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Towards an alternative interpretation of the socio-cultural dimensions of urban greenspace planning in the Global South: Evidence from the Kumasi Metropolis of Ghana

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ABSTRACT

Many scholars offer alternatives to Global North theories on urban governance, access to socioeconomic opportunities, and informality in the Global South. Yet, these alternative arguments have scarcely been applied to urban greenspace planning. Oftentimes, residents are characterized negatively as the cause of greenspace decline in African cities due to encroachment and/or vandalism. This paper offers an alternative perspective using data on 400 residents from Ghana's Kumasi Metropolis. It argues that while residents' place a low emphasis on urban greenspaces, this is indicative of their prioritization and survival strategies of meeting their needs. To simply characterize residents negatively, therefore, ignores the underlying context and reasons for urban greenspace decline and the contestations between residents' priorities and urban greenspaces in African cities. This paper suggests an appreciation of local context to integrate residents' needs and survival strategies into urban greenspace planning in African cities and the Global South in general.

Introduction

Urban areas in the Global South are important sites for understanding urbanization in this urban century. In the words of Myers (2010, p. 5), this is a “dazzling complexity, [as] they challenge most theories of the urban.” Accordingly, Global South scholars have called for alternative epistemologies for urban planning that provide new insights different from traditional notions of urbanism (Bolay, 2020; Myers, 2010; Roy, 2005; De Satgé & Watson, 2018; Watson, 2016, 2009).

This paper, informed by this awareness, pays attention to understanding urbanization effects on human-environment interactions in this century, particularly urban greenspace decline and its implications for urban sustainability. Indeed, for Africa, one of the fastest urbanizing regions in the world (United Nations, Department of Economic and Social Affairs [UNDESA], 2019), the negative impacts of urbanization on the environment will be significant (Kestemont et al., 2011). Due to inadequate, non-existing, and/or inappropriate planning capacities (Myers, 2010), Africa risks not attaining the UN Sustainable Development Goal 11 target 7 that calls for increased availability of and access to urban greenspaces (UN General Assembly, 2015). Unfortunately, urban greenspace and its planning are dominated by Global North literature (Boulton et al., 2018; Rigolon et al., 2018). Thus, it is imperative that urban greenspace planning in Africa is informed by ideas that stem from the region, and Global South lenses in general, since they account for contextual issues often missing in Global North ideas (Roy, 2005; Watson, 2009).

Similarly, dealing with urban greenspace challenges in Africa requires effective planning that is cognizant of the multiple dimensions of urban greenspaces (Diko & Palazzo, 2019), as different

factors often inhibit its planning (Boulton et al., 2018; Byrne & Jinjun, 2009; Matthews et al., 2015). These include institutional (Boulton et al., 2018; Diko & Palazzo, 2019; Sandström et al., 2006), economic (Boulton et al., 2018; Byrne & Jinjun, 2009; Sandström et al., 2006; Zhang et al., 2007), and socio-cultural factors (Boulton et al., 2018; Green et al., 2016; Matthews et al., 2015; Standish et al., 2013).

In the Kumasi Metropolis, and Africa in general, there is a paucity of literature on residents' awareness of urban greenspace benefits and their support for urban greenspace initiatives. Although some studies (Adjei Mensah, 2014a; Gwedla & Shackleton, 2015; Pauleit et al., 2002; Quagraine, 2011; Shackleton et al., 2015) allude to low residents' awareness to explain reasons for urban greenspace decline, few studies such as Abass et al. (2019b) and Asibey et al. (2019) explicitly engage residents to examine their awareness of greenspace benefits and willingness to support greenspace initiatives, respectively. Urban greenspace research has focused primarily on urban greenspace conditions and decline (Adjei Mensah, 2014a; Narh et al., 2020; Nero, 2017; Owusu-Ansah, 2016) and their institutional aspects (Amoako & Adom-Asamoah, 2019; Asibey et al., 2019; Diko & Palazzo, 2019; Guenat et al., 2020). These studies report that urban development professionals and greenspace stakeholders view residents' perceptions of greenspaces to be negative (Guenat et al., 2020) and interpret residents' encroachment on urban greenspaces as indicating a lack of appreciation for the amenity—further suggesting that residents are unaware of the benefits of or lack interest in urban greenspaces (Adjei Mensah, 2014a; Diko & Palazzo, 2019; Guenat et al., 2020; Quagraine, 2011).

Yet, encroachment and/or vandalism of urban greenspaces manifest differently across different countries (Hamzah et al., 2018; Nowak et al., 2004; Pauleit et al., 2002). Unfortunately, many studies (Adjei Mensah, 2014a, 2014b; Amoateng et al., 2013; Gwedla & Shackleton, 2015; Shackleton et al., 2015; Quagraine, 2011) on this subject and other urban challenges in Africa implicitly cast residents negatively as intentional encroachers and/or vandals of urban greenspaces. Leaning on evidence from a survey of 400 residents—regarding use, awareness, preference, and willingness to support urban greenspace initiatives—field observations, and deductions from Global South theories, this paper offers an alternative perspective to this characterization of residents' perceptions of and actions on urban greenspaces. It focuses on the socio-cultural dimensions of urban greenspace planning in the Kumasi Metropolis to contribute to debates about urban planning in the Global South, particularly Africa.

Theoretical foundations and entry

The benefits of urban greenspaces

Nilsson et al. (2013, p. 701) define urban greenspaces as “all vegetated lands in urban areas.” In line with this definition, this paper defines urban greenspaces as all public and private urban greenery or vegetated lands including trees, parks, gardens, forests, vegetated road medians, etc. Generally, the importance of urban greenspaces in the literature encompasses environmental, social, economic, and cultural benefits (Haase et al., 2013; Kabisch, 2015). But this can only be attained if urban planning ensures that urban greenspaces are provided, protected, and improved. The discussions that follow examine the scholarship on urban greenspace benefits.

Environmental benefits

The environmental benefits of urban greenspaces are rooted in the provisioning and regulating services of ecosystems and their relationship with human well-being including reducing air, water, and soil pollution (Alcamo et al., 2003; Pouyat et al., 2009), flood protection (Alcamo et al., 2003; Zhang et al., 2012), microclimate regulation (Alcamo et al., 2003; Declet-Barreto et al., 2013), and biodiversity enhancement and protection in urban areas (Aronson et al., 2017; Trimble & Van Aarde, 2014).

Social benefits

Urban greenspaces also contribute to residents' health in urban areas (Martin, 2011). Specifically, urban greenspaces help people recuperate from their physical and mental stresses (Alcamo et al., 2003) by enabling residents to find an escape from the pressures of urban living (Maller et al., 2006). They also contribute to adults and children's physical and mental development (Bowler et al., 2010). Other studies draw a connection between urban greenspaces and safety (Branas et al., 2011; Garvin et al., 2013; Maas et al., 2009) and their ability to foster social interaction in urban communities (Cilliers & Timmermans, 2013).

Economic benefits

Studies about the economic benefits of urban greenspaces are often related to the monetary value they offer to people, property, and urban communities (Brander & Koetse, 2011; Jim & Chen, 2009; Parent & Vom Hofe, 2013). They provide employment opportunities for some urban residents, especially those engaged in urban gardens and agriculture (De Bon et al., 2010). Greenspaces also improve the image of places and help to encourage retail and tourism (World Bank, 2007). They also create an environment that encourages worker productivity (Woolley, 2003) and can position a city as livable, making it competitive and marketable (Jim, 2004; World Bank, 2007).

