

Urban Horticulture: Social Benefits in the UN 2030 Agenda

Horticultura Urbana: Benefícios Sociais na Agenda ONU 2030

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ABSTRACT

Urban gardens are agricultural spaces managed by the surrounding community where they are built, whose cultivation efforts generate a variety of food and/or flowers, adding green areas to cities. This article aimed to verify, through a meta-analysis study, if urban horticulture is an activity that fits the standards of awareness for sustainable development and lifestyles in harmony with nature, according to, SGD 12, target 12.8. Descriptive review research from 2019 to 2022. Articles downloaded from the CAFE platform, from the journals portal of the Coordination for the Improvement of Higher Education Personnel (CAPES) and from Scielo, Scopus and Web of Science databases. The results show that urban horticulture meets social indicators and contributes as an activity that fits the standards of awareness for sustainable development and lifestyles in harmony with nature,, resulting in: improvement in the quality of life, collective relationships within the environments where projects are carried out, inclusion and social entrepreneurship, stimulation of citizenship, food and nutrition security, promotion of mental and physical health, harmony with nature, awareness of sustainable development, promotion of traditional knowledge and, function educational.

Keywords: Social Benefits to the Horticulturist, Urban gardens, Sustainability, SDG 12.

RESUMO

Hortas Urbanas são espaços agrícolas gerenciados pela comunidade do entorno onde são construídas, cujos esforços de cultivo geram variedade de alimentos e/ou flores, agregando as áreas verdes às cidades. Esse artigo teve o objetivo de verificar, por meio de estudo de metanálise, se a horticultura urbana é uma atividade que se enquadra aos padrões de conscientização para o desenvolvimento sustentável e estilos de vida em harmonia com a natureza, conforme a Agenda 2030 das Nações Unidas, ODS 12, meta 12.8. Pesquisa de revisão do tipo descritiva no período de 2019 a 2022. Artigos baixados da plataforma CAFE, no portal de periódicos da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) e, bases Scielo, Scopus e Web of Science. Os resultados mostram que a horticultura urbana atende aos indicadores sociais e contribui como uma atividade que se enquadra aos padrões de conscientização para o desenvolvimento sustentável e estilos de vida em harmonia com a natureza, resultando em: melhoria na qualidade de vida, relações coletivas dentro dos ambientes de realização dos projetos, inclusão e empreendedorismo social, estímulo à cidadania, segurança alimentar e nutricional, promoção da saúde mental e física, harmonia com a natureza, consciência sobre desenvolvimento sustentável, promoção do conhecimento tradicional e, função educacional.

Palavras-Chave: Benefícios Sociais ao Horticultor, Hortas Urbanas, Sustentabilidade, ODS 12.

INTRODUCTION

Urban Gardens (UG) are agricultural spaces in the city, managed by the community around the place where they are built. Their efforts generate a variety of crops, food, and/or flowers, in addition to increasing the green areas in the cities (Abdullah *et al.*, 2020; Hong *et al.*, 2020; Vargas *et al.*, 2020; González-Ball *et al.*, 2022; Pinheiro, 2022).

The UG participates in urban and peri-urban agriculture, a concept proposed by the Food and Agriculture Organization of the United Nations (FAO) in direct connection with agriculture and food as a food and nutrition security strategy (Vargas *et al.*, 2020). Currently, this activity is expanding across developed countries, helping cities to become more sustainable (Vargas *et al.*, 2020, Pinheiro, 2022).

As a result, it is necessary to observe whether the UG fits within the sustainable development goal 12 (SDG 12) of the 2030 Agenda for sustainable development adopted by the United Nations (UN), contributing with actions that ensure the patterns of sustainable production and consumption so that to promote lifestyles, whose activities are developed respecting the limits of nature and what it has to offer as environmental services (Abdullah *et al.*, 2020; Nações Unidas Brasil, 2022; González-Ball *et al.*, 2022; Pinheiro, 2022).

