

FUNDING CITY GREEN SPACES: WILLINGNESS TO PAY FOR URBAN FORESTRY INITIATIVES, GREENERY AND PARK RECREATION SERVICES

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Abstract

While urban forests and green parks play a vital role in the livelihood of urban dwellers and the climate in general, few exist in many parts of the world, including Uganda. This research aimed to explore community perceptions and willingness to pay (invest) in the development of urban parks, green spaces, and forestry within four districts of Uganda, namely Kampala, Mbarara, Fort Portal, and Gulu. Using a quantitative research approach, the study employed online questionnaires to collect data from 501 respondents, and the Contingent Valuation Method and Double-Bound Discrete Choice were used to determine the willingness to pay (WTP) for improvement in urban greenery. The results show that about 66% of the respondents are content with the current parks, and 27% of them are not contented, showing a deficiency in urban greenery. Almost all the respondents, about 99%, agreed to more funding for green spaces for youth, and 90% were willing to pay for urban greenery and forests. The most WTP amount (62%) annually was between 10,000 to 50,000 UGX (approximately \$2.5 and \$3.5 United States Dollars). The respondents' preferences were recommendations for more public parks (77%), an increase in the funding of tree projects (67%), and the promotion of community gardening (49%) as necessary to improve urban greenery. The study showed a high level of support for the urban forestry initiatives and the need for integration in the planning process. The study recommends that policymakers increase the funding to improve urban greenery.

Key words: urban green spaces, community engagement, willingness to pay, urban forestry, environmental sustainability, mental and physical health, public park services

Introduction

The willingness to pay (WTP) for urban green spaces and forestry in Uganda is suggested to be significantly influenced by environmental/ecological, socioeconomic, and health-related factors (Cilliers et al., 2013, Doli et al., 2021, Chisika & Yeom, 2023). While development and urbanization intensify across Uganda especially the cities, accessibility of green spaces and city nature becomes paramount and a necessity (Binyanya et al., 2022, Bamwesigye 2023). Urban zones with limited green spaces hinder public health and wellbeing of the inhabitants, compelling urban policymakers and planners to highlight/prioritize sustainable urban greenery and forestry projects (Binyanya et al., 2022, Bamwesigye 2023).

The improvement of urban green spaces especially recreational facilities has considerable associations with public and individual health (Doli et al., 2021). Studies presented that sufficient urban nature and green space play a vital and significant role on health concerns such as obesity and other diseases such as non-communicable diseases. Green zones and facilities offer places for physical activities for the society and recreation for the families and society in general. This is essential in fighting obesity and related health circumstances such as cardiovascular diseases and diabetes ((Doli et al., 2021, Cheng et al., 2022). Moreover, other health benefits such as psychological welfare of experiencing green environments contribute significantly to mental health, reducing anxiety levels and stress. (Lee, 2017). Thus investing and promoting such health benefits, cities have the possibility to increase the public's WTP for the establishment, maintenance and sustainability of such green spaces.

Uganda like many other nations presents dire aspects of socio-economic disparities within the urban settings. Some demographic groups, predominantly low-income inhabitants, frequently face obstacles to accessing green spaces due to limited resources, affordability, availability, and or mobility (Dai, 2011). Solving such disparities can improve efficiency of urban forestry strategies and possibly increase investment from these societies, groups and all stakeholders to improve access to green areas hence communal equity and inclusiveness.

Additionally, urban strategies that highlight green spaces can generate many benefits for property owners, visitors, and inhabitants by improving overall city aesthetics, which increases property values

and livelihood in general (Cheng et al., 2022). This economic and aesthetic value motivation also could influence residents' willingness to pay. Thus improved green zones can lead to better community venture and urban regeneration. Thus, making strategies and policies that protect and advance urban green spaces and forestry that presents an opportunity for cities in Uganda to support economic growth and promote healthy and well-being of residents (Doli et al., 2021).

The management of green spaces and urban forestry in Uganda although at risk prents hope if all stakeholders such as private investors, communities, and governmental bodies cooperate in promoting efficient management of the urban nature and livelihood (Gizachew et al., 2018).

The WTP for city green spaces/zones and urban forestry in Uganda sought to be influenced by socio-economic factors, health benefits, government policies, and possibly economic boom and returns associated with property prices. There, assimilating these fundamentals into urban planning and strategies could create a health-conscious and more sustainable and resilient urban environment.

The study aimed to explore and examine city communities' opinions, satisfaction, and the willingness to pay/invest in urban green spaces and parks, and forestry projects in four selected districts of Uganda.

Material and methods

Researchers chose participants from four Ugandan districts using a simple random sampling procedure that included Kampala, Mbarara, Fort Portal and Gulu. The selection method provided each participant with a balanced chance of being picked thus boosting both the sample's representation and data accuracy.

A total of 501 participants received online questionnaires during data collection.

- Kampala Capital City: The survey included 175 participants who made up 34.9% of the total.
- Mbarara City: 282 participants represented 56.3% of the total respondents.
- Fort Portal: The survey participants from this area numbered 28 individuals who accounted for 5.6% of the total.
- Gulu City: The survey received responses from 16 participants who comprised 3.2% of the total participants.

