



Stakeholder Analysis on Sustainable Food Home Garden Programme (P2L) at Sananrejo Village, Turen District, Malang Regency

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Data of the article

First received : 11 June 2023 | Last revision received : 15 July 2023

Accepted : 11 November 2023 | Published online : 30 November 2023

DOI : 10.17170/kobra-202307218410

Keywords

stakeholder, food sustainability, home garden

The most important human needs are increasing adequacy and improving nutrition through healthy and diverse food consumption patterns. The utilization of the garden is a solution to fulfilling the nutritional needs of the community, especially families. Through the Sustainable Food Home Garden Program (P2L), it is hoped that it will be able to meet the nutritional needs of families from the garden and increase the role of women as economic support for the family. This study aims to identify, explain, and analyse the implementation of the Sustainable Food Home Garden Program (P2L) and identify and analyse stakeholders' roles at each stage of the P2L program. The sampling method is purposive sampling. The research was conducted in Sananrejo Village, Turen District, Malang Regency. To identify and analyse the parties' roles in the sustainability of the P2L Program, Institutional Analysis Design (IAD) (Ostrom, 1990) is used, and mapping the roles of stakeholders in the P2L Program uses the Stakeholder matrix. The results showed that the implementation of the P2L Program was in accordance with existing technical guidelines and could benefit beneficiaries, namely KWT Semi-Lestari. There are nine stakeholders in the P2L program that have key roles or key players, namely the Malang Regency Food Security Service, KWT Semi-Lestari Members and Management, Agricultural Extension, and the Turen District Government. Stakeholders who act as context setters with high influence and low interest are the Village Government, RT Management, and District PKK TP. In contrast, stakeholders who act as crowds with low influence and interest are groceries and Village TP PKK. Recommendations for further research are regarding conflicts and relationships between stakeholders and strategies so that P2L can provide optimal benefits for the community.

1. Introduction

The most essential human need is increasing adequacy and improving nutrition through healthy and diverse food consumption patterns. Availability of good food in terms of sufficient quantity, good quality, and affordable prices. The more advanced a nation is, the greater the demand for and attention to the food quality consumed.

The ideal Nutrition Adequacy Rate (RDA) for Indonesian people, as recommended by the Minister of Health through the National Food and Nutrition Widyakarya (WNPG) is 2100 kcal and 57 grams of protein daily. Based on data from the Central Statistics Agency (BPS) for the Indonesian people, it can be said that they have met the recommended nutritional adequacy standards as in the latest data released in March



2020, it was recorded that the Indonesian people could consume 2112.06 kcal and 61.98 grams of protein in a day. This can be seen from the graphic data from the Central Statistics Agency (BPS), which illustrates the nutritional adequacy of calories and protein per day for the community in March 2020 (Vebronia et al., 2021). According to Statistics obtained from FAO-STAT, South Asia has made significant progress towards reducing hunger, particularly over the last 15 years: The population undernourished in the region was estimated at 14.7 percent in 2018, down from an estimated 21.5 percent in 2005. Although the coronavirus disease 2019 (COVID-19) pandemic may now challenge these outcomes, the trend over the last several decades has been toward improving the region's food and nutrition security (Dizon et al., 2021).

Utilizing the home garden is a solution to fulfilling the nutritional needs of the community, especially families. The quasi-experimental study in Guatemala demonstrated that home garden interventions might have potential benefits when added to other nutrition-specific interventions, particularly in improving child linear growth and household access to various products in rural Guatemala (Guzmán-Abril et al., 2022). Optimizing utilization of the home garden is done by empowering women to optimize the benefits of the home garden as a family food source. Beyond increasing food consumption, home gardens can also improve nutrition. In India, their introduction helped families meet the requirements of a four-member household for beta carotene and vitamins (Chadha et al., 2012). In Bangladesh, such gardens increased the average household supply of plant proteins by 171 percent, iron by 284 percent, vitamin A by 189 percent, and vitamin C by 290 percent (Schreinemachers et al., 2015). These nutrition gains likely occur through increased vegetable consumption and improved dietary diversity (Jana et al., 2015; Birdi and Shah, 2016)

This effort is carried out by cultivating various types of plants according to family food needs, such as tubers, vegetables, and fruit, as well as cultivating small livestock and fish in addition to the availability of Diverse, Nutritious, Balanced, and Safe food. The objective of small-scale production activities is to allow households, and particularly women in those households, to gain control over food security and nutrition (Dizon et al., 2021). The clear advantage of a home garden intervention is its ability to address multiple

micronutrient deficiencies, yet data limitations forced to focus on iron, vitamin A, and zinc, which are nevertheless the main micronutrient deficiencies affecting Bangladesh (Schreinemachers et al., 2016).

Another study on the same home garden project in Bangladesh showed that women gained self-esteem by being recognized for their agricultural skills in the community. It suggests that noneconomic motives might be more important and that valuing women's gardening time at the daily wage rate underestimates the true cost-effectiveness of the intervention (Patalagsa et al., 2015). In Ghana, The agricultural sector is the main employer for both rural women and men; nevertheless, rural women also have high employment participation in wholesale retail, marketing, and tourism, as well as in the manufacturing sector. Most rural Ghanaians are self-employed in agriculture or not, and 56 percent of the rural working population has a second job or more. Overall, very few of them engage in paid labour, and when opportunities exist, women are disadvantaged: in rural areas, men take part five times more in wage employment than women. On the contrary, rural women are more likely to be engaged in unpaid family work and non-agricultural self-employment activities than rural men (FAO, 2012). Participation in farmer-based organizations (FBOs) is one pathway that may contribute to the empowerment of rural women (Ferguson & Kepe, 2011).

In Indonesia, one of the steps to empower women in economic development in rural areas is to form a Women's Farming Group. A recent study showed women's membership in dairy producer organizations improved their use of income, ownership, decision-making over land and assets, and control over productive decisions (Mwambi et al., 2021). So that (Abdu et al., 2022) found that In Ghana, the likelihood of household gender equality was higher in households where a woman was participating in a Farmer Based Organization (FBO). However, women's FBO membership was not associated with overall male empowerment.

KWT Semi-Lestari in Sananrejo Village, Turen District, was one of the women's farming groups in Sananrejo Village with 30 members. The formation of women farming groups was based on a common need and goal to empower women according to the potential of existing natural resources, namely in the agri-



cultural sector so that women can later support rural economic development and improve the welfare and fulfilment of family nutrition through the use of garden around the house.

The Sustainable Food Home Garden Program (P2L) at KWT Semi-Lestari, Sananrejo Village, began to be implemented in 2021, and it can be said that it was successful until it won Third Place in the Home Garden Category at the P2L Competition at the Malang Regency Level in 2022. The Sustainable Food Home Garden at KWT Semi-Lestari, Snanrejo has three components. The first is a seed garden, the second is a demonstration plot and the third is the women farmer's garden that can be planted by the members. The success of the P2L Program cannot be separated from the role of several parties, starting from planning and implementation to evaluation and sustainability of the program.