In this review, a cut is made in the “social benefits”, a term used to refer to the several values or gains reflected in the life of gardeners who dedicate themselves to work in UG. In this sense, the results of research carried out from 2019 to 2022 were selected. This research report stories and experiences about growing vegetable gardens in cities, which in addition to ensuring food and nutritional security, increases the well-being of family members and the community of the surrounding areas.

It can be said that the issue is of theoretical importance, as several works dedicated to this subject, such as Plaza Gutierrez *et al.* (2019); Barata, Albuquerque & Simão (2019); Calvet-Mir & March (2019); Sovová & Krylová (2019); Yap (2019); Rusciano *et al.* (2019) and Sánchez (2019). It also has experimental importance as most of the analyzed

literature involved field research, interviews, and participant observation (Abdullah *et al.*, 2020; Aguiar Pedro *et al.*, 2020; Cattivelli, 2020; Cunha *et al.*, 2020; Gónra & Gónry, 2020; Home & Del Rio, 2020; Hong *et al.*, 2020; Houessou *et al.*, 2020; Jiwon & Jeong, 2020; Philpott *et al.*, 2020; Russo & Cirella, 2020; Tharrey *et al.*, 2020; Vargas *et al.*, 2020; Young *et al.*, 2020).

Altogether, this work described 21 locations around the world, which attribute importance to the activity in the lives of farmers such as South Africa, Germany, Benin, Brazil, Chile, South Korea, Costa Rica, Cuba, Spain, Western Europe, North America and Latin America, USA, France, India, Italy, Malaysia, Poland, Portugal, Czech Republic, and Switzerland.

Throughout the article, the “Social Benefits to Gardeners” will be a theoretical variable, tested based on ten operational variables capable of generating social values for the participation in urban gardens (Yap, 2019), as they ensure responsible production and consumption patterns by creating sustainable lifestyles (Abdullah *et al.*, 2020).

The hypothesis is that urban gardening practiced in the reference countries is a form of agriculture that has contributed to ensuring awareness of sustainable development and lifestyles in harmony with nature, according to SDG 12, target 12.8. Therefore, evaluating whether the UG meets SDG 12 will contribute to the decision-making of the government to invest and increase these areas within the urban space, and present an activity that contributes to achieving the challenges proposed within the 2030 Agenda.

The objective of this paper is to observe, through a meta-analysis study, whether urban gardening is an activity that fits the standards of awareness for sustainable development and lifestyles in harmony with nature, according to SDG 12, target 12.8.

METHOD APPLIED FOR DATA ANALYSIS

The articles were downloaded from the CAFE platform on the Journal Portal of the Coordination for the Improvement of Higher Education Personnel (CAPES), in the Scielo, Scopus, and Web of Science

databases. Thirty scientific articles were selected. They had been published from 2019 to 2022, as they address the central theme of urban gardens, focusing on the positive social impact on the life of the horticulturist.

Regarding the selection of the articles, the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) methodology was used, which defines that the articles must be selected from the abstract, making exclusion and inclusion, according to enforceability criteria (Urrútia & Bofill, 2010).

As for the type of methodology, this research was descriptive, in a time frame of six years, starting in 2017 and ending in March of the year 2022. But, according to the methodological process described in Figure 1, the years 2017 and 2022 were excluded. 2018 of the results, because no articles were found with the SGD 12 approach, target 12.8. Descriptive statistics was used for measurement and data analysis.

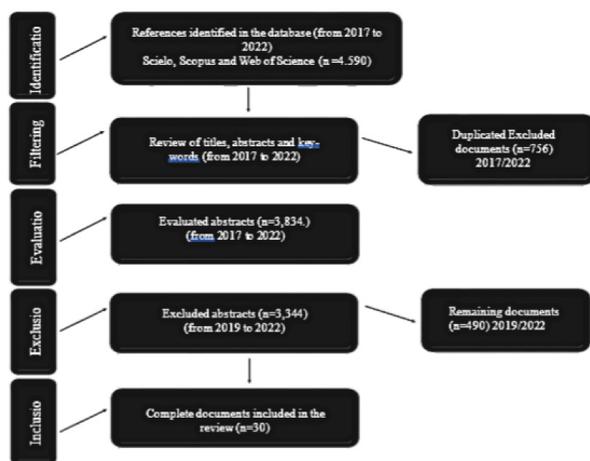


Figure 1 - Research, Recovery, Exclusion, Inclusion and Selection Methodological Process.

