Urban community gardens in Cape Town, South Africa: navigating land access and land tenure security

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Abstract Land tenure security continues to pose a significant challenge to the sustainability of urban community gardens in global South cities. However, a few studies have explored the mechanisms that urban gardeners employ to facilitate land access and variations in land tenure security arrangements made with land owners in South African cities. This paper employs a mixed-methods research approach involving quantitative and qualitative techniques to examine how urban community gardens access land and land tenure security arrangements thereof. The study is based on questionnaires, semi-structured interviews, and observations from 34 urban community food gardens in Cape Town selected through a combination of purposive and snowball sampling methods across selected low-income urban neighbourhoods. The findings reveal that although formalised land tenure security poses a sustainability threat to community gardens, perceived and de facto tenure present equally crucial forms of tenure which could be supported by state actors to promote urban agriculture. Reflecting on past efforts to formalise land tenure security, the article concludes that these efforts have failed due to poor coordination among government departments, and the complex and unclear processes of acquiring land. The paper recommends that while formalising land tenure arrangements may prove to be an effective solution, supporting institutions need to adopt a bottom-up approach to understand the gardener’s needs and build on perceived and de facto land tenure security options to promote the sustainability of community gardening projects.

Keywords Land tenure · Formality · Community gardening · Cape Town

Introduction

The literature indicates that urban community gardens in global South cities increase access to fresh vegetables (Modibedi et al., 2021), promote women empowerment (Slater, 2010), and increase social capital in distressed communities (Kanosvamhira & Tevera, 2020). Based on these benefits, urban community gardening activities are crucial in fulfilling multiple Sustainable Development Goals, including, Good Health and Well-being (SDG 3), Gender Equality (SDG 5), and Sustainable Cities and Communities (SDG 11). However, the capacity of urban community gardens fulfilling any of these benefits is significantly undermined by climate change-related factors, such as drought-inflicted water scarcity, floods associated with cyclones, and land issue constraints, such as limited land availability for urban agriculture and land tenure insecurity (Zulfiqar et al., 2022). Land
access and land tenure security are vital factors that influence the viability and efficiency of urban agriculture activities (Suchá et al., 2020). Due to intense competition for urban land, gardeners not only struggle to access land but also struggle to obtain adequate land for cultivation (Magidimisha et al., 2013).

Land tenure is defined as the rights individuals and communities possess with respect to land (Durand-Lasserve & Selod, 2009). Land tenure security refers to a landowner’s perception of their rights in relation to land (Uwayezua & de Vries, 2019). van Geldern (2009) categorizes land tenure security as consisting of de facto, de jure (legal), and perceived security. The de jure tenure security, the most emphasized form of tenure, protects land rights through legal recognition of the land and this is achieved through the provision of property ownership documentation (Uwayezua & de Vries, 2019). Perceived land tenure security refers to the user’s perception and experience on that particular land and the confidence that they will continue to accrue socio-economic benefits from that land without threat of eviction. Such feelings are affected by the broader socio-political environment within which the individuals live. Generally the longer the occupation of the land the increased level of perceived ownership. De facto tenure security is based on the control of the property on the ground regardless of the legal status of the land. De facto tenure security is influenced by a variety of factors including, the duration of land occupation, land size, and land-use organisation by the community of users. For example, in cases where individuals do not have legal land ownership in many rural parts of southern Africa, social and political institutions often protect an individual’s rights to the land.

Several studies have shown that land access and land tenure security remains a problem for urban community gardeners especially in low-income and high-population density neighbourhoods across South Africa, for example, in Durban (Bisaga et al., 2019), Johannesburg (Malan, 2020) and Cape Town (Philander & Karriem, 2016). Urban community gardens in high-density areas are invariably located in various spaces such as public open vacant spaces, public school land, and institutional land. However, minimal studies have adequately explored how urban gardeners access land and the implications of various forms of land tenure security on urban agriculture activities (Suchá et al., 2020). Instead, most studies focus on the dichotomy of informal and formal land tenure and neglect the other forms of land tenure security. While formal land tenure does, for example, ensure access to resources (Lynch et al., 2001), this dichotomy limits our understanding of how other forms of tenure can be strengthened to improve urban gardener activities in urban areas. Hence, this paper addresses this gap in the literature by examining how urban gardeners in low-income neighbourhoods navigate land access and the implications of varying land tenure security in Cape Town, South Africa.