Cultural benefits

Urban greenspaces are also valued for their recreational functions (Alcamo et al., 2003; Chen & Jim, 2008) as they provide places for residents to relax, engage in recreational activities such as sports, theater and music performances, festivals, and opportunities for tourism where the heritage and history of neighborhoods and communities can be communicated (Chiesura, 2004; Deng et al., 2010; Majumdar et al., 2011). Urban greenspaces serve as public spaces that allow for different people to coexist and share the urban experience (Berney, 2010; Gaffikin et al., 2010). They, therefore, provide an avenue for diversity, inclusion, and cultural exchange for everyone to enjoy no matter the race, ethnicity, income, gender, age, or origin; they are spaces for everyone (Wendel et al., 2012).

Socio-cultural dimensions of urban greenspace planning

The urban greenspace literature identifies residents' attitudes, appreciation, perceptions, preferences (Balram & Dragievi, 2005; Boulton et al., 2018; Green et al., 2016; Standish et al., 2013) and participation (Adjei Mensah et al., 2017; Balram & Dragievi, 2005; Cilliers & Timmermans, 2013; Van Den Berg et al., 2007) as socio-cultural factors that affect the effective planning of this urban amenity. For example, residents' low appreciation for and/or misperceptions about the benefits of urban greenspaces to quality of life negatively impact their effective planning and residents' use (Boulton et al., 2018; Gwedla & Shackleton, 2015; Shackleton et al., 2015; Zérah, 2007). Also, perceptions of safety around urban greenspaces decrease residents' use and support for greenspace initiatives (Rupprecht et al., 2015). Hence, understanding these factors—and their contextual manifestations and implications—can help urban authorities incorporate residents' attitudes, perceptions, and behavior into greenspace planning and expand greenspace goals to reflect residents' socio-economic and cultural realities (Green et al., 2016; Shackleton et al., 2015; Standish et al., 2013).

From a socio-cultural perspective, studies in the Kumasi Metropolis, and Ghana's urban areas in general, reveal that residents encroach on greenspaces and contribute to their decline (Acheampong et al., 2017; Adjei Mensah, 2014a; Amoateng et al., 2018; Arku et al., 2016; Nero, 2017; Poku-Boansi & Cobbinah, 2018; Quagraine, 2011). Korah et al. (2017) note that many informal settlements have occupied lands reserved for community parks and riparian areas in places like Aboabo and Ayigya in the metropolis. From Owusu-Ansah (2016) and Quagraine (2011), lands demarcated as urban greenspaces such as community parks, children's playgrounds, and gardens are degraded due to residents' encroachment—with sections of parks sometimes used as dumpsites by residents (Arku et al., 2016). Amoateng et al. (2018) add that residents build in river floodplains, threatening both the quality of

water and the capacity of rivers to provide for stormwater runoff. Inherent in these findings are negative characterization of residents in terms of their use of urban greenspaces. To transcend this discourse, this paper argues that when its findings are interpreted and contextualized through Global South urban planning theory, an alternative, situated, perspective emerges, relevant to the socio-cultural dimensions of urban greenspace planning.

Urbanization and greenspaces in Africa

Africa is predominantly rural with 43% of its population living in urban areas. Urban population is expected to increase to 48% and 59% by 2030 and 2050, respectively (UNDESA, 2019). Compared to other regions like Asia (2.2%), Europe (0.3%), Latin America and the Caribbean (1.3%), North America (1%), and Oceania (1.4%), Africa's urbanization rate of 3.6% between 2015–2020 is the highest (UNDESA, 2019). The factors shaping Africa's urbanization differ significantly from other regions and are characterized by poor planning, unregulated growth, legacy of colonization, weak governance institutions, and low economic prosperity (Güneralp et al., 2018). The sustainability of Africa's urban areas is thus threatened due to unsustainable land development, widespread poverty, rising unemployment, informality, and inadequate availability of and access to socioeconomic infrastructure and services (Cobbinah et al., 2015). Owing to these challenges, many scholars have cast urbanization trends in cities of the Global South, including those in Africa, as places of “poverty, disease, violence, and toxicity” (Roy, 2009, p. 820). They often construe them as failed spaces because Global North planning theories do not offer concise explanations for the nature and process of urbanization (De Satgé & Watson, 2018; Simone, 2004; Watson, 2014, 2016).

Another challenge of rapid urbanization in Africa is its consequences on greenspaces. Generally, rapid urbanization results in changes in land use and land cover (Whitford et al., 2001) due to surge in the demand for land in urban areas (Haaland & van Den Bosch, 2015; Jim, 2004). This results in the modification of the urban ecology and the alteration of the natural vegetation (Tratalos et al., 2007; Turrini & Knop, 2015) as well as reduction and loss of species diversity (McKinney, 2002). Cobbinah and Darkwah (2016) observe similar implications of urbanization on greenspaces in Africa. This persists because of poor planning and management (Diko & Palazzo, 2019; Narh et al., 2020) and the use of greenspaces by low-income residents for housing and economic activities (Adjei Mensah, 2014; Douglas, 2018; Du Toit et al., 2018; Cobbinah & Darkwah, 2016). For instance, rapid urbanization has contributed to the decline in urban greenspaces in the Kumasi Metropolis, resulting in the loss of its historic accolade as the Garden city of West Africa (Diko & Palazzo, 2019; Quagraine, 2011). Additionally, studies of cities in South Africa (McConnachie et al., 2008), Kenya (M'Ikiugu et al., 2012) and Ethiopia (Girma et al., 2019) point to urban greenspace declines due to rapid urbanization.

Global South urban planning theory

Alternative arguments about urban planning have emerged to redefine how cities in the Global South are understood. For instance, scholars observe that urban planning in Africa—often shaped by colonial legacies and Euro-American planning theories—fails to anticipate the needs of residents (Cobbinah & Darkwah, 2017; Myers, 2011; Roy, 2005; Watson, 2003). The complexities and multiplicities of Africa's urban issues are thus characterized by spatial fragmentation, social disparities, and inequalities that manifest as informality and reflect the tensions among different actors—including their contextual “values, beliefs, and rationalities”—such as residents' needs and those promoted by urban authorities through their regulations, plans, and visions (Bolay, 2020; De Satgé & Watson, 2018; Watson, 2014, 2003, p. 404). These tensions reflect the disconnection of residents from the urban planning process in Africa (De Satgé & Watson, 2018; Watson, 2014). Roy (2005) and Watson (2009), therefore, advocate for new epistemologies on urbanization and urban planning in Global South cities—including the ideas and methods of urban planning and its response to sustainability in regions like Africa (Bolay, 2020; Myers, 2010, 2011).

Although these tensions are also evident in the Global North, Global South theorists point to the limitations of superimposing Global North “notions of proper communities” on the social and cultural contexts of Global South cities (Watson, 2003, p. 401). This occurred during colonization and has continued in African countries post-colonization (Cobbinah & Darkwah, 2017; Njoh, 2009). Examples include urban planning regulations in Anglophone African countries like Ghana, Nigeria, and Zimbabwe, which are still strongly rooted in British town planning laws (Lwasa & Kinuthia-Njenga, 2012; Okpala, 2009); master plans such as garden city plans implemented in Kumasi, Ghana, (Diko & Palazzo, 2019; Quagraine, 2011) and Lusaka, Zambia (Njoh, 2009); and the design and implementation of modern mega projects (Cain, 2014; Watson, 2014). Subsequently, Global South theorists have found problematic the discourse surrounding urbanization and urban planning in Global South cities (Roy, 2009; Watson, 2007). Such expositions are evident in writings relating to the failure of mega-projects in Africa to provide and improve infrastructure and services (Cain, 2014; Watson, 2014) and how informality is construed as residents acting disorderly and dangerously (Myers, 2010; Roy, 2009). Indeed, Global North theories on the “notions of proper communities” often fail to recognize residents’ needs, everyday experiences, contextual nuances, and alternative interpretations of residents’ actions in Global South cities (Bolay, 2020; Cirolia & Scheba, 2019; De Satgé & Watson, 2018; Watson, 2003).

