

Enhancing Family Resilience and Environmental Conservation through Family Food Plant Cultivation

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ABSTRACT

In the Jakarta area, the extensive replacement of green lands with concrete buildings have restricted the opportunity for family land ownership dedicated to conservation. This community service aims to develop motivation and a culture of planting to increase the knowledge, awareness, willingness, and ability of Family Welfare Empowerment (FWE) cadres and preschool teachers to preserve a culture of love for the environment and support family food security. The participants in this community service activity are FWE cadres and preschool teachers from the Jatinegara Kaum village. Conducted in August 2022 at the Child-friendly Integrated Public Space in Jatinegara Kaum, the project utilized the Participatory Action Research (PAR) method. Through descriptive analysis of the discussions, it was found that FWE cadres and preschool teachers actively engaged and showed their capability as pivotal agents in strengthening community resilience. This successful engagement underlines the potential for ongoing collaborative activities in community education and sustained support for the FWE cadres and preschool teachers.

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INTRODUCTION

Jakarta, the capital city of Indonesia, has an area of 66,233 hectares. However, only 9.97% (about 6% of public green space; the rest is private green space) of land is available for green open space (Ugranindito et al., 2022). Jakarta, as a big city, has various problems, one of which is the problem of planting trees due to the limited land used as green open space. Reforestation is indispensable in urban areas, as many concrete buildings are in green areas. The more an urban area grows, the less green open land there is. The urban forest is one part of the green open space of an urban area that has benefits as an area for reforestation, sustainability, and environmental beauty, both directly and indirectly to the community (Paransi & Wuisang, 2021). Reforestation allows the use of space in urban areas for gardening activities. Reforestation also provides food security at the family level and allows financial empowerment to increase family financial income. So, big cities should have urban forests because urban forests are essential conservation areas in the urban environment that function as buffer zones for clean water needs and a natural environment.

Efforts to improve family welfare can involve the active role of women in various activities and fields, especially in meeting food needs (Maulana et al., 2021). This activity has become routine, such as farming and utilizing medicinal plants. At the same time, this activity responds to the decline in people's purchasing power due to the increasing price of medicine, so it indirectly affects the decline in public health. In addition, this can minimize the occurrence of food shortages. Urban communities experience the worst food shortages because they tend to receive supplies from farming communities in rural areas (Satya, 2016). As a result, urban communities have difficulty meeting their food needs, especially vegetables, spices, and carbohydrate-producing plants other than rice, sago, and wheat (A'dani et al., 2021). This problematic situation encourages creative communities to use their environmental assets (yards) as production centers. According to Sugito et al. (2017), the benefits of home garden management are:

- a. Household food self-sufficiency in an area,
- b. Food diversification based on local resources,
- c. Conservation of food and feed crops, including plantations horticulture for the future,
- d. The welfare of farmers and communities who utilize sustainable food house areas,
- e. Utilization of village nurseries in order to ensure the fulfillment of community needs for seeds, both food plant seeds, horticulture, plantations, including livestock, poultry, fish, and others,
- f. Anticipate the impact of climate change by increasing the oxygen content.

Towards a resilient family, of course, needs to be started by strengthening personal toughness first. Then, the more resilient family members with positive behavior patterns in dealing with crises, the family member become more vital in overcoming various difficulties. Finally, a strong family is a family that has harmonious relationships between family members, a beautiful, clean, and healthy household environment, balanced nutrition, and a good economy.

Therefore, it is crucial to strengthen the community's health and food security, starting at home through farming—an easy thing to do as a farming activity is planting Family Medicinal Plants. The family medical plant is common or often found in the community and has properties such as medicine, disease prevention, and increasing body resistance. Pamungkas et al. (2021) state that using family medicinal plants can overcome disease prevention. According to the Ministry of Health (2011), family medicinal plants, in addition to providing benefits in health aspects, can also provide other benefits in environmental, economic, and socio-cultural aspects. In the environmental aspect, family medicinal plants can help preserve nature so that family medicinal plants derived from wild plants will not become extinct. Besides that, it can also improve environmental aesthetics by creating a beautiful environment. From an economic perspective, family medicinal plants can help increase people's income by selling them because they are high-selling value products. In the socio-cultural aspect, family medicinal plants are an effort to preserve community culture regarding the benefits of family medicinal plants. Family medicinal plants need to be preserved and cultivated because they can be used as a medium to increase productivity and income from an area. People who suffer from illness can use family medicinal plants as first aid before visiting professional health workers (Sari et al., 2015). In addition, family medicinal plants can increase knowledge and guarantee public health. Indonesia is one of the countries with millions of family medicinal plants, and many people still do not know about their benefits. Until now, family medicinal plants have not been used optimally to improve the quality of family medicinal plants.