**Land tenure security and urban cultivation**

Although empirical studies have shown mixed results, there is a consensus that improving land tenure security can result in better agriculture output (Ghebru & Lambrecht, 2017). This is due to better investment in agricultural activities enabling farmers to obtain operational costs by using the land as collateral to seek investments and the promotion of land market transactions which leads to more investments in the land (Ghebru & Lambrecht, 2017). Bryld, (2003) has argued that only about 20% of urban gardeners are in legal possession of the land they cultivate. Schmidt et al., (2015) argue that securing land tenure in most African cities is challenging, resulting in the prevalence of insecure and informal land tenure arrangements. The situation is exacerbated by accelerated urbanization and development which means urban agriculture competes with other urban land uses (Schmidt et al., 2015; Lynch et al., 2001). Bryld, (2003:82) concurs with this view by stating that ‘land used on urban agriculture is [perceived as] an obstacle to urban housing provision’. In Tamale (Ghana), Bellwood-Howard et al., (2015) argue that access to land for urban and peri-urban agriculture is also triggered by chiefs who allocate plots to developers. This is particularly noteworthy considering that approximately 90% of all the land in Ghana is owned by chiefs (Bellwood-Howard et al., 2015).

Key from most of the studies and subsequent recommendations has been the provision of land rights as a solution to the problem (Suchá et al., 2020). Municipal governments across African cities have opted to promote de jure tenure security which protects land rights through legal recognition of the land through the provision of property ownership.
A similar situation is witnessed in South African cities such as Johannesburg through the ‘A City Where None Go Hungry’ Food Resilience Policy and Cape Town through the Urban Agriculture Policy of 2007. Nevertheless, given the competing interests in the urban land market, and state bureaucracy such approaches have failed to efficiently deliver formal tenure rights to urban gardeners. In addition, the formalising of land tenure rights through the provision of land rights is a rather top-down approach that dismisses the situation on the ground (Suchá et al., 2020). Holden and Yohannes, (2002) argue that drivers of land tenure security are influenced by demographic, historical and cultural factors as well. Hence, solving such a problem requires an appreciation of societal relations and what transpires on the ground (Hornby et al., 2017). This explains why urban gardeners may pursue informal tenure arrangements as opposed to state-driven formalised routes which are largely bureaucratic and fail to provide land for the gardeners on time and with minimal fees (Suchá et al., 2020). This paper does not dismiss the potential of formalisation of land rights but also explores alternative ways urban gardeners use to manoeuvre land tenure security in urban areas and ultimately calls for supporting actors such as municipal governments to acknowledge and support these.

Study area

Cape Town is a port city in the Western Cape Province of South Africa and had 4 004 793 citizens in 2016 (CoC, 2016) (see Fig. 1). The city is the second economic hub of the country and according to...
the last census in 2011, its annual household income was ZAR57,300. Based on a survey conducted by AFSUN in 2008 across low-income communities, Crush et al., (2012) report that at least 80% of residents in Cape Town were food insecure. Segregation and inequality are visible throughout the city with low-income communities located in dense townships on the Cape Flats. Urban agriculture is predominantly conducted in this area. Historically, the apartheid urban planning processes in South African cities did not allow for urban agriculture (Modibedi et al., 2021). In the case of Cape Town, urban cultivation was introduced by outside actors such as Abalimi Bezekhaya as a poverty alleviation tool for the poor (Paganini, 2021). The municipality and provincial government also adopted the practice to address poverty and food insecurity in the city through policies that are generally supportive of urban and peri-urban agriculture practices (Kanosvamhira, 2019).

Nationally the Integrated Food Security Strategy (IFSS) of 2002 was launched to streamline food security programs in South Africa. However, the focus was largely on rural households without any mention of strategies to attend to food security issues in urban areas. Similarly, the National Policy on Food and Nutrition Security of 2014 aims to ensure the availability, affordability and accessibility of safe and nutritious food across households. Although the policy identifies the connection between food insecurity, poverty and unemployment there is no mention of urban cultivation as a potential source of food.

At a provincial level, the Western Cape Department of Agriculture (DOA) has implemented various urban agriculture projects across Cape Town. The Western Cape DOA passed the Strategic Planning document in 2013 which outlines provincial policies that support urban agriculture activities. Worth noting is that the Western Cape DOA has a directorate that supports implementing one of the pillars of the Integrated Food Security Strategy of South Africa (IFSS) passed by the National DOA in 2002. The IFSS aimed to alleviate household food insecurity through its ‘Farmer support and development programme’ which generally supported household, school, and community gardens. In 2016, the Western Cape Government approved the ‘Western Cape Household Food Security and Nutrition Strategy’ which identified opportunities to address food insecurity.