The counter argument is that the so-called chaos, disorganization, and disorder of urban residents are evidence of residents’ agency and survival strategies in meeting their basic needs and challenges unaddressed by urban authorities (Cirolia & Scheba, 2019; Demissie, 2007; Okyere et al., 2017; Watson, 2007). They also reflect the efforts of residents to claim an equal right to the city (Ferguson, 2008). Hence, there is a need for urban authorities to work with urban residents, instead of against them, to connect their agency and survival strategies with urban planning intentions (Okyere et al., 2017; Watson, 2007). These arguments also demonstrate the importance for research from Africa, and the Global South in general, to challenge the appropriateness of the epistemological lens through which urbanization and urban planning are interpreted (Myers, 2011; Roy, 2005; Watson, 2003). Doing so will provide urban authorities with an appreciation and comprehension of context when proposing interventions. This is paramount since the characteristics, processes, and manifestations of urbanization in Africa are significantly different from those from the Global North (De Satgé & Watson, 2018).

Much of the Global South literature provides alternative theory to urbanization and urban planning from perspectives such as informality, post-colonial cities, poverty and inequality, governance and planning systems in relation to urban visions, services, land tenure and management, and globalization (Myers, 2010; Roy, 2009). Conspicuously missing are alternative arguments of urban planning that explicitly contextualize urban greenspace use and decline beyond traditional notions of encroachment and vandalism. This is crucial as many urban planning and greenspace studies implicitly cast residents negatively as intentional encroachers and/or vandals of urban greenspaces due to their low awareness of and appreciation for this urban amenity. However, a broader reading about urban greenspace decline in the Global South provides alternative insight that speaks to planning contentions, residents’ use of urban spaces, and their survival strategies in meeting their needs.

Methods

Study area

This study was conducted in the Kumasi Metropolis. The Metropolis is the second-most populous urban area in Ghana, with a population of 1,730,249 inhabitants as of 2010 (Ghana Statistical Service, 2014). It is the administrative capital of the Ashanti Region and occupies about 82.74 sq. miles (214.3 sq. km). It lies between latitude 6.35°N and 6.40°S and longitude 1.30°W and 1° E (Ghana Statistical Service, 2014). Since 2010, the metropolis has experienced changes to its jurisdiction due to the reclassification of some Sub-Metropolitan Council areas (sub-metros) within it as either municipalities

or districts. The most recent change occurred in November 2017, where the Government of Ghana created 38 new local government jurisdictions. There used to be nine sub-metros in the Kumasi Metropolis namely: Asokwa, Bantama, Kwadaso, Manhyia, Nhyiaso, Oforikrom, Suame, Subin, and Tafo (Ghana Statistical Service, 2014). However, Oforikrom, Kwadaso, Old Tafo, Asokwa, and Suame are now demarcated as new municipalities. This research focused on Kumasi Metropolis as it officially existed prior to November 2017.¹

The built-up area of the metropolis is estimated around 83.7% (Acheampong et al., 2017), with urban greenspaces constituting between approximately 16.3% and 33% of the total land area (Abass et al., 2019a; Acheampong et al., 2017; Nero, 2017). This deviates from its vegetative cover in the 1940s and the 1945 plan that inspired its popular accolade, the Garden City of West Africa (Quagraine, 2011). Rapid urbanization has contributed to urban greenspace decline leaving few green landscapes such as the Kumasi Royal Golf Club, Kumasi Cultural Center, Kumasi Zoological Gardens, Manhyia Palace Gardens, Rattray Park, Golden Tulip Gardens, and those around government and educational institutions such as the Office of Parks and Gardens Department and the Kwame Nkrumah University of Science and Technology (KNUST) botanical gardens.

Data collection and analysis

This study used a survey research method to examine the socio-cultural dimensions of urban greenspaces in the Kumasi Metropolis. The survey utilized a questionnaire that comprised both structured and semi-structured questions organized across twelve themes on climate change and urban greenspaces. At the beginning of the questionnaire, respondents were made aware of the definition of urban greenspaces—based on the adapted definition of urban greenspaces of Nilsson et al. (2013, p. 701) mentioned earlier. This paper reports on the themes on urban greenspaces: use of greenspaces, awareness of greenspace benefits, support for urban greenspace planning, prioritization of greenspace, and demographics. A limitation of surveys via questionnaire administration is the potential for missing explanatory context of the quantitative data. Field notes and comprehensive examination of the local context through literature provided an avenue to navigate this limitation.

Sloven's formula: $n = N/[1 + N(\alpha)^2]$, where n = sample size; N = sample frame (total population of study area); α = margin of error (Tejada & Punzalan, 2012) guided sample size estimates (Table 1). The margin of error used was 5%. Four hundred persons—representing the sample size—out of the 1,040,112 persons 18 years and older located in the Kumasi Metropolis (Ghana Statistical Service, 2012) responded to the questionnaires administered. A stratified random sampling method determined the number of questionnaires administered in the sub-metros and ensured sample representativeness. This was possible because the sub-metros can be classified into uniform and continuous areas based on the types of houses, densities of residents, existing facilities and available services, and the challenges residents encounter (Acheampong, 2013). As a result, the proportion of questionnaires administered corresponded to the proportion of persons 18 years and older in each sub-metro.

Table 1. Distribution of questionnaires administered across sub-metros.

Sub-metros	#Characteristics	*Population (18 years +)	%	Sample	%
Asokwa	High cost & low density	83,640	8.04	32	8.00
Bantama	Residential areas	155,515	14.95	60	15.00
Kwadaso	Rental housing sector	148,090	14.24	57	14.25
Manhyia	Government built sector	94,524	9.09	36	9.00
Nhyiaso	Indigenous housing sector	82,448	7.93	32	8.00
Oforikrom	High cost, low housing density	186,627	17.94	72	18.00
Old Tafo	Mixed-income area	85,222	8.19	33	8.25
Suame	Substandard housing with slums	94,147	9.05	36	9.00
Subin	Substandard housing with slums	109,899	10.57	42	10.50
Total		1,040,112	100.00	400	100.00

Sources: #Acheampong (2013); *Ghana Statistical Service (2012)

