



# Behavior of KWT Jaya Kerti Lestari Members towards Sustainable Food Garden Program in Maintaining Household Food



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**Abstract**

This research aims to describe the behavior of KWT members towards the P2L Program in maintaining community household resilience, determine the acceptance of the P2L program by KWT members and determine the characteristics of KWT Jaya Kerti Lestari members located in Rendang Village, Rendang District, Karangasem Regency. The total number of KWT members is 40 people, all of whom are used as respondents determined by census. Research data was collected using structured and in-depth interviews and documentation. Data analysis was carried out descriptively qualitatively and quantitatively. The results of the research show, (1) the characteristics of the respondents include, an average age of 55.09 years, average education of 6.05 years equivalent to completing elementary school, average household responsibility of 3 people, average ownership of a yard area of 4.80 acres, the dominant main occupation is farmer and on the side as a trader. (2) The behavior of KWT members towards the P2L program is classified as high with a relatively high level of knowledge, an attitude classified as agreeable, and the level of implementation of the P2L program is also relatively high. (3) The level of acceptance of the P2L program is classified as high as seen from the welfare indicators of KWT members which is classified as high, and acceptance of innovation is in the medium category.

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## 1 Introduction

Food security includes three important aspects as indicators of the success of increasing food security, namely: 1) Food Availability, which means that sufficient food is available to meet the needs of the entire population, both in quantity and quality and is safe; 2) Food Access/Distribution (Food Access), food supply can reach all regions so that prices are stable and affordable for households; and 3) Food Absorption/consumption (Food Utilization), namely that each household can access sufficient food and can manage its consumption by nutritional and health rules and preferences (Saragih, 2020).

Food security is a condition where food is met for the country and individual communities. This will be reflected in the availability of sufficient food, both in quantity and quality, safe, diverse, nutritious, equitable and affordable. Besides that, it also does not conflict with the religion, beliefs and culture of the community to be able to live a healthy, active and productive life sustainably (Ministry of Agriculture, 2011). Realizing food security can be done by every household which is expected to be able to optimize the resources they have, including the yard in providing food for the family (Budiarti et al., 2013).

In this regard, the Ministry of Agriculture developed the Sustainable Food Home Area Program (KRPL). KRPL is an effort to empower households sustainably in one area to provide diverse family food, and balanced and safe nutrition through the use of innovative technology, including processing livestock waste (dung) for fertilizer and using household waste into Local Micro-Organisms (MOL). Apart from that, KRPL also includes efforts to intensify the use of living fences, village roads and other public facilities (schools, places of worship, etc.), open green land, as well as developing processing and marketing of produce (Putnam, 1993; Putra, 2003).

During the COVID-19 pandemic, the Bali Provincial government re-intensified the implementation of this program by changing its policy by changing the name of the initial program KRPL (Sustainable Food Home Area) to the Sustainable Food Yard Program (P2L). This program seeks to encourage all communities, especially PKK women or mothers, to intensify the use of yard land to grow commodities that can be used to meet their daily consumption needs (Sunasri & Ayu, 2004).

The success of the P2L Program in maintaining household food security depends on the behavior of the community, in this case, the KWT, towards the P2L program, what is the attention of the community, what is the community's attitude towards this P2L Program, and also how the community's acceptance and involvement in the P2L program is. Community involvement in the P2L program is expected to start from planning program activities, implementing the program and also enjoying the results of the program (Gibbs et al., 2013; Palar et al., 2019; Beavers et al., 2021).

Button-up programs should be planned to be implemented and enjoyed directly by the community, whereas the P2L program is a top-down program or a program from the government. From the results of previous research, it was found that the behavior of KWT members towards the program was classified as moderate and the actions or skills possessed by KWT members were also classified as moderate (Astuti, 2022). This shows that the level of community acceptance is not yet optimal in P2L program activities. Therefore, it is necessary to study how the community accepts the P2L program. If the program is well received then all program activities can be implemented following the program objectives. Furthermore, the acceptance of the P2L program will be seen from how the level of community welfare will be seen from the increase in household income and automatically being able to meet the food needs of the household, especially in the current situation which is affected by the COVID-19 pandemic. Apart from that, acceptance of the P2L program will be seen from the aspect of KWT member cooperation in implementing the P2L program (Principato et al., 2021; Williamset al., 2012).

