

Effect of urban agriculture on the quality of urban life: A review

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ARTICLE INFO	ABSTRACT
Research Paper Received: November 13, 2023 Revised: May 29, 2024 Accepted: June 10, 2024 Keywords Food security Quality of life Review Urban agriculture Urbanisation *Corresponding author Oyerinde Ismail Adedapo Email: oyerindeismailadedapo@gmail.com	The purpose of this research was to conduct an extensive literature review concerning the correlation between Urban agriculture and the quality of life of individuals residing in urban areas. Employing established systematic review protocols, the study gathered data from a wide array of renowned databases, such as Scopus, Science Direct, Web of Science, and Google Scholar. The criteria for inclusion were determined based on the applicability to the themes of urban agriculture and quality of life, publication within the time frame of 2010 to 2022, and availability in the English language. The synthesis included a comprehensive examination of 20 scholarly papers that were peer-reviewed. The economic impacts suggest that urban agriculture has the capacity to produce earnings, decrease household food costs, and promote local economies. Urban agriculture actively encouraged community engagement, tackled social concerns, and nurtured interpersonal connections. In terms of health, urban agriculture played a role in ensuring food security and improving physical well-being. Urban agriculture’s environmental impacts include its beneficial influence on urban ecosystems, its reduction of carbon emissions as well as its efforts to combat air and noise pollution. Urban agriculture functioned as a cultural medium, facilitating the connection between persons and their ancestry, fostering agricultural expertise, and serving as a cultural hub. Negative externalities include resource exploitation, contamination as well as ecosystem disruption. This study offers an in-depth understanding of the many effects of urban agriculture on the quality of life of urban people. The analysis adds to the existing pool of information, providing insights into the potential of urban agriculture to improve several aspects of humans’ well-being in urban environments.

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1. Introduction

The urgent need to address the global issues of climate change, increasing populations, and resource disputes highlights the importance of investigating sustainable methods to guarantee food and energy security for urban inhabitants (Wiskerke & Viljoen, 2012; Abera & Belayneh, 2017). According to St Clair's (2017), it is predicted that by 2030, more than 60% of the global population would live in urban areas, which will increase the difficulties in sustainable urban planning and administration. These difficulties arise in several forms, such as the reduction of unused land, increased energy use due to commuting, deforestation, water contamination, and the development of peri-urban areas (Frantzeskaki et al., 2017; Skar et al., 2020). Academics and other stakeholders are therefore advocating for cities to become producers of agricultural products themselves (Voleníková & Opršal, 2016; Ibrahim & Salim, 2020).

Urban agriculture is a key endeavour carried out by people living in cities. It has a significant impact on tackling current urban issues such as poverty, social division, lack of food and energy security, and environmental stress (Battersby & Marshak, 2013; Ibrahim & Salim, 2020). In their study, Wadumestrigue et al. (2021) provide a definition of urban agriculture as the production that takes place either inside urban centres or on their periphery, including activities such as agriculture, processing, and distribution. Internationally, urban agriculture has been acknowledged as a socially significant activity that brings considerable advantages to communities and the environment (Mpigi, 2020). According to Akinagbe & Ipinmoye (2022), incorporating agriculture into urban areas improves the

sustainability of cities by using organic matter as fertiliser and constructing green infrastructure. It enhances economic prosperity, fosters physical and mental well-being via leisure pursuits, and alleviates the consequences of climate change (De Zeeuw et al., 2011; Ibrahim & Salim, 2020).

Although the importance of urban agriculture in urban environments is recognised, this study seeks to further review its impact on the general well-being of urban inhabitants. Given the current economic difficulties, which are marked by significant inflation, unpredictable fluctuations in food prices, and meagre wages, it is crucial to understand the intricate consequences of urban agriculture. This review thus aimed to explore the relationship between urban agriculture and quality of life, with the goal of gaining a deeper knowledge of how it contributes to improving the well-being in urban settings.

1.1. The concept of urban agriculture

Agriculture, a long-lasting element of human history, has evolved from ancient civilizations to the contemporary era, establishing a vital connection between humanity and the productive use of land (Ofordu et al., 2022). In the past, there was less clear distinction between urban and rural areas, which resulted in agricultural operations taking place inside metropolitan zones. This created a mutually beneficial interaction between cities and agriculture (Doğan, 2022). The historical setting underscores the inherent link between urban areas and agricultural methods as seen in ancient cities such as Aztec and Maya civilizations (Doğan, 2022). This highlights the widespread occurrence of this practice throughout history. The discussion among scholars about urban agriculture has changed throughout time, characterised by extensive deliberation and

diverse interpretations (Nogeire-McRae et al., 2018). The original definitions, as emphasised by Mbiba (1995), were rudimentary but served a vital purpose in starting conversations about creating an established terminology among academics (Knapp et al., 2016).

