

The “City Healing” Development through Ethnobotany Urban Farming with a Sustainable Planet, People, and Profit Approach

Suswadi and Norbertus Citra Irawan*

Tunas Pembangunan University, Surakarta, Indonesia

Corresponding author Email: irawan@lecture.utp.ac.id

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Abstract

Limited land, environmental contamination, the loss of agricultural culture, and the inability to use ethnobotany all contribute to the health problems city dwellers face. These problems cause air pollution, lack of a good diet, loss of traditional knowledge, and underutilization of natural therapeutic plants. Ethnobotany and urban farming can create healthier cities by maintaining biodiversity, socially enhancing community involvement, and economically offering local business opportunities and sustainable food security. This study aims to investigate the perception of urban communities regarding the relationship between the planet, people, and profit with ethnobotanical practices and urban farming in achieving the concept of “city healing”. This research uses the primary method of case and explanatory studies, purposive location determination of five major cities in Indonesia, with 150 respondents. The structural equation model (SEM) was used to test the model, while the partial least squares (PLS) was used to analyze survey data with interviews and observations. The results showed that people, the planet, and profit generally have excellent and significant effects on urban farming ethnobotany. Using ethnobotanical practices has a considerable and beneficial impact on urban health. Urban farming ethnobotany can promote city healing.

Keywords: biodiversity, business opportunities, communities, food security, wellness city.



Introduction

The lack of local food production and increased reliance on imported food sources contribute to urban residents' lack of food security (1). This problem is increasingly felt during the Covid-19 Pandemic at locking and social restrictions causing interference with food supply from outside the city or province (2). One of the ways to improve food security and the welfare of urban communities is to increase access to healthy and nutritious food. Tomatoes, lettuce, peppers, and cucumbers are all examples of common food crops that can be cultivated in urban farming, as are herbal plants like ginger, lemongrass, basil, and mint (3).

Regarding the concept of “city healing”, the availability of healthy food is an essential element that must be considered in building healthy and sustainable urban areas. Urban areas that can provide healthy and affordable food can improve the quality of life for urban residents. On the other hand, they can reduce the risk of disease due to unhealthy eating patterns and encourage a more active and healthy lifestyle. One way to improve the welfare of urban communities is to increase access to healthy and nutritious food. This increase will help reduce social inequality and increase the overall interest of urban residents (4,5).

Urban farming is the right solution to improve food security in urban areas. Urban farming enables communities to produce food in their environment, reducing dependence on external food supplies (6). In addition, urban farming can also help improve air quality, reduce

pollution in the city, and provide social and economic benefits for the community (7).

Realizing the concept of “city healing” with post-pandemic urban farming ethnobotany has challenges and problems that must be faced. One of the main challenges is the limited land available in urban areas to be used as agricultural land (8). Urban areas generally have limited land, so land use for urban farming can be problematic and require technological innovation.

Another problem that needs to be addressed is cultural differences and knowledge about agriculture and food among urban communities. Urban communities often lack knowledge about agriculture and how to grow crops, which can hinder urban farming efforts. The cause of the problem is the lack of public knowledge about ethnobotany and biodiversity. A lack of understanding of ethnobotany and biodiversity can lead to losing local ability and biodiversity, affecting the choice of cultivated plants and limiting biodiversity (9,10).

Ethnobotany urban farming is an agricultural practice that combines local knowledge about plants and their uses with urban farming (11). In practising urban farming ethnobotany, paying attention to the concepts of the planet, people, and sustainable profit is essential. For example, the community must prioritize environmental sustainability by reducing the use of chemicals and increasing the use of environmentally friendly technologies (12). In addition, the ethnobotanical practice of urban farming must also benefit public health and be economically sustainable. The concepts of the planet,



