XI[th] AESOP-Sustainable Food Planning Conference
19-22 June 2024
Brussels & Ghent, Belgium

Grey areas and green spaces: revealing the conflicts and gaps in the formalisation process of urban agriculture in Bogotá.

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ABSTRACT - In Bogotá, Colombia, urban agriculture started as a spontaneous activity practiced by residents in the poorest areas of the city. Over the years, the socio-economic changes affecting the country as well as many other areas in Latin America have amplified and diversified this phenomenon. In 2023, urban gardens in Bogotá were reported to be more than 7,000.

Although institutional programmes in support of urban farming in Bogotá date back to 2004 and the local Botanical Garden was appointed to their management in 2015, the modalities and spaces of urban farming in the city still maintain a strongly informal character, and farmers often occupy land to grow food without official permission. Local authorities are willing to embrace UA's bottom-up and informal character to benefit from the impacts of this practice, although with inconsistent approaches. For example, they encourage the practice but they fall short of providing the infrastructures and land necessary to implement or sustain these gardens.

This article examines the stories of 15 urban gardens in Bogotá that were collected in 2022 as part of a doctoral investigation. It analyses the stance and perspective of two main actors (local authorities and farmers) when these gardens enter a process of top-down recognition. It also analyses the influence that such dynamics bear on the character of the built environment in this city. One of the findings is that urban gardens often arise from the desire of citizens to improve the society in which they live. This often stems from dissatisfaction with institutions and the state in general. Yet this dissatisfaction does not always manifest itself as a protest but rather as an attempt to build an alternative socio-physical context.

Keywords: informal urban agriculture; Latin America; urban gardens

Introduction

Bogotá, Colombia's capital, has recently attracted international interest for its cutting-edge sustainable development programmes, which led to its recognition in 2022 as FAO "Tree City of the World" for the second year in a row. Although there are no national policies focusing on urban agriculture (Graeme, 2014), since 2004 the municipality of Bogotá has been steadily implementing initiatives promoting this practice (Hernández-García & Caquimbo-Salazar, 2018).

A map of the city with more than 2,000 urban gardens was recently published (Galeno Sánchez, 2023), showing that these gardens are distributed across the entire administrative boundaries. The municipality uses a contentious metrics (*estrato social*, i.e. the social stratum) to classify neighbourhoods on a scale from one to five (with one being the worst) the quality of the built environment, which is supposed to reflect the socio-economic conditions of their inhabitants (Rueda-García, 2003). Using this metrics to read the map, urban gardens are found in informal areas (low social stratum) as well as in medium and high stratum neighbourhoods. This suggests that urban agriculture is practiced by a wide range of socio-economic groups, presumably motivated by different reasons. In other words, the map suggests a transition from a condition in which urban agriculture addresses subsistence to one in which it is used to generate mainly social benefits.

Another important condition characterising the landscape of urban agriculture in Bogota' is that, regardless of the stratum of the neighbourhood in which they are located, urban gardens have often no formal recognition. Although some face eviction, local authorities seem rather lenient and encourage such a practice while at the same time avoiding resolving issues of land ownership and land access because too difficult to address. Against this backdrop, it is perhaps

ironic that a formal institution, the Botanical Garden of Bogota, has been put in charge to implement such programmes to support a predominantly informal urban agriculture.

This contradictory context provides an opportunity to observe tensions between different stakeholders, their interplay, and possibilities that arise. It is a context in transition in which informal initiatives are at the same time contested and accepted within. Based on a doctoral investigation in Bogota' documenting the potential of this city's urban gardens to produce food and social benefits, this article firstly outlines the context and the policies impacting urban agriculture; secondly, outlines the profile of a sample of gardens studied in this investigation to finally elaborate on tensions and synergies between actors, hence providing a picture of how informal and formal spheres influence each other in Bogota'.