Urban agriculture was formally defined in 1996 at the United Nations International Conference on Human Habitats as an economic sector that involves the production, processing, and distribution of food, fuel, and other commodities to fulfil the daily requirements of urban dwellers. This activity encompasses both privately and publicly owned land and water areas throughout urban and suburban zones (Doğan, 2022). Urban agriculture comprises a wide range of activities, including both commercial and non-commercial efforts, as shown by these definitions. The scope extends beyond the manufacturing of food to include non-food products, such as ornamental trees, which display differences in function, form, size, and location (Lin et al., 2015). The functional element of urban agriculture is greatly influenced by global differences, which result in different objectives for industrialised and less developed countries. Advanced countries prioritise the promotion of leisure activities, whereas low-income regions prioritise tackling the urgent problem of food security (Krishnan et al., 2016). Urban agriculture functions as a livelihood strategy in the Global South, with a focus on economic benefits. In industrialised countries, it is more of a recreational activity and a way to pass time (WinklerPrins, 2017).

Urban agriculture is a complex activity with many uses and objectives, as seen from historical, intellectual, and global viewpoints. It encompasses more than just food production and also includes larger economic, socio-

cultural, and livelihood aspects, demonstrating its flexibility to adapt to different socio-economic and geographical conditions. The objective of this study was to further investigate these aspects, examining the intricate relationship between urban agriculture and its effects on residents.

1.2. Quality of life as a concept

The concept of “quality of life” is widely discussed and acknowledged in everyday conversations, including both personal discussions and larger societal or policy debates (Beck, 2012; Bolzan et al., 2023). This idea is complex and may be studied from two different viewpoints: macro and micro. The macro viewpoint focuses on objective and social elements such as education, living circumstances, work prospects, values, well-being, and lifestyle satisfaction (Mihaela & Daniel, 2011). In contrast, the micro view focuses on subjective and personal elements, including individual assessments derived from life experiences, personal beliefs, and goals (Blome & Augustin, 2015). The World Health Organisation (WHO, 1995) defines quality of life as a holistic concept that includes physical health, mental well-being, personal autonomy, social relationships, individual values, and interactions with the environment. This comprehensive comprehension situates quality of life as a notion intricately intertwined with several aspects of human life.

The assessment of personal satisfaction or dissatisfaction in quality of life is shaped by the social or philosophical context (Bolzan et al., 2023). Bolzan et al. (2023) highlights that the assessment of quality of life depends on favourable living conditions, such as having access to healthy food, clean air and water, pleasant experiences in natural surroundings, a harmonious relationship with nature, and a secure society protected from

dangerous substances and radiation (Medvedev & Landhuis, 2018). The concept of quality of life is widely recognised as a complex idea that is crucial in the development of policies, healthcare strategies, and social programmes designed to improve the overall well-being of people (Abolhassani et al., 2019). From a macro view, it is intricately connected to social concerns, whilst a narrower approach emphasises the personal and subjective elements of individual experiences.

The WHO’s comprehensive approach coincides with the premise that quality of life goes beyond individual well-being to cover environmental elements and social interactions. This study aims to investigate the complex interaction of these indicators as presented in Table 1, offering a detailed comprehension of how many elements contribute to the total well-being experienced by people in different sociocultural and environmental settings.

Table 1. Dimensions of quality of life

Dimensions	Indicators
Economic dimension	Income levels Employment opportunities Wealth and asset ownership Access to services and resources Standard of living Financial security
Social dimension	Social connections and relationships Social support networks Civic engagement and community participation Social equity and inclusion Safety, security, and social cohesion
Health dimension	Physical health and well-being Mental and emotional well-being Lifestyle factors and health behaviours
Environmental dimension	Access to clean air and water Availability of green spaces and natural areas Environmental safety and security Conservation of natural resources Aesthetics and urban design
Cultural dimension	Cultural diversity and inclusivity Preservation of cultural heritage Access to cultural and artistic events Cultural participation and expression

Source: International Society of Quality-of-Life Studies (ISQOLS, 2023).

2. Methods

The research performed a thorough analysis, using established systematic review techniques, specifically according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Page et al., 2009), to completely assess scholarly literature on the effects of urban agriculture on the quality of life of urban dwellers. This technique guaranteed a systematic and evidence-based evaluation.