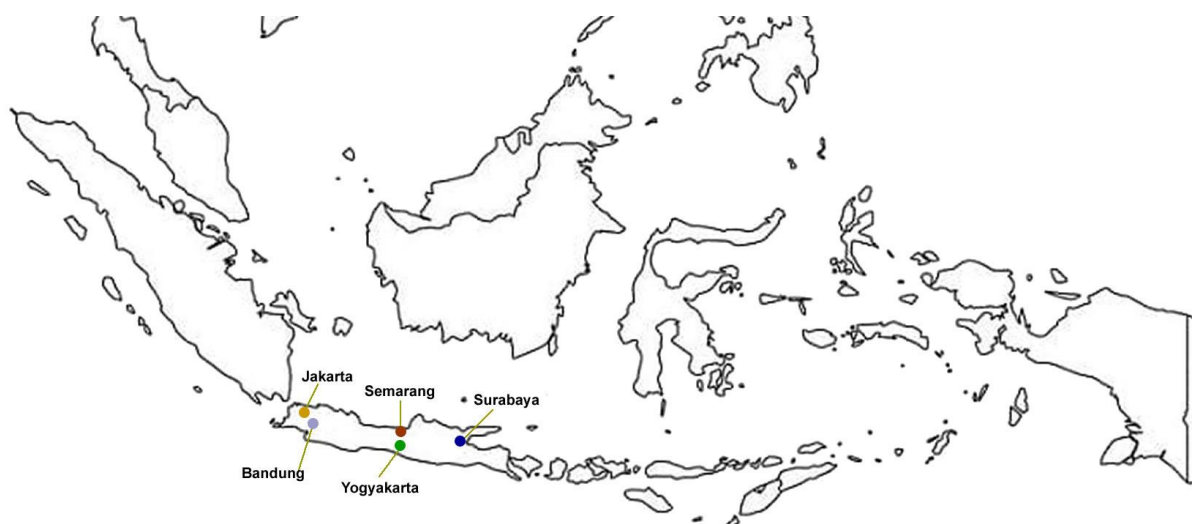
people, and profit are also crucial to building a sustainable city (13). Urban farming can help improve air quality, reduce environmental pollution in urban areas, and improve public health through easy access to organic and fresh products (14). On the other hand, urban farming can be a new business opportunity and a new source of income for people and entrepreneurs in urban areas (15). However, challenges such as limited land and resources, also complex regulatory and management issues must be overcome to realize sustainable cities with the concept of planet, people, and profit (16).

This study aims to investigate the perception of urban communities regarding the relationship between the planet, people, and profit with ethnobotanical practices and urban farming in achieving the concept of “city healing”. In this study, public perception of the importance of ethnobotanical traditions and urban farming in achieving environmental sustainability (planet), social welfare (people), and economic benefits (profit) will be the main focus. In addition, this

study will also look at people’s perception of the concept of “city healing” and how ethnobotanical practices and urban farming can contribute to achieving these goals.

Methods

This research uses case studies and explanatory methods. The case study method can help researchers understand how ethnobotanical and urban farming practices are implemented in the specific context studied. Researchers can collect detailed and qualitative data through interviews, observations, and documents to describe the factors that influence the success or failure of ethnobotanical and urban farming practices in achieving the “city healing” concept (17). Meanwhile, explanatory methods can be used to explain causal relationships between the variables tested. This method can help researchers test previously formulated hypotheses and identify which variables influence people’s perceptions of ethnobotanical and urban farming practices in achieving the concept of “city healing” (18).



Demographics	Jakarta	Bandung	Semarang	Yogyakarta	Surabaya
Population	10.748.230	2.527.854	1.659.975	4.021.816	2.997.547
Population Density (Person/Km2)	16.125	15.710	4.441	1.262	8.922
Number of Urban Farming Groups	131	37	50	72	106

Figure 1. Research location and demographic conditions

Based on Figure 1. purposive determination of research locations in 5 cities, namely Jakarta, Bandung, Semarang, Yogyakarta, and Surabaya, with urban farming community populations. The purpose of purposively selecting research sites is to obtain a broader representation of Indonesian urban people's perceptions of ethnobotanical and urban farming practices in achieving the "city healing" concept. By selecting five cities with different characteristics, researchers can compare and contrast people's perceptions of ethnobotanical practices and urban farming in different contexts and ensure accountable research results (19). This study used a simple random sampling method to select 30 respondents in each city, so the total sample used was as many as 150 respondents. The simple random sampling method allows all population members to have an equal chance of being selected as a sample. By selecting respondents from

urban farming communities, researchers can obtain more credible and representative data on ethnobotanical and urban farming practices in achieving each city's "city healing" concept (20).

The survey method with interviews and observations can be an effective method for collecting data from respondents. In this case, researchers can design questionnaires to evaluate public perceptions of ethnobotanical and urban farming practices in achieving "city healing". These questionnaires may contain structured questions that quantitatively measure people's perceptions. Observations were made to understand field conditions and ethnobotanical and urban farming practices at the research site. Comments can provide qualitative information about the physical condition, techniques, and methods used in ethnobotanical and urban farming practices and problems that may arise during implementation. In this case, researchers

can combine quantitative and qualitative data to understand better people's perceptions of ethnobotanical and urban farming practices in achieving the concept of "city healing".

