

WHAT CAN MODERN FARMERS' DO?

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Abstract

Farming, a profession that has been present since the dawn of humanity, has thrived due to the vast and fertile land surrounding human settlements. However, in various regions, the younger generation is increasingly abandoning this occupation. Despite this trend, farming remains a crucial means of meeting daily needs in many parts of the world. Unfortunately, the rapid pace of development has resulted in a decline in traditional agricultural land. Consequently, urban farming has emerged as a solution in numerous cities worldwide. This qualitative article aims to emphasize the rise of urban farming as a new cultural phenomenon embraced with great enthusiasm by individuals. Its primary objective is to shed light on the increasing popularity of urban farming and its impact on both individuals and communities. The study's findings demonstrate that promoting urban farming, including hydroponic systems, can address unemployment and boost economic productivity.

Keywords: *Farmers, Agriculture, Development, Urban Farming*

1. INTRODUCTION

Indonesia has been known since ancient times as a very fertile maritime and agricultural country, thus "inviting" other countries to come and "settle" in Indonesia as colonizers (Tornaghi, 2014). However, that is not the only natural wealth that Indonesia has. Indonesia is also known throughout the world for being a ring of volcanoes in Southeast Asia. These conditions make the land in Indonesia more fertile and capable of producing competitive agricultural resources (Silvasti, 2003).

The capabilities of Indonesia's land and climate, which many other nations in the Southeast Asia region and in the world do not have, must be grateful for by all Indonesians. Fertile land as a natural wealth of the Indonesian people becomes capital in the agricultural sector. With fertile land as capital to produce agricultural products of extraordinary quality, and able to compete (Tsouvalis et al., 2000). So that income from sales of agricultural sector products has been able to become the nation's mainstay commodity (Tornaghi, 2014).

The variety of agricultural products produced can even produce processed agricultural products that are more diverse than agricultural products themselves (Smit et al., 1996). In fact, agricultural products around coastal areas are increasingly becoming agricultural products that can become idols. Indonesia is increasingly optimally supporting the work process of farmers in any region to increase their income (Stewart et al., 2013). It's not easy for the process to develop and add value, but everything is getting better now.

The agricultural system that is currently developing is increasingly provoking urban communities to taste agricultural products from even their limited land (Wang & Pryor, 2019). Utilization of limited land around the house and the desire to fulfill their needs are

motivations. which increases urban farming activities. This activity is also an effort to produce organic plants to maintain the health of the family and the surrounding environment (Bovet & Sheffi, 1998). Agricultural products in the form of organic plants are a solution for many housewives to save on family shopping expenses (Tsouvalis et al., 2000).

Apart from being a solution for housewives in the process of saving family expenses, urban farming activities are also a solution for maintaining family health by consuming organic ingredients (Tian & Jim, 2012). Utilizing limited land in the home environment can also provide education for families to maintain cleanliness and process family waste (Audate et al., 2019). Limited land farming activities have become an inspiration that positively "disturbs" many families around the world, and this activity seems to be the reason for many families to farm on their holidays. Currently, the farmer profession and farming activities have inspired many people to leave their previous jobs which are generally materially established (Smit et al., 1996).

Quitting a job that has provided some people with sufficient material and position, makes some people even happier with their new profession as farmers (Simon & Adam-Bradford, 2016). It turns out that being a farmer is not a thing. which is embarrassing for some people, these people even feel grateful to be able to become farmers nowadays. The job choice of being a farmer is a new field which turns out to be able to provide an income that is no less than their previous job. In fact, they tend to state that being a farmer does not reduce their income, in fact it can increase their income (Silvasti, 2003).

2. LITERATURE REVIEW

2.1. Farmer

Farming is a job that was once considered a job with no more income than jobs available in big cities. Working as a farmer is considered incapable of providing a decent enough income for some people (Schmitt et al., 2018). All of this is actually not completely true if you look at the facts. But farmers who are serious about their work will be able to provide the best for their families in the economic and other fields (Simon & Adam-Bradford, 2016).

