversity Sector indicated that the emphasis of the funds in 2020 for dealing with the Covid-19 pandemic resulted in the P2L implementation not taking place. This is due to a full decrease in financing for dealing with the Covid-19 epidemic, which has impeded efforts to expand additional P2L regions.

However, because of the increasing demand for food during the pandemic, programs to promote food diversity, food security, and food insecurity management had been prioritized and targeted for regional development in Sleman Regency in 2021. According to remarks from informants in Sleman Regency's Food Security and Food Diversity Sector, despite the fact that the budget will be refocused in 2021, the expansion of new growth of the P2L program in Sleman Regency is still being executed. The establishment of new P2L growth zones in Sleman Regency in 2021 would also target stunting locus regions as a means of supporting efforts to expedite stunting elimination.

*"In our place, there are P2Ls that we direct to stunting P2Ls or in stunting areas. So, we are supporting...eee...the programs, including the health service program for stunting. So, this means there are non-stunting P2L groups and there are those specifically for stunting P2L" – JDH (Food Security and Diversity Sector).*

Even though there were two types of P2L, there was no difference in the quantity of money or the sort of support supplied. The sole distinction between these groups was the selection criteria for the program beneficiary group. The activities performed were also the same, including the utilization of the yard.

*"In terms of funding and implementation, the assistance is the same for all of you, sis, there is no difference. If that is the selection, we have already received a list of which groups will receive the program from the BPP. We also synergize the list of groups with data from the Health Service. Next, we verify. From the bottom up, each KWT submits a proposal, usually facilitated by the local PPL. Then, which group has an active KWT and is most ready to run the program will be selected. So, in 2021, there will be P2L stunting or P2L specifically for stunting areas. The Health Service provides data on which areas are included in the stunting locus. Well, then we choose which group is appropriate. Not only from stunting cases, but also from the characteristics of the region regarding food. In Sleman there will be 30*

*villages in 2022 that will be the locus of stunting, Mbak. However, if we want to determine the proposed location for using the yard, now there is P2L and Lumbung Mataraman. Basically, first we take the stunting location, secondly, we still have to ask the SKPD about the level of nutrition or what it is, which is low, then line it up with stunting from health, then we will find this area. Well, here is the data. Determine the village first. For example, how many KWTs are there in the village, then BPP will propose, then we will verify. Then it is narrowed down again until we get the group. "The most important thing is, from these areas, choose which group is the most prepared and whose land is ready." – JDH (Food Security and Diversity).*

In the non-stunting category, all KWT organizations are eligible to submit proposals. The beneficiary groups are selected based on the KWT's degree of preparation, and the KWT has never received aid. The District Agriculture Service will then get the list of organizations that will receive benefits. The Agriculture Service, in collaboration with Field Agricultural Extension Officers (PPL) in the sub-districts of potential beneficiaries, conducts verification to assess the preparedness and capacities of the prospective beneficiary groups. In Sleman Regency, two KWT groups got the P2L program in the non-stunting category: KWT Karya Bunda in Patukan, Ambarketawang, Gamping, and KWT Karya Manunggal in Cibuk Kidul, Margoluwih, Seyegan.

Meanwhile, P2L for the stunting category focuses on stunted regions. The Sleman Regency Agriculture, Food, and Fisheries Service and the Sleman Regency Health Service worked together to determine the site of this program category. The criterion for identifying places included stunting rates and area food security circumstances. According to the findings of this coordination, four communities were included in the stunting locus and have KWTs that are prepared to implement the program. The four groups that received the P2L program in the Stunting category were KWT Sokananta in Soka Tegal, Tempel District; KWT Mekar Sari in Mergan, Minggir District; KWT Ngudi Rejeki in Glagah Malang, Cangkringan District; and KWT Sedyo Rini in Semoroharjo, Pakem District.