2.1. Data collection

The sources for this study were systematically identified by scanning four well-known bibliographic databases: Scopus, Science Direct, Web of Science, and Google Scholar. The search method used Boolean operators to combine the core term, urban agriculture, and its synonyms with three secondary keywords, namely 'quality of life,' 'well-being,' and 'urban life.'

2.2. Inclusion criteria

Articles were chosen for their inclusion based on four fundamental criteria in order to maintain the highest level of quality. Initially, it is essential that the investigation was carried out in an urban region, as defined by each article. Furthermore, the paper must have primarily emphasised the concept of urban agriculture, as described within the article, while also evaluating the correlation between urban agriculture and quality of life. Furthermore, the essay should have presented primary data or findings derived from an innovative examination of pre-existing data sources. Ultimately, only publications published between the timeframe of 2010 to 2022 were considered. Non-English articles were also excluded.

2.3. Search methodology and coding

A thorough search was conducted in each database using particular search strings and keywords to identify acceptable articles. In addition, a thorough search was conducted in the journal Agriculture and Development to find relevant titles and citations that might help uncover any possibly overlooked research. One team member conducted a comprehensive screening procedure at the title and abstract level, excluding publications that obviously did not fulfil the inclusion requirements. Subsequently, two team members conducted individual assessments of the whole content of the remaining articles, and any discrepancies were handled by a third team member. Two team members autonomously retrieved pertinent data from each article that satisfied the inclusion criteria. Any inconsistencies encountered throughout the extraction procedure were handled by a third member. The data were methodically streamlined using an elementary classification technique, focusing on different aspects of quality of life.

3. Results

The study identified 1,276 titles and abstracts that were presumably relevant for our evaluation. After doing a thorough examination of citation titles, determined that 624 publications are not relevant to our research. The study then reviewed the summaries of the remaining 652 articles and eliminated an additional 493 articles since they were deemed irrelevant. A total of 159 articles were obtained using these approaches for a comprehensive assessment of their full-text content. Out of them, 20 satisfied the criteria for inclusion and were retained for data collection and analytical synthesis (Table 2).

PRISMA Flow Diagram.

