

EMPOWERING WOMEN THROUGH TRAINING ON HYDROPONIC AGRICULTURE METHODS IN INCREASING FOOD INDEPENDENCE IN MERUYA UTARA, WEST JAKARTA

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ABSTRACT

Changes in urban land use are increasing along with the growth and development of urban areas. Economic and population growth as well as community preferences as drivers of land use change are reflected in land use patterns in urban areas. Urban areas need policies to control changes in land use to realize family food independence and sustainable urban development. Urban agricultural practices that are currently developing follow zone characteristics and are in accordance with land availability. Urban agricultural activities are limited to vegetables, horticulture, ornamental plants and medicinal plants. This paper aims to describe the use of limited urban land for agriculture, women's empowerment and family food independence. The results of this activity are direct practice of the hydroponic method which can be carried out on limited land as well as ongoing guidance to women and housewives in North Meruya.

Keywords: *women, food independence, hydroponics.*

1. INTRODUCTION

1.1. Background

Food is a basic need that humans must fulfill. This is because food contains nutrients to support and maintain the sustainability of life (Saputro et al, 2020). Apart from being used as a basic necessity, food is also felt to be able to provide nutrition for the individual's growth process. Decent, nutritious and healthy food is a necessity for everyone. The country's development pillars must be in line with improving food security, so it is a necessity because it has an impact on economic development (Saputro et al, 2020).

Development oriented towards food security is an effort to realize food independence at the local and national level, and most importantly, sufficient and sustainable food conditions for the entire population in the country (Gardjito and Rauf in Lantarsih, et al., 2011).

Urban areas generally tend to be developed for non-agricultural land use. Development in urban areas is concentrated on housing and industry, causing land conversion to occur. This land conversion has a negative impact on urban communities, namely limited land for agriculture and growing crops. The existence of agriculture for urban communities can be a means of optimizing the use of land and natural resources in cities by using appropriate technology (Fauzi et. al, 2016).

Utilization of yard land can be done through implementing the concept of sustainable food houses to support family food security (Rahmah, 2016). utilization of narrow land for intensive agriculture by utilizing/optimizing open land, whether paddy fields, abandoned land or moors with technological innovation as commodity gardens. Apart from that, there is also productive Green Open Space (RTH) by utilizing/optimizing the results of residential yards, both food commodities and non-food commodities.

Community empowerment is basically a planned social change strategy aimed at overcoming problems or meeting community needs. Empowering women to be food independent aims to meet family food needs and minimize poverty levels. These efforts to empower women have resulted in improvements in the conditions, degrees and quality of life of women in the fields of education, employment, economics, health and participation in family planning. By utilizing the surrounding potential, the concept of food independence for women, especially housewives in North Meruya Subdistrict, can be a breakthrough in food sovereignty. Utilization of the surrounding area can be done by utilizing the limited land around the yard of the house. The concept of organic food will make things easier for every housewife who spends a lot of time at home.

Hydroponics is an agricultural method that can be done on limited land. This hydroponic farming method has many advantages, including the success of plants in growing and producing more guaranteed, more practical maintenance and more controlled pest attacks, more economical (efficient) use of fertilizer, dead plants can be easily replaced

with new plants, working methods more economical and has standardization, can grow more rapidly and is cleaner (not dirty) and not easily damaged, production yields are higher and continuous, the selling price of hydroponic products is higher, some types of plants can be cultivated out of season, no risk of dependence on natural conditions (floods, drought, erosion) and can be carried out on limited land or space.

1.2. Focus on Community Service

Meruya Utara Subdistrict is one of the densely populated residential areas in Kembangan District, West Jakarta with an area of 476 ha and is dominated by residential zones and several mixed zones as well as public and social service zones with a population of 56,951 people in 2019 with a composition of 28,459 men. -men and 28,492 women (BPS, 2019). This condition means that every resident's house does not have a yard and green open space is very rare.

The crisis conditions resulting from the COVID-19 pandemic are experienced by all households, including households in urban buffer areas such as in South Meruya Village, Kembangan District, West Jakarta. The decline in household income needs to be replaced through efforts to create other sources of income. This effort is important so that people affected by the COVID-19 pandemic crisis can find new sources of income that can support the family economy.

1.3. Justification And Targets

To utilize limited land and improve skills regarding limited land management, women and housewives in North Meruya Village must understand urban farming methods that can be carried out on limited land, namely the hydroponic method. This skills training is important so that women and housewives can understand and practice it so as to increase food independence and the economic welfare of the family.