*"The government gives money without expecting the money to come back. If only it could be sustainable it would definitely be sufficient. For example, if P2L is given, you only give money per person to buy food directly, at most it only lasts for how long, but if it's something like this, it could be 5 years or even longer. How do you start from the seedling stage, the planting, so if you can maintain the supply of seeds, planting can be sustainable. Yes, that's it... the goal is to be sustainable, right?" – ER (P2L II program companion).*

*"...three activities are realized: nurseries are marked by the creation of seed houses or village nurseries. Continue with the demonstration plot, this is a pilot planting carried out by KWT which is close to the seed house. The directions are seed houses and*

demonstration plots in 1 area. Third activity, yard. This activity is carried out at each member's house, so they are not close to this area, or scattered around each other's houses. Seed house for supplies of seeds, from seeds to seedlings. If the demonstration plot becomes a pilot, what this means is that if you grow the seeds in this way... in this way, then in the community's yard they will apply the practice. Usually, there is a target number of polybags there. "The target is 70. So, the minimum is 70 polybags." – SH (P2L I program companion).

The P2L initiative supports community food satisfaction via three activities: building village nurseries, developing demonstration plots or demonstration spaces, and planting in yards. The primary goal of the P2L initiative is to fulfill the community's food consumption and nutritional needs by utilizing vacant home gardens that may be utilized for conservation. This program's premise works from the top down to help families satisfy their food needs. As a result, the P2L program encourages groups to be self-sufficient in seed production and post-harvest processing in order for the program to be sustainable.

According to the 2021 P2L Implementation Technical Guidelines, a community seed house is a plot of land used to grow plant seeds<sup>30</sup>. The goal of building this village nursery is to suit the requirements of its members and the surrounding community so that the cultivation of the commodities being grown is sustainable and economic advantages may be achieved from its administration. Each region receiving the P2L program already has a village nursery that actively conducts regular seedlings. The seedlings produced by this village nursery are supplied free of charge to P2L members for planting in their own yards, as well as to nearby village communities who wish to plant in their yards. Meanwhile, plant seeds were procured through monies spent at the beginning of the activity and from the Department of Agriculture. To ensure the longevity of the village nursery, KWT also offers seeds to neighboring communities at lower pricing.

*"In the past, if I wanted to plant seeds myself, I didn't know where to buy seeds, Sis. Because in urban areas there are very few people selling vegetable seeds like this. If you want your own seeds, they'll just die. I couldn't before. But when I got this program, I was given training, tours, and there were also facilities for doing nursery work. "So it's easier now, if you want to plant seeds, it's easy to get seeds from this seed house." – YA (P2L I program implementing member).*

*"Now, if you want to plant seeds, just take the seeds from Ma'am's seed house. It's easy. We were given 70 polybags, which usually contain 5 kinds of vegetable seeds. It depends on what kind of seed house we are cultivating. "The seeds continue to be distributed to members, free of charge, so it's economical." – WI (P2L II program implementing member).*

A village nursery allows individuals to conveniently acquire vegetable seeds while also saving money on plant seeds. Informants stated that prior to the P2L program, the community had difficulty getting vegetable seeds due to a lack of expertise to carry out planting autonomously, and access to plant nurseries was limited because most were exclusively located in agricultural regions. The hope is that by making village nurseries more accessible, they will increase people's interest in planting vegetables in their yards and broaden the scope of people who practice planting in their yards, including not only KWT members but also the general public in the surrounding areas who are not KWT members.

Aside from village nurseries, the P2L initiative creates demonstration plots as areas/areas that serve as pilot locations, field meetings, learning centers, and practice areas for utilizing the yard, which are administered collaboratively by group members<sup>16</sup>. From this trial area, expansion was carried out, with each member obliged to practice planting in their own yard using a minimum of 70 plastic bags. To help members adopt planting in their homes, each household received a kit of planting facilities and infrastructure, including buckets, polybags, fertilizer, plant seeds, and tinder.

There were differences in commodity development in the P2L program compared to the KRPL program which was implemented in the previous year. In the 2021 P2L program, the types of commodities provided were only the vegetable group<sup>30</sup>. Each household received 70 vegetable plant seeds consisting of 5 types. The types of plants given are in accordance with the type of nursery at the nursery. This was different from the group that received the KRPL program in 2019 where the group also received fruit, chicken and fish seeds. In the KRPL group, each member received assistance with 70 vegetable plant seeds, 3 types of fruit plant seeds, 1 chicken with its cage, and 10 catfish. Livestock and fish commodities were only given to the KRPL group once at the start of the program. However, raising livestock and fish at the household level is not sustainable. This is due to the difficulty of maintenance and the lack of skills of members in raising livestock/fish.