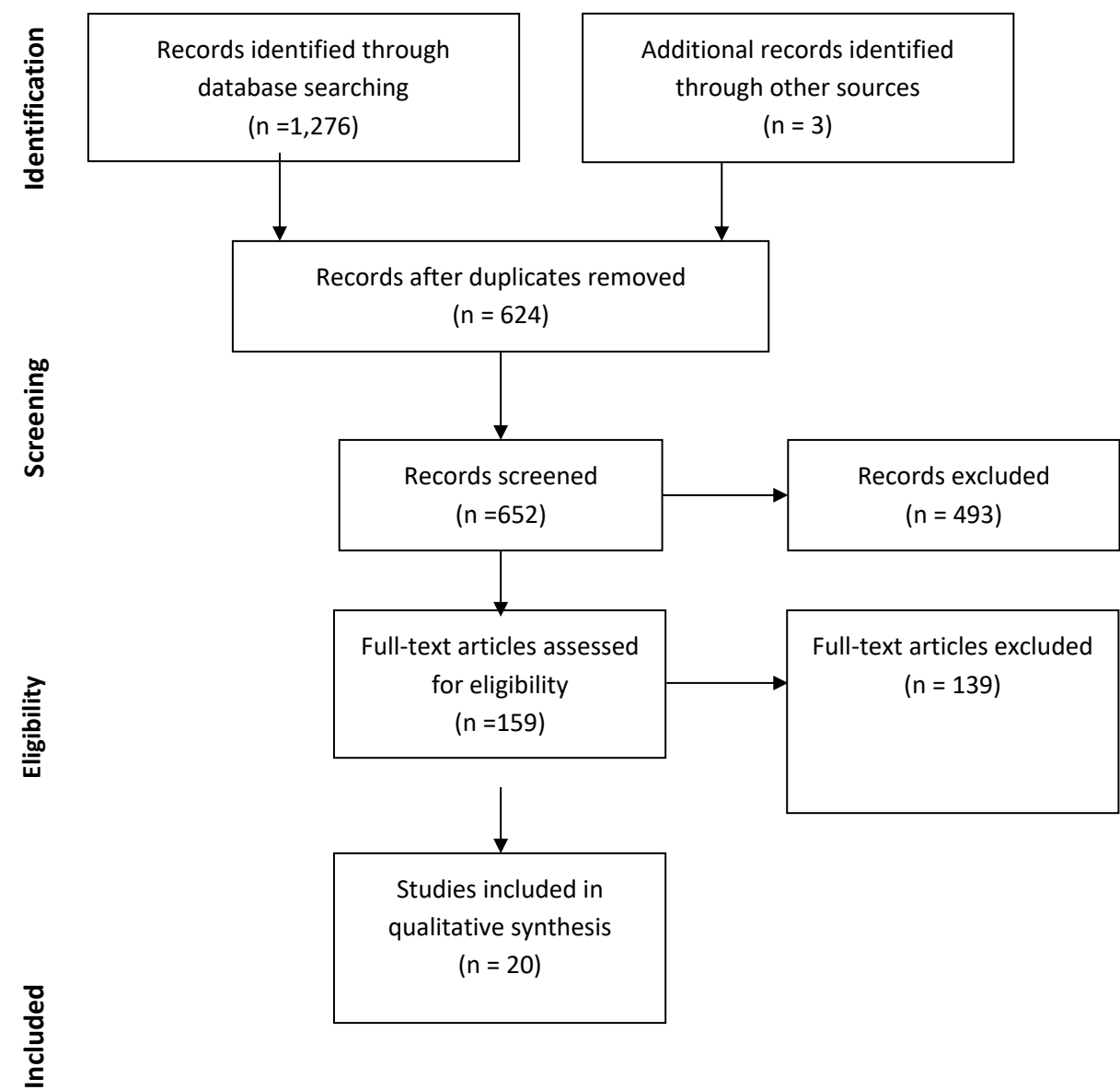


Figure 1. PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow diagram.

Table 2. Characteristics of studies

S/N	Author (year)	Location	Objective	Data Collection	Data Analysis
1	Doğan (2022)	Turkey	To define the relationship between urban agriculture and sustainability	Questionnaire and interview	Factor and content analysis
2	Uko (2021)	Nigeria	To assess the significance of urban and peri-urban farming.	Questionnaire administration	Descriptive and Inferential analysis
3	Mpigi (2020)	Nigeria	To assess how poor urban households in engage with urban agricultural production	In-depth Interview	Thematic analysis
4	Mupeta et al. (2020)	Zambia	To determine the impact of urban agriculture on household income	food consumption/ expenditure survey	Propensity score estimates
5	Cabannes & Raposo (2013)	Portugal	To determine what extent can urban and peri-urban agriculture (UPA) contribute to the social inclusion of migrant	Secondary data	Comparative analysis
6	Cadzow & Binns (2016)	Sierra Leone	To evaluate group associations among vegetable farmers in Freetown	Focus groups/ interviews	Content analysis
7	Barbieri et al. (2019)	USA	To assess perceived benefits of agricultural lands offering agritourism	Survey administration	Descriptive and Inferential analysis
8	Chah et al. (2010)	Nigeria	To evaluate the contribution of urban crop agriculture	Questionnaire/interview schedule	Descriptive and Inferential analysis
9	Gaglio et al., (2017)	Italy	To analyze the Land Use/Land Cover (LULC) changes and associated Ecosystem Services (ESs) of a protected wetland area	Spatial data	Transition matrices
10	Okanlade (2017)	Nigeria	To evaluate the impact of urban farming on household	Secondary data	Content analysis
11	Ackerman et al. (2014)	USA	To assess the opportunities and challenges associated with the development of urban agriculture	Survey administration	Inferential analysis
12	Bolang & Osumanu (2019)	Ghana	To assesses the participation of formal sector employees in urban agriculture and their contributions to food supply	Survey administration	Descriptive and Inferential analysis
13	Salau & Attah (2012)	Nigeria	To assess the contribution of UA to the socio-economic development of urban farmers.	Structured interview	Descriptive analysis
14	Tasciotti & Wagner (2015)	Tanzania	To evaluate the effects of practicing agriculture in urban Tanzania on indicators of dietary diversity	Panel Survey	Descriptive analysis
15	Mancebo (2018)	France	To examine how urban design and planning can promote this solution to reconfigure more sustainable and resilient cities	Secondary data	Content analysis
16	Okafor & Mgbenwelu (2023)	Nigeria	To assess the impacts of urban agriculture on the environment	Field survey	Descriptive and Inferential analysis
17	Ackerson & Awuah (2010)	Ghana	To identify health problems related to urban agricultural farming	Structured questionnaires	Descriptive and Inferential analysis
18	Karimi & Ataei (2023)	Iran	To study farmers' behavior in using urban wastewater considering perceived social risk	Survey technique	Inferential analysis
19	Barbillon et al. (2019)	France	To study health risks assessment in urban farms	Field survey	Descriptive and Inferential analysis
20	Aubry & Manouchehri (2019)	Madagascar	To assess the risks of urban agriculture and health	Field survey	Descriptive and Inferential analysis