The structural equation model (SEM) was used in this study to analyze the relationship between ethnobotanical practices and urban farming, planet, people, profit, and the concept of "city healing" from the perceptions of urban communities in the five selected cities. The

partial least square (PLS) method analyzes survey data through interviews and observations. PLS is a multivariate analysis method that allows researchers to analyze complex models with latent and observational variables and account for measurement errors. In the context of this study, SEM and PLS are used to test hypotheses and present analysis results visually, making it easier for researchers to provide recommendations to different stakeholders (21). The research model can be structured as follows:

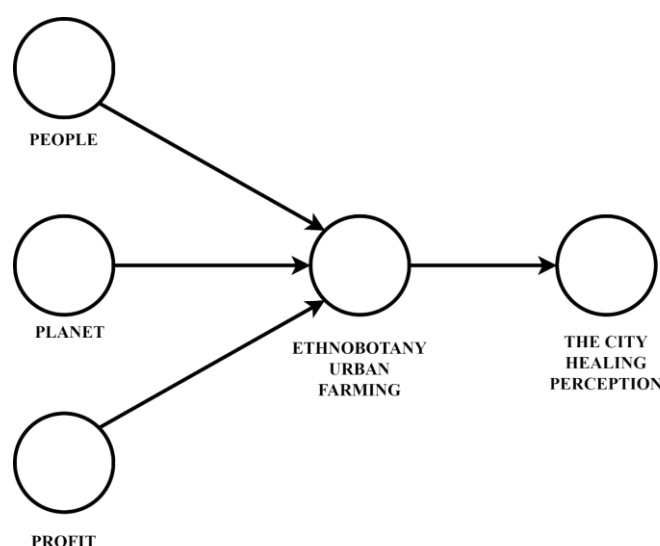


Figure 2. Model of the relationship between PE, PL, PR, EUF, and CH

The model of the relationship visually describes the research hypothesis and the relationship between the variables to be tested. This model shows how these variables are interrelated and provide insight into how ethnobotanical practices and urban farming can contribute to sustainable and profitable "city healing" for the planet, people, and profit. In SEM,

statistical analysis will test this model to obtain objective and scientific results about the relationship between these variables (22). In doing so, this research can provide valuable insights into how ethnobotanical practices and urban farming can contribute to creating healthier, more sustainable, and more sustainable cities for communities and the surrounding environment.

Table 1. Variable and indicator explanation

Variable	Indicator	Explanation
People (PE)	PE1	Social change for the better future (23)

	PE2	Gender equality in joint activities (24)
	PE3	Mutually recognized values development (25)
	PE4	Encourage cooperation between the community and also with stakeholders (26)
	PL1	Efficient water resources (drip irrigation) (27)
Planet (PL)	PL2	Land efficiency with verticulture or soilless planting with hydroponics (28)
	PL3	Use of organic fertilizers and pesticides (29)
	PL4	Waste management and recycling for production facilities (30)
	PR1	Increase in revenue generated (31)
Profit (PR)	PR2	Reduction of production costs (31)
	PR3	Acceleration of return on investment (ROI) (32)
	PR4	Partnerships with related businesses (supermarkets and green consumers) (33)
	EUF1	Diversity of cultivated plant types (34)
Ethnobotany Urban Farming (EUF)	EUF2	An increase in the number of cultivated plants over time (35)
	EUF3	Diversity of cultivation methods/techniques used (hydroponics and aquaponics) (36)
	EUF4	Improvement in yield quality (size, nutrient content, taste) over time (35)
	CH1	Environmental sustainability and provision of local food systems (3)
The City Healing (CH)	CH2	Improved social and economic welfare (37)
	CH3	Improving people's health and quality of life (38)
	CH4	Improve mental health and community well-being through planting and gardening activities on their land or shared land (39)
	CH5	Improve air quality and reduce city surface temperatures by providing carbon sequestration through plants (40)