The products of planting in the demonstration plot are provided to members and the surrounding community through a voluntary system in which individuals can pay according to their economic capacities or get them for free. The P2L organization stresses enough fulfillment for its members and the surrounding community. If there is an excess crop, it is sold to vegetable shelters or the market. The P2L organization also sells their items via e-warung. The earnings from this sale will be utilized to continue the implementation of planting in the demonstration plot as well as to support the initiative to supply protein-rich food sources at the Integrated Healthcare Center. In addition to selling fresh vegetables, the group processes commodities grown in demonstration plots in an effort to strengthen the MSME group. As a result, planting not only helps satisfy household food needs, but it also provides members with additional cash.

Meanwhile, the products of autonomous planting in members' yards might be consumed to

provide family food, distributed to neighbors, or sold. Each household has the flexibility to use the results of their crop. People in rural regions consume their harvests and sell around 70-80% of it. The desire to sell stems from the fact that the crop is too large for self-consumption, and households lack the ability to keep the produce for an extended length of time. In contrast, in urban environments, individuals choose to use the crop for personal use. This is due to increased knowledge of the importance of eating fresh, healthful veggies, as well as the outcomes of a limited harvest.

### **The Contribution of the Sustainable Food Yard Program to Accelerate Stunting Reduction during the Covid-19 Pandemic in Sleman Regency**

The Republic of Indonesia's Presidential Regulation No. 72 of 2021 on the Acceleration of Reducing Stunting emphasizes the importance of increasing food and nutritional security at the individual, family, and community levels in order to achieve the target of reducing stunting prevalence by 14% by 2024<sup>31</sup>. One of the key motivations for the Sustainable Food Gardens initiative (P2L) is that national food security must begin at the family level<sup>32</sup>. Household-based development is critical, particularly in terms of supplying food for the people, alleviating poverty and unemployment, and lowering susceptibility to food and nutritional security.

Sustainable Food Gardens is a concept for utilizing unproductive land in both urban and rural areas, with the potential to strengthen national food security by empowering local food potential, making it easier for households to meet their food and nutritional needs in a sustainable manner<sup>32</sup>. Optimizing the usage of yards through Sustainable Food Yards (P2L) has proved to be effective in addressing community food issues during the Covid-19 outbreak. Despite the PSBB's restricted size, residents may still satisfy their food demands by raising vegetables and animals at home. The adoption of the P2L program in Sleman Regency has had a simultaneous influence on KWT members and the surrounding community in four dimensions: food and nutritional security, economy, ecological, and socio-psychology.

The sustainable food garden initiative helps to satisfy families' food needs. The primary outcome of a sustainable food yard is the freshness of agricultural goods by emphasizing pesticide-free items that are of enough quality, safe, and can be used to satisfy families' nutritious food demands. Women's engagement as pillars of home food affairs is critical to encourage the intake of diverse, nutritious, balanced, and safe food. Members of the P2L program not only receive yard planting training, but they also gain knowledge about feeding methods and the usage of nutritionally balanced food for their families. According to several studies, women who are well-versed on family feeding and stunting have better-nourished newborns. Meanwhile, among households with limited information, children's food consumption frequently does not match conventional nutritional demands<sup>33-35</sup>. Children's food consumption is heavily influenced by what their families eat. Lack of dietary intake in the household might lead to nutritional deficiencies in children<sup>36</sup>. As a result,

establishing home food security can help to ensure national food security and assist initiatives aimed at reducing stunting.

*"With the existence of P2L accompanied by the involvement of women in it, it becomes the foundation for food security at the family level, especially which can of course support national food security. This program can make it easier for families to get enough B2SA food, which is nutritious, varied, balanced and safe. So that the family's nutrition is good, and the children don't experience malnutrition or stunting." - JDH (Food Security and Diversity)*

During the Covid-19 pandemic, the P2L initiative served as a live food barn, ensuring the availability of people's food in the face of distribution difficulties and food price inflation. The yard may be described as a living food barn since the plants cultivated there are preserved and available alive, allowing them to contribute to the household's fresh food supply<sup>37</sup>. The limitations imposed by the PSBB have an influence on people's freedom to engage in activities related to the production, distribution, and consumption of food. Distribution barriers result in uneven distribution of food inventories among areas. Aside from that, food costs rose throughout the epidemic, reducing people's purchasing power in the face of economic instability. According to the results of the interviews, the P2L initiative allows the community to conveniently get healthful food from their own gardens. According to Suhartini et al. (2020), the yard also serves as a living store, allowing households to receive vegetables or other items produced in their yard even if money for food runs out or there are no vegetable sellers<sup>37</sup>.