Context: history and policies

Over the course of the last 60 years, endemic terrorism and poverty triggered a migration of people from rural to urban areas (Gómez-Lee & Burq, 2018). Migrants settled in informal neighbourhoods at the outskirts of Bogota' (Cantor Marin, 2009) and significantly contributed to its growth. A 2014 FAO report maintains that urban agriculture was first practiced by these informal settlers. The municipality acknowledged this trend and took action in 2004, when urban agriculture was officially included within the policy *"Bogotá sin hambre"*. Within it, under the supervision of the Botanical Garden José Celestino Mutis, the programme *"Agricultura Urbana: Sostenibilidad ambiental sin indiferencia para Bogotá"* started. It featured an array of initiatives to teach citizens about self-sustenance through urban food growing, while at the same time supporting existing networks of urban farmers (Hernández-García & Caquimbo-Salazar, 2018). The project was a success and was renewed under the following programmes *"Bogotá bien alimentada"* and *"Bogotá te nutre"* (Gómez Rodriguez, 2014; Hernández-García & Caquimbo-Salazar, 2018). To date, in implementing these programmes, the Bogotá Botanical Garden pursues the following four aims: investigative (study of local plants), formative (capacity building for the management of community gardens), technical (promoting techniques for water recycling and soil fertility), and social (improving the social fabric) (Gómez Rodriguez, 2014).

Bogotá's current layout has been shaped by different planning policies throughout the twentieth century. The *Plan de Ordenamiento Territorial*, or POT, is a collection of spatial planning guidelines that was first introduced in Bogotá in the year 2000 (Rada Betancourt, 2016) and subsequently revised in 2021. Although the 2000 version of this document contains various articles that elaborate on the contribution of public green spaces to the urban ecosystem and their role within the main ecological structure (EEP-estructura ecologica principal) (Jardín Botánico de Bogotá José Celestino Mutis, 2021), urban agriculture is only mentioned with regards to eco-tourism (Rada Betancourt, 2016). However, the 2021 revision of the POT prescribes urban agriculture for various purposes including improved urban ecology, and connectivity between urban and rural areas. It recommends to practice it close to natural water bodies and in public space, and recognises its contribution to climate change mitigation. In 2020 the municipality declared a three-month window in which gardens initiated in public spaces could legalise their status. It must be noted that these are local policies that are not reflected at a national level.

Despite this positive picture, there are still very few areas within the city that are equipped for farming. Likewise, despite the legitimisation of existing community gardens in the city's parks, there is no provision of land to implement future projects. Programmes for urban agriculture implemented by the Botanical Garden aim to support the existing gardens rather than consolidate and expand. All this suggests that the municipality is grappling with the challenge of formalising a bottom-up movement that is still essentially informal in character.

Investigating urban agriculture in Bogotà

As part of a doctoral investigation aimed at identifying the food productivity and the social benefits generated by urban gardens in Bogota', data were collected from 15 case studies over 5 months, starting from January 2022. A questionnaire completed by 74 respondents, including garden managers and volunteers, observation sessions, and consultation with experts provided qualitative data that have been used to understand patterns of interaction between urban gardens and municipal institutions within the broader socio-political context.

The 15 case studies are reported in Appendix 1, with details on type of project, surface area cultivated and stratum of their location. Four recurrent types were identified by analysing the database of the Botanical Garden and through fieldwork: a) home gardens (food grown for self-consumption); b) community gardens (food grown for the residents/volunteers and for socialising); c) educational gardens (food grown exclusively to support the food education of students); and d) productive gardens (food grown and sold for profit). It is worth noting that home gardens are registered in the Botanical Garden database, hence considered an important component of the urban agriculture dimension of the city. Home gardeners are willing to be part of this network and are receiving – if required – technical and practical support by the Botanical Garden. Home gardens are rarely an area of investigation within the urban agriculture debate of the Global North. Bogota' shows that they are a critical component not only because they increase the household's food security but also because they substantially contribute to expand the web of gardeners and help reach a critical mass. Overall, the informal character of the gardens manifests in their hybrid features, with some home garden – for example - being partly built on roofs or terraces adjacent to the dwellings and yet reachable by all, hence practically public (see Fig. 1). Qualitative data have been elaborated and organised; these reported into thematic sections that capture the patterns of formal/informal interaction mentioned above.

