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MOTIVATION OF FARMER GROUP MEMBERS IN HOME GARDEN UTILIZATION

(A Study of the 'Bunga Kopi' Women Farmers' Group in Eran Batu Village, Buntu Batu District, Enrekang Regency)

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ABSTRACT : The potential of local food to support food self-sufficiency is related to the livelihood assets owned by the smallest unit in the food production chain, namely farming households, including home gardens. This study aims to describe the motivation of women farmers' group members in utilizing home gardens. The study was conducted in Eran Batu Village, Buntu Batu District, Enrekang Regency, from July to August 2022. The sample consisted of 30 respondents. The results indicate that the aspects motivating women farmers to utilize their home gardens are environmental, economic, health, and social aspects. The overall recapitulation of the aspects motivating women farmers in home garden utilization resulted in a score of 1,949, categorized as very high (ST).

***KEYWORDS**: Motivation, Home Garden Utilization, Women Farmers' Group*

I. INTRODUCTION

The agricultural sector is one of the providers of food and is closely related to human survival. Household food security can be pursued through the utilization of home garden land in both rural and urban areas by empowering local food potential. Indonesia has extensive home garden land, but much of it has not been optimally utilized [1].

Open land surrounding a residence, with a certain area, is categorized as a home garden. Home gardens are used to grow ornamental flowers, spices, medicinal plants, fruits, and vegetables. Home gardens used to develop household industries through the processing of family food resources can increase household economic self-reliance. Home gardens constitute agroecosystems with the potential to support the availability of necessities in communities. According to [2], the development of home garden land supports improvements in family economic conditions and welfare.

Home gardens used as living pharmacies are managed through integrated farming systems by cultivating a variety of plants, raising livestock, and practicing integrated rice–fish farming, thereby supporting a sustainable variety of foods to meet family nutritional needs. The multiple functions of home gardens, according to [3], include: (1) sources of secondary food in addition to dryland fields and irrigated rice fields; (2) spices and aromatic plants; (3) vegetables and fruits; (4) poultry, goats, cattle, and fish; (5) handicraft materials; and (6) additional economic income (money). Serious management of home garden land supports household needs and family per capita income.

Based on a preliminary study conducted in several villages in Buntu Batu District, women farmers (housewives) were found not to have optimal motivation to utilize their home gardens. This was attributed to a lack of willingness, perceived needs, abilities, and perceived benefits of home garden land itself. They were reluctant to undertake the planting and maintenance of crops around their homes. Therefore, it is necessary to describe the motivation of women farmers' group members in utilizing home gardens in Eran Batu Village, Buntu Batu District, Enrekang Regency.

II. RESEARCH METHODS

This study was conducted in Eran Batu Village, Buntu Batu District, Enrekang Regency. The location was selected because Enrekang Regency is one of the food crop-producing areas, particularly for vegetables, in South Sulawesi Province. The research was carried out from July to August 2022. The study population comprised 30 members of the 'Bunga Kopi' Women Farmers' Group. Sampling was conducted using a census method, in which every member of the population was included as a respondent, making the population size equal to the sample size. Data were collected through observation, interviews, and documentation. Data analysis

used qualitative descriptive analysis to describe the types of vegetables cultivated by women farmers' group members in home gardens and their motivation to utilize the gardens.

Table 1. Measurement Items for Motivation Aspects in Home Garden Utilization

No.	Variable	Variable Indicators	Likert Scale				
			5 SS	4 S	3 CS	2 TS	1 STS
1.	Environmental aspect (X1)	1. Desire to make the home feel cooler 2. Desire to make outdoor air feel fresher 3. Desire to beautify the home garden through planting. 4. Desire to prevent the yard from appearing barren					
2.	Economic aspect (X2)	1. Desire to reduce expenditures 2. Desire to reduce market-related costs 3. Desire to use leisure time productively					
3.	Health aspect (X3)	1. Desire for hygienic food 2. Desire for high-quality food 3. Desire for nutritious food 4. Desire to refresh the mind					
4.	Social aspect (X5)	1. Desire to join a farmer group 2. Desire to share knowledge 3. Desire to follow neighbors 4. Desire to preserve cultural traditions.					