3.1. Economic effects of urban agriculture

Urban agriculture serves as a stimulus for economic growth, taking several forms. Doğan (2022) demonstrates that the practice has the capacity to strengthen local enterprises by providing options for generating wealth and creating jobs. According to Uko (2021), the act of growing and selling agricultural products provides people and communities with a concrete way to generate funds, therefore empowering them. The economic advantages of urban agriculture are achieved via two main techniques. Initially, the trade of agricultural goods serves as a direct source of income for local economies. Moreover, when households consume food that they have produced on their own plots, it results in cost savings that would otherwise be spent on buying such goods (Mpigi, 2020). The FAO (2012) highlights considerable cost reductions for urban dwellers in the southern area, notably for disadvantaged families that spend a substantial amount of their income, ranging from 60% to 80%, on food expenses.

Urban agriculture, situated inside particular urban areas and adapted to their economic dynamics, plays a crucial role in promoting the local economy by supplying vital food supplies for the city. Mupeta et al. (2020) provide evidence supporting this claim by showing a significant and favourable impact on the financial earnings of households. Urban farm households saw a significant rise in income, ranging from 13.7% to 19.1%. This highlights the potential of urban agriculture to benefit family livelihoods by improving revenue sources.

The revenue generated by the sale of agricultural products, livestock and other goods is allocated to different sectors of the urban economy, such as education, taxes, transportation,

food, apparel, and rents. Urban agriculture, in its many manifestations, serves as a dynamic catalyst for urban economic growth, dependent on the cities' ability to cultivate. The examined research highlights the economic impacts of urban agriculture, emphasising its function as a versatile catalyst for economic development. The studies provided demonstrate the many benefits of urban agriculture, including the generation of revenue, savings, local economic growth, and enhanced family livelihoods.

3.2. Social effects of urban agriculture

Urban agriculture is a potent catalyst for increasing community involvement and promoting interpersonal connections, building a collective feeling of responsibility and obligation within a community. According to Doğan (2022), urban agriculture serves as a cohesive factor, uniting people based on a shared sense of responsibility and promoting a strong feeling of community. The involvement of socioeconomically disadvantaged urban families, including vulnerable populations such as those impacted by HIV/AIDS, those with impairments, widows or female-headed households, unemployed adults, and migrants, is especially vital (Mpigi, 2020). Urban agriculture is considered a viable approach to reducing poverty and fostering social inclusion, particularly for marginalised populations (Cabannes & Raposo, 2013).

Kirby et al. (2021) contends that the major aim of urban agriculture is to promote the inclusion of people into the urban system, guaranteeing sustainable means of living and reducing social problems such as drug misuse and illicit behaviours. The research examined confirms that urban agriculture is vital in

resolving social concerns by offering chances for marginalised populations to actively engage in productive endeavours. Research findings indicate that the adoption of urban agriculture promotes social unity by encouraging joint efforts towards common objectives, such as improving availability of financial services. Urban agricultural members often establish cooperatives and groups as a means of doing this (Cadzow & Binns, 2016). Prominent instances include the formation of the Cassava Grower Association, Poultry Farmers Association, Cocoa Farmers Association, and related alliances. These organisations not only strengthen social connections but also contribute to the financial prosperity of its members.

Urban agriculture is more than just a horticultural profession. It is a collaborative effort that uses public areas to create relationships between people from different backgrounds. Urban agriculture fosters collaboration, encouraging joint efforts to achieve personal and communal goals, so making a substantial contribution to social cohesion and community development. These results are consistent with the viewpoints expressed in the literature, highlighting the significant influence of urban agriculture on the social environment in cities.

Nevertheless, despite its numerous positive effects, urban agriculture also presents certain social risks that need to be addressed. Karimi & Ataei (2023) for example conducted a study on the social risks linked to the utilization of urban wastewater in farm irrigation. Their research shed light on various potential resource exploitation and challenges arising from this practice, emphasizing the importance of adopting proper behavior to address these concerns effectively.