Figure 1 – Home garden with no clear boundaries.

Interaction between urban gardens and institutions

As mentioned above, data collected helped reconstruct some recurrent patterns of interaction between urban gardens and the muncipal institutions. These are reported below.

Recognition. Urban agriculture in Bogotà. is such a vast and complex phenomenon that the city authorities are willing to embrace its bottom-up and informal character in order to benefit from the positive contributions of this practice. The handling of public assets and infrastructures in Colombian cities is entrusted to entities that operate at a local, regional, or territorial scale. This means that a lack of coordination between these levels could result in the creation of grey areas in the management and legal aspects of Bogota's public sector. The manager of one of the gardens interviewed mentioned how this constituted an issue for those urban gardens that

were created in spaces where different infrastructures overlap, such as green areas under high-tension pylons or near canalisation systems. In these cases, it is difficult to establish who is the administrative body to contact for the legal recognition of the urban garden, which remains in a bureaucratic limbo.

Although - to an extent - gardens established on public spaces seem to be recognised by authorities, such gardens that have been built on land that belongs to other entities are still struggling. This is the case of CS11, created in the premises of a “quebrada”, i.e. a river canyon, for self-subsistence and environmental protection purposes, which is now subject of dispute between its owner and the water authorities of Bogotá (see fig. 2). Furthermore, the municipality still struggles to coordinate the multitude of networks of urban gardens in the city, as remarked by many of the garden managers who expressed the desire to be connected to other groups of urban farmers that operate in other neighbourhoods. Although the Botanical Garden frequently organises events aimed at disseminating information on urban agriculture and connecting networks of urban farmers, it is clear that these have a limited impact.

Figure 2 – CS11 occupying a sensitive ecological area (river canyon)

Opposition – Not all gardens are willing to engage with the municipal programmes. Puente Aranda district, in 2021, was the scene of major protests against a tax reform proposed by the then government. Protesters, a large share of whom were young students, organized demonstrations and public debate meetings in the districts’ public parks. Many of the community gardens in Puente Aranda grew out of these demonstrations, as shown by the young age of many case studies from this area. 2 community gardens stated that they would not affiliate with the programme promoted by the Botanical Garden because they disagreed with its agenda. One of these gardens is a prime example of how urban agriculture is used as a form of political protest: many signs in this garden extol food sovereignty (e.g., “Somos abundancia”-“We are abundance”), while others denote a strong dissent with the authorities (e.g., “No nos callaran”-“We will not be silenced”). The name of this garden (which uses a word that means sun in the Muisca language), its layout to accommodate assemblies, and the use of native species of plants indicate how its creators are in a position of strong disagreement with the current institutional powers and pursue an alternative social order. This garden is not an isolated case but is part of a collective called *"Huerto Circuitos"* (“garden” sounds like “short” in Spanish, hence “short/garden circuit”) a pun that identifies Puente Aranda's network of gardens, while alluding to a short-circuit, which in this context can be connected to the purpose of generating disruption..

However, the local authorities do not seem to react with particular hostility to the dissenting demonstrations of the gardens in question and other gardens. This stance could be motivated by the desire to de-escalate the social turmoil that gave rise to the 2021 riots that is still simmering in these spaces. It is possible that the Bogota authorities prefer to show tolerance towards minor acts of rebellion in order to prevent these from escalating into more substantial acts of protest if repressed. In this case. This situation bears similarities to what was observed

by Pudup (2008) in her investigation of the use of community gardens to create compliant citizen subjects.