Source: Modified from [4].

Weighting in this study used a five-option Likert scale, with the following response alternatives:
SS = Strongly Agree, score: 5
S = Agree, score: 4
CS = Moderately Agree, score: 3
TS = Disagree, score: 2
STS = Strongly Disagree, score: 1

Class intervals were used to describe the responses obtained from the sample; these were then summed according to their frequency weights to obtain an interpretation of the results.

$$i = \frac{\text{R (Value max} - \text{Value Min)}}{\text{K}}$$

Where:
i : Class interval
R : Range (maximum value – minimum value)
K : Number of classes

The weighting interpretation for each motivation aspect of farmer group members in home garden utilization is as follows:
Maximum weight = A × B × C
Minimum weight = A × D × C
Where:
A : Number of indicators for each variable
B : Maximum score, namely 5
C : Number of respondents
D : Minimum score, namely 1

The interpretation of motivation scores for women farmers' group members in utilizing home gardens is shown in Table 3.

Table 2. Scores for Each Indicator of Farmer Group Motivation Variables in Home Garden Utilization

Score	Description
30 – 53	Strongly Disagree (TST)
54 – 77	Disagree (TS)
78 – 101	Moderately Agree (CS)
102 – 125	Agree (S)
126 – 150	Strongly Agree (SS)

The interpretation of recapitulated motivation scores for women farmers' group members in utilizing home gardens is shown in Table 4.

Table 3. Recapitulated Scores of Farmer Group Motivation Variables in Home Garden Utilization

Score	Description
120 – 215	Strongly Disagree (TST)
216 – 311	Disagree (TS)
312 – 407	Moderately Agree (CS)
408 – 503	Agree (S)
504 – 600	Strongly Agree (SS)

The interpretation of the overall recapitulated motivation scores for women farmers' group members in utilizing home gardens is shown in Table 5.

Table 4. Overall Recapitulated Scores of Farmer Group Motivation Variables in Home Garden Utilization

Score	Description
450 – 809	Very Low
810 – 1.169	Low
1.170 – 1.529	Moderately High
1.530 – 1.889	High
1.890 – 2.250	Very High

III. RESULTS AND DISCUSSION

Respondent Characteristics

Respondent characteristics are important for providing an overview of the factors relating to the individuals interviewed and for obtaining data consistent with the research objectives. The respondents in this study were members of the 'Bunga Kopi' Women Farmers' Group.

Table 5. Characteristics of 'Bunga Kopi' Women Farmers' Group Members in Eran Batu Village, Buntu Batu District, Enrekang Regency, 2022

No.	Age Group (Years)	Number (persons)	Percentage (%)
1.	30 - 39	12	40,00
	40 - 49	8	26,67
	50 - 60	10	33,33
	Total	**30**	**100,00**
2.	**Education Level**	Number (persons)	Percentage (%)
	Junior High School	9	30,00
	Senior High School	17	56,67
	Diploma/Bachelor's Degree	4	13,33
	Total	**30**	**100,00**
3.	**Farming Experience (Years)**	**Number (persons)**	**Percentage (%)**
	2,0 – 4,3	11	36,67
	5,3 – 7,6	13	43,33
	8,67 - 12,0	6	20,00

	Total	**30**	**100,00**
4.	**Land Area (ha)**	Number (persons)	Percentage (%)
	0,1 - 0,5	26	90,0
	0,6 - 0,9	0	0
	1,1 - 1,6	4	10,0
	Total	**30**	**100,0**

Source: Primary Data Analysis, 2022.

Based on Table 1, the average age of the farmers was 45 years. This age is considered productive for farming activities. According to [5], productive ages range from 15 to 55 years and are expected to improve farmers' welfare. Thus, more than 80% of the respondents in this study were in the productive-age category.

The respondents' education levels were dominated by senior high school graduates, totaling 17 people (56%). Consequently, changes and recent innovations are expected to be more readily accepted by these farmers than by farmers who have not received formal education, as those with formal education are more open to change. Education level influences women farmers' group members' knowledge of home garden utilization technologies. The higher the education level of women farmers' group members, the greater their knowledge [6].