The questionnaire collected data about urban forestry perception and green space perception alongside demographic information like gender, age, income, education level and employment status to enable thorough analysis of participant perceptions and payment willingness.

The survey instrument acquired diverse data about urban forestry perception and green spaces along with gender, age, income and education level and employment status of participants. The collection of demographic information allowed researchers to perform an extensive evaluation of participant opinions and experiences.

The collected data was subjected to statistical analysis to reveal important trends and ratios that would serve as evidence for policy recommendations and future studies. The research analysis aimed to derive important conclusions from data for developing successful urban forestry programs and improving community participation in green space initiatives.

The methodology applied advanced valuation approach i.e., Contingent Valuation Method (CVM) together with the Double-Bound Discrete Choice (DBDC) method to build a comprehensive picture of community opinions about urban forestry and green space development in Uganda. The study uses quantitative data with strong sampling methods to provide urban planners and policy makers with knowledge about community needs and willingness to fund sustainable and resilient urban development.

Contingent Valuation Method

The survey instrument contained three questions to determine the willingness to pay for urban forestry and green space development:

Initial WTP Query: The survey asked participants if they would support paying for urban forestry and greenery development by selecting either "Yes" or "No."

A follow-up query was directed at "Yes" respondents who received specific response range options for their annual payment amount (e.g., 10,000 to 50,000 UGX, 50,000+ to 100,000 UGX, etc.) because of the follow-up.

Results

The survey findings are useful in understanding how people view urban parks and green spaces, readiness to invest in urban forestry and ways through which greenery can be improved in Uganda. The following is an elaboration of each of these findings and the implication for future urban planning and environmental policy.

1. Satisfaction with City Parks or Green Spaces and Forestry

Approximately 66% of the respondents were very satisfied or satisfied with the availability of parks and green spaces. This shows that a large number of people in the community have an appreciation of these areas as important elements of urban living and as sources of recreation and leisure and social interaction. However, approximately 27% (20% dissatisfied 7% very dissatisfied) of the respondents were dissatisfied with the current number and quality of green spaces.

This difference showed that there is need to further address the concerns expressed by the dissatisfied respondents/residents. These concerns could include the status of the parks, safety, availability, or the choice of park infrastructure or games available. These concerns are crucial for city planners and policymakers to improve satisfaction and channel their efforts towards green infrastructure.

2. Investment in Green Spaces and Urban Forestry

The results concerning the need to invest more in the conservation and expansion of green spaces, especially for the youth, were very positive:

Tab. 1: The city should invest more in green spaces and urban forestry for youth

Answer	Responses	Ratio	Approximate ly 99% of the respo ndents
Strongly Agree	400	79.8%	
Agree	95	19.0%	
Neutral	3	0.6%	
Disagree	3	0.6%	

agreed or strongly agreed that more should be invested in the improvement of the urban greenery for youths (Table 1). This result indicated that there is a high level of awareness and appreciation of the role of green spaces among the youths, who are the future generation. There was no disagreements recorded, and this shows that there is a consensus that positive change is overdue. Managers should therefore focus on resource allocation towards the improvement of green spaces and design youth specific programs to make these nature spaces more fun, safe, and recreational for the young people.

3. Willingness to Pay for Urban Forestry Initiatives

The survey also sought to establish whether the respondents were willing to contribute/pay (WTP) financially to urban forestry and green space development:

Tab. 2: Willingness to Pay for urban forestry and greenery space

Answer	Responses	Ratio
Yes	451	90%
No	50	10%

The results indicated that the community is willing to contribute to the funding of urban greenery improvements with 90% of the respondents were willing to pay (Table 2). Only 10% of the respondents were not willing to pay for green spaces investment in the city. This finding indicated that the people are not only concerned with the results of the urban forestry status and programs but are also ready to participate and support them financially.

4. Financial Contributions for Urban Initiatives/Payment Vehicles

When asked how much they would be willing to pay yearly in Ugandan Shillings (UGX) for urban forestry initiatives:

Tab. 3: Willing to Pay amount (Yearly) for urban forestry and greenery space development initiatives

Answer	Responses	Ratio
10,000 to 50,000	311	62.1%
50,000+ to 100,000	127	25.3%
100,000+ to 200,000	31	6.2%
200,000+ to 300,000	13	2.6%
300,000+ to 400,000	11	2.2%
400,000+	8	1.6%

Approximately 62% of the respondents were willing to pay between 10,000 to 50,000 UGX per year which is a reasonable amount that can attract a lot of support from the community (Table 3). The declining trend in the number of people willing to pay higher prices may be an indication that while people are willing to help, their financial capability may be limited to paying for larger amounts. These results confirm the possibility of community financing of urban forestry and green space projects, which is supported by the survey results.