In Indonesia and several countries, the program to use gardens around the house is also one of the solutions to fulfil family food needs. One of them in Vancouver, Kanada. (Valley & Wittman, 2019) Vancouver has several neighbourhood food networks (NFNs) that have initiated food system programming involving urban food production to promote community food security. NFNs in Vancouver are typically coalitions of residents, community agencies, and municipal staff that share similar objectives and priorities around addressing food system issues specific to the neighbourhood in which they operate.

This study aims to identify, explain, and analyse the implementation of the Sustainable Food Home Garden Program (P2L) and identify and analyse stakeholders' roles at each stage of the P2L program. It will discuss in depth the roles and mapping of the roles of stakeholders in the Sustainable Food Home Garden Program (P2L), starting from the community as actors or recipients of the program, technical officers, and government from the RT, village, sub-district, to district levels so that the program This program can be successful and able to fulfil the food needs of families that are nutritious, diverse, balanced and safe. Stakeholder analysis has become increasingly popular with a wide range of organizations in many different fields, and it is now used by policy-makers, regulators, governmental and non-governmental organizations, businesses, and the media (Friedman & Miles, 2002).

As the definition suggests, stakeholders are actors who influence the achievement of a company's objectives and, by inference, their sustainability. Many studies on corporate sustainability consider stakeholders as fundamental, and empirical results for the manufacturing and service industries have shown that building successful relationships with stakeholders enhances corporate sustainability (Ogawa, et al, 2023).

2. Material and Methods

2.1. Location and Respondents

The research was conducted at KWT Semi-Lestari, Sananrejo Village, Turen District, Malang Regency. Subjects or informants in this research were selected by purposive sampling with the representation of the actors to identify the stakeholders involved, starting from the village government, sub-district government, Village TP PKK, and Sub-district TP PKK who played a role in the success and sustainability of the P2L Program.

2.2. Collect data methods

Primary data was collected through observation and direct interviews with informants. The observation take place during 2022. The researcher is directly involved in each stage of the activity so that the observation is carried out by non-participant observation. The research informants are detailed in Table 1 below. Meanwhile, secondary data was obtained through written sources, including reports, books, and records relevant to the problem under study, related regulations, and documents and photographs containing information about the P2L Program.

The validity of research data is checked by triangulation of data sources, which according to Creswell, 2019 is by examining evidence originating from these sources and using them to build justifications for themes based on a number of data sources or perspectives from participants.

2.3. Data Analysis

The data analysis used descriptive qualitative analysis and was carried out by examining all existing data from various data sources obtained by researchers. The data source came from interviews, observation,

Table 1. Informants and Stakeholders involved in the P2L Program

No	Type of Stakeholder	Number of Informants (people)	Information
1	KWT Semi-Lestari	30	direct implementation of P2L
2	RT manager	3	Facilitation of the garden to the member
3	Village government	5	facilitate the infrastructure of P2L
4	TP PKK Village	6	Advisor when the member needs some advice to maintaining sustainability
5	District Government	5	advisor and supervisor
6	TP PKK District	6	motivator, coach
7	Agricultural Extension	6	facilitator
8	Malang Regency Food Security Service	5	Program carrier, evaluation
9	Groceries	3	
	Count	69	

and documentation. The analysis technique used in this study is a data analysis technique with a linear and hierarchical approach built from the ground up to identify the implementation of the P2L Program. Meanwhile, to identify and analyse the roles and map the roles of stakeholders in the P2L Program, the stakeholder matrix is used.

Actor linkage matrices require stakeholders to be listed in a table's rows and columns, creating a grid to describe the interrelations between them. As actor-linkage matrices require no more than pen and paper, they have been particularly valuable in development, where due to resource limitations, research may need to be conducted without the use of computers (Reed et al., 2009).

Stakeholders are key players, context setters, subjects, and crowds. Key players have high interest and power. Context setter has high power but low interest. The subject has high interest but low power, and the crowd is stakeholders with low power and interest.

3. Result

3.1. Activity of Sustainable Food Home Garden Program

3.1.1. KWT Semi-Lestari

KWT Semi-Lestari was formed in 2018 with 30 members, with a secretariat at Jl. Kyai H. Hasyim Asyari RT 031 RW 007. The formation of KWT Semi-Lestari started from the desire of the members of RT 031 to utilize the home garden as a source of family nutrition. The encouragement of women to form KWTs was not only based on the desire to increase family nutrition sources but also to increase income and efforts to preserve the environment and create a beautiful environment around the house.

The location of Sananrejo Village and KWT Semi-Lestari can be seen in the figure 2.

The Organizational Structure of KWT Semi-Lestari is as follows:

- a. Protector: Head of Sananarejo Village
- b. Supervisor: Head of TP PKK Sananrejo Village
- c. Assistant: Sananrejo Village Agriculture Extension
- d. Chairman: Sri Setyowati
- e. Vice Chairman: Rahmatun Nisa F. W
- f. Secretary: Lailatul Fitria
- g. Treasurer: Nuzulia Indah Fatma

The organizational structure chart of KWT Semi-Lestari can be seen in the figure 3.

The observations and interviews regarding the members' knowledge showed that as many as 83.3% of