*"During the pandemic, there were no mobile vegetable vendors. If I want to go to the market, I sometimes get paranoid. At least from growing in this yard, it's easier to get vegetables, just pick them. Not bad, especially when prices go up like this, it really saves money." - S (P2L I Member)*

*"In this day and age, the benefits can really be felt. So the availability of vegetables can be maintained. We just have to pick it in the yard. Even though sometimes the results in the yard at home are uncertain, we can still get what is shown in the demonstration plot. And, because the demonstration plot also carries out routine seeding, the distribution of seeds to members is also routine, so planting at home remains sustainable." - WI (P2L II Member)*

Maintaining the availability and access to food from the yard would improve the quality of food intake in the home. Even while P2L contributes to family food security, planting in the yard does not yet entirely meet household food supply needs. Nonetheless, all participants claimed that they may gain slightly from the P2L program because there were cooking components that could be grown and consumed. This is consistent with the P2L program's terms, "nandur opo sing

dipangan, manganese opo sing ditandur" (plant what you eat, eat what you grow).

One of the goals of establishing P2L is to boost people's consumption of veggies and fruits, which is currently rather low. As a result, the P2L program's commodities are centered on vegetable plants, fruit plants, and toga plants that are tailored to the temperature and terrain of each location, as well as to people's preferences. The P2L program's development focus differs from the preceding KRPL program, which encompassed food crops and animals. Even though the P2L program does not provide livestock commodity assistance, P2L members receive socialization and livestock cultivation training in the hopes that they will be able to cultivate independently and intensify crops and livestock in their yards.

According to study findings, vegetables were the commodity with the highest percentage of providing family requirements from the yard. As many as 60% of respondents claimed that P2L could cover family vegetable demands, while 40% reported that domestic vegetable availability was moderate, requiring households to purchase from the market. Meanwhile, with the help of fruit plant seeds from the P2L program, 43% of families reported that the yard was able to offer fruit at a moderate level, with the fruit acquired from the yard but the household still having to buy it to satisfy their fruit requirements.

Diversifying the staple food rice with other forms of local food is critical to ensuring long-term food security. However, people continue to rely on rice as their primary food source, and interest in tuber-based or other native cuisines remains low. In this situation, funds from the P2L program might be utilized to offer help with native food crop seeds such as cassava, sweet potato, taro, and corn. However, the organization has failed to widely push the concept to offer local cuisine to substitute rice. Only 15% of respondents reported receiving assistance with tuber plant seeds. Meanwhile, community engagement in using the yard as a source of local food to replace rice remains low. Only 10% of respondents had planted tubers in their yards.

According to Purwantini et al. (2016), in order to ensure the KRPL program's long-term viability, food crops and livestock must be combined as sources of animal protein to fulfill household demands<sup>32</sup>. In the previous year, the P2L program in Sleman Regency provided livestock assistance packages in the form of laying hens and fish farming in buckets. For program recipients in 2019. However, beginning in 2021, the P2L program will solely provide help for vegetable crops. To encourage households to use yards as an independent supply of animal protein, the Agriculture Food and Fisheries Service works with the Livestock Service to give P2L members with yard-based livestock and fish production training. In fact, as many as 78.3% of P2L members have not used the plant-livestock or plant-fish integration patterns. Meanwhile, 21.7% have successfully integrated cattle into their home gardens. On the fulfillment side, up to 23% of respondents stated they could meet their animal protein needs from their own yard, however market purchases were still suggested. Meanwhile, 77%

of animal protein requirements are met from market purchases. Plant-livestock/fish integration in the yard increases production over growing only one species. According to Kathleen (2011) in (Suwanto et al., 2015), crop-livestock integration may enhance soil quality, boost productivity, generate diversified food, and improve land use efficiency, all of which can help the P2L program remain sustainable<sup>38</sup>. As a result, training and assistance for plant-fish integration, such as aquaponics, and plant-livestock integration, including poultry housing and rearing, must be provided so that the community can see tangible results from the comprehensive use of the P2L program, increasing the sustainability of utilization practices in the yard.