Source: Research data (2022)

URBAN GARDENS: LITERATURE PROFILE

Urban gardening spreads around the world, but eight years away from the 2030 agenda, the challenges are difficult to solidify awareness of actions that contribute, that such agricultural activities are carried out in harmony with nature.

Despite the finding, this article was conceived in the acceptance that the activity can boost the achievement of the United Nations sustainable development goals, specifically the SDG 12, target 12.8, ensuring that people carrying out agricultural activities in the city produce relevant information and awareness for sustainable development, with lifestyles in harmony with nature. The effort of the next item is to shed light on both horticulture and SDG12, target 12.8.

Urban Gardens

Gardening performed in the cities is considered urban, so both allotment and community gardens belong to this category, along with home gardens, and other forms of non-professional food cultivation in urban settlements. It is a broad term, which covers food production in cities in private and/or commercial production (Sovová & Krylová, 2019). Therefore, they are alternatives for food supply, which, in addition to valuing the property, raise pride in the region and support urban aesthetics and community cohesion (Jiwon & Jeong, 2020).

For horticulturists, growing plants create places where participation is valued, stops for the recovery of community life, where dwellers establish a productive role without abandoning their crops, and spaces of mental peace due to the contact with nature (Philpott *et al.*, 2020), alternatives capable of supporting the biodiversity of cities whose objectives and results are shown in Table 1.

The goals and outcome of the reference surveys show social indicators for the activity that can be framed in the objectives and goals of the 2030 agenda, as they demonstrate the positions of the gardeners themselves, ensuring that the execution of agricultural activities in the city there is relevant and conscious information for the sustainable development and their lifestyles are in harmony with nature, according to SDG 12, target 12.8.

In Brazil, awareness comes from traditional memory, where the arrangements and meanings of planting in the backyard go beyond the rural/urban, creating places that trigger affections and memories, producing ways of life between the rural and urban (Silva *et al.*, 2019).

In Cascais (Portugal), vegetable gardens have been spaces of equity, where the most disadvantaged sections of the population, who live in more degraded environments, can adhere to land to produce food, playing a facilitating role in social relations by promoting social cohesion and sense of community (Barata *et al.*, 2019) sustainable development in close harmony with nature.

In California in the United States, gardens have been used for ecological studies since 2013 where investigations focus on awareness information for sustainable development and a harmonious lifestyle with nature (Philpott *et al.*, 2020). The person who manages the garden influences the richness

and composition of the plants, in the case of the gender, as women plant more species than men, depending on the region of origin, the time spent in the garden and personal motivations play a role in measuring abundance and the distribution of plants.

A point of intersection between Switzerland and Chile, in terms of the social environment, is the motivation of horticulturists, which contributes to the restoration of living spaces due to the inclusion of recreational spaces (Home & Del Rio, 2020). Privately managed gardens represent large proportions of green space in cities, with the potential to serve the food supply chain.