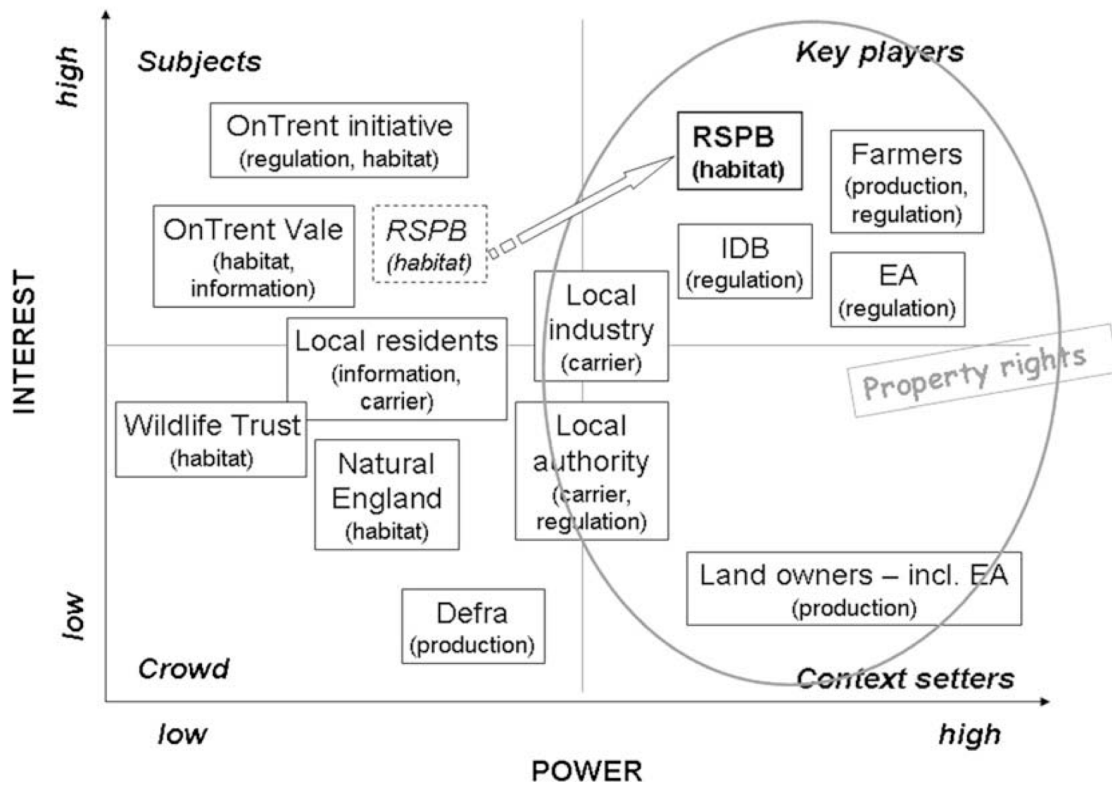
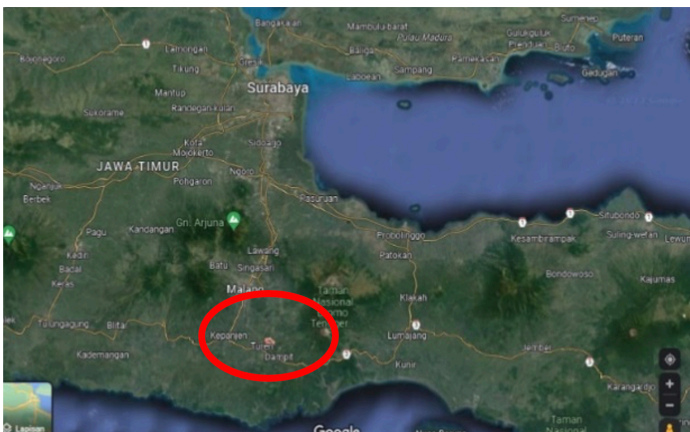
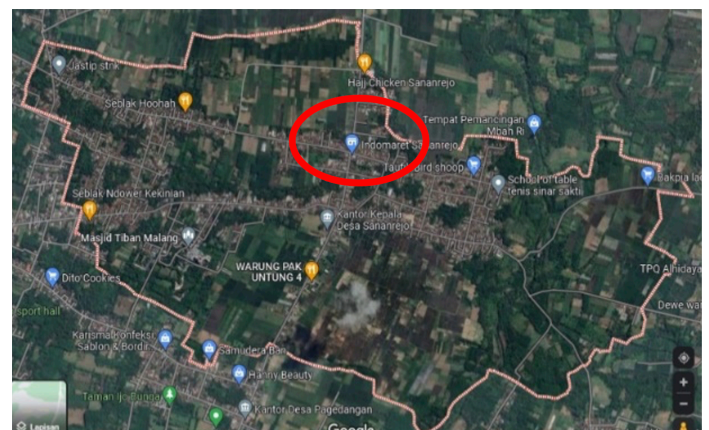


Figure 1. Interest–influence matrix for Integrated Management of Floodplains RELU Project showing stakeholders with property rights. (Reeds et al, 2009)



(a)



(b)

Figure 2. (a) Location of Sananrejo Village seen from Java Island, (b) Location of KWT Semi-Lestari seen from Sananrejo Village.

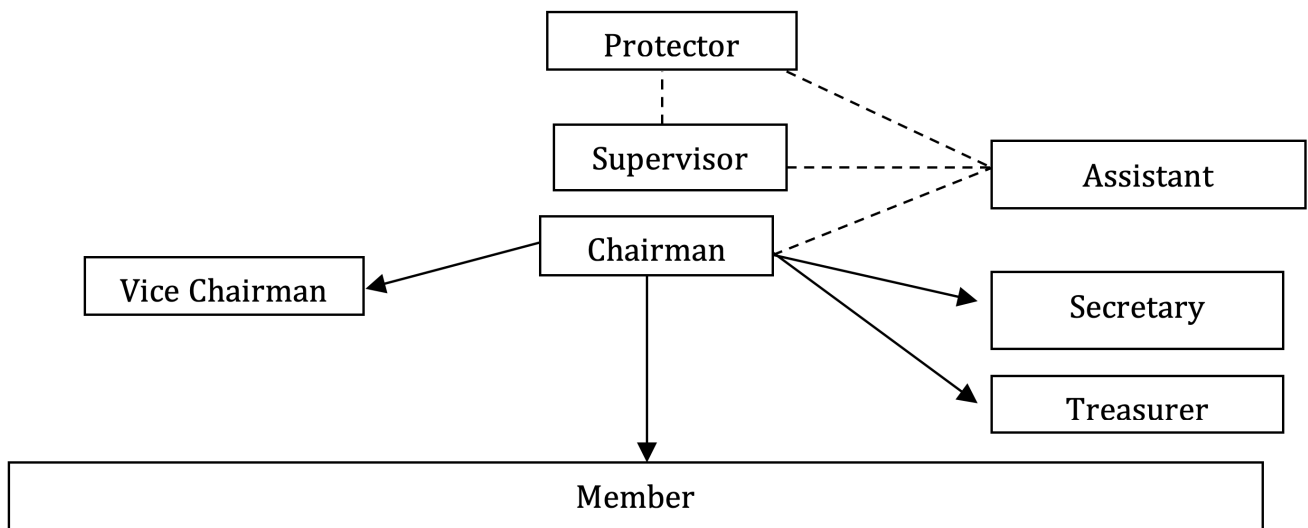


Figure 3. KWT Semi-Lestari Organizational Structure Chart

the members knew about vegetable cultivation in the home garden, and 64.7% of the women farmers knew the market needs of the yard produce. The results of observations and interviews on the psychomotor level or skills of the members show that 72.5% of the members carry out plant maintenance in the members' plantations. Members and administrators harvest or utilize home garden produce once a week.

The next behavioural aspect is attitude or affective. After observing and interviewing members, 74.17% know the importance of planting vegetables in the home garden, and 64.77% are responsible for looking after and caring for plants in the P2L area. When members know the importance of planting vegetables in the home garden, members will try to be responsible for caring for vegetables.

3.1.2. P2L Program Activities

The P2L program is implemented based on the technical instructions of the Head of the Food Security Agency, Ministry of Agriculture Number: 83/KPTS/RC.110/J/10/2020 concerning Technical Guidelines for Sustainable Food Yards in 2021. These technical instructions cover the minimum standards for the P2L Program. Based on the observation results, a comparison of the technical instructions with the realization of P2L in KWT Semi-Lestari can be seen as shown in Table 2.

From these data, it can be seen that the nursery facilities have been built in accordance with the technical instructions, namely greenhouses with a size of 8m x 2.5m or 20m² with light steel frames, fibre roofs, and insect net walls. The nursery is located at the end of the KWT neighbourhood entrance, making it more attractive. The number of plant seeds has also exceeded the minimum standard in the technical guidelines for the types of seeds planted, namely mustard greens, eggplants, chilies, kale, beets, and cauliflower. The diversity of this type of seed has also exceeded the minimum standard because there are seven types.