It is intended that the limited yard would become a nourishing garden for the family. Members of the women farmer groups and the surrounding community benefit from the P2L program's implementation. Housewives can improve their income by selling their plantings from the garden planting program. Aside from that, family access to veggies is improved because there is no need to purchase them and their safety is ensured. P2L members also reported that vegetable intake in homes had grown. In other research, a study of the implementation of P2L in Cilewo Village, Karawang Regency, and P2L in KWT Walidah, Cisaat District, Sukabumi Regency, found that P2L was quite effective in improving consumption patterns, community food quality, and household nutritional adequacy<sup>39,40</sup>.

In the midst of restricted space during the Covid-19 pandemic and shifting food costs, the P2L program was extremely beneficial in meeting people's daily food needs. The informant further indicated that the harvest results from the P2L program not only assist satisfy family food needs, but may also benefit vulnerable groups during the Covid-19 epidemic, such as self-isolation groups, disadvantaged groups, pregnant women, and families with stunted children. The P2L group assisted with vegetable and basic food packages. Aside from that, the Women Farmers Group (KWT) is connected with the Integrated Healthcare Center program, with the P2L program providing raw materials for PMT production and distribution during Integrated Healthcare Center activities. Informants from the Food Security and Food Diversity Sector, Department of Agriculture, Food and Fisheries of Sleman Regency revealed that the P2L program in Sleman Regency will continue to be encouraged, strive for sustainability, and be integrated with other program innovations, such as supporting the innovation program "Pecah Ranting Selamate Rakyat" or the stunting prevention program to eliminate malnutrition and improve the people's economy. The Pecah Ranting Hiburane Rakyat is one of the stunting prevention innovations launched by the regional government of Sleman Regency. It provides additional food in the form of side dishes containing protein, particularly fish, chicken, eggs, and their processed products, which are distributed through stalls in each village or in other areas. named Warung Sembada. The objective is that the commodities outcomes from the P2L program will fund the provision of more food.



## CONCLUSION

The P2L program is one of the sensitive treatments in prospective stunting reduction initiatives, since it promotes food independence in households through the utilization of yard land. In the midst of home food supply disruptions caused by the Covid-19 pandemic, the installation of P2L in urban and rural regions can operate as a living food barn, facilitating people's access to food, particularly vegetable commodities, despite pandemic limits. From a financial standpoint, residents in rural regions might earn extra money from gardening in their yards because the crop surpasses family needs. Meanwhile, in urban neighborhoods, even if they cannot create additional revenue, growing in tiny yards can cover family vegetable needs while saving money. An interesting finding from this study is that the P2L program not only improves family nutrition and provides economic benefits to P2L members' families, but it also increases community solidarity by allowing the results of planting vegetables in demonstration plot yards and independently to help vulnerable groups in the surrounding areas such as disadvantaged groups and families with stunted children. The results from P2L are also used to make PMT, which are distributed during Integrated Healthcare Center activities. Furthermore, the revenues from commodities sales from the demonstration plot can help the Integrated Healthcare Center program provide animal protein-rich diet for toddlers. However, the P2L initiative in Sleman Regency has only been able to fulfill vegetable demand. The utilization of yard land as a source of animal protein, fruit, and basic foodstuffs to replace rice has not yet been fully established.

To ensure the P2L program's long-term viability, creativity is required from local champions or P2L administrators in order to improve the quality, quantity, and diversity of production commodities, including not only vegetable commodities but also crop-livestock integration innovations. Aside from concentrating on family food security, the P2L program may be linked with other stunting interventions to help speed stunting reduction. Furthermore, more extensive support, monitoring, and evaluation, as well as institutional development and sectoral synergy, are required to ensure that the P2L program's execution is sustainable and has a larger influence on efforts to address nutrition issues in Indonesia.

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## CONFLICTS OF INTEREST AND FUNDING SOURCES

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