3.3. Health effects of urban agriculture

Urban agriculture has health implications that extend beyond production and are closely connected to food security, nutritional diversity, and general well-being. Urban agriculture is crucial for enhancing food security and promoting dietary diversity among urban dwellers (Tasciotti & Wagner, 2015). Engaging in the practice of growing and using food that is obtained from nearby sources leads to better nutritional status, improved health results, and a reduced probability of diet-related illnesses. This simultaneous effect on both food and nutrition security has a direct impact on the overall welfare of urban households.

Participating in physical activities related to urban agriculture, such as planting and cultivating, fosters a physically demanding lifestyle and enhances overall health and wellness (Okanlade, 2017). Existing research highlights the direct link between active engagement in urban agriculture and enhanced physical well-being, emphasising the significance of practical involvement in promoting a healthy way of life. Urban agriculture has substantial environmental benefits that enhance the total welfare of urban dwellers, in addition to individual health improvements (Papanek et al., 2023). Agricultural operations that generate urban green spaces are essential for generating cooler microclimates in hot urban areas, hence reducing the impact of the urban heat island. Moreover, these areas have a role in the absorption and storage of carbon dioxide, while also offering chances for leisure and recreational pursuits, therefore improving the overall urban living experience.

The practice of growing fresh, locally obtained food not only tackle concerns about the availability of food and the variety of nutrients it

provides, but also promotes physically active and involved lives. Furthermore, the establishment of urban green spaces via agricultural endeavours enhances the overall health of urban areas, hence benefiting the well-being of inhabitants. These results are consistent with academic viewpoints that highlight the crucial role of urban agriculture in influencing health outcomes and improving the overall quality of urban living.

While urban agriculture presents numerous health benefits, it is important to recognize and address the associated health risks. In their study, Ackerson & Awuah (2010) highlighted the negative health effects associated with urban agriculture, particularly concerning water sources and various health complaints reported by respondents. The study identified a range of health issues prevalent among individuals engaged in urban agriculture. Apart from diseases like schistosomiasis and cholera, respondents reported experiencing bacterial infections, nematode infections, malaria, headaches, dermatological problems, visual impairments, cardiac issues, and respiratory problems. Among these health complaints, headaches were the most frequently reported. Barbillon et al. (2019) also noted that the ingestion of soil among urban farmers represents a significant health risk, serving as a source of exposure to contaminants. This is particularly concerning as urban soils may contain various pollutants such as heavy metals, pesticides, and other harmful substances. These findings underscore the urgent need to address the health risks associated with urban agriculture practices.

3.4. Environmental effects of urban agriculture

Urban agriculture has a crucial role in boosting the wellness of ecosystems, improving the capacity of cities to withstand challenges, and supporting

environmental sustainability. Urban agriculture is essential for fostering environmental equity and raising knowledge about health among people of all ages, including younger generations. Domestic food production greatly lowers the distance that food has to travel, therefore mitigating greenhouse emissions and tackling air pollution in metropolitan regions (Ackerman et al., 2014; Gutberlet, 2016). These endeavours foster a more environmentally friendly and ecologically aware urban way of living.

Mancebo (2018) observed that the adoption of urban agriculture initiatives effectively reduces the urban heat island effect by about 4 - 5 degrees Celsius when compared to other agricultural techniques. In addition, the implementation of agroforestry or community gardening along urban highways significantly decreases noise pollution levels. Urban agriculture not only improves environmental quality but also has a favourable influence on the well-being of urban dwellers. Urban agriculture functions as a storage place for trees and fruits, reducing the buildup of dust and offering a sustainable supply of fuelwood to fulfil customer demands (Bolang & Osumanu, 2019). This dual functioning serves the purpose of promoting ecological purity and ensuring the availability of crucial resources, in accordance with the ideals of environmental justice and sustainability.

Urban agriculture may increase the resilience of cities by adding more green space. Urban agriculture not only provides fresh food but also significantly improves the environmental well-being of urban regions. Urban agriculture is a versatile approach for tackling environmental concerns, such as decreasing carbon emissions, managing urban heat islands, and promoting the creation of green areas. These results align with

academic viewpoints that highlight the crucial role of urban agriculture in fostering environmental sustainability and resilience in urban ecosystems. However, many studies underscored the significant negative consequences of urban agriculture on the environment. For instance, Okafor & Mgbenwelu (2023) highlighted how urban agriculture has profoundly influenced the ecology, pointing to various environmental challenges that must be addressed to ensure the long-term viability of the practice. The research findings shed light on the detrimental effects of urban agriculture on the ecosystem, indicating potential risks to biodiversity, soil health, water quality, and air purity. Aubry & Manouchehri (2019) further raised concerns on contamination through the use of chemical fertilizers, pesticides, and herbicides in urban agriculture practices which can contaminate water sources through runoff. These chemicals may leach into nearby water bodies, leading to water pollution and adverse effects on aquatic ecosystems and human health. These negative consequences underscore the importance of adopting sustainable practices to minimize environmental degradation and safeguard the city's ecological balance.