The KWT Semi-Lestari Yard Demonstration Plot is located on a member's land with an area of 230m². This land area is relatively narrow for the size of a demonstration plot in a rural area. It is because KWT Semi-Lestari is located in a relatively densely populated residential area with yards that are, on average less than 100m². The technical guidelines also require that the demonstration plot land be usable by the group for five years, as evidenced by a land use statement. This requirement caused only one member to allow their plot of land to be used as a KWT demonstration plot. The plants cultivated in the demonstration plots included chilies, mustard greens, mustard greens, cauliflower, kale, red spinach, eggplant, squash, green beans, and bitter melon. Plants in this demonstration plot were classified as diverse because there were more than 10 types of plants. Activity on the demonstration plots can be seen from the frequency of harvesting ac-



Table 2. Minimum Amount and Realization of P2L Components based on Technical Instructions

No.	Description	Minimum amount	Realization amount
1	Nursery Area	20m2	20m2
2	Number of Seeds	7.500 seeds	8.240 seeds
3	Seed Diversity	5 type	7 type
4	Demonstration plot area	400-500 m2	230 m2
5	Number of Plants in the Member's Garden	75 polybag	106 polybag

tivities on the demonstration plots, where the average harvesting activity in one year is 5 harvests, and as much as 80% of the harvest is sold.

In the members' yards, it can be seen that the number of polybags in each member's yard according to the technical instructions is at least 75 polybags. Based on the results of observations, for members who have large yards, some grow vegetables up to 150 polybags, so the average number of polybags for each member is 106 polybags, and this is classified as very good. Vegetables grown in the members' yards include mustard greens, cauliflower, eggplant, kale, red spinach, red sla, chilies, and green onions, with an average of 7 types of plants per house. Activities in the member's plantations can be seen from the utilization of the results of the yard for family food consumption, where 65% of vegetable needs are obtained from the yard. On average, only 40% of the members' vegetables are sold for the marketing of yard vegetables.

Many activities have been carried out by KWT including community service in filling polybags, plant maintenance which is carried out together every afternoon, maintenance of demonstration plots together and carrying out harvesting together. There are 6 types of processed yard produce: beetroot juice, bitter melon chips, spinach chips, mustard chips, crispy eggplant, and spring onion chips. Processing this yard's results involves only 40% of the members. Not all members are involved in processing yard produce because not all members have the skills and willingness in food processing.

The activity of processing yard produce can be seen from the continuity of the production of yard produce which is in the sufficient category because processed yard produce is only produced 2x in one year, namely during Eid al-Fitr and during the school holiday sea-

son. Not all processed yard products are marketed, members consume some. For the marketing of processed products outside KWT, only about 60% is sold. Marketing is not 100% out yet because there are still some product deficiencies, including the product's durability and durability as well as the product's taste which is still being tested.

3.1.3. Regulation

Regulations for the implementation of the P2L Program include written norms and rules. The existing norms in society have different binding powers. The norms among women farmer groups include watering the plants daily, picketing on demonstration plots, planting after harvest, pulling weeds on planting each member, and community service twice a month. Most of these norms are carried out by KWT members and administrators.

The Malang Regency Food Security Service made written rules regarding the P2L Program as the executor of activities at the district level. The written rules are in the form of Technical Instructions, which have been issued before the Program was handed down to the women farmer groups as program beneficiaries. The Food Security Service disseminated these technical instructions to the assistant officers or agricultural extension officers and the heads of the women farmer groups before the P2L Program was implemented in the field. The Technical Instructions are then conveyed to other KWT members and administrators by agricultural extension workers or assistant officers, who the members then understand together. These rules or technical instructions are well documented in the secretariat of the women farmer group.



3.2. Stakeholder Role Mapping

Based on the identification results, nine stakeholders are involved in Sustainable Food Yard (P2L) activities at KWT Semi-Lestari, Sananrejo Village, Turen District. The results of interviews with stakeholders show the role of stakeholders along with their strengths and interests listed in Table 3.

A stakeholder analysis was made using the Microsoft Excel tool that processes data from interviews with stakeholders regarding the interests and influence of the P2L program. The stakeholder role mapping analysis results can be seen in Figure 4 below.

From the results of the stakeholder analysis, it can be seen that:

1. Stakeholders who act as key players with strong in-

fluence and importance are the Malang Regency Food Security Office, KWT Semi-Lestari members and management, agricultural extension workers, and the Turen District Government.

2. Stakeholders who act as context setters with high influence and low interest are the Village Government, RT Management, and Subdistrict TP PKK.

3. Stakeholders who act as a crowd with low influence and interest are vegetable traders and village TP PKK.

4. Discussion

4.1. Sustainable Food Home Garden Program Activities

Women have a role at every stage of agricultural activity, from farming to food processing served at the dinner table, and their contribution is large or small depending on the amount of time and energy used.

Women play a role in food production, processing,

Table 3. Roles, Strengths, and Interests of Stakeholders

NO	STAKEHOLDERS	ROLE	POWER	INTEREST
1.	KWT Semi-Lestari	<ul style="list-style-type: none"> Propose P2L activities to the village Direct implementation of P2L activities Provide land for demonstration plots and seedling houses Selling yard produce 	+++++	+++++
2	RT manager	<ul style="list-style-type: none"> Assist KWT members in implementing P2L Provide motivation and orders for environmental sustainability 	++++	+++
3	Village Government	<ul style="list-style-type: none"> Proposing P2L activities to the sub-district Musrenbang Provide motivation and emphasis so that rules and norms can be implemented Support activities through the provision of supporting facilities and infrastructure 	++++	+++
4	TP PKK Village	<ul style="list-style-type: none"> Provide assistance and motivation 	+++	+++
5	Turen District Government	<ul style="list-style-type: none"> Propose P2L activities through the district musrenbang Provide assistance and motivation to comply with rules and norms 	++++	++++
6	TP PKK District	<ul style="list-style-type: none"> Provide assistance and motivation Teaches how to process crops 	++++	+++
7	Agricultural Extension	<ul style="list-style-type: none"> Socializing and accompanying each activity to comply with technical instructions Providing new knowledge related to vegetable cultivation, nurseries to harvest, and post-harvest handling 	+++++	+++++
8	Groceries	<ul style="list-style-type: none"> Selling crops 	++	++
9	Malang Regency Food Security Service	<ul style="list-style-type: none"> Develop technical instructions Provide outreach and funding Perform monitoring and supervision Carrying out a P2L Competition 	+++++	+++++