Table 1 - Literature Profile

Main objectives	Main outcomes	References
To discover the diversity of landscapes of orchards and vegetable gardens that border the cities.	The diversity of landscapes of orchards and vegetable gardens contrasts between prominent, modest, and very scarce.	Plaza Gutierrez <i>et al.</i> , 2019
Valuing memory, knowledge, and practices for agrobiodiversity in urban gardens.	Knowledge, feelings, and practices applied in urban areas come from the rural tradition, where symbolic exchanges and the maintenance of agrobiodiversity are relevant.	Silva <i>et al.</i> , 2019
To understand participation in urban garden programs to promote sustainability and generate capital social share capital.	Strengthening of social relationships, promoting cohesion and inclusion, strengthening bonds, promoting skill acquisition, encouraging citizenship and participation in other projects, a scenario favorable to the generation of social capital.	Barata <i>et al.</i> , 2019
To characterize the evolution of prominent urban horticulture initiatives in the city of Barcelona.	They express different and non-exclusive meanings, which explicitly or implicitly, in a context of crisis and post-crisis, mobilize notions of political agriculture.	Calvet-Mir & March, 2019
To investigate the materialization of the urban, representation and practice, in five allotment sites in Brno, Czech Republic.	Critical reflection from the rural-urban perspective advances in hybrid spaces, which contribute to discussions of the city/country dynamics and overcoming this dichotomy can facilitate the inclusion of horticulture in contemporary cities.	Sovová & Krylová, 2019
To analyze how the dynamics of self-organization shape and are shaped by spatial development.	Urban gardens are continually negotiated, contested, and remade due to local spatial development.	Yap, 2019
To analyze how urban areas can be requalified by horticultural practices.	The concept of Territory Social Responsibility is the cornerstone of the rediscovery of shared values that the stakeholders of a territory consolidate.	Rusciano <i>et al.</i> , 2019
To discuss the role of urban agriculture in the spatial rearrangement of metropolitan systems.	Significant presence in urban food supply systems, but marginal in the development of territorial public policies.	Sánchez, 2019
To propose a productive garden model and interpretation of traditional methods.	Ridge and derived furrow cultivation can be an efficient system compared to conventional cultivation in flat fields, increasing the humanistic value of the activity.	Hong <i>et al.</i> , 2020
To evaluate the impact of participation in gardens and adoption of sustainable lifestyles.	Pre-established health and environmental awareness, but there are barriers to participation: lack of time, and lack of knowledge, among others.	Tharrey <i>et al.</i> , 2020
To indicate the characteristics of contemporary urban agriculture in the contiguous areas of Havana.	Unequal distribution is concentrated in neighborhoods with a lower density of urban construction, reflecting the availability of land resources among modernist buildings.	Górna & Górný, 2020