3.5. Cultural effects of urban agriculture

Urban agriculture goes beyond its practical function and serves as a potent means of cultivating links between people and their ancestral heritage and traditions associated with farming and food cultivation. Salau & Attah (2012) highlight the role of urban agriculture in reviving historical agricultural methods and safeguarding cultural heritage by assuring the continuation of traditional knowledge and competence. Cultivating and transmitting agricultural techniques serves as a concrete means of preserving a connection to cultural heritage and ancestral origins.

According to Chah et al. (2010), urban agriculture functions as a means to augment knowledge and comprehension of the food chain. This heightened awareness fosters a deep feeling of respect for the natural world and its ecology. Through active engagement in the growing process, people get a more profound understanding of the many interconnections within the food system. Culture has a substantial impact on how people think, affecting their understanding of society responsibilities, influencing their actions, and offering valuable knowledge for future generations. Urban agriculture serves as a cultural focal point, shaping people's perception and interaction with their surroundings, strengthening their commitment to sustainable practices.

Urban agriculture has the potential to evolve into an enjoyable and educational attraction for visitors, promoting agriculturalism and nurturing innovative pursuits (Barbieri et al., 2019). Gaglio et al. (2016) emphasise the significance of farms and agricultural tourism in promoting agricultural awareness. These areas serve as centres for the sharing of information, education, and the reduction of food waste via community gardening techniques. Urban agriculture not only produces agricultural goods, but also serves as a tangible representation of cultural identity and expertise. Urban agriculture has a significant role in building cultural awareness by maintaining cultural history, promoting understanding, and establishing links with the larger community. These results support academic viewpoints that highlight the diverse cultural effects of urban agriculture and its contribution to supporting sustainable cultural practices in urban areas.

4. Discussion

This research utilises established systematic review methodologies and consolidates data from 20 relevant studies to provide a thorough investigation of the evidence on Urban agriculture and its influence on quality of life. Although data quality difficulties are often encountered, our research, consistent with other studies, revealed some crucial findings.

Urban agriculture has a significant economic effect. Studies highlight the significant capacity of urban agriculture to strengthen local economies, produce revenue, and provide employment prospects. Gripper (2023) emphasises the economic benefits, including the cost reductions that families may get by cultivating their own food. This has an especially large effect on families who are economically challenged, since a substantial percentage of their income is dedicated to spending on food. Furthermore, the research conducted by Mupeta et al. (2020) demonstrates a noteworthy and favourable impact on household income, which has the potential to enhance people's standard of living and provide a valuable contribution to the economic development of urban areas.

Urban agriculture is a potent means of promoting community development and nurturing interpersonal connections. According to Doğan (2022), the communal component is highlighted as he asserts that engaging in the joint activity of planting and producing food fosters a feeling of community. The societal advantages include disadvantaged populations, as emphasised by Mpigi (2020), where urban agriculture functions as a strategy for reducing poverty and fostering social cohesion. The establishment of cooperatives and groups, as shown by Cadzow & Binns (2016), enhances

social cohesiveness, demonstrating that urban agriculture is not just focused on individual farming but rather a collaborative endeavour with shared objectives.

Urban agriculture offers a wide range of health advantages. The presence of fresh, locally obtained food enhances nutritional status and promotes overall health (Papanek et al., 2023). Participating in physical activities associated with urban agriculture, such as planting and cultivating, encourages a lifestyle that involves regular physical exercise (Okanlade, 2017). In addition, the environmental benefits of urban agriculture, such as the creation of green areas, lead to a more sustainable and healthier urban environment (Papanek et al., 2023).

The favourable environmental impacts of urban agriculture are well acknowledged. Gutberlet (2016) states that reducing the lengths of food transportation helps to decrease carbon emissions. Integrating urban agriculture projects may help alleviate the negative impacts of urban heat islands, decrease noise pollution, and serve as a space for growing trees and fruits, resulting in several environmental advantages (Pearson, 2011). Furthermore, urban agriculture is seen as a noteworthy factor in enhancing urban resilience, by fostering sustainability and boosting environmental well-being (FAO, 2013).