Source: Research observation data

Based on Figure 2, it can be seen that the relationship model in the structural equation model (SEM), where planet, people, and profit as independent variables, the city healing is the dependent variable, and urban ethnobotany farming is mediator variables illustrate how ethnobotanical and urban farming practices can mediate the relationship between planet, people, profit and the city healing. In this model, planet, people, and profit can influence the ethnobotany of urban farming, and then the ethnobotany of urban farming can affect

the city's healing. Through statistical analysis in this model, research can determine how much influence the planet, people, and profit have on the city's healing through ethnobotanical practices and urban farming as mediators. Based on the description of the relationship between PE, PL, PR, EUF, and HC, hypotheses can be compiled as follows:

H1: People affect urban ethnobotany farming

- H2: Planet affects urban ethnobotany farming
- H3: Profit affects urban ethnobotany farming
- H4: Urban ethnobotany farming affects the city's healing
- H5: People's effects on the city healing mediated by urban ethnobotany farming
- H6: Planet effects on the city healing mediated by urban ethnobotany farming
- H7: Profit affects the city healing mediated by urban ethnobotany farming

Partial least squares (PLS) is a multivariate analysis technique often used to test relationships between complex variables. Using PLS algorithms in data analysis, researchers can better interpret the relationship between independent and dependent variables and predict response values to new data. In the context of “city healing”, which is associated with urban ethnobotany farming with a sustainable planet, people, and profit approach, PLS can be used to identify the relationship between social, environmental, and economic factors that influence the successful implementation of “city healing” programs with sustainable urban farming ethnobotany.

Results and Discussion

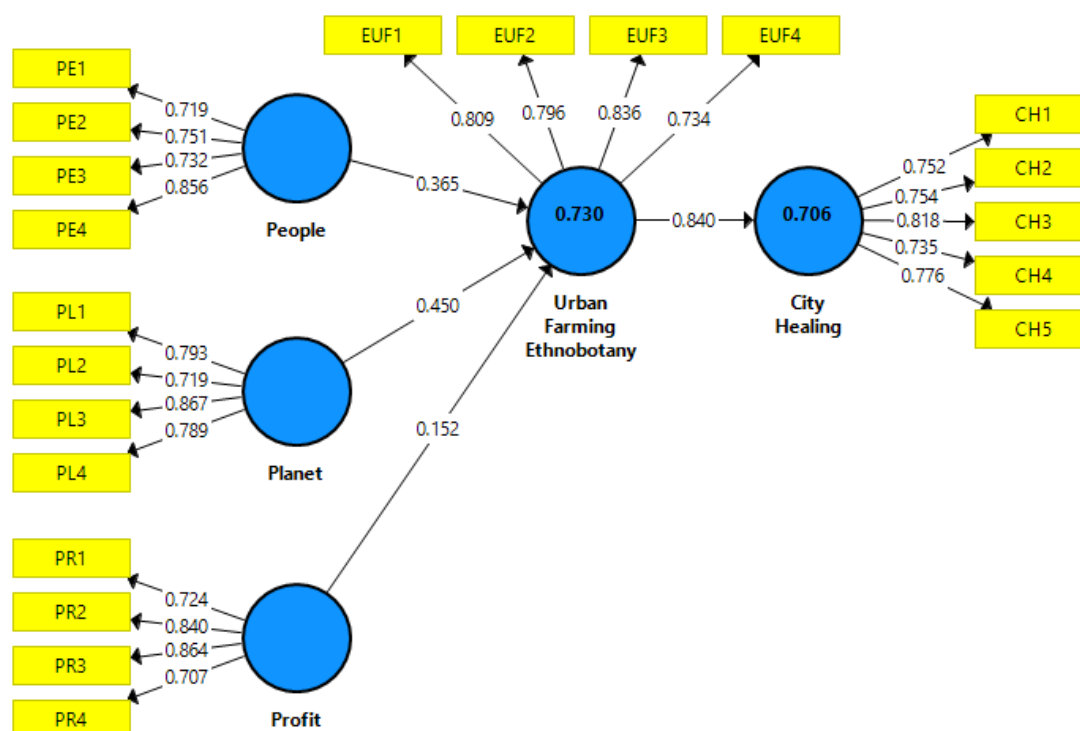


Figure 3. Results of the PLS algorithm relationship between PE, PL, PR, UFE, and CH

PLS algorithms can be used to evaluate the relationship between independent variables (in this context, planet, people, and profit) and dependent variables (in this context,

people's perception of the city healing) through mediators (in this context, ethnobotanical practices and urban farming). PLS can assist researchers in

identifying the variables that most influence people's perception of the city's healing and enable the development of more effective development strategies.