This P2L program has been rolled out in the community and even during the COVID-19 pandemic, all KWTs implementing P2L received additional funding injections to increase the productivity of these KWTs. The phenomenon that emerges is the extent to which the P2L program can be accepted and what impact it has

on the community's household food availability (Astiti, 2023). The acceptance of a program or innovation for the community will be determined by the community's behavior towards the program which is assessed through their knowledge, attitudes and actions in implementing the P2L program. Programs or innovations will be accepted if the program can improve community welfare. Therefore, the program or innovation must be easy to implement, profitable and easy to provide facilities and infrastructure. Acceptance of a program will also be determined by the implementation of the program (Dziallas & Blind, 2019; Boons et al., 2013; Huizingh, 2011). Meanwhile, the implementation of a program will also be supported by cooperation between community members in implementing the program. In connection with this phenomenon, it is very relevant to study how the community behaves towards the P2L Program activities and how KWT members accept the program (Davis et al., 2009; Irawati et al., 2019).

The problem formulation in this research is (1) what are the characteristics of KWT Jaya Kerti members as recipients of the P2L Program in Rendang Village? (2) what is the behavior of KWT members towards the P2L program in terms of knowledge, attitudes and application of the P2L program from KWT members as recipients of the P2L program? and (3) what is the level of acceptance of the P2L Program at KWT Jaya Kerti, Rendang Village, Rendang District, Karangasem Regency?

The objectives of this study include the following (1) to know the characteristics of KWT Jaya Kerti members as recipients of the P2L Program in Rendang Village. (2) To analyze the behavior of KWT members in terms of the level of knowledge, attitudes and application of the P2L program from KWT members as recipients of the P2L program in Rendang Village, Rendang District, Karangasem Regency. (3) To analyze the level of acceptance of the P2L Program at KWT Jaya Kerti, Rendang Village, Rendang District, Karangasem Regency.

## 2 Materials and Methods

This research was conducted at KWT Jaya Kerti Lestari, Pedukuhan Village, Rendang District, Karangasem Regency. The research location was chosen deliberately, with the consideration that KWT Jaya Kerti Lestari is a KWT that is a growing group that is actively carrying out P2L program activities to support family food needs. Besides that, KWT Jaya Kerti Lestari is one of the KWTs that has the status of a growing KWT.

The types of data in this research include qualitative and quantitative data. Qualitative data in the form of narratives related to farmer behavior, acceptance of the P2L program and a general description of the research area. Quantitative data is data in the form of numbers which include characteristics of respondents regarding age, education, and demographic conditions of the Rendang village population.

Data sources in this research include primary data and secondary data. Primary data is data that is directly obtained from the source, namely from respondents and informants relating to farmer behavior, recipients of the P2L program and data related to the research topic. Data collection is carried out using several techniques, namely (1) interviews were conducted in the form of semi-structured interviews. Interviews were conducted with all members of KWT Jaya Kerti Lestari, (2) in-depth interviews were conducted with key informants using interview guidelines, (3) documentation, namely a method of collecting data by viewing or analyzing documents created by the object itself or by other people about the object.

The population of this study were members of KWT Jaya Kerti Lestari in Pedukuhan Village, Rendang District, Karangasem Regency, totalling 44 people, all of whom were used as respondents determined by saturated sampling or census. Apart from that, we use key informants who are determined proportionally or deliberately with various considerations. The consideration for selecting key informants is people who understand the P2L Program in Pedukuhan Village. Key informants include: the head of Pedukuhan Village, the Chair of KWT Jaya Kerti Lestari, and the accompanying PPL. Based on the thought framework and conceptual framework above, the first stage in this research is determining the research variables. The variables in this research include independent variables and dependent variables. Complete variables and indicators.