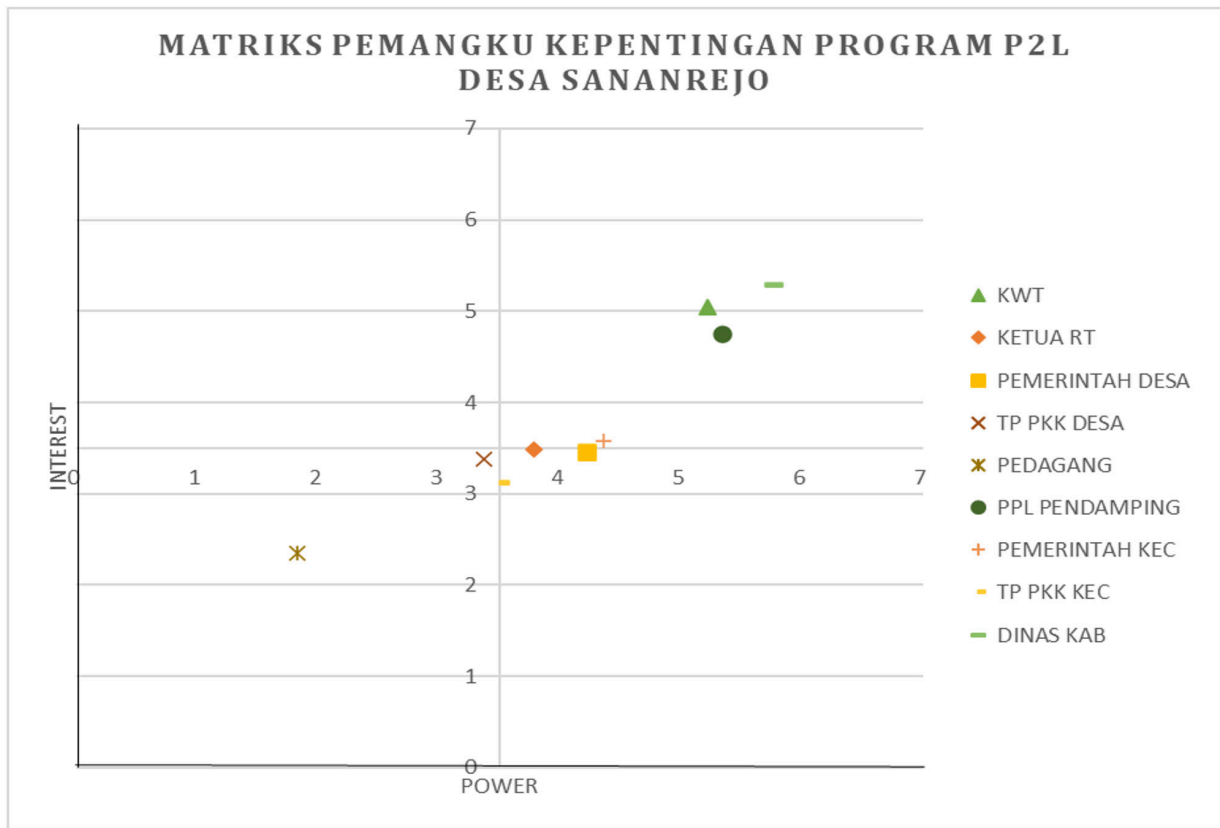


Figure 4. Stakeholder analysis results

and distribution at the household level (Atmadja et al., 2020)

According to (Hutajulu, 2015), the higher involvement of women in agriculture is due to the economic drive to meet the needs of family members, or, on the other hand, it may make women's position stronger in the family. The higher the income of women farmers in contributing income in family income, the higher the position above men, and the role of women in the family. If a woman's income is low in contributing to family income, her role in the family is still under the husband's.

The women who are members of KWT Semi-Lestari in Sananrejo Village strongly desire to have a strong role in the family. Apart from being a determinant of fulfilling family nutrition, KWT Semi-Lestari members also hope to help husbands increase family income without reducing the husband's role as head of the family. This is one of the important aspects to consider in promoting gender equality and empowering women in agricultural activities. So agriculture has an important role in support gender equality.

Research shows that when women are not active participants in decision-making and employment, this imbalance and negligence in addressing gender-based differences often result in disparities in development (Adebayo & Worth, 2022).

KWT Semi-Lestari is located in RT 031 RW 007 Desa Sananrejo. Placement of farmer groups or women farmer groups in an area facilitates coaching, empowerment, and coordination activities in each activity. In addition, the stakeholders of this similarity of location make it easier for social interaction between individuals to occur to achieve the goal of forming a KWT.

According to Jamaludin, 2015, social contact and communication are the conditions for social interaction. Social contact can be direct or primary contact where a person meets another person face to face, and secondary contact is made through an intermediary. Group members in one location allow direct contact so that communication between individuals can occur in two directions directly. It is reflected by Parsons (Ritzer, 2018), which relates the personality system to



the social system. First, actors must learn to see themselves in a way appropriate to their place in society. Second, the expected role is attached to each role an individual actor occupies. Then there is learning to discipline oneself, live the value orientation, identify, and so on.

Several stakeholders influence the interaction process in rural areas, namely imitation, suggestion, identification, and sympathy. Imitation will encourage someone to always comply with existing rules and values. Stakeholder suggestion is the process of someone following the views expressed by someone. He will follow these views and tend to be emotional, often ignoring rational considerations. Identification is a person's tendency to behave like other people who are liked. This process will shape one's personality. Identification goes deeper than imitation. In the identification process, a person will try to learn to find out the strengths of the person he will emulate (Jamaludin, 2015)

In the process of social interaction at KWT Semi-Lestari, it can be seen that these stakeholders influence social interaction. Each member tries to comply with the rules or norms that have been agreed upon, and the KWT head figure, for example, can give suggestions to members. In the end, the members carry out the identification process so that they can form a personality, especially to love the environment more and try to fulfil family nutrition.

The nursery facility is located near the entrance gate to the KWT Semi-Lestari area making it easy for others to see. The nursery's land is village-owned, so the nursery can be permanent. The provision of irrigation facilities for the seedling houses received support from the Sananrejo Village Government by providing PDAM water and simple irrigation equipment such as pipes and storage tanks.

Provision of irrigation facilities is one of the tasks of the village government, as stated by Jamaludin, 2015 the village head, as part of the village government, is tasked with carrying out government affairs, including regulating community life according to village authority, such as making village regulations and establishing community institutions. The task of the village head in terms of development, namely community

empowerment in the provision of public facilities and infrastructure. In rural development, the village government has a vital role, unlike the case in Vancouver, Canada. The recent interest in growing food in the city has been predominantly motivated by individuals and organizations with non-agricultural backgrounds and cultural histories, focused on social justice, environmental justice, food literacy education, and green job creation. Urban farms in Vancouver include both for-profit and social enterprise models, including those operating as part of a network of residential gardens, farms operated in collaboration with a community or city institution such as a school or hospital, indoor production systems, vertical farms, and farms on private agriculturally zoned land. (Valley and Wittman, 2019)

In the development of demonstration plots and planting of members, some obstacles arose, namely bad weather or too much rain, which caused damage to up to 65% of the plants in the members' yards. Apart from that, caterpillar pest attacks, especially for cauliflower plants, cause up to 55% damage. To control this damage, agricultural extension workers provide suggestions for controlling the use of plant-based pesticides and teaching KWT members how to make and spray plant-based pesticides.