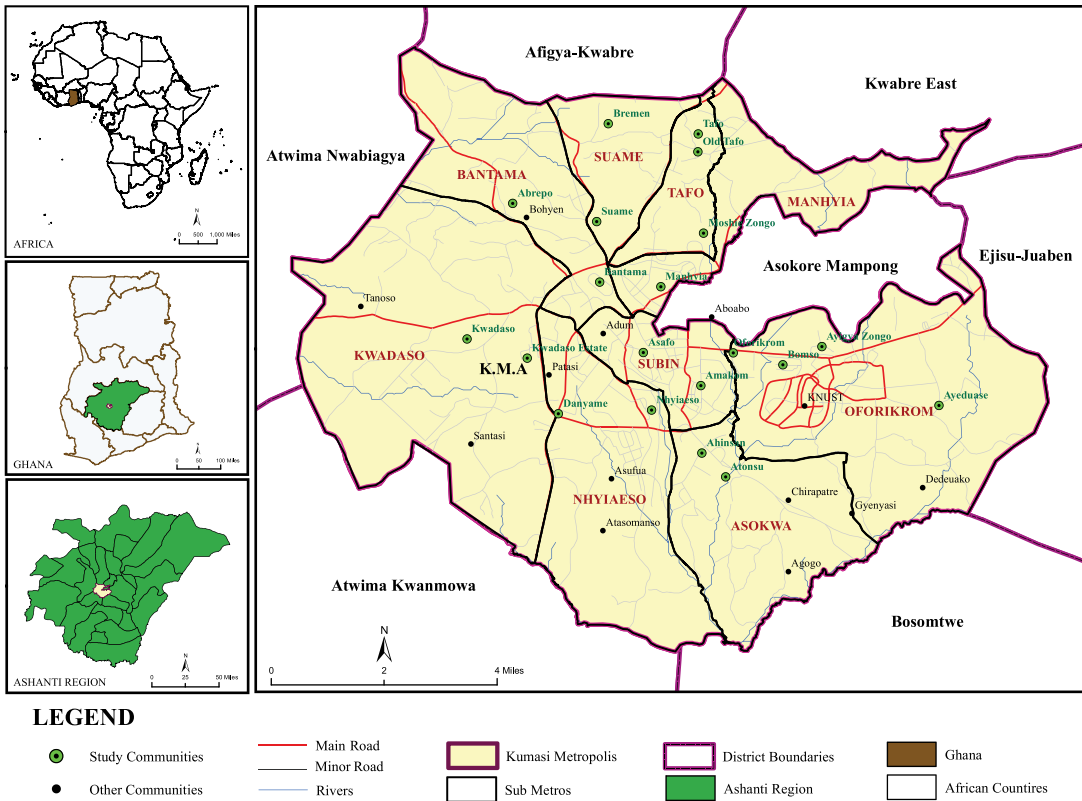


Figure 1. Map of the Kumasi Metropolis, the study area. * These maps do not consider changes in regions and districts after 2017

The study also adopted a non-probability sampling technique by means of convenience sampling to select each survey participant. Despite the relative homogeneity of the sub-metros, residents’ willingness to take part in the survey and limiting proximity among respondents were important selection criteria for the questionnaire administration. This helped in overcoming the limitation of a lack of an address database that would have allowed for a simple random sampling. The questionnaire was pretested between December 2017 and January 2018. This ensured that residents’ responses to the questions addressed the research aims, provided avenues to reframe questions and informed the time appropriate for administering the questionnaires in the metropolis. The 400 questionnaires were administered in 20 study communities (Figure 1), selected via simple random sampling across the nine sub-metros in the Kumasi Metropolis. This occurred between March 12th, 2018 and July 10th, 2018, with the aid of one field assistant. Questionnaires were administered during weekdays and weekends. Observation of residents’ activities in various urban greenspaces were captured using images to complement data from the questionnaires. Table 1 summarizes the number of questionnaires administered across the sub-metros.

Data analysis by means of frequency and cross-tabulation analysis was conducted on the survey data using the Statistical Package for Social Scientists version 22. Cross-tabulations helped determine connections between variables since the data were categorical in nature (Tomek, 2018). Here, the Cramer’s V statistic was used to determine the strength of association between variables (Cramer & Howitt, 2004). McHugh (2018) explains that when the measure is less than or equal to 0.19, the relationship is weak; modest if between 0.20 and 0.29; moderate if between 0.30 and 0.49; strong if between 0.50 and 0.69; and very strong if between 0.70 and 1. The results of the measures of association are summarized in Table 2.

Table 2. Statistical measures and the significance of relationships.

Independent Variables	Cramer's V		
	Value (V)	Sig. (p)	N of Valid Cases
<i>Demography</i>			
		<i>Use of any urban greenspace</i>	
Sub-metro	0.50	0.00	400
Sex Structure	0.32	0.00	400
Age Distribution	0.11	0.46	400
Highest educational qualification	0.13	0.16	400
Household Size	0.20	0.00	400
<i>Support for Greenspace Initiatives</i>			
		<i>Use of any urban greenspace</i>	
KMA developing urban greenspaces	0.22	0.00	400
A tax or a fee for greenspaces	0.16	0.04	400
Volunteer in planning and maintaining greenspaces	0.25	0.00	400
Charge people for using urban greenspaces	0.35	0.00	400
<i>Support for Greenspace Initiatives</i>			
		<i>Prioritization of urban greenspaces</i>	
KMA developing urban greenspaces	0.20	0.00	400
A tax or a fee for greenspaces	0.22	0.00	400
Volunteer in planning and maintaining greenspaces	0.32	0.00	400
Charge people for using urban greenspaces	0.21	0.00	400
<i>Awareness of Greenspace Benefits</i>			
		<i>Prioritization of urban greenspaces</i>	
Provide recreational experiences	0.34	0.00	400
Facilitate community problem solving	0.27	0.00	400
Increase cultural unity and identity	0.28	0.00	400
Help tackle the impacts of changes in the weather	0.16	0.01	400
Protect environmental resources	0.30	0.00	400
Support economic activities	0.22	0.00	400
Foster human development	0.31	0.00	400
Promote health and wellness	0.30	0.00	400
Strengthen community image and sense of place	0.34	0.00	400
Strengthen safety and security	0.30	0.00	400
<i>Others</i>			
		<i>Prioritization of urban greenspaces</i>	
Overall satisfaction with urban greenspace planning and management	0.40	0.00	400
Use of any urban greenspace	0.34	0.00	400

Results

Characteristics of respondents

Out of 400 respondents, 42% were females and 58% were males. A majority of respondents were under 45 years (84.8%) and a greater proportion of respondents had attained senior high school (SHS)

Table 3. Demographic characteristics of survey respondents.

Demographic Characteristics		Total	
		Count	%
Sex Structure	Female	168	42.0
	Male	232	58.0
	Total	400	100.0
Age Distribution	18– 25	43	10.8
	26– 35	169	42.3
	36– 45	127	31.8
	46– 55	40	10.0
	56– 65	16	4.0
	66+	5	1.3
	Total	400	100.0
Highest educational qualification	None	10	2.5
	Primary	30	7.5
	JHS	124	31.0
	SHS	138	34.5
	Tertiary	98	24.5
	Total	400	100.0

education followed by junior high school (JHS) education (Table 3).² These characteristics, together with other variables, provided some insights into residents’ use of urban greenspaces in the metropolis.

Use of greenspaces

In the Kumasi Metropolis, 61.8% of respondents surveyed had used a type of greenspace at least once in the year before the survey. The relationship between sub-metros and use of greenspaces was strong ($V = 0.50, p = .00$). Five out of nine sub-metros had more than 50% of respondents using a greenspace—with higher proportions in areas with well-known greenspaces such as Manhyia and Nhyiaeso (Table 4). Sub-metros like Asokwa, Kwadaso, and Oforikrom, which are characterized by high cost, low-density residential areas (Acheampong, 2013; Nero, 2017) also had high proportions of residents using urban greenspaces. Areas like Subin and Tafo, the oldest areas of the metropolis, had fewer proportions of residents using urban greenspaces. These places have higher densities and are without any well-known urban greenspace (Nero, 2017). The exception is Manhyia, a traditional settlement with high density that is home to the Manhyia Palace’s green landscape and gardens.

There was a statistically modest relationship between sex and use of greenspaces ($V = 0.32, p = .00$). Males are more likely to use a greenspace in the Kumasi Metropolis than females as 75% of all males had use a greenspace in the previous year compared to 43.5% of females. There was no statistically significant relationship between age ($V = 0.11, p = .46$) or highest educational attainment ($V = 0.13, p = .16$) and use of greenspaces. Across all age groups, at least 60% had used a greenspace (except for those between 56–65 years), while across educational levels, no less than 55% had used a greenspace in the metropolis in the past year (Table 4).