To identify the main constraints to the expansion of vegetable gardens in Benin.	Constraints: lack of land and tenure insecurity; insufficient government support; restricted access to the Market; limited productive factors and social inequalities.	Houessou <i>et al.</i> , 2020
To analyze the diversity of family projects in the urban area.	Diversity of projects with benefits related to the personal development of users, family economy, and urban environment.	Vargas <i>et al.</i> , 2020
To evaluate the performance of urban community gardens and the potential for implementation in the slums in São Paulo.	Potential to neutralize spatial pressures in informal areas, create green spaces, improve food quality, increase environmental awareness and guarantee life quality.	Aguiar Pedro <i>et al.</i> , 2020
To characterize urban horticulture initiatives in South Tyrol by cartographic representation	The socio-environmental aspect of urban gardens and interest in reconnecting with food practices is highlighted, even when access to food is not a priority.	Cattivelli, 2020
To compare, cross-culturally, Swiss, and Chilean farmers by evaluating motivations in different cultural contexts.	Restoration is the motivational component that receives the strongest agreement, followed by socialization and food production, which have almost identical structures.	Home & Del Rio, 2020
To observe the richness and composition variation based on sociodemographic factors and experience	Gender, region of origin, time spent in the garden, and motivation influence the richness or composition of plants and women plant more species than men.	Philpott <i>et al.</i> , 2020
To capture diversity in appearance and design in 92 vegetable gardens.	Annual, medicinal, safe food design with an ornamental appearance and ancestral reverence.	Vuuren <i>et al.</i> , 2020.
To map urban gardens in Salvador, Brazil.	Lack of public policies for urban agriculture with strategies to produce sustainable food for the population.	Cunha <i>et al.</i> , 2020
To demonstrate the propagation of vegetable gardens in urban areas.	Activity in backyards and front of houses, despite the limitation of space there is motivation and sharing of knowledge and rich harvests.	Abdullah <i>et al.</i> , 2020
To analyze food security and supply chains	Positive impacts on urban regeneration and well-being and recent developments from the COVID-19 pandemic reinforce food security and supply chains.	Russo & Cirella, 2020
To relate the type of gardens, the number of species, and stress in self-reported restoration.	The allotment farmer is associated with higher levels of restoration compared to domestic farmers.	Young <i>et al.</i> , 2020
To understand the physical and social benefits of vegetable gardens, in comparative analysis in Korea and abroad.	In Korea, they can be found on the roofs, walls, and spaces in alleys; abroad, the areas are larger, fixed, and focus on promoting health and reducing food inequality, a positive effect on biodiversity in both.	Jiwon & Jeong, 2020
To analyze the potential for nature-based solutions for allotment gardens.	Institutional barriers, irregular distribution of benefits, and economic deficiency of allotment-based gardens.	Sowińska-Swierkosz <i>et al.</i> , 2021
To observe the attribution of a variety of meanings to the practices of community gardeners.	The meanings extrapolate the technical-rational dimension of the act of growing up and redefine the act of consuming food, depending on the link with productive and social activities.	Jordi-Sumanech & Deuaz-Aguilar, 2021
To analyze the impact of the consumption of horticulture on the mitigation of greenhouse gases.	Potential reduction of up to 205.1 kg CO ₂ /year, per person (12.1%) due to the reduction of foods of animal origin, suggesting that UG can be social catalysts for pro-environmental behavior and mitigation of greenhouse gases.	Puigdueta <i>et al.</i> , 2021
To analyze the main component to discover food awareness	There is food awareness, concern with environmental impacts, and consumption as an attitude of life.	Artmann <i>et al.</i> , 2021
To find sustainable management plans and determine trends in understanding and use of companion plants.	There is safe food production, preference for a city garden, use of products as food, and ecologically correct vegetable garden management.	Hong <i>et al.</i> , 2021
To know urban domestic horticulture with government intervention based on a popular initiative supported by social media.	Broad social movements on Facebook groups, in the Malayalam vernacular, have become a platform for the popularization of home horticulture.	Pinheiro, 2022
To explore the diversity and knowledge of medicinal plants in three urban neighborhoods.	Most garden owners with knowledge of medicinal plant species were 26-85-year-old women.	González-Ball, 2022.
To observe the attribution of a variety of meanings to the practices of community gardeners.	The meanings go beyond the technical-rational dimension of the act of growing up and redefine the act of consuming food, depending on the link with productive and social activities.	Jordi-Sumanech & Deuaz-Aguilar, 2021

Source: Research data, (2022)

In Switzerland, in the face of shrinking green space, urban gardens reduce inequalities, provide food to residents of low socioeconomic status and address ecological and public health issues (Young *et al.*, 2020) by promoting gardens rich in plant species.

The motivations and interests mobilized in Málaga, Spain, vary, according to lifestyles and age group, creating a diversity of typologies and social groups, in the more than 1000 horticulturists based in 19 plots (Vargas *et al.*, 2020), translating into a movement of consolidation, organization, involvement, and strengthening. In Seville, practices validate the issues of exchange with nature, highlighting the pleasant productive experience, insofar as it takes place in a strongly “naturalized” space, even for the use of forced, imaginative, and/or creative solutions for the recreation of nature.

In Spain, gardening controls eating habits, increases social identity, controls behaviors, and raises awareness of the impact of participatory actions, in addition to introducing food literacy (Puigdueta *et al.*, 2021). In Malaga, it offers opportunities for recreation and restoration, produces safe food, provides social functions for different population groups (Vargas *et al.*, 2020), and recovery of unhealthy places, giving the city a new identity.