The municipality of Cape Town endorsed urban agriculture through the now-defunct Urban Agriculture Policy (UAP) of 2007, however, a Cape Town official did indicate that there was a revised version to be released (Table 1). The UAP of 2007 was in part enabled through the IFSS from the Provincial level. However, the launching of the National Policy on Food and Nutrition Security (NPFNS) of 2014 at the national level speaks to the lack of alignment of food-related policies at local and provincial levels. This particular policy fails to articulate strategies to achieve its goal and also issues of urban agriculture are peripheral suggesting that issues of food insecurity are solved through the production of food which is expected of in rural areas.

The Urban Agriculture Policy (UAP) of 2007 attempted to achieve its overall objectives through four main strategies. These were to enable the urban poor to utilise urban agriculture for household food security, enable economic opportunities for the urban poor through urban agriculture, redistribute land for cultivation to the historically disadvantaged, and enhance human resources development (CoCT, 2007). However, the policy received criticism over its overemphasis on economic benefits and insufficient human resources to implement it (Battersby & Marshak, 2013). According to Section 3.3.5 of the policy, provision of land was to be achieved through the identification of land for cultivation, disposal land, leasing

Table 1  Municipal policies passed to support urban agriculture. Source Author compilation (2020)

| Policy                  | Aim                                                                 |
|------------------------|----------------------------------------------------------------------|
| UAP 2007–now defunct   | To enable the poorest households to utilise urban agriculture as an element of their survival strategy for household food security and income generation |
| UAP 2012–never passed  | To provide subsidised resource materials and technical capacity to community gardens with a broader vision on non-material benefits |
| Food Garden Policy 2013| To establish Community Food Garden Projects to help residents support themselves by providing them with skills to earn a living |
of land and commonage land. The mandates were to be fulfilled by the Urban Agriculture Unit established under the city’s Directorate for Economic and Human Development. Subsequently, it was sent for revision in 2013 to broaden its imprint on urban agriculture in Cape Town. The revised policy was never promulgated, instead, the Urban Agriculture Unit (CoCT) was integrated into the Department of Social Development in 2017 (Engel & Anja, 2019). This resulted in the passing of the Food Gardens Policy [12399C] of 2013 whose goal is to alleviate and reduce poverty in the city, partly by addressing urban food insecurity challenges through the establishment of food gardens in low-income neighbourhoods. In terms of land access, Section 5.2 and 5.5 of the policy mandates City Parks to facilitate access to land and permits while the Finance Directorate is responsible for the release of land. The implementation of municipal policies has been reported as weak and limited to the provision of inputs, farm infrastructure, and compost instead of failing to address structural challenges such as access to land (Paganini, 2021). Moreover, the two entities i.e. the Department of Social Development and the Urban Agriculture Unit operate on different political and administrative levels which presents the risk of poor coordination (Engel & Anja, 2019).

Civil society organisations, including Non-Governmental Organisations (NGOs), Non-Profits Organisations (NPOs), Community Based Organisations (CBOs), activist movements, and churches, play a prominent role in promoting urban agriculture, mostly through supporting various gardening activities in Cape Town (Kanosvamhira, 2019). For example, NPOs largely mobilise donor funds which enable them to provide support to low income urban farmers, through input subsidies, infrastructure improvements, and facilitation of access to local market opportunities for urban gardeners (Kanosvamhira & Tevera, 2020). Civil Society actors also facilitate urban gardeners to obtain land specifically through negotiations with schools and other stakeholders (Halder et al., 2018).

Materials and methods

Data was collected through the use of a convergent mixed-methods research approach between February 2020 and August 2021. This was achieved through a questionnaire survey that targeted 34 urban community gardens in low-income neighbourhoods in the Cape Flats region of the city. The sample sites were selected through a two-tier sampling process involving purposive sampling followed by snowballing. Purposely selected gardens were accessed through non-state organisations such as Abalimi Bezekhaya that support urban agriculture activities in the area. Snowball sampling involved the use of referrals whereby the interviewed urban gardeners recommended additional community gardens to be interviewed. Using this approach, a total of 97 questionnaires were conducted across the gardens plus an additional 34 in-depth semi-structured interviews with willing members from each garden. The questionnaires gathered a range of information from socio-demographic characteristics, history of the garden, and land tenure arrangements. Semi-structured interviews, seeking to understand how different organisations approached the issue of land tenure security, were also conducted with state officials from the City of Cape Town and the Provincial Department of Agriculture as well as non-state organisations supporting gardens in the study area. Satellite images were accessed through Google Earth Pro (GEP) to examine spatial data of the community garden sites.