Table 1  
Variables, indicators, parameters and measurements

Variable	Indicator	Parameter	Measurement
Behavior	Knowledge	1 P2L Program Objectives	Score
		2 Economic Benefits of the P2L Program	
		3 Social Benefits of the P2L Program	
4 Technical Benefits of the P2L Program			
5 Yards for P2L			
	Attitude	1 P2L Program Objectives	Score
		2 Economic Benefits of the P2L Program	
		3 Social Benefits of the P2L Program	
4 Technical Benefits of the P2L Program			
5 Yards for P2L			
	Deployment	1 Increasing food availability	Score
		2 Increase income	
		3. Increase cooperation	
4. Improve vegetable cultivation skills			
5 Utilizing Yard Land			
Acceptance of the P2L Program	P2L program innovation	1 Drip irrigation technology	Score
		2 Save water usage	
		3 Can set planting time	
4 Make VCO oil			
5 VCO oil raw materials			
	Well-being	1 Increasing household food availability	Score
		2 Fulfil the need for healthy vegetables	
		3 Reduce household expenses	
4 can use the RT yard			
5 sources of funds for loans			

Data analysis used in this research includes qualitative and quantitative descriptive analysis. Descriptive statistics for analyzing data by describing each indicator of the variable will be measured using a Likert scale. Indicators are measured using a Likert scale by giving a score of 1 to 5 for each statement used. Nila has the highest score of four (5) and the lowest score of one (1). Then the category for achieving the score will be determined. Five categories (classes) will be created, namely strongly agree (5), agree (4), moderate/undecided (3), disagree (2) and strongly disagree (1). Score intervals will be created as follows. Class Interval = highest score-lowest score/class. The highest score =  $5/5 \times 100\% = 100\%$ , while the lowest score =  $1/5 \times 100\% = 20\%$ . Next, set the Class Interval =  $100\% - 20\% / 5 = 16\%$ . The criteria for each indicator will be presented in Table 2.

Table 2  
Criteria for variables and indicators

No.	Percentage of Score Achievement	Variable/indicator criteria
1	20 to 36	Bad
2	>36 to 52	Not good
3	>52 to 68	Undecided/moderate
4	>68 to 84	Agree
5	>84 to 100	Strongly agree

### 3 Results and Discussions

#### *Characteristics of respondents*

The respondents in this research were members of KWT Jaya Kerti. Respondent characteristics influence the adoption of an innovation or new technology. Respondent characteristics include; age, education, number of household members, and ownership of yard area. The productivity of respondents will be largely determined by their age level. Respondents are in the productive age category with an age level of 15 years to 64 years (Mantra). A person's age will influence that person's productivity. The research results showed that almost half (40.90%) had education equivalent to elementary school level, only 13.63% had junior high school education, 15.90% had education up to high school level and only 6.85% had education up to bachelor's level. There are still respondents who are illiterate or have no education, up to 22.72%. This shows that the respondent's education is still relatively low and even uneducated.

The majority of respondents' main job is as a trader, reaching 40.90%. Meanwhile, 31.8% of respondents work as farmers as farmers, private sector employees, tannin workers and construction workers, only 2.3% each. Respondents' occupations were 4.50% each as seamstresses and civil servants, while 9.10% were only housewives. This shows that only a small portion of respondents earn their living as farmers, namely only 31.8%. Household members are all people who usually reside in a household, whether they are at home at the time of the census or temporarily absent. The average number of household members is 3 people, reaching 43.20%. With a total of 65 household members. The distribution of the number of household members of the Women Farmer Group respondents in Banjar Pedukuhan Rendang Village is presented in Table 3.