Based on Figure 3., the PLS output includes a variety of metrics that can be used to evaluate the model quality and the significance of the relationship between the independent and dependent variables. Outer loading is one of the metrics used to assess the quality of PLS models. Outer loading measures the strength of the relationship between the independent and dependent variables by considering the

cumulative variance described by each significant component. High outer loading values (above 0.7) indicate that the independent and dependent variables have a strong relationship. The PLS model can predict the dependent variable with reasonable accuracy. The above results show that the outer loading value is all above 0.7, indicating that all independent variables correlate with the factors generated from the PLS model. In other words, independent variables are essential in explaining aspects resulting from PLS variations.

Table 2. Reliability and construct validity tests of PE, PL, PR, UFE, and CH

Var.	Ind.	Cross Loading					CA	rho_A	CR	AVE	R ²
		PE	PL	PR	UFE	CH					
PE	PE1	0.719	0.505	0.392	0.471	0.321	0.767	0.800	0.850	0.587	-
	PE2	0.751	0.527	0.512	0.522	0.455					
	PE3	0.732	0.226	0.467	0.509	0.390					
	PE4	0.856	0.591	0.709	0.736	0.703					
PL	PL1	0.635	0.793	0.672	0.570	0.623	0.805	0.834	0.872	0.630	-
	PL2	0.360	0.719	0.415	0.491	0.538					
	PL3	0.491	0.867	0.579	0.774	0.747					
	PL4	0.460	0.789	0.484	0.581	0.520					
PR	PR1	0.668	0.359	0.724	0.449	0.483	0.793	0.814	0.866	0.619	-
	PR2	0.522	0.554	0.840	0.615	0.723					
	PR3	0.513	0.686	0.864	0.646	0.712					
	PR4	0.545	0.495	0.707	0.505	0.369					
UFE	UFE1	0.679	0.515	0.680	0.809	0.595	0.805	0.811	0.873	0.632	0.730
	UFE2	0.649	0.832	0.599	0.796	0.672					
	UFE3	0.584	0.492	0.638	0.836	0.778					
	UFE4	0.447	0.610	0.323	0.734	0.616					
CH	CH1	0.479	0.402	0.672	0.545	0.752	0.827	0.837	0.877	0.589	0.706
	CH2	0.530	0.506	0.553	0.640	0.754					
	CH3	0.556	0.750	0.599	0.694	0.818					
	CH4	0.266	0.539	0.299	0.517	0.735					
	CH5	0.558	0.709	0.681	0.770	0.776					

Source: Data processing output

Based on Table 2, it can be seen that CA, rho_A, and CR have values above 0.7. This value means that the measurement model used has good reliability. This value also means that the instrument used to collect the data can reliably measure the construct under study. The measurement results can be judged to be accurate and consistent. Therefore, the statistical analysis results on such data are reliable and provide sufficient confidence in the research findings. AVE shows values above 0.5, meaning that the construct under study can explain more than half of the variance of the indicator used. The value indicates that the construct under investigation has good convergent validity, so it can be considered a valid and trustworthy variable for subsequent analysis.

The R square value of UFE indicates a value of 0.730; This suggests that the variability of the dependent variable can be explained by about 73% of the independent or exogenous variables used in the model, while the strength of the model is at a moderate level. The R square TS value of 0.706 indicates that the variability of the dependent variable can be explained by about 70.6% of the independent or exogenous variables used in the model, so the strength of the model is high. In general, R2 values above 0.4 indicate that the construct under study can explain most of the variation in the dependent variable. The results suggest that the model used has sufficient power to explain the relationship between dependent and independent variables and can be considered reliable in explaining the observed phenomena.

Table 3. The direct and indirect effect path for hypothesis testing PE, PL, PR, UFE, and CH

Variable Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Sig.
<i>Direct effect</i>						
H1: PE → UFE	0.365	0.371	0.062	5.883	0.000	***
H2: PL → UFE	0.450	0.449	0.064	7.062	0.000	***
H3: PR → UFE	0.152	0.149	0.073	2.078	0.038	**
H4: UFE → CH	0.840	0.844	0.023	36.484	0.000	***
<i>Indirect effect</i>						
H5: PE → UFE → CH	0.307	0.313	0.052	5.939	0.000	***
H6: PL → UFE → CH	0.378	0.379	0.058	6.547	0.000	***
H7: PR → UFE → CH	0.128	0.126	0.062	2.062	0.040	**

Significance level: ***= 99%; **= 95%; *= 90%; ns = not significant

Source: Data processing output

People affect urban ethnobotany farming.