The quantitative data collected were cleaned and entered into the Statistical Package for Social Sciences for analysis and presented in frequency tables. Semi-structured interviews were transcribed and studied iteratively to identify emerging themes. For reporting purposes, the community gardens were assigned numbers ranging from 1 to 34. The 34 gardener interviewees were captured using a code that recorded the identification number assigned to the interviewee, sex and age category. For example, the first male gardener interviewee in the 30–39 years age category and was identified as (M1/30-39). The age ranges used for the interviews were as follows: 29- (29 years and below), 30–39 (30–39 years), 40–49 (40–49 years), 50–59 (50–59 years) and 60+ (60 years and above). The University of the Western Cape—issued an ethical clearance certificate.

1 The term Cape Flats refers to a stretch of land located on the outskirts of the CBD. Described as the dumping ground of apartheid this is the region where people of colour were relocated to under the Group Areas Act 47 of 1950.
Findings

Socio-economic profile of participants

The gender of the 97 participants was skewed toward female gardeners (57.7%) compared to 42.3% males. The results indicate that most gardeners (42.3%) are 60 years and above, followed by the 50–59 and 40–49 age groups at 20.6% and 17.5% respectively. Also of note was that 10.3% of the participants were below 29 years, which was more than the 30–39 age group comprising just 9.3% of the total population sample. The results imply that the elderly population group dominates urban community gardens. This result could have been influenced by the sampling process which was largely facilitated by Abalimi Bezekhaya that acted as a point of entry to the gardens. Abalimi Bezekhaya typically supports elderly female gardeners in the area. Furthermore, the literature indicates that it is largely elderly females who engage in urban agriculture activities in the area (Halder et al., 2018; Tembo & Louw, 2013).

The majority of the participants were either married or single with frequencies of 35.1% and 36.1%, respectively. A total of 28.8% were either separated, divorced, or widowed. In terms of employment, 67% of the participants indicated that they were unemployed, 22.7% self-employed, and 10.3% were formally employed. The participants’ primary source of income per annum came from their jobs (48.4%), whether formal or self-employed, 47.4% from social grants in the form of State Old-Age pensions. Only 4% indicated that income was from other means such as family support and garden activities.

A majority of the participants were black (77.3%), followed by the coloured racial group at 20.6%, and 2.1% belonged to the white racial group. A total of 42.3% of the participants were born in Cape Town (Western Cape), and 57.7% had migrated from other towns across the country, most predominately the rural Eastern Cape Province. Nevertheless, all the participants had been residing in Cape Town for more than a decade. In terms of education, most of the participants (56.4%) received some form of High school education (Grade 8–12). Primary school (grade 1–7) was attended by 12.4% of the participants, with only 23% completing matric and proceeding to pursue a post-matric qualification (courses, certificates, or diploma). Only 3.1% of the participants had obtained a University degree.

Distribution of gardens and land tenure security

Figure 2 shows the distribution of the 34 community garden sites throughout the different townships. Most of the gardens are located in Khayelitsha, followed by Gugulethu, Nyanga, Philippi Browns Farms, and only one garden surveyed in Emfuleni, Mitchells Plain, and Ottery. The areas with the most gardens can be largely tied to the presence of Abalimi Bezekhaya one of the biggest organisations supporting gardening projects across the Cape Flats. The gardens’ average size is 907.35m$^2$, with the smallest garden measuring approximately 150m$^2$ and the biggest at 10,000m$^2$. Generally, most gardeners indicated that the size of the gardens was not sufficient for all their cultivation activities, especially for those who were geared towards marketing the harvest. The average number of members was calculated at 3.9 members, with the smallest garden with two members and the largest with 11 members. The findings also indicated that some survey participants (5.1%) hold multiple garden memberships in their area.

The surveyed community gardens cultivate a variety of crops within their gardens depending on the season and availability of seeds (Table 2). Regarding the use of garden harvest, 95.9% of them indicated that they engage in both selling of harvest and consuming the harvested produce in their household, with only 4.1% growing for home consumption. This can be in part explained by the use of the NGO...
Abalimi Bezekhaya as an entry point to the gardens which follows a business mode of economic opportunity through the sale of crops.

Semi-structured interviews indicate that the oldest garden was established in 1997 and the latest in 2020. These were grouped into categories of 5-year
intervals, as seen in Fig. 3. Close to 40% of the gardens were established during the 2016–2020 period. Further inquiries indicated that half of these were established within 2020. This spike in garden formation during the year 2020 was partly due to the Covid-19 pandemic, which had affected the participant’s income and limited their access to food. Hence most individuals decided to engage in urban cultivation to meet these immediate needs. Of the 34 urban community gardens, 18 cultivate the land collectively, 14 cultivate the land individually and the remaining engage in both individual and collective cultivation. Nevertheless, the use of the land was negotiated as a collective and not individually. Moreover, most of the garden activities were conducted collectively.

