OPEN SPACE GOVERNANCE IN NAIROBI: TOWARDS COLLABORATIVE APPROACHES AND SUSTAINABLE OUTCOMES

MWANIKI BERNADETTE WANJIRU

Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi, Kenya

GAKUYA DANIEL WAWERU

Department of Clinical Studies, Faculty of Veterinary Medicine, University of Nairobi, Kenya

MWAURA ARTHUR MUNYUA

Department of Urban and Regional Planning, School of the Built Environment, university of Nairobi, Kenya

MUTHAMA NZIOKA J.

Wangari Maathai Institute for Peace and Environmental Studies, University of Nairobi, Kenya

Available Online at: http://www.academicresearchinsight.com/paagrj/3_2_47_60.pdf

CITATION: Mwaniki, B. W., Gakuya, D. W., Mwaura, A. M. & Muthama, N. J. (2019). Open space governance in Nairobi: Towards collaborative approaches and sustainable outcomes. *Public Administration and Governance Research Journal*, *3*(2), 47-60

ABSTRACT

The vast longitudinal loss of recreational open spaces in Nairobi has been on an upward trend. This is a disturbing occurrence due its serious social, environmental and economic impacts. This study attributes this to poor leadership and interrogates Nairobi residents' views on governance of this essential public resource expounding the role of governance in open space provision and suggesting solutions towards better management anchored on sustainable measures. The study examines Karura Forest, Uhuru Park and Lavington estate as three case studies in open space governance to determine the leadership style that delivers the most sustainable open spaces. Data was collected through questionnaire survey (N=400) supplemented key respondents questionnaire survey (N=20), interviews, observation and review of documents and maps. The results indicated a city experiencing weak open space governance that lacks in stakeholder involvement, provision and protection frameworks leading to un-replaced alienation with consequent serious shortage of the resource and negative environmental impacts. Also indicated were high levels of insecurity in public parks

at night particularly for women, dirty and smelly rivers, drained wetlands and many open spaces taken over by informal activities. Majority of residents have expressed their frustration with Nairobi's brick wall governance and have overwhelmingly expressed desires for new inclusive structures based on facilitative and transformative leadership.

Key Words: open spaces, governance, county government, national government, Nairobi

INTRODUCTION

Governments exercise power through controls and incentives to solve national and local problems and institute growth through control, collection and allocation of resources (Slack and Cote, 2014). They establish and operationalize specific instruments of power such as rules, laws, regulations and others to enforce their mandates and adhere to international conventions (Capano, et al., 2015; Avis, 2016). National governments generally constitute the highest tier of governance and establish the form of lower level governments (Fukuyama, 2013). Nairobi constitutionally forms one of 47 county governments in Kenya with one-tier governance headed by governors.

National and county governance have distinct but interrelated functions (Hichert, et al., 2011) with regards to open spaces. National governments guide the overall provision and management of urban open spaces through establishment of comprehensive national legal, planning and institutional frameworks. They also guide interregional and inter-county cross cutting resources relating to green, blue and grey open spaces. They provide and facilitate funding through grants and facilitate investments by municipal governments (Campbell 1996; Bengston, et al., 2004; Nikolaidou et al., 2016, Salat, et al., 2017). UN-Habitat (2017) postulates municipal financing in developed countries as based on long-term investments while that in Africa is dependent mainly on inadequate grants and recommends a paradigm shift towards greater economic freedom.

Urban governments are given full or partial mandates by senior governments to make legal and policy instruments aligned to those of the nation and endeavour to maintain the national-city interface (Bengston, et al., 2004; Avis, 2016). The governance they institute determine whether their cities retrogress, stagnate or develop into modern international metropolis that attract investment and provide enabling climate for scientific and technological innovations that create wealth and employment while nurturing the environment (Cohen et al., 2017). Transformative city governance creates institutional capacity, enacts pertinent laws and formulates operational policies. It generates and manages finance enhancing growth of all aspects of the city including open spaces, establishes productive networks with the private sector, stakeholders and the residents. It also creates competitive linkages and better practice studies with other cities and generally nurtures nature (Avis, 2016).