Table 4. Use of greenspaces during the past year in the Kumasi Metropolis.

Variables	Indicators	No		Yes		Total	
		Count	%	Count	%	Count	%
Sub-metros	Asokwa	12	37.5	20	62.5	32	100.0
	Bantama	43	71.7	17	28.3	60	100.0
	Kwadaso	23	40.4	34	59.6	57	100.0
	Manhyia	0	0.0	36	100.0	36	100.0
	Nhyiaeso	2	6.3	30	93.8	32	100.0
	Oforikrom	22	30.6	50	69.4	72	100.0
	Old Tafo	23	69.7	10	30.3	33	100.0
	Suame	4	11.1	32	88.9	36	100.0
	Subin	24	57.1	18	42.9	42	100.0
	Total	153	38.3	247	61.8	400	100.0
Sex	Female	95	56.5	73	43.5	168	100.0
	Male	58	25.0	174	75.0	232	100.0
	Total	153	38.3	247	61.8	400	100.0
Age	18–25 years	15	34.9	28	65.1	43	100.0
	26–35 years	66	39.1	103	60.9	169	100.0
	36–45 years	46	36.2	81	63.8	127	100.0
	46–55 years	14	35.0	26	65.0	40	100.0
	56–65 years	10	62.5	6	37.5	16	100.0
	66 years above	2	40.0	3	60.0	5	100.0
	Total	153	38.3	247	61.8	400	100.0
Highest educational qualification	No education	4	40.0	4	60.0	10	100.0
	Primary	12	40.0	18	60.0	30	100.0
	Junior High School	54	43.5	70	56.5	124	100.0
	Senior Secondary School	52	37.7	86	62.3	138	100.0
	Tertiary	29	29.6	69	70.4	98	100.0
	Total	153	38.3	247	61.8	400	100.0

Perception of greenspace conditions

Residents used different typologies of greenspaces in the metropolis including treed areas used for shaded seating (26.7%), cultural centers (21.5%), pay-to-use parks (17.8%), gardens (17%), public (school and community) parks (13.4%), and the zoo (3.6%). About 85.8% had positive views about the physical conditions of the greenspaces with 25.9% and 59.9% indicating that they were excellent and good, respectively. Few residents (8.1%) had negative views about the conditions of urban greenspaces. **Figure 2** summarizes residents’ view of the conditions of urban greenspaces in the metropolis.

These positive views arise because the pay-to-use parks (e.g., Rattray Park), gardens (e.g., the KNUST botanical and Golden Tulip Hotel gardens), and cultural centers (e.g., the Manhyia Palace and the Kumasi Cultural Center) provide some economic value and/or are institutional in nature. They offer places to hold events such as weddings, photoshoots, and restaurants. As a result, they receive regular maintenance (**Figure 3**). Manhyia Palace gardens, for example, has both institutional and cultural relevance. It serves as the official seat and residence of the Asante King and hosts the Akwasidae festivals. It has thus become a cultural destination for many residents from the metropolis (and beyond) to pay their respect to their King and observe the display of their cultural heritage. Rattray Park was completed in June 2015 and many residents are attracted to its modern amenities

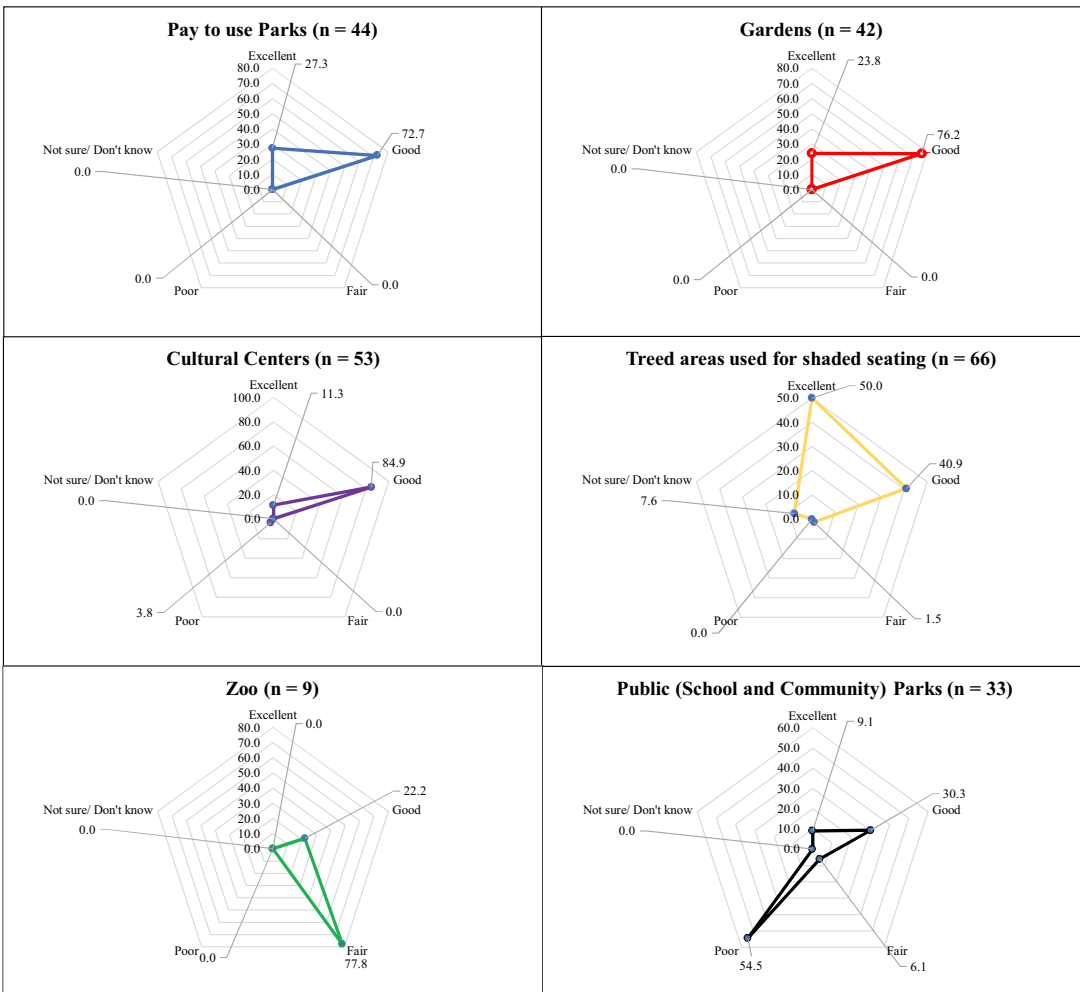


Figure 2. Physical condition of the types of urban greenspaces used.



Figure 3. Greenspaces at the Kumasi Cultural Center.

such as the dancing fountain. Also, treed areas have no to minimal maintenance requirements for optimal conditions, and expectedly, received good reviews from respondents.

Public parks like the Amakom Children's Park (Figure 4) and Kumasi Zoo have poor conditions and safety concerns as these urban greenspaces are not grassed, experience poor or no maintenance, with attendant risks to users. Not surprisingly, the decline and conditions of urban greenspace contributed to residents' dissatisfaction (71.3%) resulting from management practices of older urban greenspaces by urban authorities in the Kumasi Metropolis. This perceived mismanagement when left unchecked can be a barrier to effective greenspace planning and utilization in the Kumasi Metropolis. Understanding residents' urban greenspace perceptions is therefore important for engendering urban greenspace use and support in the metropolis.