Urban agriculture is seen as a way to preserve cultural traditions and promote comprehension of the food chain. Salau & Attah (2012) observe the resurgence of age-old agricultural methods, which play a role in safeguarding cultural heritage. Gaglio et al. (2016) emphasise the importance of urban agriculture in teaching young people and promoting agricultural awareness. They suggest that farms might be transformed into educational attractions for visitors. Urban agriculture is

closely linked to the preservation of culture and the dissemination of knowledge.

Urban agriculture, while offering numerous benefits, also brings about various externalities that extend beyond the immediate participants. These external impacts encompass social, economic, environmental, and policy dimensions, influencing various stakeholders and aspects of urban life.

Socially, urban agriculture can enhance community cohesion and interaction, fostering a sense of belonging and solidarity among residents. However, it may also lead to resource exploitation, tensions and conflicts, particularly if farming activities result in noise, odor, or pest-related issues that affect neighboring communities. Disparities in access to urban farming resources and spaces can further exacerbate existing social inequalities, raising questions about equity and inclusion in urban agriculture initiatives. Economically, urban agriculture can provide employment opportunities, generate income for farmers, and contribute to local food security and affordability. Yet, it may also have unintended consequences, such as driving up property prices and contributing to gentrification in certain neighborhoods. Competition for land and resources, coupled with market dynamics and policy interventions, can influence the economic viability and distributional outcomes of urban agriculture.

From an environmental perspective, urban agriculture holds the potential to enhance biodiversity, improve soil health, and mitigate climate change through carbon sequestration. However, unsustainable farming practices, such as the use of chemical inputs and land degradation, can lead to soil erosion, water pollution, and habitat loss. These environmental

impacts pose risks to human health, aquatic ecosystems, and urban resilience, underscoring the importance of adopting sustainable farming methods and land management practices.

From a health perspective, urban agriculture can offer opportunities for increased physical activity and improved access to fresh produce, contributing to overall well-being. However, there are also health risks associated with urban farming practices, such as exposure to contaminants in soil and water, as well as the use of chemical fertilizers and pesticides. Poor sanitation and hygiene practices in urban farming areas can further exacerbate these risks, potentially leading to the spread of infectious diseases and other health concerns among farmers and nearby residents.

5. Conclusions

This research aims to elucidate the complex interaction between urban agriculture and quality of life in urban environments. The consolidation of results from the relevant research, using established systematic review protocols, has yielded vital insights into this dynamic correlation. Although we recognise the widespread problem of data quality difficulties, our research reveals important discoveries that highlight the potential beneficial impacts of urban agriculture on several elements of quality of life. The studied research consistently highlights economic empowerment, social cohesiveness, better health outcomes, environmental sustainability, and cultural preservation as key recurring themes.

Contributions to theoretical understanding

Our study enhances the theoretical discussion on urban agriculture and quality of

life by providing a detailed viewpoint on the many effects of urban agriculture. The extensive literature analysis sheds light on the economic, social, health, environmental, and cultural aspects of urban agriculture, offering a thorough knowledge of how it affects the well-being of city dwellers.

Limitations

Recognising the constraints of this research is of utmost importance. The presence of data quality issues in the literature under evaluation is a difficulty, and differences in research methodology used in various studies may impact the extent to which the results can be applied to a broader context. Moreover, variations in the surrounding circumstances within metropolitan environments might affect the applicability of findings.

Policy implications

Policymakers should establish clear regulations to ensure urban agriculture practices meet safety and environmental standards. Urban planners need to integrate farming into city planning and designate suitable areas for agriculture to optimize land use and protect ecosystems. Governments should support small-scale urban farmers with training, financial assistance, and marketing support to enhance food security and livelihoods. Encouraging community engagement and partnerships can strengthen social cohesion and ensure projects meet local needs.

Managerial implications

Urban farmers should prioritize sustainable practices and risk management strategies to

protect health and minimize environmental impact. Collaboration with stakeholders can foster innovation and improve productivity. Diversifying marketing channels can expand market opportunities and increase sales. Continuous monitoring and adaptation of farming practices are essential for efficiency and competitiveness.

Scientific implications

Interdisciplinary research is needed to understand urban agriculture's impacts and develop innovative solutions. Data collection and knowledge sharing can inform evidence-based decision-making. Monitoring and evaluation frameworks are necessary to assess interventions' effectiveness. Policy advocacy efforts should promote evidence-based policies that support sustainability and public health.

Conflict of interest

The authors assert that there are no conflicts of interest that might have impacted the design, execution, or interpretation of the study provided in this publication.

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