On the other hand, top down leadership without citizen participation exemplifies totalitarian governance (Slack and Cote, 2014) so prevalent in Africa (Hichert, et al., 2011; Guneralp, et al., 2018). Such governance lacks in transparent and facilitative leadership resulting in corruption, poverty, slums, crime and violence (Resnick, 2014). Kenya for example suffers

from poorly directed urbanization, urban sprawl and poor performing land sector, illegal land allocations, ineffective planning systems and poverty (World Bank, 2016). Illegal allocations have decimated open spaces in Nairobi resulting in climate warming (Olago, 2011; Oyugi et al., 2017). About 70% of parks in Nairobi are not lighted at night while 99% have seats. Only 18% have dedicated pedestrian walkways and 20% have conveniences. Nairobi has no legal framework or planning standards to guide public open space planning and management (UN-Habitat, 2016). Numerous researchers (Ongoma, et al., 2010; UN-Habitat, 2016; Oyugi et al., 2017) and more have recommended that Nairobi City government enhance open spaces provision and forestation. This remains to be done as only collaborative governance can drive the process relying heavily on stakeholder involvement.

Collaborative governance has emerged in recent decades seeking solutions to problems and issues that affect the public through consensus-based decision-making between public servants and private stakeholders. The theory of collaborative governance propounds replacement of adversarial and managerial forms of democratic leadership so as to empower citizens to be actively involved in finding and implementing solutions to issues that concern their specific and general welfare thereby sharing contextual power in order to reach consensus on common goals (Ansell and Gash, 2008). Collaborative governance is based on clear operational rules, consensus building, mutual trust and commitment to problem solving (Ansell and Gash, 2008; Bulzer, et al., 2015).

Leaders are challenged by collaborative governance towards greater transparency in their policy formulation and public financial and property dealings thereby abiding by the rule of law and observing accountability towards their citizens. Consequently, they create space for facilitative stakeholder involvement providing right environments for innovative and transformative policy decisions and implementation (Figure 1). Collaborating parties then ensure that social, economic and environmental axes of development are accorded equal significance in order to deliver sustainable and nurtured urban open spaces (Boger and Kirsten, 2015) once possible disputes relating interpretation of work at hand, conflicting goals, lack of flexibility or others are settled (Huxham, et al., 2000).

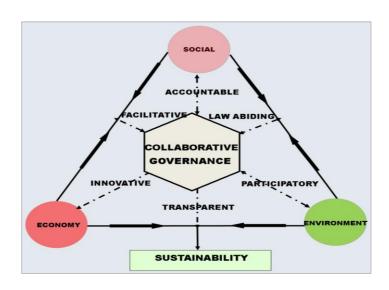


Figure 1: Qualities and outcomes of collaborative governance

Many researchers (Jennings, 2016; Serageldin, 1996; Hamman, 2017) among others predicate sustainable urban open spaces as those based on collaborative policy, planning and management instruments that necessarily produce specific outcomes (Figure 2). Interlinked urban open spaces are critical for human and small wildlife movement (Csepelly-Knorr, 2011) coupled with variety and quality of human nature contacts, accessibility and quality facilities that enhance usage and comfort (Wang, et al., 2013; Khan, 2014; Townsend, et al., 2015).

Good urban governance is of critical importance to sustainable urban open space planning and management (Ghimai, 2011) and is the one single most important component in all areas of urban development as posited by the current study. The best overall performing cities like Curitiba (Basiago, 1999), Singapore (Kolczak, 2017), Melbourne (Whitzman, 2014) and many others are where they are on account of good governance. Consequently some governments accord special status to certain cities, governed by acts of parliament, for improved performance with reference to some special challenges especially in the generation of finances, actualization of mandates, sustainable growth and greater operational freedom from senior governments (Kolczak, 2017).

This study aimed to test whether elements of collaborative governance are used in the provision of open spaces in Nairobi and sought to understand the governance model that best delivers open spaces in three case studies within the city of Nairobi. The study additionally interrogated the views of the Nairobi residents on open space governance and its sustainability in open space delivery.

RESEARCH MATERIALS AND METHODS

The theoretical framework of the current research is based on collaborative governance theory and aims to prove the hypothesis of urban governance as the single most important component of urban open space planning and delivery. The theory positions collaborative governance high in the ladder of modern leadership as it meets the principles of democratic governance transcending yet higher to embrace intra- and inter-generational equity in resource management and effective stakeholder involvement in all aspects of national and local development (Ansell and Gash, 2007).