Awareness of greenspace benefits

In order to understand residents' awareness of greenspace benefits, four broad areas were considered: social, economic, environmental, and cultural benefits. Informed by existing literature, specific statements were formulated, and residents asked to agree or disagree with statements under each broad area. Responses showed that residents were aware of greenspace benefits. For social benefits, Figure 5 reveals that 99.5% agreed that *greenspaces can strengthen a community's image and sense of place*, 96.8% indicated that *greenspaces can promote health and wellness* of residents, and 72.8% agreed that *greenspaces can offer some education to residents thereby fostering human development*. The highest disagreement with statements about greenspaces related to whether *greenspaces can strengthen safety and security* by reducing crime; about 25.5% of residents disagreed or even strongly disagreed (Figure 5). This again relates to the conditions of some school and community parks. For instance, in Amakom, residents complained and narrated experiences of crimes that had taken place at the Amakom Children's Park (Figure 4).

For environmental benefits, most residents affirmed that *greenspaces protect environmental resources* (97.3%) and *help to moderate changes in the weather* (95.3%). For the cultural benefits of greenspaces, on whether *greenspaces can increase the cultural unity and identity of communities*, 72.6%



Figure 4. Amakom children's park.

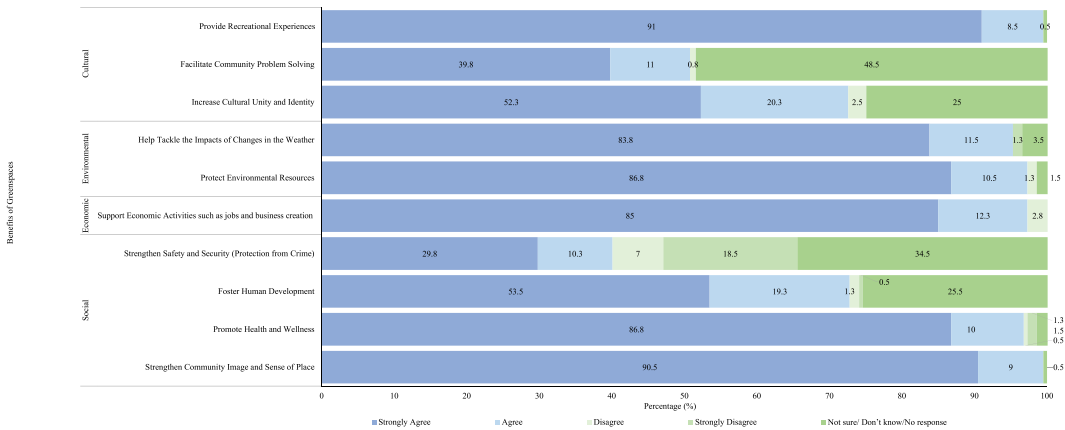


Figure 5. Residents' awareness of greenspace benefits.

of residents agreed while 2.5% disagreed; 50.8% agreed that *greenspaces facilitate community problem solving* by providing avenues for communities to converge and interact, and 99.5% agreed that *greenspaces provide recreational experiences* for those who use them. For economic benefits, 97.3% agreed that *greenspaces provide jobs and avenues for people to engage in economic activities* (Figure 5). Such a strong response is indicative of the practice in the metropolis where residents in the informal economy such as artisans and hawkers use tree shade for their activities (Figure 6). Hence, residents in



Figure 6. Artisans working under trees in the Kumasi Metropolis.

the Kumasi Metropolis were aware of urban greenspace benefits. Frequent tree planting campaigns and initiatives to reinstate Kumasi as the Garden City of West Africa (Kumasi Metropolitan Assembly, 2013) and rising residents' educational level (Guenat et al., 2020) beyond the primary school (Table 3) may be reasons for their awareness of greenspace benefits. Nonetheless, Table 2 reveals statistically modest to moderate significant relationships between residents' awareness of greenspace benefits and their prioritization of the amenity, which implies that awareness of greenspace benefits will not guarantee residents' prioritization of the amenity.

Residents' support for and prioritization of urban greenspaces

Having established residents' awareness of urban greenspace benefits, the next question is whether they translated into a desire to support greenspace initiatives in the Kumasi Metropolis. Findings revealed that most residents will support the Kumasi Metropolitan Assembly (KMA) to develop urban greenspace with only 3% dissenting. About 97.1% of respondents were willing to support a tax to fund new greenspaces and maintain existing ones and 86.8% were willing to pay to use urban greenspace facilities within the metropolis. Also, 96% of respondents were willing to volunteer on urban greenspace projects both in terms of their planning and maintenance (Figure 7).

More respondents wanted both active and passive urban greenspaces (54.8%) than only active greenspaces (25%) or only passive greenspaces (18.75%); 1.75% were unsure or provided no response. However, in relation to their needs (Figure 8), residents viewed the importance of and preference for urban greenspaces differently. Some residents wanted the KMA to provide jobs and promote business development (31%) and others wanted improvements in transportation systems

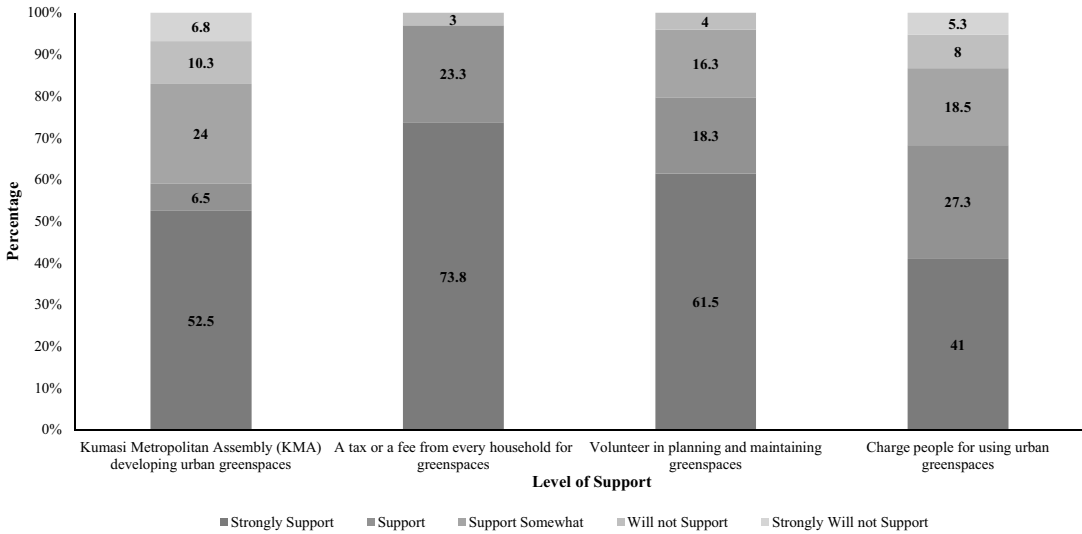


Figure 7. Residents’ support for urban greenspace initiatives.