The average farming experience of respondents utilizing their home gardens was five years. A total of 24 respondents (80%) had between two and seven years of farming experience. Experience influences motivation: the more experience farmers gain, the more they perceive the benefits of farming in home gardens. As the perceived benefits increase, so does community motivation to use home gardens for agriculture. This is in line with [7], who state that experience influences motivation in farming.

The home garden land areas of women farmers were predominantly 0.1–0.5 ha. Consequently, home garden farming could not be considered their main source of income and served only to support the household economy. This finding is consistent with [8], who states that land is one of the main factors of production in agriculture and makes a substantial contribution to farming activities.

Types of Crops Cultivated in Home Gardens

The types of vegetables planted in home gardens by members of the ‘Bunga Kopi’ Women Farmers' Group were identified based on data from 30 respondents. Details of the number of respondents and the percentage planting each type of vegetable are presented in Table 6.

Table 6. Types of Vegetables Grown by Women Farmers' Group Members in Home Gardens in Eran Batu Village, Buntu Batu District, Enrekang Regency, 2022

No.	Vegetable Type	Number of Respondents	Percentage (%)
1.	Carrot	6	20,00
2.	Broccoli	10	33,33
3.	Celery	12	40,00
4.	Scallion	12	40,00
5.	Tomato	8	26,67
6.	Cabbage	10	33,33
7.	Curly Chili Pepper	13	43,33
8.	Green Bean	9	30,00
9.	Water Spinach	10	33,33
10.	Spinach	10	33,33
11.	Yardlong Bean	12	40,00
12.	Mustard Greens	15	50,00

Source: Primary Data Analysis, 2022.

Table 6 shows that plant diversity in home gardens is strongly influenced by garden owners' preferences. In this village, food crops (vegetables) are planted more frequently than non-food crops. This indicates that horticultural crops, particularly vegetables, remain the main crops cultivated in home gardens. On average, the 30 women farmers grew approximately four vegetable types out of the 12 types identified. These vegetables included carrots, broccoli, celery, scallions, tomatoes, cabbage, curly chili peppers, green beans, water spinach, spinach, yardlong beans, and mustard greens.

The diversity of plant functions in home gardens offers potential for diversifying household food supplies. This agrees with [9], who state that the diversity of plant functions can support various household needs. Most of the plants cultivated in home gardens by women farmers in Eran Village, Eran Batu District, Enrekang Regency, are intended to provide direct benefits, especially nutrients from garden crops. This is consistent with other research indicating that the diversity of home garden plants providing nutritional benefits is strongly determined by family members' preferences [10].

Motivation of Women Farmers in Home Garden Utilization

Motivation results from an individual's interaction with a particular situation. Motivation is a fundamentally important psychological process. It is difficult to deny that motivation is essential for satisfying various needs and safeguarding the interests of individuals and organizations [11]. Motivation encourages women farmers' groups to cultivate various agricultural commodities in their home gardens.

Sustainable home garden utilization can increase green open space, improve environmental quality, and provide aesthetic and psychological benefits as a recreational activity. Home gardens can also provide household food, reduce expenditures, support household food security, increase household income, and reduce transportation costs. Another motivating benefit is that home gardens allow communities to produce their own fresher, more nutritious, and healthier food.

In this study, the motivation of women farmers' groups to optimize home garden utilization was assessed across four aspects: environmental, economic, health, and social aspects.

Environmental Aspect

The environmental aspect motivates women farmers' groups in Eran Batu Village, Buntu Batu District, Enrekang Regency, and consists of four indicators: making the home environment cooler, creating fresher air, making the home garden attractive, and preventing the yard from appearing barren.

The recapitulation of women farmers' motivation in home garden utilization based on the environmental aspect is presented in Table 7.