Poles meet the requirements for the use of plants and water, solving urgent problems on a local scale by including the environmental, social, and economic pillars of sustainable development (Sowińska-Świerkosz *et al.*, 2021).

In Kerala, India, gardening supported by the government and popular initiatives, based on social media, has become a broad social movement (Pinheiro, 2022). Government interventions were essential for urban dwellers to start a home garden, as in addition to reviving the traditional practice, public subsidies lead to low financial investment.

The examples in the previous paragraphs seem closer to the new sustainable development goals (SDGs), which have as a global and universal goal, comprehensive, far-reaching, and people-centered transformations, which are the focus of this investigation.

Sustainable Development Goals (SDG 12, target 12.8)

The Heads of State, Government, and High Representatives gathered at the United Nations Headquarters in New York in September 2015, for the celebration of the 70th anniversary of the UN and decided on the new global sustainable development goals (SDGs) with the aim not only of including people but make them actors in the process.

According to the UN, it was a historic decision with universal and transformative comprehensive, far-reaching goals and objectives, and grounded in people, who point to varied meanings in their activities, extrapolating the technical-rational dimension of the act of growing, reorienting the act of consuming food (Jordi-Sumanech & Deuaz-Aguilar, 2021) to emphasize its economic, environmental, and social benefits.

The interest in this research is the social benefits, motivating the people who manage and perform the activity, perceived from the variety of social factors, diversity, and biodiversity, which form the ecological basis of urban gardens in their descriptive characteristics (Philpott *et al.*, 2020), informing that urban horticulture contributes to valuing communities by offering places for recreation and environmental awareness (Aguilar Pedro *et al.*, 2020).

The UN's goals for people are the determinations to end poverty and hunger, in all its forms and dimensions, ensuring that all human beings fulfill their potential with dignity and equality in a healthy environment (United Nations Brazil, 2022). The SDGs illuminates a universal agenda for 2030, which is nonetheless ambitious, as the goals are integrated, indivisible, and balance the three dimensions of sustainable development: economic, social, and environmental.

Effortlessly, the quality of life of farmers is directly linked to these objectives, accepting that urban agriculture contributes to making the 2030 Agenda possible, so this review is focused on objective 12 SDG/UN that ensures production standards and consumption, specifically in item 12.8, which ensures that people everywhere have relevant information and awareness for sustainable development and lifestyles in harmony with nature.

References Places of Social Benefits to the Gardeners

About the social benefits to horticulturists, it can be seen in Figure 2 that the articles involved 18 countries: South Africa, Germany, Benin, Brazil, Chile, South Korea, Costa Rica, Cuba, Spain, USA, France, India, Italy, Malaysia, Poland, Portugal, Czech Republic, and Switzerland. Three regions were also studied: North America, Latin America, and Western Europe. The results indicate that both in the 18 countries and in the three regions there are relevant cases of social benefits linked to SDG 12, target 12.8.

Important Countries and Geographic Location

It is highlighted in Figure 2 the locals where relevant information on social benefits was found, particularly Spain with the largest number of works, six. Most places are shown only as a reference.



Figure 2 - Countries/Places involved in the Research (reference on social benefits to the gardener)

Source: Research Data, (2022)

In Malaysia, farmers see improvement in human psychology. In Italy, they feel more socially integrated. In Portugal, the emphasis is on mental health. In Málaga, Spain, the mentioned benefit is the promotion of diversity (Barata *et al.*, 2019; Abdullah *et al.*, 2020; Cattivelli, 2020; Vargas *et al.*, 2020).

The social benefits highlighted in Switzerland and Chile were recreational activities; in Brazil, the promotion of traditional knowledge; in India, knowledge about social collectives; in the United States, farmers reported they felt mentally nourished; in Seville, Spain, quality of life was highlighted; and, in Switzerland, stress restoration, which is also a reality in the USA and India (Home & Del Rio, 2020; Philpott *et al.*, 2020; Young *et al.*, 2020; Jordi-Sumanech & Deuaz-Aguilar, 2021; Pinheiro, 2022)

Social integration, community health, urban regeneration, and food security emphasize the social role of urban gardens for horticulturists in Malaysia and Italy, who see an opportunity to leave the house to socialize (Abdullah *et al.*, 2020; Cattivelli, 2020) in spaces that positively impact human psychology, mitigating the effects of depression (Abdullah *et al.*, 2020).