The semi-structured interviews revealed that none of the community gardening projects is located on the gardeners’ personal property. This shows that none of the gardens had title deeds for the land they were utilising for crop production. A word cloud based on the lead gardener interviews indicated that the issue of land tenure security was a major challenge for most community gardens (Fig. 4).

Of the 34 surveyed gardens, 27 were located on public land and the remainder on private property in the form of church property, NPO property, early childhood development centres, and private property premises. The dominance of gardens on public land is in part connected to how Abalimi Bezekhaya facilitates access to public land through negotiations with the owners of public land in the areas they work. Table 3 shows that community gardens on public land were primarily located on school land, public open spaces, and the premises of state institutions in the form of municipal office space and nursing homes. A majority of the gardens on school land had negotiated lease agreements without any need to rent out the land. Instead, they had agreements with the school
owners; for example, they could split the harvest and contribute to the school feeding programme. This mutual beneficiation works well for schools that particularly run school feeding schemes for their pupils. Only one garden indicated that they were required to pay a specific rental fee for land use. Negotiating access to such land typically involves gardeners approaching the school and requesting to utilise the land for cultivation. In some instances, the school board requests a proposal which is reviewed before approval to use the land.

Of the surveyed community gardens, only 22 had a formal lease agreement with the property holder. These contracts were in the form of signed documentation from the property owner allowing the garden to utilise the piece of land. The leases were renewable based on the agreed time frames, which were, on average, 3–5 years. The other 12 gardens did not possess written lease agreements to serve as a contract between the landowner and the community garden. Of these 12, only two were located on private property, and the interviewees specified that they were in the process of negotiating a written lease agreement. All the interviewees without a formal lease indicated that they had a verbal agreement with the landowner.

The interviewees specified that it is easier to obtain a formal lease agreement on private land as opposed to public land. Nonetheless, it was very difficult to obtain private land for cultivation hence most gardeners sought other alternatives on public land. Gardens 24–28 were located close to each other and had received a verbal agreement from the state to use the land. In the past, they felt secure since there was no alternative use of land due to its location under power lines. However, now they were attempting to obtain a formal lease agreement to use the documentation for various activities such as applying for funding and partnerships with other stakeholders. According to them, it was difficult to obtain assistance without a formal lease agreement. The Provincial Department of Agriculture (PDOA) also confirmed that the presence of a signed lease was crucial before they could commit to supporting a specific garden. The PDOA informant indicated that this was strictly for sustainability purposes.

Focusing on the 27 gardens on public land, a cross-tabulation of land occupied against lease agreement type was conducted. The results in Table 4 show that urban community gardens located on school land have more formal agreements than those on either state premises or public open spaces. Of the 12 gardens located on open space land, only 5 had a formal agreement with the relevant authorities to utilise the piece of land. Municipal state officials indicated that it was a very complicated process to make open space land available for cultivation because it had to compete with other land uses.

Resultantly, obtaining a written lease on an undeveloped open space is generally a cumbersome task for gardeners, usually with little or no results. One interviewee explained that when it comes to acquiring open space land, their option was to ‘go to the councillor, but then that doesn’t guarantee you that he will help you to get the land’ (M3/50–59). Consequently, interviewees indicated that it was much easier to obtain land and a written lease agreement from a school. For instance, the figure below is an aerial image showing Garden 2 in Philippi Brown Farms, located on school premises despite an unutilised open space land of approximately 4000m² to its right which they failed to obtain. Although, the land possibly has future developmental plans it had been lying dormant for several years (Fig. 5).

| Lease type       | Type of land occupied | Source: Field Survey, 2020 |
|------------------|-----------------------|---------------------------|
|                  | School land | Public open space | State property (Municipal buildings, nursing homes etc) | Total |
| Formal agreement| 12         | 4                  | 1                  | 17    |
| Verbal agreement| 1          | 7                  | 2                  | 10    |
| Total            | 12         | 12                 | 3                  | 27    |
The Garden 2 interviewee explained that the gardeners had unsuccessfully attempted to obtain permission from the municipal government to use the open space adjacent to the school for urban agriculture. She explained as follows:

‘Obtaining a piece of land is difficult sometimes you go to the ward councillor and ask for the plot number to go to the City of Cape Town thinking that the land belongs to them and they will refer you to (another) department but at the end, you find exactly who is using the land and sometimes they can give you the land but sometimes they do not….as you see the open space there, we still do not know the plan what they will do there, and it is not easy to cultivate land when you do not have a lease agreement’ (F3/60+).