With proper socialization in planting and maintaining trees, community participation will eventually emerge in planting trees and cultivating plants in their home environment (Hotimah et al., 2020). In addition, we need to ensure that the air around us remains fresh and clean, the groundwater supply remains sufficient, and there are water sources for our daily needs. Furthermore, we can reduce noise from noisy voices in the surrounding environment through the presence of greenery or tall trees in the vicinity.

Based on the analysis of the situation and problems presented, it is necessary to carry out family empowerment activities through the environment-loving village program to overcome family resilience and environmental conservation problems through planting family food crops. This community service aims to develop motivation and a planting culture to enhance the community's knowledge, awareness, willingness, and ability to preserve a culture of love for the environment and support family food

security. Thus, there will be an increase in family welfare in the environmental field in Jatinegara Kaum Village.

To achieve this goal, we need to do this program for FWE cadres and preschool teachers who are the spearheads of the community and have access to families and our government representatives at the village level to become facilitators for improving family welfare in terms of the role of women. Therefore, FWE cadres and preschool teachers have adequate knowledge about family life in the village environment and encourage children to instil knowledge of environmental conservation from an early age. By increasing their knowledge, the quality of knowledge about families and skills in building families in general in the community will also increase.

LITERATURE REVIEW

According to Law No. 32 of 2009 concerning Environmental Management, the environment is a unitary space with all objects, power, circumstances, and living things, including humans and their behavior, which affect nature, the continuity of life, human welfare, and other living things. Furthermore, the character of love for the environment (namely attitudes and actions) always tries to prevent damage to the surrounding natural environment and develop efforts to repair natural damage. Therefore, the character of love for the environment is a trait that shows humans care about the surrounding environment, which can be shown by attitudes and actions to prevent damage to the environment and the surrounding nature (Azzet, 2016).

Based on this understanding, the character of love for the environment is a trait that shows that humans care about the environment, manifested in actions that always strive to maintain and prevent damage to the environment and develop efforts to repair damage to the environment. Of the 18 values of character education formulated by the Ministry of National Education, one is caring for the environment through cultivating the character of loving the environment. Caring for the environment is an attitude and action that continually strives to maintain and preserve the surrounding environment. The government and school institutions, families, and community have a significant role in character building, especially the character of love for the environment in the school, family, and community to create individuals who can preserve a clean and healthy environment.

According to Irfianti et al. (2016), the character of loving the environment has five indicators, namely preventing damage to the surrounding natural environment, including environmental care, reducing the use of plastic, managing waste according to its type, reducing carbon emissions, and saving energy. Furthermore, to repair the natural damage that has occurred, there are two indicators of the character of loving the environment: tree planting and using used goods.

The public awareness of the surrounding environment demonstrates the character of environmental

love. Awareness of the environment is a psychological condition of a person who realizes that overcoming all problems that arise in the surrounding environment is essential. Several factors influence the character of love for the environment, one of which, according to Megawangi (2016), is the formation of human character (personality). In this case, two factors determine the character of love for the environment: nature and nurture.

Education is one of the primary national character-building strategies that must be coordinated using various methods. The Ministry of the Environment emphasized that there are efforts to cultivate the character of love for the environment through teaching, exemplary, and habituation.

Toughness or unyielding is a term for a person who does not feel weak against something that happened and happened to him. Being tough is a way to keep individuals and families physically and mentally healthy. Mental toughness is the basis for building a good self-concept. Strong mental development needs to start from the family. Therefore, the role of parents is essential for the development of children. Harmonious relationships between family members, a beautiful, clean household environment, balanced nutrition, and a good economy realize a resilient family. The family is also the primary defence against various negative influences from social dynamics (Prayitno et al., 2021).