Based on Table 3, the PE variable has a significant and positive effect on UFE. Positive social change can occur by developing urban farming ethnobotany that

respects urban communities' cultural values, preferences, and behaviours. In the ethnobotanical practice of urban farming, urban people can choose the types of plants they want to plant and how to care for them according to their culture and habits.

These practices and processes that consider social factors in the development of urban agriculture can increase community participation in decision-making related to urban environments, develop agricultural skills, and raise public awareness of the importance of health and the environment.

Gender equality in joint activities and ethnobotany of urban farming are interrelated in promoting sustainable and inclusive practices. In urban farming, gender equality can help ensure that roles and responsibilities in agricultural activities are shared fairly between men and women. Meanwhile, ethnobotany can help maintain biodiversity and integrate traditional knowledge with modern agricultural practices. Both can increase community engagement in urban agriculture and drive positive social change.

Mutually recognized social values and ethnobotany of urban farming are interrelated because urban farming practices can help strengthen social values in society, such as togetherness, environmental care, and social justice. In urban farming ethnobotany, local and cultural knowledge surrounding plants is harnessed to help increase production and promote the use of healthy and nutritious plants. By developing urban farming, the community can generate positive social values through collaboration in developing urban farming programs.

Encouraging cooperation between communities and stakeholders can increase support and participation in urban farming ethnobotany. This explanation is in line with Hruschka et al.'s research in 2022, which concluded that better access and distribution of resources and knowledge could be created through collaboration

between communities and stakeholders in urban farming ethnobotany activities (41). In addition, cooperation can also expand the reach and introduce urban farming ethnobotany to more people so that it can be an alternative solution in providing food needs and improving the welfare of people in urban areas.

Planet affects urban ethnobotany farming.

Based on Table 3, PL variables have a significant and positive effect on UFE. Efficiency in water resources such as drip irrigation can support sustainable ethnobotanical urban farming practices. Drip irrigation can effectively give water to plants that require less water and reduce water wastage. Urban ethnobotany farming in the city utilizes local plants and traditional approaches to create urban food sustainability. The combination of drip irrigation in urban farming ethnobotany can create the sustainability of urban food production that is environmentally friendly and efficient in using water resources.

Land efficiency with verticulture or soilless cultivation with hydroponics can support sustainable urban farming ethnobotanical practices in cities with limited land. The ethnobotanical method of urban farming can utilize verticulture and hydroponic techniques to optimize land use and increase crop production. Thus, it can create the sustainability of efficient and sustainable city food production.

The use of organic fertilizers and pesticides in urban ethnobotany farming has a close relationship because both are practices that aim to produce healthy and quality agricultural products without synthetic chemicals. Ethnobotany urban

farming combines ethnobotanical knowledge with modern agricultural technology, including using organic fertilizers and pesticides following agroecological principles. Thus, using organic fertilizers and pesticides is essential to successful urban farming ethnobotanical practices.

Waste management and recycling play an essential role in the ethnobotanical practice of urban farming. This explanation is in line with Prasetyo et al.'s research in 2019, which stated that organic waste could be converted into organic fertilizer, which is used to increase soil fertility. In addition, recycling technology can also be used to create irrigation systems or make plant containers from scrap. Thus, the ethnobotanical practice of urban farming has become more sustainable and environmentally friendly through waste and recycling as a means of production (42).

Profit affects urban ethnobotany farming.

Based on Table 3, PR variables significantly and positively affect UFE. Ethnobotany urban farming is a farming activity in the city using modern planting techniques but utilizing traditional plant varieties. In practice, urban farming ethnobotany can increase the income urban communities generate because it can produce more diverse and high-value agricultural products and reach a broader local market. In addition, by optimizing vacant land in urban areas, people can reduce their daily living costs and improve their welfare.

Ethnobotany urban farming can reduce production costs because this activity is carried out within the city, making

transportation and distribution costs more efficient. In addition, modern farming techniques used in urban ethnobotany enable water and energy savings and more effective pest and disease control, thereby reducing production costs. Thus, urban ethnobotany farming can be a cheaper agricultural alternative for urban communities.