Table 7. Recapitulation of Women Farmers' Motivation in Home Garden Utilization Based on the Environmental Aspect (X1)

Environmental Aspect	Total Score	Category
Making the Home Feel Cooler	139	Strongly Agree
Making Outdoor Air Feel Fresher	145	Strongly Agree
Beautifying the Home Garden	136	Strongly Agree
Preventing the Yard from Appearing Barren	134	Strongly Agree
Total	**554**	**Strongly Agree**

Source: Primary Data Analysis, 2022.

Table 7 shows that the total score for environmental indicators was 554, meaning that women farmers strongly agreed with planting crops in home gardens to make homes feel cooler, improve the freshness of outdoor air, beautify home gardens, and prevent yards from appearing barren. Most respondents perceived that the outdoor air felt fresher because of the oxygen released by vegetable and fruit plants.

Environmental motivation is a principal driver for communities, as planting in home gardens can improve air quality, make homes feel cooler, increase green open space, and improve environmental conditions [12].

Economic Aspect

The economic aspect motivates women farmers in Eran Batu Village, Buntu Batu District, Enrekang Regency, and consists of three indicators: reducing expenditures, lowering the cost of trips to the market, and engaging in productive activities during leisure time.

Table 8. Recapitulation of Women Farmers' Motivation Based on Economic Aspect Indicators (X2)

Economic Aspect	Total Score	Category
Reducing Expenditures	145	Strongly Agree
Reducing Market-Related Costs	150	Strongly Agree
Using Leisure Time More Productively	140	Strongly Agree
Total	**435**	**Strongly Agree**

Source: Primary Data Analysis, 2022.

Table 8 shows that the total score for economic indicators was 435, indicating that women farmers strongly agreed with growing crops in their home gardens to reduce expenditures, lower market-related costs, and use leisure time more productively. Household income, the education level of housewives, the number of household members, and food-related social assistance affect the food expenditures of poor households [13]. Therefore, utilizing home gardens can reduce household expenditures.

In line with this, Adekunle [14] stated that women in rural South Africa play a greater role than men as agricultural food producers. Women have a significant influence on the diversification of household food consumption. They play an important role in organizing and managing household resources, particularly food produced in home gardens.

Health Aspect

The health aspect is another motivation for women farmers in Eran Batu Village, Buntu Batu District, Enrekang Regency. Group members utilize home garden land because it can provide hygienic and nutritious food for their families, while gardening can also refresh their minds.

The recapitulation of the total scores for women farmers' motivation based on the health aspect is presented in Table 9.

Table 9. Recapitulation of Women Farmers' Motivation Based on Health Aspect Indicators (X3)

Health Aspect	Total Score	Category
Providing Hygienic Food for the Family	133	Strongly Agree
Providing High-Quality Food	125	Agree
Providing Nutritious Food	150	Strongly Agree
Refreshing the Mind	150	Strongly Agree
Total	**558**	**Strongly Agree**

Source: Primary Data Analysis, 2022.

Table 9 shows that the total score for the environmental aspect indicators was 558, meaning that women farmers strongly agreed with growing crops in home gardens because they wanted to provide hygienic, high-quality, and nutritious food for their families and refresh their minds. Galhena et al. [15] stated that one of the most important benefits of home gardening is increased direct access to a range of fresh, nutritious, and healthy foods. They also stated that more than 50% of the vegetables, fruits, tubers, and sweet potatoes consumed came from home garden utilization.

Social Aspect

The social aspect is one of the motivations for women farmers in Eran Batu Village, Buntu Batu District, Enrekang Regency, because they wish to build relationships with other farmer groups and preserve the tradition of planting crops. The recapitulation of the total motivation scores for social aspect indicators is presented in Table 10.

Table 10. Recapitulation of Women Farmers' Motivation Based on Social Aspect Indicators (X4)

Social aspect	Total Score	Category
Joining a Farmer Group	116	Agree
Sharing Knowledge of Vegetable Cultivation	100	Moderately Agree
Following Neighbors	61	Disagree
Preserving Cultural Traditions	125	Agree
Total	**402**	**Moderately Agree**

Source: Primary Data Analysis, 2022.