Food security can indicate the availability of fulfillment through access to food resources to meet basic needs (Singkawijaya et al., 2020). So, family food security is the ability of a family to meet the family's food needs independently. Families can use their yards for plant cultivation and increase family welfare by realizing food security.

MATERIAL AND METHOD

The participants in this community service activity are FWE cadres and preschool teachers from the Jatinegara Kaum village. Conducted in August 2022 at the Child-friendly Integrated Public Space in Jatinegara Kaum, the project utilized the Participatory Action Research (PAR) method, where the researcher becomes part of the subject, and the researcher is one of the managers of the community service program. This community service program has actively involved researchers since the beginning. Therefore, they have in-depth knowledge and understanding of the object under study to obtain holistic and comprehensive data.

The data were analyzed using descriptive analysis techniques. Technically, this activity was carried out first by introducing the Toughness series of community empowerment program books for the environment-loving village and presenting the material for the Toughness series. The purpose of developing this book media is to educate people about the importance of internalizing the value of loving the environment through actual environmental conservation practices through planting methods. In addition, this book is a tool for parents and teachers to implement integrative stimulation activities

for early childhood while supporting family resilience by cultivating food crops at home and school.

After presenting the material, then the participants had a discussion. This discussion explores the understanding and knowledge of FWE cadres and preschool teachers regarding family resilience and environmental conservation through planting family food crops. Several questions guided this discussion. After the group discussion, the activity continued with the presentation of group results.

RESULT AND DISCUSSION

This community service program aims to develop motivation and a culture of planting to increase the knowledge, awareness, willingness, and ability of Family Welfare Empowerment cadres and preschool teachers to preserve a culture of love for the environment and support family food security. To find out the initial knowledge of FWE Cadres and preschool teachers, the participants discuss several questions regarding family resilience and environmental conservation through planting family food crops. All participants participated in a series of activities until the end. Participants are actively involved in the entire process of implementing the activities. Activities that are packaged withholding discussion sessions allow the active participation of participants. Materials regarding environmental conservation through planting family food plants are prepared in the books to make it easier for participants to use them as references during the discussion process. This book is also easy to store and carry, making it possible to store and use in various environments, mainly when participants act as cadres in the community.



Figure 1.
The participants of community service program

Family medicinal plants are plants planted in the yard, garden, or plot of land to cultivate plants that have medicinal properties to meet the family's need for medicines. However, environmental factors can also affect the quality of medicinal plants. For example, if the light supply is lacking, the plants will be thin, grow disproportionately, and not produce flowers/fruits (Saktiawan & Atmiasri, 2017).



Figure 2.
Presentation of material

Talking about the use of medicinal plants or natural medicinal ingredients, in general, is not a new thing. Since ancient times, humans have begun to take advantage of their natural surroundings to fulfill their natural needs, including the need for medicines to overcome the health problems they face (Naway et al., 2021). After qualitatively presenting the material on environmental conservation through planting family food crops, the participants' answers through group discussions reflect knowledge about family resilience and environmental conservation through planting family food crops.



Figure 3.
Group discussion

Participants can also identify the types of food plants and medicinal plants, know the benefits of plants as medicine, know the benefits of family medicinal plants, know how to plant food crops, maintain food crops, and know how to harvest food crops. This activity can be seen based on the results of group work as follows.

Table 1.
Results of Group 1 Work Discussion

Type of plant	Media	How to plant	Benefits
Ginger	Soil, husk	Soil, husk, and manure	For colds, coughs, etc
Turmeric	Soil, husk, sand	Soil, husk, and manure	For antibiotics and flatulence
Lemongrass	Soil, manure	Soil, husk, and manure	For rheumatism and cooking spices
Betel	Soil, manure	Soil, husk, and manure	For whiteness, strengthen teeth, and canker sores

People have been using natural products since ancient times. One of the natural products is plants used as medicine to cure various diseases. The ingredients of this medicinal plant are called herbs. It is in line with the results of the group one discussion, as seen in table 1, which shows that participants know utilizing family medicinal plants as traditional medicines. Based on the discussion results, participants can name and classify media, how to plant, and the benefits of planting suitable types of plants. The participants widely knew these plants because they used them daily, such as the benefits of lemongrass and ginger for various diseases. For example, lemongrass can be efficacious as a medicine for headaches, coughs, stomach pains, diarrhea, body warmers, fever reducers, and mosquito repellents (G et al., 2013) .