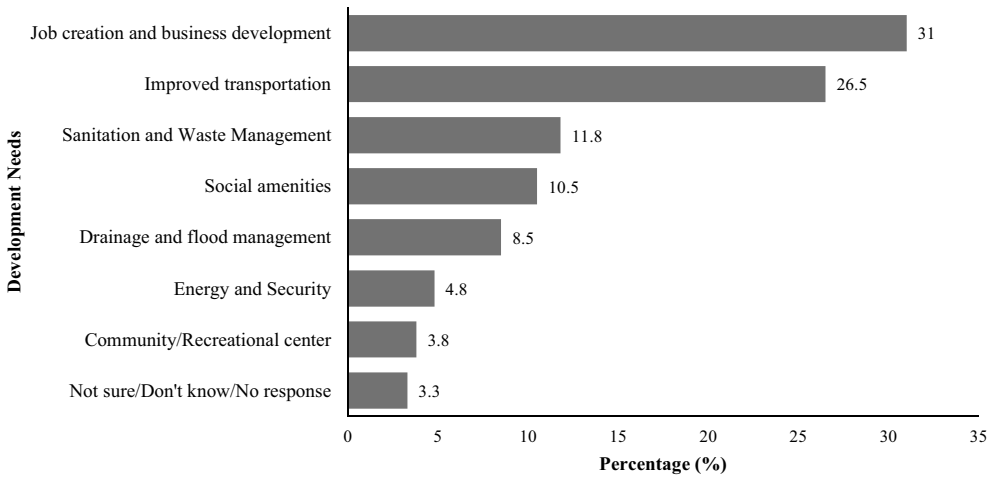


Figure 8. Development needs of respondents.

in the city such as the construction of more roads, maintenance of existing roads, and the management of traffic congestions (26.5%). Only 3.8% wanted the KMA to provide some form of community/recreational center of which urban greenspaces such as community parks is an example (Figure 8).

Subsequently, most residents indicated urban greenspaces to be a low priority, with approximately 53% indicating greenspaces as a low priority and 7% as a very low priority. Interestingly, most residents who will support these initiatives also viewed it as a low priority (Figure 9). The high level of support for greenspace initiatives can be potentially harnessed by urban planners for effective urban greenspace planning in the metropolis. However, Table 2 reveals residents’ willingness to support different initiatives on urban greenspaces cannot guarantee their prioritization of the amenity (V ranges from 0.2 to 0.32, $p = .00$). This observation is crucial because in contrast to other development issues—such as drainage and flood management, provision of social amenities, sanitation, and waste management, improving transportation, and job creation and business development

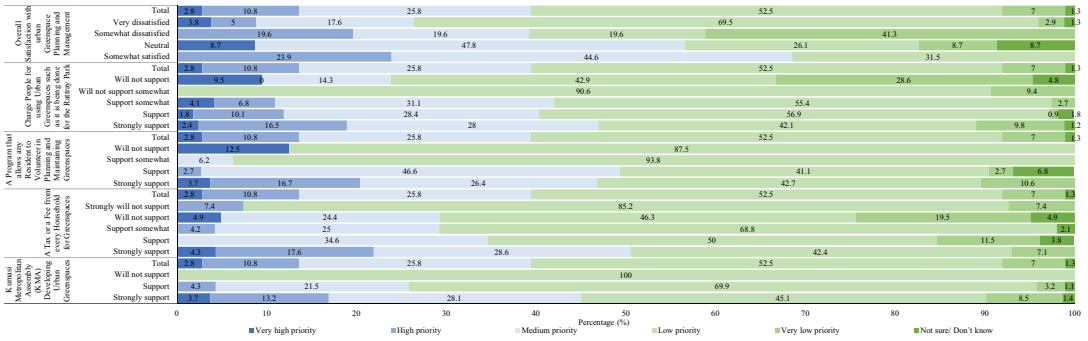


Figure 9. Residents' prioritization, support for and satisfaction with urban greenspace management.

(Figure 8)—52.5% of respondents viewed urban greenspaces as a low priority, even when they were willing to support greenspace initiatives.

Furthermore, residents' perceptions of how urban authorities have managed existing greenspaces were examined—23% of respondents were somewhat satisfied, 5.75% were neutral, 11.5% were somewhat dissatisfied, and 59.75% were very dissatisfied. While respondents were eager to support urban greenspace initiatives, urban authorities will need to demonstrate effective urban greenspace planning and management in order to harness and maximize residents' willingness to support urban greenspace initiatives in the metropolis. This is important as 69.5% of respondents who indicated that urban greenspaces were a low priority for them were very dissatisfied with its management (Figure 9). This is further substantiated by the significant relationship between these variables ($V = 0.4, p = .00$) as presented in Table 2.

Discussion

The thrust of this paper was to deduce an alternative argument to the socio-cultural dimensions of urban greenspace planning considering the research findings and the broader Global South urban planning literature. The study found that majority of residents of the Kumasi Metropolis surveyed had used a type of greenspace at least once in the year before the survey. The results are not surprising considering the history of and cultural attributions to greenspaces in the Kumasi Metropolis—and in the Ghanaian society in general (Ntiamao-Baidu, 2008; Sarfo-Mensah & Oduro, 2007). Culturally, residents appreciate sitting under trees to play games and relax. Many have cultural beliefs related to protecting forests and rivers as they deem such places sacred. Thus, it is not uncommon to find taboos, rituals, and traditional beliefs that contribute to forest conservation and river protection (Ntiamao-Baidu, 2008; Sarfo-Mensah & Oduro, 2007). Unfortunately, modern society with its urbanity—including market forces—and rapid changes in residents' beliefs are altering residents' disposition toward considering these places as sacred. Consequently, green and blue spaces have been converted to other land uses without attention to taboos and traditional beliefs (Sarfo-Mensah & Oduro, 2007).

It is also evident that there was high resident awareness about greenspace benefits and a willingness to support urban greenspace initiatives. These findings are contrary to previous studies and positions by urban planning professionals that indicate that residents have a negative view of greenspaces (Diko & Palazzo, 2019; Guenat et al., 2020) and are unaware of greenspace benefits (Adjei Mensah, 2014; Amoateng et al., 2018; Diko & Palazzo, 2019; Gwedla & Shackleton, 2015; Quagraine, 2011; Richardson & Shackleton, 2014). This divergence between urban planners' and residents' positions about urban greenspaces reflects Watson's (2003, p. 395) "conflicting rationalities." Here, urban authorities' views of residents' awareness of greenspace benefits work against residents' interests and contribute to planning visions that are disconnected from residents' lived realities (Okyere et al., 2017; Watson, 2007, 2014). Hence, this high level of awareness suggests possible avenues for helping

planning authorities gain residents' support and connect their interests to urban greenspace initiatives (Green et al., 2016; Standish et al., 2013); but this is only achievable through effective urban greenspace planning.

Nonetheless, a question remains unanswered, particularly: why do residents have high greenspace benefit awareness and are willing to support urban greenspace initiatives, but have low priority for urban greenspaces and engage in “destructive” practices such as encroachment? For instance, Poku-Boansi and Cobbinah (2018) observe that residents have converted urban greenspaces to residential land uses. Other studies reveal that some residents have developed informal settlements on reserved greenspaces, built around river flood plains (Korah et al., 2017; Adjei Mensah, 2014), and encroached on neglected recreational and community parks (Arku et al., 2016; Owusu-Ansah, 2016; Quagraine, 2011). Urban planners also lament that residents vandalize urban greenspaces—including those on road medians—and thus affect their ability to maintain and sustain them (Diko & Palazzo, 2019), as shown in Figure 10. According to Douglas (2018), residents in informal settlements in Africa encroach and develop structures for shelter and economic activities on floodplains and wetlands. In South Africa, while urban managers and residents report that urban residents often vandalize trees (Gwedla & Shackleton, 2015; Richardson & Shackleton, 2014), there is evidence that such tree vandalism has occurred because residents use trees for medicinal purposes (Shackleton et al., 2015).