Table 3  
Distribution of the number of respondent's household members

No	Household Ladder	Total		
		Household	Percent (%)	Person
1	1-2	15	34,10	25
2	3-4	19	43,20	65
3	5-6	9	20,50	46
4	7-8	1	2,2	8
	Total	44	100	144

Source: Primary Data 2022

Based on the research results presented in Table 3, the highest number of respondent's household members is in the 3 to 4 member range, namely 19 households with 65 dependents, while the lowest number is in the 7 to 8 household member range with 1 household member with 8 dependents, namely only 2.2%, while the total number of dependents of respondents was 144 people.

Land area is the medium used by farmers to run their agricultural business and is measured in hectares (Muhyidin, 2017). This land area is used to determine the average farmer's cultivated land area, namely their land. The largest land owned by the respondent is 0.45 ha, while the narrowest land owned by the respondent is 0.05 ha. The land area in this study was divided into 2 categories, namely 1-5 acres, and 6-10 acres. For more details, see Table 4.

Table 4  
Distribution of respondents in the women farmers group based on land ownership in Banjar Pedukuhan, Rendang Village

No	Land area	Total	
		Person	Percentage (%)
1	1-5 are	32	72,72
2	6-10 are	12	27,28
Total		44	100

Source: Primary Data 2022

Based on Table 4, it can be seen that the majority of respondents have land areas above 1-5 acres, up to 72.72%. Meanwhile, land ownership of 6-10 acres is 27.28%. So it can be seen that the area of the respondent's yard in the Women's Farmers Group in Banjar Pedukuhan, Rendang Village is quite large.

*Behavior (knowledge, attitude and implementation/action) of KWT members towards the P2L program*

The successful acceptance of the P2L program by KWT Jaya Kerti Lestari will be influenced by several factors; including knowledge, attitudes and application of KWT members towards the P2L program. KWT members' knowledge of the KWT program includes KWT members' understanding of the objectives of the P2L program, and the benefits of the P2L program from economic, social and technical aspects. Meanwhile, the attitudes of KWT members towards the P2L Program include assessments from KWT members regarding the objectives of the KWT Program, the benefits of the P2L program and members' opinions regarding the use of yard land owned by KWT members. Furthermore, the implementation of the P2L Program by KWT members will be seen from the ability of KWT members to apply the technology offered by the P2L Program which includes skills in cultivating vegetable plants, seeding methods, utilizing yard land for cultivating vegetable plants and creating a sense of togetherness through cooperation in carrying out activities. P2L program. The level of knowledge, attitudes and implementation of the P2L Program will be presented in Table 5.

Table 5  
Level of knowledge, attitudes and P2L program implementation from KWT Jaya Kerti Lestari members, Rendang Village, Rendang District, Karangasem Regency

No	Indicator	Percentage of Score Achievement	Criteria
1	Knowledge	72,27	High
2	Attitude	77,63	Agree
3	Application	77,50	High
4	Behavior	75,80	Good

Primary Data Sources, 2022

In Table 5, it appears that KWT Jaya Kerti Lestari members have relatively good behavior with a score of 75.80%. This behavior is demonstrated by a high level of knowledge with a score of 72.27%, which is accompanied by an attitude that agrees with a score of 77.63%. Furthermore, the level of implementation of the P2L program by KWT Jaya Kerti Lestari members is also relatively high. This illustrates that KWT members can understand well the aims and benefits of the P2L Program and also that KWT members have an agreeable attitude towards the P2L program, which in turn means that KWT members can properly implement the implementation of the P2L program.

*KWT member knowledge of the P2L program*

The research results show that the level of knowledge of KWT members regarding the P2L Program is relatively high with a score of 72.27%. This shows that KWT members are well aware of the aim of the P2L



Program, namely to increase food availability. KWT members know well that the P2L Program aims to increase access to quality food in households.