In Italy, activities strengthen ties and build social relationships between farmers, alleviating loneliness (Cattivelli, 2020), raising people’s motivation, due to group conscience and the feeling of belonging, even if the land is public, the basket of vegetables is less important than the integration of the community that needs a more leisurely life, willing to escape the hectic city of Portugal (Barata *et al.*, 2019), the interest is to get closer to nature.

In Brazil and Chile, in addition to offering quality food, gardens are settings for meetings, conversations, experimentation, and games, a space for interaction (Silva *et al.*, 2019; Home & Del Rio, 2020). Vegetable gardens growing to connect human beings with nature, increasing individual well-being and improving quality of life and health (Silva *et al.*, 2019), designing a clean and safe environment, harmonizing the neighborhood, and reducing criminality (Cattivelli, 2020), using the advantages and power of farmers to exercise doing something important (Young *et al.*, 2020).

Thus, there is a therapeutic perspective as urban gardens are places where people can get together and get away from the pressure of everyday life, a release valve for stress, increasing health and well-being levels (Barata *et al.*, 2019; Cattivelli, 2020).

Not to mention that the produced food promotes food and nutritional security by being fresher and without pesticides. In research carried out in Portugal and Spain, horticulturists design their products free from chemical treatments and fertilizers, illustrating the relationship between food, nutrition, health, and food safety (Barata *et al.*, 2019; Jordi-Sumanech & Deuaz-Aguilar, 2021).

Farmers see an opportunity to acquire skills to grow vegetables and conserve unavailable medicinal plants in grocery shops (Philpott *et al.*, 2020) and consume freshly harvested whole food, improving eating habits by increasing the consumption of fruits and vegetables (Cattivelli, 2020). They reorient consumption and see an opportunity to practice physical activities (Jordi-Sumanech & Deuaz-Aguilar, 2021).

Awareness of global issues influences behaviors and promotes living habits compatible with natural ecosystems, promoting local sustainable development and the diversity of social composition (Vargas *et al.*, 2020), including social differences of ethnicity, age, and social factors and respect for biodiversity, working on urban landscapes (Philpott *et al.*, 2020), in such a way that preserving gardens and cities is a way of taking care of the urban disadvantaged people and offering more equal spaces (Young *et al.*, 2020).

Gardening activities in Brazil contribute to the individual and collective recognition of the socio-cultural importance of food, facilitating the involvement of people with the food system, and developing a commitment to sustainable practices, arising from ancestral histories, which trigger traditional knowledge, feelings, and practices (Silva *et al.*, 2019).

The thesis that urban horticulture practiced in the reference countries is a modality of agriculture that has contributed to ensuring awareness of sustainable development and lifestyles in harmony

with nature, according to SDG 12, target 12.8, is tested in this article, and the theoretical variables are shown in Figure 3.

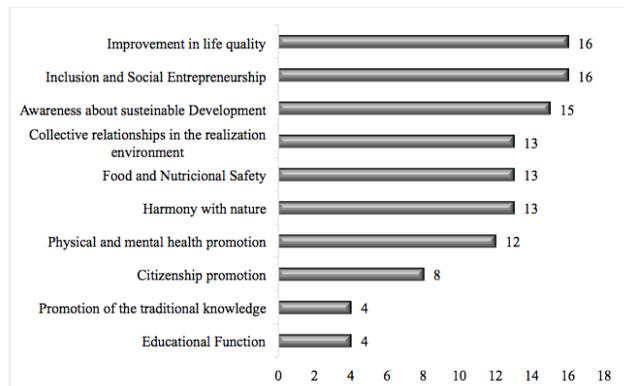


Figure 3 - Social benefits to the Gardener.