In ancient times, the income generated from agriculture tended to be considered incapable of providing sufficient income for the family. This is all due to inadequate agricultural infrastructure, even government policies (Morris, 2006). In the past, the price of fertilizer was often a very difficult thing for farmers, so that often the cost of planting until harvest was a "dry" period for some farmers. All of this is in order to maintain the family's economic stability until harvest time arrives and the calculation results are suitable to be included in the family's personal financial wallet (Meena et al., 2013). Currently, many people work as farmers who choose to retire from positions they have held for many years, as well as the comfort of the facilities of their place of work (J. McGuire et al., 2013). Although currently there are still many young people who prefer to be job seekers in big cities and leave their family's rice fields. Different desires and mindsets make a family's rice field not an obstacle to pursuing the dream of becoming a successful person in a position in an office in a big city. But everything is now changing and turning around, many young people are now realizing that the family's rice fields and land are a big capital for them to have a better income and be comfortable in their own homes, so they choose to continue their parents' work as farmers (Morris, 2006).

2.2. Agriculture

Agricultural activities are the main activity of the population in remote areas of the Indonesian nation everywhere. For farmers, agricultural activities are the source of life for their families, because their agricultural products are needed by many people around them (Schmitt et al., 2018). In ancient times, agricultural activities only included cultivating one main crop according to the season and customs. Currently, agricultural activities include planting two or more types of plants on the land they own, both rice fields and gardens (Paciarotti & Torregiani, 2021).

The main plant is planted in the middle of the land, and other plants are planted around the main plant. This aims to optimize the harvest results that they and the market need, so as to increase the income of farmers who own agricultural land (Audate et al., 2019). In fact, currently in many areas, not only are staple crops planted up to three months before harvest time, but many other crops are planted and can be harvested in less than 1 month (Paciarotti & Torregiani, 2021). Some farmers also spread fish in their fields which can be harvested in just a few weeks (Stewart et al., 2013).

The system of optimal utilization of rice fields and other agricultural land is currently owned by many farmers because they have received better education regarding this matter (Meena et al., 2013). Education regarding optimizing the use of rice fields and agricultural land currently owned by farmers cannot be separated from advances in technology and information (Altieri et al., 2017). Agricultural science has now become easily accessible to anyone who wants to learn and become a successful farmer (J. McGuire et al., 2013). Apart from that, agricultural extension officers are also one of the supporters of the process of optimizing income improvement by farmers everywhere.

2.3. Development

Development is a dynamic thing besides change. Development activities are a sign that the area is experiencing change and progress in the economic sector (J. M. McGuire et al., 2015). With progress in the economic sector, a region will experience many processes of change in many fields. Changes in the appearance of an area for the better are a sign that the area is experiencing improved income from many sources (Luo & Li, 2014).

Better regional income is one of the bases for the regional government to carry out development in many of its regions. These activities must be carried out in order to accommodate the needs of the people in the area (Luo & Li, 2014). However, currently a lot of development is being carried out in locations that still look suitable for agricultural land, in fact a lot of agricultural land has been lost due to changes in function. Changes in function that tend to exceed limits often cause undesirable things, for example the loss of land that functions to absorb rainwater (J. M. McGuire et al., 2015).

The change in the function of agricultural land in several areas has resulted in the loss of areas that function to store and retain rainwater (Golrag et al., 2006). This often causes floods and landslides or subsidence. Thereby disrupting the economic activities of residents in the surrounding community. When the economic activities of local residents are disrupted by a disaster, it is certain that the economic processes of the surrounding area are also disrupted (Kneafsey et al., 2013). For this reason, the government is obliged to establish regulations that must limit development activities in areas that are still

considered to have agricultural potential, so that agricultural activities do not experience significant disruption (Lélé, 1991).

2.4. Urban Farming

Currently, agricultural activities in urban areas are also carried out by many residents, although on quite limited land (Tian & Jim, 2012). Some residents who have a little land in their yard tend to use it as a location to plant several vegetable and fruit plants. In general, they will plant these plants in order to meet their own family's needs (Stewart et al., 2013). By growing your own vegetables and fruit, family spending can automatically be reduced and allocated to other needs.

However, nowadays many urban farming activities use land that is not privately owned, but uses open land that is collectively owned (Malak-Rawlikowska et al., 2019). This activity is generally carried out to help and anticipate the common desires of community members in a shared area regarding the need for free or cheap vegetables. The need for cheap or free vegetables and fruit for underprivileged residents is one of the goals set jointly by regional officials. Apart from that, this activity is also able to help improve the income of local residents, because some of the harvest from their agricultural land can be sold (Lélé, 1991).