Research in other countries also shows that bad weather due to climate change also affects crop damage. With future climate change impacts, crop pest problems in the sub-Saharan region are expected to worsen (Lamichhane et al., 2015). Farmers in Paya commonly recount that crop pest problems have intensified over time, particularly over the past 15–20 years. While generally puzzled about its precise causes, many interviewees connect this to an overall changing climate and an increase in extreme weather events in the region, including prolonged droughts, heavy rainfall, and flooding. Declining soil fertility and the notion that crops are becoming 'weaker' and thus more susceptible to pest damage is another factor often mentioned when they speculate about the causes of the mounting crop pest damage. The destructive impacts of pests have not only intensified but also the range of crops being affected. The long rain season, which lasts from around September to December, is depicted as the worst period when "almost all crops are suffering" (Andersson & Isgren, 2021).



4.2. Stakeholder Behaviour and Role Mapping

As explained by (Leeuwis, 2004), public awareness can be achieved with mass media campaigns, entertainment education, visualization of what is difficult to see, and demonstration experiments. In this P2L activity, female farmers' or members' awareness is achieved after explaining and giving examples by extension workers and after carrying out self-demonstration experiments. Unlike the research that has been conducted by (Kustanti, 2019), the changes to mangrove management started from 1970-1980: the mangrove forest was seen as a green belt along the coast; and continued from 1981-1990: mangroves were converted into traditional prawn ponds, and from 1991-1995: mangrove management was applied as prawn cultivation had been the focus of attention among the actors due to abrasion disaster. By 1996-2005, prawn cultivation by corporations with private ownership was immense. The existence of private corporations in prawn cultivation should be monitored to maintain mangrove forests as a green belt throughout the coast.

Policy analysis has long sought to understand how information, institutions, decisions, and power shape the policy agenda for interest groups in social networks. In policy research, Stakeholder analysis has been seen as a way of generating information about "relevant stakeholders" to understand their behaviour, interests, agendas, and influence on decision-making processes. (Brugha & Varvasovszky, 2000))

The P2L program is a program from the Ministry of Agriculture that, in its implementation, is fully handed over to the regions through the Malang Regency Food Security Service. There are two important policies that encourage community participation, namely devolution and decentralization. Decentralization is the transfer of power from the central government to the regions to maximize development and equality (Evans & Centre for International Forestry Research, 2006)

This P2L program is a women farmer empowerment program that requires the women farmers' active participation. According to (Handono et al., 2020), participation can be seen as a comprehensive process of community empowerment, starting from the roots,

stems, branches, and leaves. It means that it is necessary to look at the root of the problem, the targets that have problems, relevant stakeholders or stakeholders, and inhibiting factors or other supports.

Stakeholder analysis identifies individuals, groups, and organizations that are affected or can affect the environment and future generations and prioritize these individuals and groups to be involved in the decision-making process (Reeds et al, 2009).

Stakeholders are grouped into key players, context setters, subjects, and crowds. Key players have high importance and influence. Context setters have high influence but low importance. The subject has high importance but low influence, while the crowd is stakeholders with low interest and influence.

The ecosystems framework was then used to identify and classify stakeholders according to their interest in the goods and services provided by the regulating, production, habitat, carrier, and information functions of agricultural land (de Groot, 2006)

Through the stakeholder matrix, it can be seen that the Malang District Food Security Service has the greatest influence and interest. According to Kustanti, 2019, the interests of local government are framed by their main duties and functions. The interest in the Food Security Service is high because it has the main task of realizing family food security through the consumption of the B2SA menu. The influence of the Food Security Service is also high because it acts as a drafter of technical guidelines for P2L activities where the implementation of activities must be adjusted to these technical instructions.

Research by Kustanti et al, 2014 showed that Involving stakeholders in achieving the common goal of mangrove forest management in accordance with their duties and functions between the three parties' cooperation (local government, community, and University of Lampung).

Another stakeholder who also acts as a key player is KWT Semi-Lestari itself. KWT Semi-Lestari has a role starting from proposing P2L activities to the village government, such as implementing the P2L program, providing land for demonstration plots and seedling

houses, and selling home garden produce.

(Bushamuka et al., 2005) quantified the impact of the homestead food production programme of Helen Keller International using cross-sectional data for 2,160 households. They compared households who received gardening support with a control group of households who did not get support. The study potentially suffers from selection bias as there were clear differences between control and intervention households which were not controlled for in the analysis. The study found a threefold increase in vegetable production (from 46 to 135 kg) and a twofold increase in household vegetable consumption (from 38 to 85 kg) over three months. Furthermore, the study found that more than 3 years after the intervention, these positive effects had been sustained, although the effect on consumption had become less.

Other stakeholders who act as key players are assistant officers or agricultural extension workers. In this P2L program, agricultural extension agents play a role in socializing and assisting KWTs in every process of P2L activities and providing new knowledge and knowledge related to plant cultivation. Socialization can be a positive or negative action. According to research conducted by (Kustanti et al., 2023), Socialization refers to actions to spread the deviated behaviour to the public or between generations so it is accepted as normal behaviour. Socialization is the system that guarantees values and beliefs are transferred well among the people. Socialization consists of three stages: co-optation, incrementalism, and compromise stage. In this P2L activity, agricultural extension workers provide motivation and approach to women farmers so that they can use the land around the house to increase family income. As stated by (Van den Ban and Hawkins, 1999), Extension agents can help farmers understand the magnitude of the influence of economic and social structures to achieve a better life and find ways to change structures or situations that prevent them from achieving these goals.

Stakeholders who act as key players are the sub-district governments. In this study, the sub-district government played a role in proposing P2L activities through Musrenbang and providing motivation to comply with rules and norms. As research conducted by (Nurdin et al., 2014), Biringbulu District, in the

implementation of education and training, provides counselling to the community by gathering farmers and community groups in each Village and Kelurahan. To provide an understanding of what activities need to be carried out and how to implement them in the field. The main duties and responsibilities of actors in the key player's quadrant make the level of knowledge possessed by key players deeper than other stakeholders (Mustika et al., 2017).

Stakeholders who act as context setters with high influence and low interest are the Village Government, RT Management, and Sub-district TP PKK. The village government plays a role in proposing P2L activities to the sub-district Musrenbang, providing motivation and emphasis so that rules and norms can be implemented and supporting activities by providing supporting facilities and infrastructure. The Sananrejo Village Government, in this case, acts as a regulator by emphasizing that rules and norms can be implemented properly.

The RT administrator also acts as a context setter. In this P2L Program, the RT administrator plays a role in assisting KWT members in implementing P2L as well as providing motivation and instructions for environmental sustainability. According to research (Zaina, 2018), Rukun Tetangga (RT) and Rukun Warga (RW) are the lowest organizations. They are closest to the community and understand the conditions and problems faced by the community in their environment. Stakeholders who act as context setters are the District TP PKK. The district TP PKK has the role of providing assistance and motivation as well as teaching how to process the results. In carrying out its activities and programs, the PKK has 10 main programs that form the basis for the programs being implemented to improve the quality of life for families in accordance with the goals of the PKK movement. These programs include food, housing, and household management.