A critical review of these urban planning and greenspace literature from the Kumasi Metropolis and other cities from the Global South reveals that residents' conversion of greenspaces has occurred as a survival strategy. These actions are an adaptation of those spaces for the purpose of satisfying some form of need such as shelter, engaging in economic activities, and/or meeting their sanitation needs.



Figure 10. Road medians which are often greened in the Kumasi Metropolis.

Thus, in the absence of urban planning interventions to meet residents’ needs, urban greenspace encroachment and vandalism have occurred as part of residents’ survival strategies.

These residents’ behaviors, therefore, offer insights into their unaddressed needs and indicate that residents prioritize meeting their needs over a desire for urban greenspaces. Their actions are not merely intentional encroachment and/or vandalism; rather, they are a spatial manifestation of residents’ actions and survival strategies to meet their unaddressed needs (Demissie, 2007; Okyere et al., 2017; Watson, 2007). In a way, residents are also claiming a right to the city (Ferguson, 2008; Myers, 2010). Through their actions, residents are demanding that urban authorities pay attention to their unmet needs such as spaces for housing and economic activities (Bolay, 2020; De Satgé & Watson, 2018; Watson, 2003), while also revealing that urban planners are complicit in the very creation of the challenges they experience (Roy, 2005).

It, thus, follows that encroachment and vandalism on urban greenspaces need to be put in the context of how residents adapt and use urban greenspaces to satisfy their needs since awareness alone does not offer tangible avenues to overcome the challenges of urban greenspace decline. Evidently, high resident awareness of urban greenspace benefits is inadequate to discourage encroachment or induce residents’ prioritization of urban greenspaces. Subsequently, to cast residents in a negative light ignores the underlying reasons for urban greenspace declines and the contestations that emanate from residents’ priorities and urban greenspace planning in Global South cities. Global South theories relating to informality, the right to the city, and conflicting rationalities thus contribute to an alternative perspective to urban greenspace planning.

Subsequently, to overcome the challenge of urban greenspace declines, urban planners need to understand residents’ actions and behavior in urban spaces and how these can be connected to their needs (Schaumann & Kapadia, 2019). One key understanding coming out of this research is that residents’ actions in and on urban greenspaces reveal gaps in how urban authorities, including urban planners, provide for and accommodate the needs of urbanites in the Global South. This demonstrates the relevance of understanding contextual factors and their influence on urban greenspace planning—whether planning in the Global North or Global South. Furthermore, urban planners need to understand the relationship between residents’ awareness of greenspace benefits relative to the actual benefits residents derive from them. This will help them assess the true value residents assign to urban greenspaces, thereby enabling planners to effectively link residents’ needs and survival strategies to urban greenspace planning goals and to ensure the sustainable management of the urban environment (Cilliers & Timmermans, 2013).

Increased resident involvement in urban greenspace planning could enable them to influence the kind of development they want urban authorities to pursue (Balram & Dragievi, 2005; Gwedla & Shackleton,

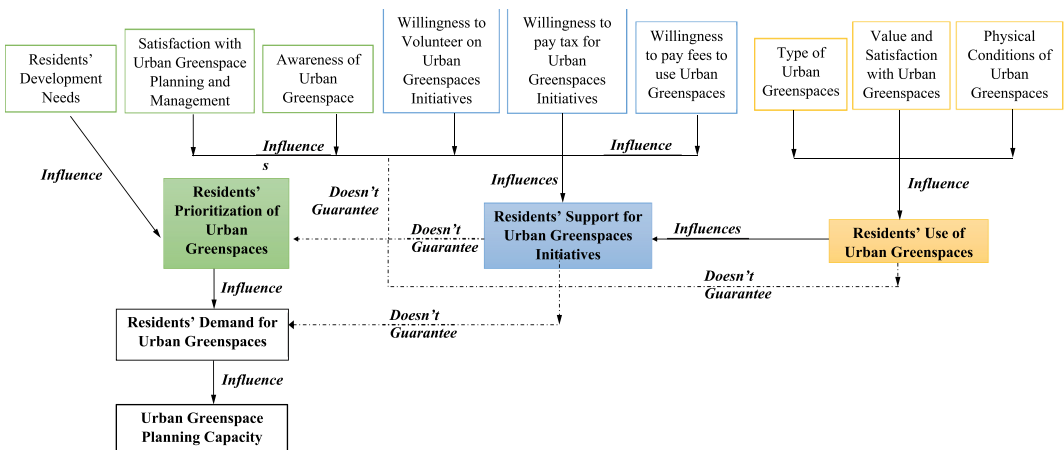


Figure 11. Socio-cultural dimensions of urban greenspace planning in the Kumasi Metropolis.

2015), encourage accountability and ownership, help attain urban greenspace goals (Van Den Berg et al., 2007), and thus increase the prioritization of urban greenspaces. Unfortunately, Adjei Mensah et al. (2017) finds that in the Kumasi Metropolis, residents' participation in urban greenspace planning is virtually absent, often occasioned by poor planning processes. This is a barrier in the greenspace literature as it prevents residents from expressing their interests and needs (Balram & Dragievi, 2005; Green et al., 2016). Hence, residents' willingness to pay for, and volunteer on, greenspace initiatives will become tangible if the KMA adequately involves them in urban greenspace planning. In summary, Figure 11 conceptualizes the socio-cultural dimensions of urban greenspace planning in the Kumasi Metropolis.

Conclusion

From this research, residents of the Kumasi Metropolis view urban greenspaces as a low priority despite their use, awareness of its benefits, and willingness to support greenspace initiatives. Overall, residents used urban greenspaces that are well maintained, active, offer recreational services, and have little to no safety risks. Additionally, despite residents' high awareness of urban greenspace benefits and support for urban greenspace initiatives, these were constrained by residents' prioritization of their development needs and thus, cannot guarantee that residents will prioritize urban greenspaces in the Kumasi Metropolis. Poorly maintained urban greenspaces call into question the ability of urban authorities to manage any additional greenspaces; thus, residents were unlikely to demand additional urban greenspaces considering that they have other needs.

This paper has also demonstrated that low preference and demand for urban greenspaces are indicative of residents' prioritization and survival strategies to meet their needs over a desire for urban greenspaces. It further argued that their actions of encroachment and/or vandalism should not be construed—especially by urban development professionals—merely as residents' low awareness of or appreciation for urban greenspaces. Instead, they indicate a need to ensure effective urban planning within the context of residents' needs and priorities.

For this reason, it is imperative for scholars and urban planners to contextualize residents' attitudes and actions—residents' use, demand, and support for urban amenities—in relation to urban greenspaces when writing and planning in the Global South. While this research is particular to Ghana's Kumasi Metropolis, it should not be read as an explanation of African urban greenspace use, or of Global South urban greenspaces writ large. In particular, it calls attention to the fact that, akin to many other planning issues, how residents' attitudes and actions manifest vary both across the Global South as well as from those in the Global North, thus the interpretation of research findings needs to be cognizant of these nuances and explore alternative perspectives. This will help avoid superimposing Global North urban planning ideas on Global South issues.

Notes

1. This is because (i) the new jurisdictions were not yet functionally independent at the time of data collection and relied on the old Metropolis for their functionality, (ii) other data sources used in this research utilized the old Metropolis' boundary which included the newly demarcated municipalities as sub-metros, (iii) unavailable data on the new municipalities as these new jurisdictions were still in their formative stage and without functional governance structures, (iv) residents also reported their greenspace use 12 months before the data collection which captured the old metropolis, and (v) data collection was a cumulative process that began with institutional interviews in 2015. All these informed the choice of the metropolis as it officially existed prior to November 2017 to ensure alignment of data sources used for the broader research.
2. These two are collectively equivalent to high school education in the United States.

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