Table 2.
Results of Group 2 Work Discussion

Type of plant	Media	How to plant	Benefits
Aloe vera	Soil	With shoots	For health
Betel	Pot	Rooted stems	For traditional medicine
Turmeric	Compost, fertilizer	Bulbs that sprout	For traditional medicine
Ginger	Wire	Bulbs that sprout	For traditional medicine
Pandan	Wood, bamboo	With shoots	For food scenting or coloring
Katuk	Cans, gallons	With stem	Breastfeeding

Unlike the results of the previous group discussion, the results of the discussion in group two, in table 2, show that participants also used plant products as traditional medicine. Besides participants knowing about planting and the benefits of family medicinal plants, participants also knew about family food plants. It can be seen based on the discussion of participants who can name and classify media, how to plant, and the benefits of planting suitable types of plants. The participants widely know these plants because they often use in everyday life. In addition, ginger has benefits in treating various diseases such as Hypoglycemia, Osteoarthritis, Gout, Rheumatoid Arthritis, Migraine, diseases of the gastrointestinal system, and Cardiovascular and Hepatoprotective (Qamariah et al., 2019). Moreover, participants also understand the estimated harvest time of each food crop grown.

Table 3.
Results of Group 3 Work Discussion

Type of plant	Media	How to plant	Benefits
Water spinach	Hydroponics uses drink bottles, pots with soil, paralon, or directly on the ground	Seeds, stems	Save on household expenses because the harvest can be consumed for family needs
Katuk and moringa	Hydroponics uses drink bottles, pots with soil, paralon, or directly on the ground	Stem	As a green environment

Participants also used plant products as traditional medicine. In addition to family medicinal plants, participants were also able to identify family food plants. It can be seen based on the results of the discussion of participants who can name and classify the media, how to plant, the benefits of planting the suitable types of plants, and the estimated harvest time of each plant planted.

Participants from group 4 also used plant products as traditional medicine. It can be seen based on the results of the discussion of participants who can name and classify the media, how to plant, the benefits of planting the suitable types of plants, and the length of time for each plant planted. Participants also know about elements in designing family medicinal plants, one of which is the element of green planning. Participants know that plants are one of the essential factors because plants are living things that always grow and develop, influenced by natural factors and where they grow.

Table 4.
Results of Group 4 Work Discussion

Type of plant	Media	How to plant	Benefits
Aloe vera	Pot	The soil is mixed with fertilizer, then put aloe vera	To treat wounds, nourish hair
Betel	Pot	The soil is mixed with fertilizer and then planted with betel stems that have roots after soaking in water	Cough medicine, prevent cancer, nosebleed medicine, oral health
Cat whiskers	Pot	The soil is mixed with fertilizer, then planted a rooted cat's whisker tree trunk	For diabetes, uric acid, diabetes, blood pressure

Participants learn about family resilience and environmental conservation by planting family food crops. Based on the knowledge provided, participants can name examples of the results of planting food crops with the appropriate classification. On the other hand, participants also tried to identify the media used to grow family food crops and the time required to harvest these crops through presentations, as shown in the image below.



Figure 4.
The participants present their group discussion's result

CONCLUSION AND RECOMMENDATION

This activity aims to develop motivation and a culture of planting to increase the knowledge, awareness, willingness, and ability of Family Welfare Empowerment cadres and preschool teachers to preserve a culture of loving the environment and supporting family food security. Participants actively participated and demonstrated their readiness as agents who would facilitate family resilience in the community, demonstrating another success of this activity.

This activity suggests that there is a direct approach to public education regarding other knowledge about medicinal plants. These include knowledge about the chemical content in it, the processing steps to the technique of consuming these medicinal plants, as well as knowledge about post-harvest processing through joint activities facilitated by FWE from small groups, as well as the continuation of collaborative activities for community education and long-term assistance for FWE cadres and preschool teachers.

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