The interview with the COCT official corroborated this view as the informant highlighted the bureaucracy involved and the various hoops one would have to go to identify the owner of the land and obtain permission. According to the informant, land allocation depended on ownership status. In cases where the identified land belongs to the city, various processes are conducted inclusive of examining allocation, processes for planning approval, land-use change, and agreement among departments and this could take at least 18 months. There was a consensus among interviewees that formalised land tenure security was a prerequisite to ensure the success of their activities, however, there were several indications that this was simply a paper and there had to be trust between the landowner and cultivator. Without land tenure security, it was difficult for the gardeners to plan how to use their land with the impeding thought of possible eviction. Most stakeholders such as the Provincial Department of Agriculture generally support gardens that possess land tenure security and interviews with the DOA official revealed that they had no mandate to assist gardeners to access land and secure tenure. Consequently, the reasons above made it easier for gardeners to seek land at schools.

Besides the ease of securing land at a school, another reason for opting for school land was infrastructure and security purposes. Gardens could negotiate using the school’s borehole for watering purposes and had a better piece of mind since the garden is located within the school fence. Although school land was a preferred option, interviews indicated that
the process could also be frustrating. For instance, one female gardener negotiating a lease agreement on school premises in Khayelitsha voiced her frustrations by stating that ‘the garden was established in 2019, but we started there this year 2020 in July but it is taking a long time to negotiate a lease and they gave us a run-around and they said speak to the secretary and every time she is never there’ (F1/30–39). The process of obtaining a lease from the school involves a vetting process, and this could take anywhere between 3 to 6 months, depending on the school. In the meantime, the gardeners cannot apply for funding and support from major stakeholders such as the Provincial DOA, which in turn affects their activities.

Land tenure insecurity also affects the location of the gardens. Of the 34 surveyed gardens, four were identified as migratory gardens that were not in their original location of establishment for various reasons that could have resulted in the shift of location. For example, garden 21 was established on public land and had to vacate the open land and seek a lease on school premises following the termination of the local government lease. The interviewee indicated that ‘the garden project started in 2006 on municipal land behind the police station, but had relocated to the current site in 2019 because the previous land was earmarked for a housing development scheme’ (M1/40–49). This compelled the gardeners to vacate the land despite 12 years of occupation. The second migratory garden was garden 3, which was established by an unemployed migrant from the Eastern Cape who practised open-space guerrilla gardening along a highway in Khayelitsha residential area. The garden faced problems of theft of the harvest because it was not enclosed and was eventually moved to a different site with the help of an NPO that provided a fence for their garden and supplied seedlings and manure.

Similarly, Garden 11 in Makhaza, Khayelitsha, was established by a group of women with the support of the local council in a bid to restore a piece of wetland that was used as an informal dump site. The interviewee indicated that because of vandalism by the residents and cows the garden relocated from the open space to school land in 2014, before moving again to its current location due to lease issue challenges and tensions with the landowner. Similarly, in Khayelitsha, Garden 19 was established in 2007 and had to relocate to another school in 2018 due to the failure of obtaining a lease renewal with the current principal. The case of gardens 11 and 19 shows that even gardens located on school land are also at risk of relocation due to power dynamics and conflicts that may exist between the landowner and the gardeners. The findings also show that urban community gardens are at risk of land size reduction. For example, Garden 2 experienced a reduction of cultivation space due to school developments. Figure 6 below shows a juxtaposition of Garden 2 before and after the erection of a school hall at the school premises. The erection of a new building resulted in the shrinking of cultivation space from approximately 700–300m² which affected the garden output.

Fig. 6 Juxtaposition of Garden 2 size in 2019 and 2020
Discussion

A limited number of individuals own the land they cultivate (Bryld, 2003), and a similar situation is witnessed among urban community gardeners in Cape Town. Land for cultivation is barely given priority and this leaves urban community gardens to occupy land belonging to schools, churches, and the municipality thereby presenting a patchwork of small community gardens scattered across the study area. The literature has argued that formalised legal tenure security is crucial for the development of urban agriculture. This is in line with subsequent policies by municipal governments such as the City of Cape Town that have in the past attempted to formalise land tenure security through the provision of title deeds of land and the leasing of land for urban cultivation purposes (see COCT, 2007). In other words, there has been an attempt to build on de jure land tenure security. Results from this study indicate that this approach is rather cumbersome and has garnered limited success in terms of the provision of land for urban cultivators in the Cape Flats. This research is in agreement with Hornby et al., (2017) and Suchá et al., (2020) who argue for a more holistic approach to land tenure that goes beyond formalising land rights but also considers societal relations and what transpires between land users and land owners. We therefore argue that improving land tenure security should not only rely on a simplified process of the formalisation of the land but also effectively build on other forms of land tenure security options utilised by community gardeners within their various contexts.