5. Proposals for future consideration and policy reflection

The following measures are proposed to enhance the Urban Greenery and Forestry and support sustainable tourism in Kampala:

Respondents were asked to identify which of the following areas the government and stakeholders should focus on to enhance urban greenery and forestry, and support sustainable tourism in Kampala. The results were 384 people (76.6%) support the establishment of additional public parks and green zones together with green recreational spaces.

The initiative to increase funding for tree planting and urban greening projects and initiatives received support from 333 respondents (66.5%).

The implementation of community gardening programs in the city would promote local participation according to 244 respondents (48.7%).

Eco-tourism initiatives should be promoted to emphasize both natural attractions and biodiversity in the urban setting according to 136 responses.

Discussion and Conclusion

The current study results demonstrate essential understanding of community attitudes toward urban parks, green spaces and forestry in four Ugandan districts: Kampala, Mbarara, Fort Portal and Gulu. Most people are content with the current parks and green spaces but 27% of the respondents have expressed dissatisfaction. This gap underscores the necessity and urgency for urban planners and policymakers to undertake a critical evaluation of the quality, accessibility, and safety of these spaces in order to meet the needs of the urban population and environment better.

About 99% of respondents agreed on the need for more investment in urban greenery zones and forestry especially for the children and youth, which showed the community's appreciation and understanding of the roles these areas; play in promoting recreation, health and social relations and activities (Tab. 1).

Furthermore, the study established that there was high readiness of the residents to support urban green zones and forestry initiatives (90%), which indicated that there is high support/WTP for the improvement of green spaces and forestry in the cities in Uganda (Tab. 2).

Most of the respondents (62%) were ready to contribute/WTP between 10,000 to 50,000 Ugandan Shillings (approximately \$2.5 and \$13.5 United States Dollars) per year, which is a possible way of raising revenue that does not put a burden on the community as a stakeholder involvement and participation (Tab. 3). This readiness presents a chance of establishing community funded models that can support the maintenance and sustainability of urban greening projects as well as the existing green zones.

The study observed that the WTP for the greeneries was associated with less satisfaction with current state of the green zones in Ugandan cities. More so, ecological services associated with green zones and forestry such as air regulation and climate mitigation and adaptation were ranked highly (Bamwesigye et al., 2020, Doli et al., 2021, Bamwesigye et al., 2023). This is in line with the role of forests in the urban and pri-urban environment from climate regulation services to soil and water regulation and food and firewood provision services (Lwasa et al., 2014).

Moreover, the priorities that were given by the respondents provide clear avenues for the government and stakeholder involvement. Among the suggested interventions, more public parks, more funding for tree planting and community gardening were the most preferred. Such strategic investments can enhance the urban environment and at the same time create business for the local communities through eco-tourism and community participation.

Therefore, the current study emphasizes the role of urban parks and green spaces in the promotion of community well-being in Uganda. It calls on policymakers to involve local residents in the planning process and to listen to their diverse opinions. Through the identification of the gaps in satisfaction and the adoption of inclusive approaches to urban greening, Uganda can strive to create better, healthier and more sustainable urban environments for everyone. The findings of this research open up avenues for future research that can help improve urban life in Uganda, build resilience, and ensure that the gains made are sustained for the benefit of future generations.

This paper recommends that city and urban policymakers ought to allocate more funds towards the development of green spaces and urban forestry with a focus on the children and young people's needs that spend more time outside while at the same time improving the safety, sustainability and attractiveness of the existing green spaces and facilities. Such programs can help foster a sense of ownership among the youth in the community among other society members and promote environmentally and ecologically friendly practices in the city.

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Souhrn

Cílem tohoto výzkumu bylo zjistit, jak komunita vnímá a je ochotna platit (investovat) do rozvoje městských parků, zeleně a lesnictví ve čtyřech okresech Ugandy, konkrétně v Kampale, Mbaře, Fort Portalu a Gulu. Studie využila kvantitativní výzkumný přístup, ke sběru dat od 501 respondentů použila online dotazníky a ke zjištění ochoty platit (WTP) za zlepšení městské zeleně byla použita metoda kontingenčního oceňování a metoda dvojí diskrétní volby. Výsledky ukazují, že přibližně 66 % respondentů je spokojeno se současnými parky a 27 % z nich spokojeno není, což ukazuje na nedostatek městské zeleně. Téměř všichni respondenti, přibližně 99 %, souhlasí s větším financováním zeleně pro mládež a 90 % je ochotno zaplatit za městskou zeleň a lesy. Nejčastější částka WTP (62 %) se ročně pohybovala v rozmezí 10 000 až 50 000 UGX (přibližně 2,5 až 3,5

amerických dolarů). Jako nezbytné pro zlepšení městské zeleně respondenti preferovali doporučení pro více veřejných parků (77 %), zvýšení financování projektů na výsadbu stromů (67 %) a podporu komunitního zahradničení (49 %). Studie ukázala vysokou míru podpory iniciativám městského lesnictví a potřebu jejich začlenění do procesu plánování. Studie doporučuje, aby tvůrci politik zvýšili finanční prostředky na zlepšení městské zeleně.

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