The main aim of urban farming activities, apart from improving the income of the residents who carry them out, is also to improve air circulation around their homes. There are also other things that can be done in order to improve the income of the residents who run it, namely processing leftover family waste, so that it becomes organic fertilizer for the vegetable and fruit plants they plant (Malak-Rawlikowska et al., 2019). By processing the remaining family kitchen waste into organic fertilizer, the amount of waste thrown away by a family will automatically be reduced. So, the amount of waste sent to the government's final waste disposal site will also decrease, and the environment will become cleaner because the recycling process occurs which produces better economic value (King et al., 2010).

3. RESEARCH METHODS

This qualitative article aims to convey the fact that urban farming activities have become a new culture for many people who carry them out enthusiastically. The reason they carry out this activity is to fulfill their daily needs to consume vegetables and fruit that are free from chemical fertilizers and free, at least they can reduce the cost of shopping for vegetables and fruit for the family, they can even help other people around them, they can even afford earn additional income from the urban farming activities they carry out.

4. RESULTS AND DISCUSSION

Urban farming is currently one of the businesses carried out by many people everywhere in Indonesia. This activity is a continuation of the work choices carried out by the majority of the population in Indonesia, perhaps also in other parts of the world when the pandemic occurred. All of this was done in order to meet the need for fresh vegetables and fruit, when gatherings or meeting with many people were still prohibited (King et al., 2010). So that in the end this productive activity at home becomes an

economically valuable activity that is sustainable and productive, even being able to produce organic fertilizer from family kitchen waste (Kneafsey et al., 2013).

This economically valuable family activity has caused real changes to occur in many fields today. What is most obvious is that many people choose to continue running agricultural businesses on this limited land until they are able to generate much more income than their previous work (Kim JS et al., 2018). Earning more income has caused several urban farming activity actors to choose to leave their previous jobs in order to develop agricultural activities on limited land with their families (Kebir & Torre, 2012). Not only managing agricultural activities and harvest results, those who are very serious about it even prepare social media that supports their marketing activities (Altieri et al., 2017).

The activity of utilizing limited land around the house to plant lots of vegetable and fruit plants is widely carried out by people in urban areas. They enthusiastically utilize the remaining land on their terraces or even on their balconies (Kebir & Torre, 2012). The vegetable and fruit plants chosen for planting are plants that are widely consumed for daily needs. They arrange the bags containing soil and fertilizer as well as plant seeds and fruit in such a way that they are neat around the terrace of the house (Kim JS et al., 2018).

The use of used plastic containers or bottles, as well as larger used containers, is very necessary in the land preparation process (Kahneman & Knetsch, 1992). For those who have very limited land, used plastic containers or stereophones will be used optimally for sowing seeds until they grow well. Once the seeds are ready to be planted in containers or pots from used bottles provided, the planting places or pots can be positioned on stacking shelves or hung as desired (Graham, 1996). Some homeowners generally attach the pots to the inside fence of the house.

All this is done in order to save space for farming along with other household activities. In general, housewives carry out this activity, but quite a few of their husbands also help with the process of farming activities. Several other regions even empower communities around the location of collectively owned open land to use them for farming activities (Kahneman & Knetsch, 1992). The existence of a collaborative process in farming activities on small land creates many opportunities for the process of improving income (Hussain et al., 2019).

This mini farming activity is a solution for many housewives and officials of the smallest regions as well as the communities involved in them (Gómez-Limón & de Lucío Fernández, 1999). The variety of processes in urban farming activities means that many people have to be involved, even to the point where mini-farm production activities are promoted to consumers. Thus, consumers from the surrounding environment also get the opportunity to enjoy agricultural production in the form of fresh vegetables and fruit, minimal chemical fertilizers at affordable prices (Gold, 2014). By spreading promotions regarding fresh vegetables and fruit provided, this can also increase income for the government in these small areas (Bovet & Sheffi, 1998).

Apart from agricultural activities using only the land they own, many families also carry out activities to process family kitchen waste (Flachs & Stone, 2019). In general, what is used are leftover vegetables that have been cooked and not consumed, ends of vegetables cut before processing, the results of peeling the skin of fruit and vegetables before processing or consuming, as well as dried leaves of ornamental plants or fruit around the house. All of this will be collected in a container that has been prepared to mix all the available ingredients, within a certain time. In this container, the available humus

soil is also added, until at the specified time or all the ingredients have been mixed well or the resulting liquid can be collected in a prepared container and can be used as fertilizer (Ferguson & Evans, 2013).