The findings indicate that there are a lot of difficulties involved in obtaining permission to use public land that belongs to the state (municipal or provincial). This step involves going to the relevant department owning the land to lease or buy the land and urban gardeners do not have a good understanding of how provincial and municipal governments operate as well as issues falling into the jurisdiction of either one. Not only are the application processes and relevant departments unclear to the urban gardeners’ but delays in the processes are also a result of internal approval processes that hinge on political willingness, and a lack of coordination on the part of decision makers (Halder et al., 2018, Engel & Anja, 2019). While urban community gardens on private land enjoy greater land tenure security than on public land, access to private land is rare within these communities. Hence urban gardeners are forced to seek land elsewhere, for instance, on public land in the form of school land. School land is the preferred choice by most urban gardeners because it is easier to obtain permission to use the land as opposed to vacant open spaces. The choice by key stakeholders such as the Provincial DOA to only support urban gardening projects with a lease explains this predicament. Hence most urban community gardening projects in the study area are located on school land.

Only a few community gardens are located on vacant open spaces and possess lease agreements from the landowner. In addition to this, it takes a lot of time to obtain a lease agreement on open-spaces. For instance, as of November 2021, Gardens 24–28 did not possess adequate lease agreements despite being in existence for approximately two decades. Nevertheless, these gardens (24–28) had enhanced tenure simply because the gardens are located under a power line where other land uses are not possible and not permitted. Hence they had no worries about the land being utilised for alternative purposes. In fact, the gardens had been significantly developed with infrastructures such as fencing, a borehole, and a community hall. The literature shows that long-term investments on the land, for example, tree planting or fencing can be considered a tenure-building manoeuvre and reinforce the gardener’s claim to the land (Brasselle et al., 2002; Deininger & Jin, 2006). Hence this can potentially make urban gardening projects more sustainable and take a more permanent feature in the urban plans of cities. The reason gardens 24–28 were seeking a formal lease agreement was due to the DOA funding requirements. In this instance, the requirements of formal rights to the land could militate against the success of certain gardens that may not possess formal rights to the land but can utilise it. This particular case is illustrative of a regressive approach by the DOA when viewing land tenure security arrangements.

Due to the difficulty involved in obtaining permission to use public space, gardeners prefer to obtain land by negotiating directly with the entity or organisation owning land in a particular area. For example, if gardeners find an empty ground in a school area, they can approach the school and seek permission (Halder et al., 2018). Although gardeners can
negotiate land for cultivation from school property, perceived land tenure security in some instances does not guarantee the sustainability of such gardens. As a result, lack of tenure security partly reduces the incentive to fully invest in the projects since the gardeners are not sure when the land will be ceased by the relevant authorities. In addition, the community gardens have to rely on temporary agreements, either verbal or written, with landowners to secure a piece of land for gardening. Despite the perceived ease of obtaining lease agreements on school land, gardeners face challenges such as failure to renew the leases or a reduction of cultivation space. In such cases, urban gardeners are hesitant to invest in their gardens because the presence of a lease does not guarantee the security of tenure.

Hence, it is important for state actors such as the CoCT to strengthen perceived tenure security by appreciating the contextual variations in each case and expanding on the mutual benefits that emerge between the gardens and landowners. For instance, linking urban agriculture to schools feeding programmes, clinic and church feeding schemes can help strengthen this mutual beneficitation. Hence supporting actors could play a role in strengthening perceived tenure security. The city’s Food Gardens Policy speaks to improved coordination among stakeholders in promoting school gardens. This could be the basis for the municipal government to collaborate with other provincial departments in attempting to strengthen the relationship between the garden and the public institution in which it is located. The solidification of community gardens to schools feeding programmes, clinics and old-age home feeding schemes can help strengthen this mutual beneficitation. The success of such initiatives would demonstrate the need for the continued existence of such projects that can further strengthen perceived land tenure security for urban community gardens.

While urban community gardeners have adopted various mechanisms to access land quicker with fewer bureaucratic hindrances they are still faced with various challenges which threaten their sustainability. Attempting to build on the other forms of land tenure security is crucial especially when one considers that even urban community gardens that have formalised land tenure arrangements are not excused. For instance, Garden 21, relocated to school land from vacant public land owned by the council after a decade of operations. Another example is Garden 11 which was forced to migrate after years of using public open space for urban agriculture. Hence while perceived land tenure was generally strong given the timeframe, local institutions were not able to solidify the land rights of the users. These instances show that even in cases where formalised arrangements are made they do not guarantee the sustainability of the community garden hence issues of trust and beneficitation are more crucial as opposed to the presence of a written lease agreement. Therefore, supporting actors such as the Provincial DOA need to go beyond a simplified understating of land tenure security arrangements and appreciate the social and power dynamics between the gardeners and land owners as a prerequisite to supporting urban community gardens.