Among them, KWT members also know the benefits of the P2L program from an economic aspect, namely to improve community welfare and especially improve household welfare (Mantra & Sukawati, 1993). Meanwhile, from the social aspect, members know the benefits of the P2L Program are to increase cooperation within groups, cooperation between groups and cooperation with PPL. From the technical aspect, KWT members know that the P2L Program aims to improve the skills of KWT members in the technical cultivation of vegetable crops which are in great demand by the community. KWT members have a good understanding of the use of yard land for vegetable cultivation activities. KWT members understand well that the P2L program activities are to foster a culture of local cultural consumption. In detail, the distribution of KWT members based on the level of knowledge of KWT members regarding the P2L Program can be seen in Table 6.

Table 6  
Distribution of KWT Jaya Kerti Lestari members based on their P2L program knowledge level, 2022

No	Criteria	Total (person)	Percentage (%)
1	Very high	8	18,18
2	High	23	52,27
3	Moderate	10	22,72
4	Low	3	6,81
5	Very low	0	0
	Total	44	100

Primary Data Sources, 2022

Table 6 shows the majority (52%) of KWT members have high knowledge of the P2L Program and only 6.81% have low knowledge. This means that KWT members are very responsive to innovations, which means it is hoped that the P2L program will be well received by the community in Pedukuhan Rendang Village.

#### *Attitudes of KWT Jaya Kerti Lestari members towards the P2L Program*

The attitude of KWT members towards the P2L Program is classified as agreeing with a score of 77.63%, this shows that KWT members can accept well the objectives and benefits of the P2L Program and agree to use yard land for cultivating vegetable plants which is expected to improve the welfare of KWT Jaya members. Kerti Lestari. In detail, the distribution of KWT members based on their attitudes towards the P2L Program can be seen in Table 7.

Table 7  
Distribution of KWT Member towards P2L Program Attitude Level, 2022

No	Criteria	Total (person)	Percentage (%)
1	Strongly agree	8	18,18
2	Agree	30	68,18
3	Medium/Doubtful	4	9,09
4	Disagree	2	4,54
5	Strongly Disagree	0	0,00
	Total	44	100

Processed from Primary Data, 2022

Table 7 shows the majority (68.18%) of KWT Jaya Kerti members agreed that the P2L Program aims to increase the availability, accessibility and utilization of quality food in households. Apart from that, KWT

members also agreed that the P2L Program could provide social benefits, economic benefits and technical benefits. Furthermore, KWT members also agreed that by utilizing yard land for cultivating vegetable crops, they would be able to increase food availability in their households. It can also be seen in Table 7 that only 4.54% said they did not agree that the P2L Program aimed to increase food availability, this happened because these members were of an unproductive age so they felt pessimistic about the success of the program.

#### *Implementation/action of KWT members regarding the P2L Program*

The implementation of the P2L Program at KWT Jaya Kerti is also relatively high with a score of 77.58%. KWT member Jaya Kerti stated that the P2L program was able to increase household food availability, as well as being able to increase cooperation between KWT members in implementing the P2L Program. Apart from that, the P2L Program could increase household income because the household's need for vegetable food could be met by cultivating vegetable plants carried out by KWT members. In detail, the distribution of KWT members based on the level of implementation of the P2L Program can be seen in Table 8.

Table 8  
Distribution of KWT members based on P2L program implementation level, 2022

No	Criteria	Total (person)	Percentage (%)
1	Very high	6	13,63
2	High	31	70,45
3	Currently	6	13,63
4	Low	1	2,27
5	Very low	0	0,00
	Total	44	100

Processed from primary data, 2022

Table 8 shows that 70.45% of KWT members stated that the implementation of the P2L Program was relatively high. This means that the majority of KWT members stated that they had implemented the P2L Program well, besides that, KWT members stated that by implementing the P2L program they could improve skills in cultivating vegetable plants, skills in vegetable plant breeding and could also increase cooperation between members in implementing the P2L program. Only 2.2% of KWT members have a low level of implementation.