Source: Research Data (2022)

To improve the quality of life in Brno, Czech Republic, non-urban features are incorporated into the gardens, which appear to be rural in the city and farmers consider themselves peaceful and quiet, contrasting with the anonymous and busy urban environment (Sovová & Krylová, 2019) while driving the evolution of Malaysian horticulturists (Abdullah *et al.*, 2020).

The collective relationships in the environments where the projects are carried out stand out in the convenience of social interaction that reconnects people with food production (Sovová & Krylová, 2019), sharing knowledge and harvests, inspiring continuity in the Mutiara Gombak neighborhood, Kuala Lumpur, Malaysia in times of Covid 19 (Abdullah *et al.*, 2020), leading to the transition to sustainability in the city of Malaga, where urban agriculture is emerging as an evolving phenomenon, giving new meanings to agricultural practice (Vargas *et al.*, 2020).

Social inclusion and entrepreneurship are illuminated when horticulturists captured the diversity of appearance and design of 92 urban home gardens in the municipality of GaRankuwa, Tshwane City, Gauteng Province, South Africa, where people who grow home gardens and live in poor urban settlements predominate (Vuuren *et al.*, 2020).

Social entrepreneurship was instituted in times of crisis, where radical political demands brought social innovation, conceiving in Barcelona a laboratory of horticultural initiatives in vacant lots, mobilizing radical demands or incorporating a new post-crisis rhetoric (Calvet-Mir & March, 2019), thus, the reconstitution and/or reinforcement of the social fabric is a contribution of agricultural practice, where countries have collective spaces of urban production that strengthen community bonds, social and labor reintegration, including campaigns for the sustainable management of spaces (Sanchez, 2019).

The stimulus to citizenship is remarkable when it is observed that urban garden initiatives go beyond any rhetoric, as horticulturists alone can exercise decision-making (Calvet-Mir & March, 2019) due to the evolution of participation in other community projects, which contributes to empowerment, making them opinion-makers for the surroundings (Barata *et al.*, 2019). They do not follow parameters or logic based on individual gains, they collectively combine dreams, crossing different and non-exclusive meanings, metamorphosing social and urban transformation (Calvet-Mir & March, 2019), which is nothing more than the exercise of citizenship, strengthening relationships, promoting cohesion and inclusion, and, by intertwining the neighborhood, it validates the acquisition of skills and stimulates citizenship (Barata *et al.*, 2019), a scenario that promotes the generation of social capital, making communities cohesive, resilient in dealing with challenges of current generations and safeguarding the future.

Regarding the awareness of sustainable development, the formulation of public policies with

strategies for the insertion of sustainable food production is essential in promoting agrobiodiversity, benefiting communities and the environment (Cunha *et al.*, 2020) a process of evolution of environmental, social, and economical needs (Rusciano *et al.*, 2019), through public and private initiatives, sustainable lifestyles are adopted (Tharrey *et al.*, 2020), following the global trend of promoting better habits (Barata *et al.*, 2019), a “kick” to the reversal of the trend of social and environmental degradation of the urban centers.

CONCLUSIONS

Urban gardening (UG) meets the social indicators and contributes as an activity that fits the standards of awareness for sustainable development and lifestyles in harmony with nature, according to SDG 12, target 12.8. Urban gardening (UG) meets the social indicators and contributes as an activity that fits the standards of awareness for sustainable development and lifestyles in harmony with nature, according to SDG 12, target 12.8.

The GU brings social benefits because this activity results in the improvement of quality of life, social inclusion, and entrepreneurship, for the evolution of awareness for sustainable development, in collective relations in the environments where the projects are carried out, in food and nutritional security, they cooperate to explain how cultivation can be done in harmony with nature, stimulation of citizenship, in the promotion of mental and physical health, in the promotion of traditional knowledge and contribute to the educational function.

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