The failure of supporting actors to support varying forms of land tenure security on alternative land such as school land also has far-reaching ramifications. Roberts and Shackleton, (2018) have noted that a decrease in cultivation space can increase food insecurity among garden beneficiaries. The results of this study indicate that most urban community gardens are located on limited sizes of land due to the challenges involved in accessing land. The difficulty of accessing land through state channels leaves gardeners with the option of negotiating small land parcels on school land. The land generally averages between 150m² to 10,000m². In other studies, results show a bigger average size of land, for example, in UKZN, the garden sizes range from 1 to 3 hectares (Khumalo & Sibanda, 2019). This means that the smallest land size in that particular study equates to the biggest land size in the current study. The effect of land size comes into play, especially for community gardening projects geared toward production for the market. Limited land size reduces the number of crops cultivated, affects the implementation of good agriculture practises such as crop rotation and equates to limited output. This is exacerbated when taking into account other factors that already militate against output, such as poor soil quality, poor rainfall, and poor market linkages. Gardeners generally grow various crops in their spaces, including high-value food crops such as tomatoes, spring onions, and butternuts that fetch higher returns on the market. Previous research shows that this could lead to gardeners cultivating crops
they do not necessarily consume but are rather transported out to much wealthier neighbourhoods in the city (Paganini & Lemke, 2020). Hence in cases where gardens are located in schools, state institutions need to promote these gardens to ensure that their sustainability can be guaranteed, for instance, by infusing them into the school curriculum and strengthening the linkages between the gardens and the school feedings schemes.

Land tenure security also has an impact on community gardens’ sustainability. Urban community gardens are generally prone to high retention rates for various reasons (Roberts & Shackleton, 2018; Tembo & Louw, 2013). In the case of Cape Town, this is seen through the nature of challenges they face, which usually result in the migration of gardens with several consequences. Despite the existence of migratory gardens, these have received little attention in the literature. The forced migration of gardens has several consequences which impact the sustainability of gardens. For instance, due to the poor nature of the soils in Cape Town, gardeners have to begin feeding the soil before the land can be productive. Understandably other members drop out as the next location of the garden may not be suitable for all the original members.

Conclusion

This paper examined the variations in land tenure security and how these affect the sustainability of urban community gardens in Cape Town. While there have been attempts to improve access to land and the provision of formal rights to land for cultivation there is a need to acknowledge that this is a slow process that does not meet the needs of the communities. This paper argues that a more simplified access to land which builds upon not only formalising land tenure but other forms of land tenure security namely, perceived land tenure need to be supported by state actors. Simply focusing on strengthening land tenure security through land rights is not sufficient but there is a need to understand the various mechanisms that urban gardeners exploit to obtain land. In dealing with formalised tenure a seamless integration is crucial between the different departments that promote urban agriculture in Cape Town in order to improve de jure land tenure security. It could be beneficial to have a working group that involves members from the various departments such as the Provincial DOA, the Department of Social Development and the City of Cape Town who can work together towards streamlining approaches, and also creating a help desk to assist urban gardeners to obtain information regarding access to vacant land and the land application procedures. This of course relies on seamless coordination among government departments responsible for the land in the province and conducting regular land audits to identify land which could be made useful for urban cultivation activities. In collaboration with NPOs such information could be made available to the public with a simplified overview process made available to urban gardeners.

Finally, in attempting to improve the land access and land tenure security, state actors need to appreciate that formalising land tenure arrangements may not be the only alternative but there is also a need to build on perceived land tenure security options. Such an approach could potentially result in a permanent presence of urban community gardens which could contribute to the sustainable infrastructures within these townships. Supporting actors need to view land tenure fundamentally as a social relationship that involves a multifarious set of rules governing land-use and attempt to strengthen these. Various government actors can attempt to strengthen these by endorsing the relationship between landowners and the community gardens. For instance, Provincial government departments such as the Department of Education, the Department of Social Development and the Department of Agriculture can strengthening perceived land tenure security of gardens located on schools by emphasising the contribution of such gardens to the school feeding schemes and also their potential to act as learning sites for school children. Ultimately, the full potential of urban community gardens is yet to be realised and hinges on seamless collaborations among various stakeholders operating in the city.

Declarations

Conflict of interest The authors declare they have no conflict of interest.
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