#### *Acceptance of the P2L program*

Acceptance of the P2L Program will be seen from the level of implementation of innovation from the P2L program, the level of welfare of KWT members and the level of cooperation of KWT members in implementing the P2L Program. In detail, the score achieved for each indicator used to measure the level of acceptance of the P2L Program by KWT Jaya Kerti Lestari in Rendang Village in Table 9 will be presented.

Table 9  
Acceptance level of P2L program at KWT Jaya Kerti in Pedukuhan Village, Rendang District, Karangasem Regency

No	Acceptance Indicator	Score Achievement (%)	Criteria
1	Innovation	67,00	Moderate
2	Well-being	79,00	High
3	Reception	76,95	High

Processed from Primary data, 2022

Table 9 shows that the level of acceptance of innovation from the P2L program is classified as moderate with a score of 67.00%, this shows that not all KWT members can accept the innovation implemented by the P2L



Program. The innovation implemented is drip irrigation technology which is felt to be quite complicated and people are not used to doing it.

#### *Application of innovation*

The level of acceptance of innovation by KWT Jaya Kerti Lestari is moderate with a score of 67%, this means that KWT members have not been able to implement innovations from the P2L program optimally. The innovations implemented in the P2L Program are drip irrigation technology, vegetable cultivation technology and VCO oil technology. One of the innovations implemented is drip irrigation, which is an irrigation system that saves water and is suitable for development, especially in the dry season and in dry areas or water-scarce areas, and is suitable for farming on narrow land in urban and rural areas (Leenheer et al., 2007; Gebauer et al., 2013). The drip irrigation system has a good control method from the time the water has flowed until it is absorbed by the plants (Ministry of Agriculture 2023).

There are many benefits of drip irrigation apart from saving water, saving time, labor and the labor costs incurred will certainly be less. Efficiency in farming is very important, starting from using used goods, relying on computerization and some even using solar system energy (Sabli et al., 2023). VCO oil technology is well accepted and KWT members can produce VCO oil, although it is still limited to meet their household needs. This oil can be used as a medicine to maintain health. Meanwhile, the technique for cultivating vegetable crops is carried out in the greenhouse belonging to Rendang Village. The vegetable commodities cultivated vary from green vegetables, cabbage, long beans, spinach and other vegetables. Vegetable products are marketed in food stalls and traditional markets. All KWT members also plant vegetables in their respective yards.

#### *Welfare of KWT member*

The welfare level of KWT members in accepting the P2L Program is relatively high with a score of 79%. This means that KWT members declare that they have accepted the P2L Program because they have been able to reduce expenditure on vegetable food, and can increase their household's food availability, besides that, KWT members can consume healthy vegetables because they are cultivated organically. KWT members feel safe because they can use their yards for vegetable cultivation. KWT Jaya Kerti members feel prosperous because in group activities there is a savings and loan business, if they need loan funds they can immediately realize it (Zambrano et al., 2021).

## **4 Conclusion**

From this description it can be concluded as follows:

- 1) Characteristics of KWT members include; an average age of 55.09 years, an average education of 6.05 years, work as a trader 40%, as a farmer 31% and the rest as private employees, and civil servants, an average number of household members 3 people, and average land area yard 4.8 acres.
- 2) The level of knowledge of KWT members towards the P2L program is relatively high with a score of 72.27%, the attitude of KWT members towards the P2L program is classified as agree with a score of 77.63% and the level of implementation of the P2L program is high with a score of 77.58%.
- 3) The acceptance rate for the P2L program by KWT Jaya Kerti Lestari is relatively high with a score of 76.95%

#### *Suggestion*

The results of the research show that the level of knowledge, attitudes and skills of KWT members towards the P2L program is still relatively high or agreeable, therefore to improve the development of the P2L program at KWT Jaya Kerti Lestari there is a need for guidance and socialization regarding the

implementation of the P2L Program from related parties, in this case from the Department Agriculture and also from BPTP.

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