Several urban farmers expressed the need for more wholistic programmes that would support them beyond technical and organizational aspects and would provide them with tools to be economically viable or become food enterprises. During an informal meeting, an official of the Botanical Garden confirmed that it is common for many urban gardens to seek to commercialise their product once they begin to produce a surplus of food that could be monetized. Although the Botanical Garden has created various initiatives to encourage the entrepreneurial development of Bogotà's urban gardens, such as farmers' markets, the comments reported above suggest that these support actions are still not completely effective.

Beautification - The literature on urban agriculture in Bogotá often mentions how this is used aesthetically and symbolically in informal settlements by rural migrants to manifest their cultural identity and mark their territory. These characteristics can be seen in CS10, which is a stronghold for the “AltoFucha” community. Conversely to CS10, which is located close to the Andean forest in the south-eastern hills in an area of great natural and scenic value, the other case studies in informal contexts are located in densely urbanised areas, with fewer available spaces for cultivation. Here too urban agriculture can be used to improve the aesthetic qualities of the built environment in the less green areas of the city.

As already mentioned, community gardens occupy parts of public parks with the aim of creating meeting points for the communities that use them, along with the desire to improve the spaces they occupy. If we measure the cultivated areas of these spaces, they are small in size. This might give the false impression that the size of this type of garden is insufficient to accommodate group activities, but this is not the case. Community gardens are not delimited as they squat a small portion of a large public space, typically a park. This makes it impossible to estimate their actual size, as cultivated beds are often far apart, sometimes interspersed with elements of the formal built environment (as in the case of CS5, CS6 and CS8). Furthermore, since some of the activities involve large groups of people, it is reasonable to assume that some spaces are deliberately left empty to allow groups of people to gather without trampling on the flowerbeds, hence spilling out beyond the supposed boundaries of the gardens.

The occupation of land in public parks is contentious although rarely ends with evictions. This may be because public parks have no substantial strategic or economic value for the municipality. In this sense, the case of CS10, which has been involved in a constant diatribe with the municipality of Bogotá over illegal land occupation, is emblematic. In this case, unlike the other community gardens, the “AltoFucha” community is actively being opposed by the municipality who wants to acquire the land it occupies to create a luxury residential area.

This kind of attitude brings to mind what observed by McClintock (2018), who remarked how urban agriculture can be used as a placeholder by municipalities while waiting for certain urban areas to become attractive for further construction investments. The motto of the CS10 community is, in fact, *“En riesgo AltoFucha” (“AltoFucha at risk”*). At present, urban agriculture in Bogotá is underpinned by institutions that seem to truly appreciate the multiple benefits this practice can bring. But learning about CS10’s story, we cannot help but wonder, who will be the next at risk?

Overall, as the long list of gardens willing to be registered with the Botanical Garden demonstrates, their attitude towards formal powers is rather non-conflictual. Gardeners are enthusiastically leveraging the power of plants to improve the place where they live and to enjoy the benefits that socialising while gardening generates. They are creating social innovation and the authorities are - to an extent - facilitating this process, although perhaps pursuing different finalities.

Conclusions

Bogota' is a city that thoroughly embraces and supports urban agriculture. Perhaps this is a consequence of its history together with other socio-cultural factors that are difficult to identify. Regardless of the root causes, considering the scale and ambition of current urban agriculture practice and polices, Bogota' represents a rare opportunity to observe the interplay between grassroots movements - claiming access to land, support and recognition - and the authorities, in a very particular situation, one in which movements reach the critical mass that can influence policymaking. The existence of 7000 surveyed urban gardens – and probably many more that have not been identified in the database of the Botanical Garden - and the relentless action of individuals and groups informally occupying land to grow food without formal permission, must have driven the decision of the municipality to invest in support programmes. But such a support falls short of formalising the right to a long-term use of the land and the creation of new urban gardens. It also does not resolve the mistrust towards authorities that manifests itself in the refusal of some urban gardens to be recognised by the Botanical Garden.