The community service program which will be implemented in the West Jakarta area is aimed at women and housewives so that they can make optimal use of limited land through hydroponic farming methods so that community empowerment and family food independence as well as family economic welfare can increase.

1.4. Identification of Problems

From the identification of these problems, several important points were obtained, the women of North Meruya Village, West Jakarta do not yet know how to use limited land to increase food independence which can improve the economic welfare of their families and empower the community, especially women.

1.5. Relevance

It is hoped that this community service can help the community to utilize limited urban land through environmentally friendly and sustainable urban agriculture for family food independence and community empowerment, especially women and housewives, using hydroponic farming methods.

2. METHOD

The activity implementation method is divided into 4 stages, namely the pre-activity stage. This stage is carried out by visiting the training location and discussing the technical implementation of the activity with the North Meruya Village leadership and the PKK chairman, preparing materials, tools and training materials as well as determining targets for training participants. After the pre-activity stage, the next stage is briefing. At this briefing stage, training participants are given hydroponic planting techniques using solutions and media. The next stage is the creation of the necessary devices. At this stage, participants cut the planting medium in the form of rockwool into smaller pieces and make holes to place the vegetable seeds to be planted. Participants were also given an explanation regarding checking the PH levels contained in water, namely normal PH ranges from 5.5 to 7.5. This check is carried out continuously every week until the fruit or vegetables are ready to harvest to get maximum results. After 4 to 7 days, the plant is ready to be transferred to a pot or bottle that has been perforated.

The final stage in this activity is the post-test. At this stage, participants are given a questionnaire regarding hydroponic training material, the results of the training program and feedback from training participants which helps in improving the training.

3. RESULTS AND DISCUSSIONS

3.1. Results

Table 1. Output Indicator

No.	Output Type	Performance Indicator
1.	Scientific publications in ISSN journals/proceedings 1)	Draft
2.	Publication in print/online/repository media 6)	Reached
3.	Increasing competitiveness (increasing quality, quantity, and value-added of goods, services, product diversification, or other resources 4)	Reached
4.	Improvement of science and technology in society (mechanization, IT, and management) 4)	-
5.	Improvement of community values (cultural, social, political, security, security, education, health) 2)	Reached
6.	Publication in international journal 1)	Reached
7.	Services, social engineering, methods or systems, products / goods 5)	Reached
8.	New Innovation atau TTG 5)	-
9.	Intellectual property rights (Patents, simple patents, copyrights, trademarks, trade secrets, industrial product design, protection of plant varieties, protection of integrated circuit toography designs) 3)	-
10.	Book with ISBN 6)	-

3.2. Discussion

The initial stage carried out by the community service team before carrying out training and counseling was a survey and interviews with residents in North Meruya Village, West Jakarta. The next stage is to make an agreement with the residents through the sub-district and PKK administrators.

The next stage is to make an agreement with residents and PKK members through the sub-district, RT administrators and PKK administrators. After there is an agreement with residents and sub-districts, RT and PKK, the next stage is to make invitations to training participants, namely all residents and PKK members in Meruya Utara Subdistrict, West Jakarta. This service activity takes the form of socializing the hydroponic method in utilizing limited land and increasing food independence for women.

This outreach activity regarding the hydroponic method was opened by the Chair of the PKK by giving a speech regarding the residents' limited land. The opening of this activity was also attended by the lecturer implementing the activity. After the opening event, it continued with an explanation of hydroponic planting techniques and then hands-on practice using tools and materials provided by the PPM team. The speaker also provides knowledge about how to care for hydroponic plants right up to the harvest process. After direct practice of the hydroponic method is the socialization of hydroponic plant harvests that can be consumed by themselves so that they can meet the family's food needs and can be sold to improve the family and community economy.

4. CONCLUSIONS AND RECOMMENDATION

Urban areas generally tend to be developed for non-agricultural land use. Development in urban areas is concentrated on housing and industry, causing land conversion to occur. On the one hand, this land conversion increases the opening of employment opportunities in non-agricultural sectors such as construction and industrial services. On the other hand, this land conversion also has negative impacts that are less favorable for urban communities, namely limited land for agriculture and growing crops.

It is hoped that the hydroponic method socialization activity will allow women and housewives in the North Meruya Village area to understand the hydroponic method and how to care for hydroponic plants so that the residents of North Meruya Village, especially women and housewives, can practice hydroponic farming methods directly. The harvested hydroponic plants can be consumed by themselves to meet the family's food needs and can be sold to help improve the economy of the family and community.

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