In the food sector, efforts are made to instil awareness of the importance of healthy and nutritious food to shape physically and spiritually to build healthy, intelligent, and strong families. PKK also promotes counselling for the use of yards. The utilization of this yard can also support housing programs and household management. This housing and household management program is directed at the idea of a healthy



home suitable for families to live in (Kusumastuti & Darsono, 2019).

The next stakeholder is the one who acts as a crowd with low influence and interest. Further consideration is needed to involve this actor because the interests and influence held can usually change over time, so it must be monitored (Wakka, 2014). In this P2L Program, the crowd is Vegetable Traders and Village TP PKK. Vegetable traders play a role in accommodating the harvested vegetables in the P2L program, but in reality, not all harvested vegetables are always sold to vegetable traders. Most of the vegetables grown in the members' yards are used for family consumption and are only sold if there is an excess harvest. Vegetable traders cannot pressure or arrange for KWT members to grow vegetables according to what is needed. This is because vegetable traders are also not too dependent on vegetable yields in the P2L Program. After all, they already have their vegetable suppliers, so the interest of vegetable traders in the vegetable yields in KWT Semi-Lestari is low. It is in accordance with research conducted by (Sheyoputri & Abri, 2021), where the farmer's business scale is relatively small, and farming is not based on market demand, causing the bargaining position of farmers to be very weak, this allows the presence of intermediary traders who are then more dominant in determining the selling price at the farmer level. The share received by farmers from the price paid by consumers for several types of vegetables is, on average smaller than that received by intermediary traders, so the marketing system is considered less efficient for farmers. This is why women farmers are still reluctant to sell their crops to vegetable traders.

Stakeholders who act as the next crowd are TP PKK Sananrejo Village. The TPP PKK in Sananrejo Village has low influence and importance, in contrast to the Kecamatan TPP PKK, which has high influence. In this P2L Program, the Sananrejo Village TP PKK only provides assistance and motivation, in contrast to the District TP PKK, which provides counselling related to product processing.

5. Conclusion

5.1. The implementation of the Sustainable Food

Home Garden Program (P2L) in Sananrejo Village,

Turen District, Malang Regency is in accordance with existing technical instructions and can provide benefits to recipients, namely KWT Semi-Lestari, which is a nursery area of 20m², number of seedlings 8,240 seedlings, there are 7 types of seedlings, an area the demonstration plot area is 230m², the members' yards average 106 polybags and there are processed agricultural products.

5.2. Nine stakeholders in the P2L program who have key roles or key players, namely the Malang Regency Food Security Office, KWT Semi-Lestari members and management, agricultural extension workers, and the Turen District Government. The Food Security Service has a key role because it has high importance, as a program carrier and high power as a drafter of technical guidelines. KWT members have high interest and influence because they are direct executors of P2L activities. Agricultural extension workers also act as key players because they play a role in overseeing, assisting, and facilitating the P2L Program directly, while the Turen District government also plays a role as a key player because it participates in monitoring and supervising P2L activities. The Village Government, RT Management, and the District PKK TP are stakeholders who act as context setters. It is because the village government, RT administrators, and the Sub-District PKK Mobilization Team are actors who are close to the KWT, so they have influence, namely the power to directly supervise and guide KWTs. Stakeholders who act as a crowd with low influence and interest are vegetable traders and village TP PKK. Recommendations for further research regard efforts to mediate conflicts and relations between stakeholders and strategies so that P2L can provide optimal benefits for the community, especially for the Village TP PKK.

Conflict of Interest

The author declares that there is no conflict of interest between the authors.

References

Abdu, A., Marquis, G. S., Colecraft, E. K., Doodoo, N. D., & Grimard, F. (2022). The Association of Women's Participation in Farmer-Based Organizations with Female and Male Empowerment and its Implication for

- Nutrition-Sensitive Agriculture Interventions in Rural Ghana. *Current Developments in Nutrition*, 6(9), nzac121. doi: 10.1093/cdn/nzac121
- Adebayo, J. A., & Worth, S. H. (2022). Women as extension advisors. *Research in Globalization*, 5, 100100. doi: 10.1016/j.resglo.2022.100100
- Andersson, E., & Isgren, E. (2021). Gambling in the garden: Pesticide use and risk exposure in Ugandan smallholder farming. *Journal of Rural Studies*, 82, 76–86. doi: 10.1016/j.jrurstud.2021.01.013
- Asihing, K., Nugroho, B., Kusmana, C., Darusman, D., Nurrochmat, D., Krott, M., & Schusser, C. (2014). Actor, Interest and Conflict in Sustainable Mangrove Forest Management—A Case from Indonesia. *International Journal of Marine Science*, 4(16), 150–159. doi: 10.5376/ijms.2014.04.0016
- Atmadja, M. Y. H., Rangga, K. K., & Listiana, I. (2020). Peranan Ibu Rumah Tangga Pada Program Kawasan Rumah Pangan Lestari Di Kecamatan Natar Kabupaten Lampung Selatan. *Jurnal Ilmu-Ilmu Agribisnis*, 8(1), 176. doi: 10.23960/jiia.v8i1.4334
- Brugha, R., & Varvasovszky, Z. (2000). Stakeholder Analysis: A Review. *Health Policy and Planning*, 15(3), 239–246. doi: 10.1093/heapol/15.3.239
- Bushamuka, V. N., de-Pee, S., Talukder, A., Kiess, L., Panagides, D., Taher, A., & Bloem, M. (2005). Impact of a Homestead Gardening Program on Household Food Security and Empowerment of Women in Bangladesh. *Food and Nutrition Bulletin*, 26(1), 17–25. doi: 10.1177/156482650502600102
- Chadha, M., Yang, R., Sain, S. K., Triveni, C., Pal, R., Ravishankar, M., & Ghai, T. R. (2012). Home gardens: An intervention for improved health and nutrition in selected states of India. *Acta Horticulturae*, 937, 1049–1055. doi: 10.17660/ActaHortic.2012.937.130
- Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2nd ed.). London, UK: Sage Publications
- de-Groot, R. (2006). Function-analysis and valuation as a tool to assess land use conflicts in planning for sustainable, multi-functional landscapes. *Landscapes and Sustainability*, 75(3-4), 175–186. doi: 10.1016/j.landurbplan.2005.02.016
- Dizon, F., Josephson, A., & Raju, D. (2021). Pathways to better nutrition in South Asia: Evidence on the effects of food and agricultural interventions. *Global Food Security*, 28, 100467. doi: 10.1016/j.gfs.2020.100467
- Evans, K., & de- Jong, W., Cronkleton, P., Sheil, D., Lynam, T., Kusumanto., & Colfer, C. J. P. (2006). *Guide to participatory tools for forest communities*. Bogor Barat, Indonesia: Center for International Forestry Research.
- Ferguson, H., & Kepe, T. (2011). Agricultural cooperatives and social empowerment of women: A Ugandan case study. *Development in Practice*, 21(3), 421–429. doi: 10.1080/09614524.2011.558069
- Friedman, A. L., & Miles, S. (2002). Developing Stakeholder Theory. *Journal of Management Studies*, 39(1), 1–21. doi: 10.1111/1467-6486.00280
- Guzmán-Abril, A., Alajajian, S., Rohloff, P., Proaño, G. V., Brewer, J., & Jimenez, E. Y. (2022). Academy of Nutrition and Dietetics Nutrition Research Network: A Home Garden Intervention Improves Child Length-for-Age Z-Score and Household-Level Crop Count and Nutritional Functional Diversity in Rural Guatemala. *Journal of the Academy of Nutrition and Dietetics*, 122(3), 640–649.e12. doi: 10.1016/j.jand.2021.04.002
- Handono, S. Y., Hidayat, K., & Purnomo, M. (2020). *Pemberdayaan Masyarakat Pertanian*. Indonesia: Universitas Brawijaya Press.
- Hutajulu, J. P. (2015). Analisis Peran Perempuan Dalam Pertanian Di Kecamatan Rasau Jaya Kabupaten Kuburaya. *Jurnal Social Economic of Agriculture*, 4(1), 83–90. doi: 10.26418/j.sea.v4i1.10135
- Jamaludin, A. N. (2015). *Sosiologi Perdesaan*. Bandung: Pustaka Setia.
- Kustanti, A. (2019). Institutional Management On Mangrove Forest. A Case from Indonesia. *International Journal of Conservation Science*, 10(3), 555–