Table 10 shows that the total score for social aspect indicators was 402, indicating that women farmers moderately agreed with planting crops in home gardens because they wanted to join farmer groups, share knowledge about growing vegetables, follow their neighbors, and preserve cultural traditions. This indicates that social aspects do not fully motivate women farmers to grow vegetables in home gardens.

The recapitulation of women farmers' motivational responses combines the indicators of each motivating aspect of home garden utilization, namely the environmental, economic, health, and social aspects. The recapitulation of these motivational aspects is presented in Table 11.

Table 11. Recapitulation of Women Farmers' Group Motivation in Home Garden Utilization

Aspect	Total Score	Category
Environmental Aspect	554	Very High
Economic Aspect	435	Very High
Health Aspect	558	Very High
Social aspect	402	Moderately High
Total	**1.949**	**Very High**

Source: Primary Data Analysis, 2022.

Based on Table 11, the motivation of 'Bunga Kopi' Women Farmers' Group members to utilize home gardens obtained a total score of 1,949, classified as very high. This score comprises the environmental aspect (554), economic aspect (435), health aspect (558), and social aspect (402). The explanation of each aspect refers to the indicators in Tables 7 through 10.

Environmental aspect. This aspect obtained a score of 554, classified as very high. The desire to make the air outside the home fresher received the highest score (145), followed by the desire to make the home feel cooler (139), make the home garden attractive (136), and prevent the yard from appearing barren (134). Thus, environmental motivation is associated with respondents' desire to create a more comfortable and attractive living environment.

Economic aspect. This aspect obtained a score of 435, classified as very high. The desire to reduce the cost of going to the market scored 150, followed by the desire to reduce expenditures (145) and use leisure time productively (140). These three indicators show that respondents expect economic benefits from home garden utilization, especially in reducing market-related costs.

Health aspect. This aspect obtained a score of 558, classified as very high. The desire to provide nutritious food and refresh the mind each scored 150, while the desire to provide hygienic food scored 133 and to provide high-quality food scored 125. These findings indicate that health motivation is associated with providing household food and the psychological benefits of gardening in home gardens.

Social aspect. This aspect obtained a score of 402, classified as moderately high. The desire to preserve cultural traditions received a score of 125 and to join farmer groups a score of 116, while the desire to share knowledge of vegetable cultivation scored 100 and to follow neighbors scored 61. This means that respondents' social motivation is more closely associated with preserving traditions and participating in groups than with following their neighbors' activities.

Comparisons of scores across aspects should consider the differences in the number of indicators: three indicators for the economic aspect and four indicators for each of the other aspects. Therefore, the total scores of different aspects cannot be directly compared to rank their motivational strength without considering the maximum score for each aspect. Gusfarina and Irham [16] also used health, environmental, social, and economic aspects to assess motivation for home garden utilization, although their ranking of aspects in their research context cannot be directly equated with the results of this study.

In the context of the sustainability of women farmers' group activities, Metalisa et al. [17] found that the group leader's role as a motivator and problem solver influences the sustainability of home garden utilization.

IV. CONCLUSIONS AND RECOMMENDATIONS

On average, the 30 women farmers grew approximately four types of vegetables in their home gardens, out of the 12 types identified. The vegetables grown in home gardens included carrots, broccoli, celery, scallions, tomatoes, cabbage, curly chili peppers, green beans, water spinach, spinach, yardlong beans, and mustard greens.

The aspects motivating the women farmers' group to utilize their home gardens consisted of four aspects: the environmental aspect with a total score of 554, the economic aspect with 435, the health aspect with 558, and the social aspect with 402. The overall recapitulation of aspects motivating women farmers in home garden utilization obtained a score of 1,949, categorized as very high (ST).

Women utilizing home gardens in Eran Batu Village already have favorable/high perceptions of the functions and benefits of home gardens, food diversification, and the importance of healthy food. Therefore, extension workers, as facilitators, should continue to motivate and assist women and women farmers' groups in sustaining farming activities in home gardens by introducing technologies suited to local conditions and considering the availability of existing resources. In addition, local governments still need to provide support by facilitating the capital needed by women to develop their home garden enterprises.

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