Ethnobotany urban farming can increase the acceleration of return on investment (ROI) because it has broader market potential and produces high-value agricultural products. In addition, urban farming ethnobotany can utilize vacant land in urban areas to accelerate return on investment with relatively small capital. Thus, urban farming ethnobotany can be an attractive investment alternative for investors who want faster profits.

This explanation aligns with research by Puspita et al. in 2021, which states that urban farmers who master urban farming ethnobotany can establish partnerships with related business people, such as supermarkets and green consumers because they can produce quality and high-value agricultural products. Partnerships with supermarkets can help market urban farming products more broadly. However, cooperation with green customers can boost knowledge of the environment and healthy consumption behaviours. Urban farmers can strengthen business partnerships and provide sustainable economic and environmental benefits with their capabilities (43).

Ethnobotany urban farming affects the city's healing.

Based on Table 3, the UFE variable has a significant and positive effect on CH. The

diversity of cultivated plant species can affect the city's healing. Different plants have different benefits for the health and environment of the city. For example, medicinal plants can treat diseases, while green plants can help reduce air pollution and improve city air quality. By increasing the diversity of cultivated plant species, cities can become healthier and more sustainable.

Over time, an increase in cultivated plants can affect city healing. More plants can help improve air quality and reduce pollution, provide shelter and habitat for wildlife, and help stabilize city temperatures. Thus, an increase in the number of cultivated plants can contribute positively to the health and sustainability of the city.

Hydroponics, aquaponics, and soilless planting can affect city healing. These techniques can help improve soil and water quality, reduce pollution and waste, and increase the productivity and efficiency of urban agriculture. By utilizing sustainable and environmentally friendly cultivation techniques, cities can become healthier and more sustainable overall.

This explanation aligns with research by O'Sullivan et al. in 2019, which stated that improving the quality of crops, such as size, nutritional content, and taste, can affect the city's healing. Better-quality crops can help improve community health and support local economic growth. Quality crops also promote food diversity, pollution, and environmental quality. Thus, improving the quality of crops can contribute positively to the health and sustainability of the city (35).

People's effect on the city healing mediated by urban farming ethnobotany

Based on Table 3, PE variables significantly and positively affect CH mediated by UFE. Social change occurs when there is a societal change in values and norms. Gender equality, as part of social change, aims to eliminate discrimination and disparities between men and women in various aspects of life, such as education, work, and health. Shared values also play an essential role in social change because they enable agreement and cooperation in society.

However, social change and gender equality cannot be realized optimally without societal cooperation and shared values. Ethnobotany urban farming can be a mediation that allows the creation of collaboration and shared values between men and women in society. Ethnobotany urban farming is a concept that combines knowledge about plants and culture in urban environments. In urban farming ethnobotany, men and women can work together to develop sustainable urban farming so that people can obtain healthy and quality crops.

Ethnobotany urban farming can improve people's welfare and quality of life. With sustainable urban farming, people can get healthy and quality crops. These crops positively impact public health and improved quality of life. In addition, urban farming ethnobotany can also affect people's mental health because of activities that involve social interaction and other positive activities.

The involvement of men and women in urban farming ethnobotany can also strengthen shared values and societal cooperation. Women's participation in urban agriculture enables them to

participate in economic and social development actively. In addition, urban farming ethnobotany can also affect environmental sustainability. People can obtain quality crops by developing sustainable urban agriculture without sacrificing ecological balance.

Ethnobotany urban farming can be a mediation that allows the creation of cooperation and shared values between men and women in society. This explanation is in line with Langhans et al.'s research in 2023, which stated that through urban ethnobotany farming, people could obtain healthy and quality crops, which positively impact improving people's welfare, quality of life, and mental health. In addition, urban farming ethnobotany can also affect environmental sustainability by developing sustainable urban farming (44).

Planet effect on the city healing mediated by urban farming ethnobotany

Based on Table 3, PL variables significantly and positively affect CH mediated by UFE. Water resource efficiency, land efficiency, organic pesticide fertilizers, waste management, and recycling of production facilities significantly impact environmental sustainability, improved welfare, health, quality of life, mental health, and environmental quality. However, there needs to be an ethnobotanical role in urban farmer farming to achieve optimal results.

The efficiency of water resources is an essential factor in maintaining environmental sustainability. This efficiency can be achieved through wastewater treatment, rainwater collection, and efficient irrigation technology. In

urban ethnobotany farming, urban farmers can contribute by adopting more efficient irrigation techniques and using more drought-resistant plant varieties.