In reconstructing the relationships between the urban gardens and the municipality, three patterns were identified. We have called them: recognition, opposition and beautification. These patterns are not the only ones manifesting and they are not specific to this city only, but rather they constitute dynamics that happen in any context albeit in different conditions. The last one, for example, can be compared to the motivations underpinning the movement of Guerilla Gardening and – to an extent – Incredible Edible Todmorden. In Bogota', this trend is linked to the desire of improving the quality of the built environment particularly in informal areas that lack public spaces and infrastructures, a situation perceived as a failure of the authorities to provide homes and basic services, resulting in a neglected public realm. The beautification of informal areas through nature provides further evidence that growing food in cities does not only increase food security at a household and community level but it is also a tool that can be used by local communities to improve the quality of their places. This hands-on urbanism - as defined by Markman & Krazny (2013) - has transformational potential and is capable of giving an identity to places that is generated by the residents. Considering this perspective, the urban gardeners' dissatisfaction does not always result in protest and opposition but also in a constructive engagement with the institutions. This is demonstrated by the willingness of possibly the majority of the city's gardens to be recognised by the Botanical Garden and engage in activities that this institution organises. Interviews with farmers suggest that the informal nature of their gardens is not understood as a deviation from the norm (i.e. the formal), but rather as an alternative, a different path to be undertaken in the construction of relationships, households, communities, neighbourhoods, and cities.

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Appendix 1

Description of 15 case studies in Bogota'

Code	Surface area	Type	Technique	Description	Stratum
CS1	250m^2	productive garden	two hydroponiv frames and one mushroom farm	located within a market where crops harvested are sold	medium-high stratum
CS2	27m^2	home garden	raised beds, planters and vases	on the terrace of a residential house	high stratum
CS3	24m^2	educational garden	planters and vases	rooftop of an industrial building. Under threat of eviction although supported by the Botanical Garden	medium stratum
CS4	47m^2	home Garden	crops grown in containers, raised beds and in-soil	on the terrace of a residential house	medium stratum
CS5	14m^2	community garden	in-soil	in a public park	In between two areas of medium and low stratum
CS6	168m^2	community garden	in-soil	In a public park. Low food productivity but strong socio-political role. Exposes boards with slogans aganst sauthorities.	medium stratum
CS7	258m^2	hybrid home garden / collective garden	in-soil	collective garden, on residual land that had to be terraced	low stratum
CS8	25m^2	community garden	in-soil	In a public park. It is a stronghold of opposition against the development planned by the owner of that land	medium stratum
CS9	91m^2	educational garden	planters and raised beds	next to a carwash in a poor neighbourhood. It offers workshops to students in a university nearby.	low stratum
CS10	25m^2	community gardens	planters and raised beds	organises workshops on women's rights, gender-based violence, the promotion of constructive individual expression among the youth, etc.	low stratum
CS11	1450m^2	home garden/productive garden	in-soil	part of the garden is on an environmentally sensitive, protected land. Water authorities are threatening eviction	low stratum

CS12	50m^2	community garden	raised beds	It benefits from training by the Botanical Garden and support from the municipality that found a space to start it. This was possible because the municipality provides community halls and spaces on public land to JACs (community action boards)	medium stratum
CS13	744m^2	productive garden	in-soil	The Botanical Garden provided training and now they are mentioned in their programme "*Mujeres que reverdecen*" (women who thrive again), in which women from vulnerable social groups work in urban farms to learn skills to emancipate themselves	low stratum
CS14	1250m^2	productive garden	in-soil	included in agroecological routes created by the Botanical Garden to encourage ecotourism and knowledge about more sustainable lifestyles	in between two areas of medium and low stratum
CS15	331m^2	educational garden	raised beds	functioning as a node for the consolidation of local social networks and the protection of the young from the influences of gangs	low stratum