- 564.
- Kustanti, A., Yuliati, Y., & Purnomo, M. (2023). Institutionalization of corrupt activities among Indonesian rural household farmers in surround marginal teak forest areas. *Cogent Social Sciences*, 9(1), 2187008. doi: 10.1080/23311886.2023.2187008
- Kusumastuti, C. T., & Darsono, D. (2019). Pemberdayaan Pkk Dengan Pemanfaatan Tanah Pekarangan Untuk Mendukung Perwujudan Hatinya Pkk. *Jurnal Berdaya Mandiri*, 1(1), 19–24. doi: 10.31316/jbm.v1i1.225
- Lamichhane, J. R., Barzman, M., Booi, K., Boonekamp, P., Desneux, N., Huber, L., Kudsk, P., Langrell, S. R. H., Ratnadass, A., Ricci, P., Sarah, J.-L., & Messéan, A. (2015). Robust cropping systems to tackle pests under climate change- A review. *Agronomy for Sustainable Development*, 35(2), 443–459. doi: 10.1007/s13593-014-0275-9
- Leeuwis, C., & Ban, A. W. v. d. (2004). *Communication for Rural Innovation. Rethinking Agricultural Extension* (3rd ed). New Jersey: Blackwell Science Publishing Ltd.
- Mustika, I. Y., Kustanti, A., & Hilmanto, R. (2017). Kepentingan Dan Peran Aktor Dalam Pengelolaan Hutan Mangrove Di Desa Pulau Pahawang Kecamatan Marga Punduh Kabupaten Pesawaran. *Jurnal Sylva Lestari*, 5(2), 113-127. doi: 10.23960/jsl25113-127
- Mwambi, M., Bijman, J., & Galie, A. (2021). The effect of membership in producer organizations on women's empowerment: Evidence from Kenya. *Women's Studies International Forum*, 87, 102492. doi: 10.1016/j.wsif.2021.102492
- Nurdin, M., Nurmaeta, S., & Tahir, M. (2014). Peran Pemerintah Daerah Dalam Pemberdayaan Masyarakat Petani Jagung Di Kecamatan Biringbulu Kabupaten Gowa. *Otoritas Jurnal Ilmu Pemerintahan*, 4(1). doi: 10.26618/ojip.v4i1.81
- Ostrom, E. (1990). *Governing the commons: The evolution of institutions for collective action*. Cambridge University Press.
- Pasolong, Harbani. (2008). *Teori Administrasi Publik*. Bandung: Alfabeta
- Patalagsa, M. A., Schreinemachers, P., Begum, S., & Begum, S. (2015). Sowing seeds of empowerment: Effect of women's home garden training in Bangladesh. *Agriculture & Food Security*, 4(1), 24. doi: 10.1186/s40066-015-0044-2
- Reed, M. S., Graves, A., Dandy, N., Posthumus, H., Hubacek, K., Morris, J., Prell, C., Quinn, C. H., & Stringer, L. C. (2009). Who's in and why? A typology of stakeholder analysis methods for natural resource management. *Journal of Environmental Management*, 90(5), 1933–1949. doi: 10.1016/j.jenvman.2009.01.001
- Ritzer, G. (2018). *Teori Sosiologi Modern Edisi Ketujuh*. McGraw-Hill.
- Schreinemachers, P., Patalagsa, M. A., Islam, M. R., Uddin, M. N., Ahmad, S., Biswas, S. C., Ahmed, M. T., Yang, R.-Y., Hanson, P., Begum, S., & Takagi, C. (2015). The effect of women's home gardens on vegetable production and consumption in Bangladesh. *Food Security*, 7(1), 97–107. doi: 10.1007/s12571-014-0408-7
- Schreinemachers, P., Patalagsa, M. A., & Uddin, M. N. (2016). Impact and cost-effectiveness of women's training in home gardening and nutrition in Bangladesh. *Journal of Development Effectiveness*, 8(4), 473–488. doi: 10.1080/19439342.2016.1231704
- Sheyoputri, A. C. A., & Abri, A. (2021). Analisis Struktur Pasar Sayuran di Desa Kanreapia Kecamatan Tinggimoncong Kabupaten Gowa Provinsi Sulawesi Selatan. *Jurnal Ilmiah Ecosystem*, 21(3), 634–643. doi: 10.35965/eco.v21i3.1251
- Sugiyono. (2009). *Metode Penelitian Kuantitatif dan Kualitatif*. Bandung: Alfabeta
- Valley, W., & Wittman, H. (2019). Beyond feeding the city: The multifunctionality of urban farming in Vancouver, BC. *City, Culture and Society*, 16, 36–44. doi: 10.1016/j.ccs.2018.03.004
- Ban, A. W. V. D., Hawkins, H. S., & Herdiasti, A. D. (1999). *Penyuluhan Pertanian*. Yogyakarta, Indonesia:

Kanisius.

Vebronia, A., Febriantini, K., & Kurniansyah, D. (2021). Peran dinas pangan program pekarangan pangan lestari (P2L). *KINERJA: Jurnal Ekonomi dan Manajemen*, 18(4), 521-526.

Wakka, A. K. (2014). Analisis Stakeholders Pengelolaan Kawasan Hutan Dengan Tujuan Khusus (Khdtk) Mengkendek, Kabupaten Tana Toraja, Provinsi Sulawesi Selatan. *Jurnal Penelitian Kehutanan Wallacea*, 3(1), 47-55. doi: 10.18330/jwallacea.2014.vol3iss1pp47-55

Zaina, H. (2018). Implementasi Kebijakan Pembentukan Rt/Rw Sebagai Lembaga Kemasyarakatan Desa (Studi Desa Sukorejo Kecamatan Sumber Wringin Kabupaten Bondowoso Tahun 2018). Indonesia: Universitas Muhammadiyah Jember. Retrieved from <http://repository.unmuhjember.ac.id/6673/1/ARTIKEL%20JURNAL.pdf>



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