Land efficiency is also essential in maintaining environmental sustainability and improving welfare. Urban farmers can help maximize available land by utilizing unused urban land, such as urban parks and rooftops, as agricultural land. In addition, they can also take advantage of vertical farming technology that is efficient in using land. Organic fertilizers and pesticides can also help maintain environmental sustainability and improve welfare. Ethnobotany urban farming urban farmers can introduce organic fertilizers and pesticides to urban communities. In addition, they can also provide education on environmentally friendly pest and plant disease control techniques.

Waste management and recycling of production facilities can help minimize negative impacts on the environment and improve urban communities' health and quality of life. This explanation is in line with Magwaza et al.'s research in 2020, which stated that ethnobotany urban farmers could help by utilizing organic waste as compost material for their farms. Moreover, they can also help promote recycling and effective waste management in urban communities. Lastly, the ethnobotany of urban farming of urban farmers can play an essential role in improving the environmental quality and mental health of urban communities. Urban agriculture can provide physical and mental benefits, such as providing a green environment, reducing air pollution, and providing a place for relaxation and recreation (30).

Profit effect on the city healing mediated by urban farming ethnobotany

Based on Table 3, PR variables significantly and positively affect CH mediated by UFE. Increased income can be achieved through sustainable and efficient urban farming producing quality products. This increasing income can be done by reducing production costs using innovative and environmentally friendly agricultural technologies, such as hydroponic or aquaponic techniques. In this case, ethnobotany can contribute by utilizing traditional medicinal plants that can be grown in the city cheaply.

Reduction in production costs can be achieved through the use of appropriate technology and the selection of plant varieties suitable for environmental conditions. Sustainable urban farming can also improve soil and water quality through organic fertilizers and wastewater treatment techniques, ultimately improving environmental quality. Accelerated return on investment can be achieved using efficient and environmentally friendly agricultural technology. Sustainable urban farming can provide fast and quality results, improving the welfare of urban farmers and surrounding communities.

An extensive network of business partnerships can enable urban farmers to sell their crops to various markets, including local, regional, and national markets. These business partnerships can help increase the incomes of urban farmers and reduce production costs through appropriate technology. In this case, this is in line with Gulyas and Edmondson's research in 2021 which states that ethnobotany can help improve the surrounding community's quality of life and health by increasing access to quality

and healthy food. Sustainable urban farming can also help improve environmental quality and people's mental health by providing green spaces that can reduce air and noise pollution levels. Finally, the ethnobotany of urban farmer farming can play an essential role in mediating the relationship between increased income, reduced production costs, accelerated return on investment, and an extensive network of business partnerships with environmental sustainability, improved well-being, health, quality of life, mental health, and environmental quality (7).

Conclusion

People have a positive and significant influence on the ethnobotany of urban farming. Planet has a positive and considerable impact on the ethnobotany of urban farming. Profit has a positive and significant effect on the ethnobotany of urban farming. Ethnobotany urban farming positively and significantly affects the city's healing. People have a positive and considerable influence on city healing mediated by urban ethnobotany farming. Planet ultimately and substantially influences city healing, mediated by urban ethnobotany farming. Profit positively and significantly affects the city healing mediated by urban ethnobotany farming. Realizing urban farming villages as practical policy implications to improve the sustainability of cities and balanced urban areas. To support urban agricultural practices, the government must provide incentives, facilities, socialization, education, and cooperation between the community, government, and the private sector. Facilitation of critical land use and sleep in cities can increase the availability of healthy food, create green open spaces, and improve the quality of life of



communities. Critical and sleeping land, such as vacant, abandoned, or unused land, is not optimally utilized. This research shows that the sustainable principles of planet, people, and profit contribution to city healing are mediated by the ethnobotany of urban farming of urban farmers in five major cities of Indonesia. The results of field studies and surveys show that sustainable practices positively affect cities' environmental, social, and economic health. Future research should consider other factors, such as public policy and city infrastructure, and expand coverage to other cities in Indonesia or other countries to provide broader solutions to urban health and sustainability issues. The research recommends developing digital agricultural technologies, urban agriculture job opportunities, sustainable innovation, and community-based approaches. IoT, sensors, and big data can improve urban agriculture, while skills training and collaboration between the agriculture and technology sectors can create jobs and sustainable innovation. Community involvement in urban farming programs improves social well-being.

Conflict of Interest

Authors have no conflict of interest.

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