The fertilizer produced by these families is usually only poured a few times a week (Ferguson & Evans, 2013). For processed fertilizer that has been mixed with soil, it will usually be stored for a few days before the plant seeds are sown. Usually, the soil will be prepared in a small open box for sowing seeds, until the leaves grow and it is time to move them into prepared pots. Until harvest time arrives, supporting equipment will usually be prepared to prevent plants from being damaged by wind and other things (De Fazio, 2016).

Community residents' self-processed fertilizer products are currently a solution for many community activities to support urban farming or mini farming activities (Carrillo, 2015) Process this natural fertilizer for a certain period of time, then immediately process it with the prepared humus soil. After the process of combining natural fertilizer and soil has passed the specified time, the activity is to transfer the prepared plant seeds. So the processed fertilizer is considered safe for plants, even living creatures that consume the harvests of mini farming activities or urban farming (De Fazio, 2016).

This urban farming activity is also supported and fosters other activities, namely recycling used bottles and other containers that are still suitable for use (Jabbour et al., 2014). Used plastic bottles and other containers that are no longer used are collected by local communities who have been appointed together (Bui et al., 2021). Once the number of plastic bottles and other containers reaches a certain number, the recycling process in the form of cleaning, selecting and reusing is immediately prepared for joint urban farming activities. The process of recycling many plastic bottles from the surrounding environment is another activity of the local community in supporting this mini farming activity (Flachs & Stone, 2019). Actually, there is still one other activity that is also able to support this urban farming activity. This activity is raising fish along with hydroponic activities as a development of urban farming activities. The water used for mini ponds, which is generally made from recycled used containers, contains minerals needed by plants (Jabbour et al., 2014). So that the water that is processed in a circular manner is able to meet the needs of fish and plants in hydroponic activities (Golrag et al., 2006).

Currently, several activities that have positive economic value and are interrelated with urban farming activities have become joint economic activities for many people in Indonesia (Burton & Paragahawewa, 2011). It is not only the general public who carry it out, in schools it is also an activity that many teachers carry out together with students (Gómez-Limón & de Lucío Fernández, 1999). Starting from the process of processing plastic bottles and other used containers into plant pots and a place for processing organic fertilizer which will later be processed and used for fertilizing the plants themselves (Gold, 2014). Fertilizer products that are suitable for use in agricultural activities will eventually become an alternative source of new income for residents and community groups in the area.

Apart from the fertilizer processing process which is safe for the plants themselves and the surrounding environment, it is not uncommon for recycled containers that have undergone a process of changing their function to also become products that are sold, and are more valuable (Howarth & Farber, 2002). So, currently working as a farmer is not an embarrassing job for some people who understand the process of urban farming activities. Because many people who previously had jobs with high positions and fairly good

incomes, chose to leave their original jobs to become farmers in the area (Burton & Paragahawewa, 2011). The desire to be free to work as a farmer was chosen because it was proven that the income from urban farming activities was better than previous income (Graham, 1996).

5. CONCLUSION

This activity can not only be carried out by people who live in villages or areas around the mountains. Even being a “farmer” in urban areas is a new status in recent years. Changes in the living environment that are productive in the economic sector in order to improve income, in the end, are one of the things that can help the government indirectly. The new trend of agricultural activities on small plots of land, including hydroponic systems, is one of the community activities which is apparently capable of reducing the number of human resources who do not have jobs.

The more active urban communities are in improving the system for meeting their needs for fresh vegetables, fruit and fish for daily living needs by carrying out urban farming activities, including hydroponic systems, the government is obliged to support this in the form of training and providing good seeds. The government really needs to provide quality seeds for vegetable, fruit and fish plants needed for simple agricultural activities. The provision process requires a technology development process that supports the development of the required seed quality. For this reason, the government needs to "join hands" with experts who support the process of managing and providing quality seeds.

Apart from supporting small land farming activities by providing quality seeds, the government can also provide training and community empowerment in terms of better small land farming. Facilities and infrastructure in the urban farming process in the hydroponic process should also be a consideration for the government to support the people who carry it out. Marketing activities for harvests from urban farming activities, which tend to fall into the category of organic vegetables, fruit and fish, because they do not use chemicals from factories, must also be considered by the government. This must be paid attention to, especially the stability and security of better systems and technology, so that it can improve people's income which can indirectly improve regional income and several other fields.

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