Nairobi City, also known as Nairobi City County, is the study area being the most populous city in Kenya, the national capital and headquarters of UN-Habitat and UNEP. The study has employed both qualitative and quantitative designs for more reliable results (Williams 2007). The qualitative approach was based on case study method of inquiry triangulated through use of documentary reviews, map interpretation, participant observations and interviews (Dammak, 2015). Quantitatively the study was based on a scientifically sampled questionnaire survey (N=400) supplemented by purposively sampled key respondent questionnaire survey (N=20). The collected data was analysed through SPSS.

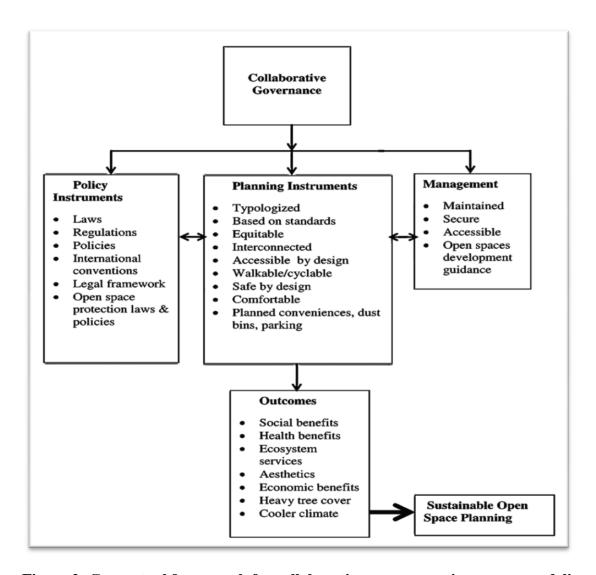


Figure 2: Conceptual framework for collaborative governance in open space delivery

RESEARCH RESULTS

Nairobi governance lacks transparency and facilitative leadership

The study confirmed the results of others concerning corruption, crime and violence as resulting from lack of transparency, rule of law and facilitative leadership. About 62% of the respondents perceived the city governance as corrupt. This is further supported by the alienation of public open spaces as reported by 84% of the respondents and collapse of development control mechanisms that allow developments that negated the city ordinances. The city government has not set up mechanisms for dispute resolution. When it makes decisions that aggrieve the residents 74% (frequency=295) report having no recourse. Of those who have options, 31% claim they are not effective due to inaction by the county government (54%), corruption (42%) and brutality of the city security (3%). Only 8% of the respondents would opt for public meetings or assistance from their elected representatives.

Numerous key respondents gave examples of construction of developments without participation of stakeholders in the mandatory environmental impact assessments noting complaints are met with total silence while developments go on anyway. Njumbi Road residents association notes there is no set mechanisms for conflict resolution and that it is impossible to make authorities respond no matter how much they complain. About 84% and 91% of the respondents note that city government has not protected public open spaces and wetlands respectively against alienation. Due to the apparent mutual lack of trust, 43% of the respondents preferred registration of neighbourhood open spaces against respective estate resident associations in contrast to 37% and 20% to the national and county governments respectively.

City governance does not enhance public participation

There is limited interface between the city government and the residents. About 25% of the respondents are not aware that they can contribute to the betterment of their city while 24% claim they are never requested to assist. About 23% of the respondents would not want to be involved due to corruption. Those not interested or are too busy form 10% of the respondents while 18% find no limitations to public participation.

Absence of open space planning and legal frameworks

The study notes the absence of planning and legal frameworks that enhance open space provision and protection against alienation and misuse. It has suggested provision standards recommended by most of the respondents. Consequently 65.3% (frequency=261) of the respondents report zero open space provision in their areas of residence. Of these, 75% have no planned open spaces while 20% had them but were alienated without subsequent provision.

Usage and security of open spaces in Nairobi

Many research findings equate usage of open spaces with sustainability. About 41% on the non-neighbourhood users blame insecurity and pressure of work. Of those who do not use major parks, 57% find the journeys too long to spend time on relative to their other commitments. About 72% of the respondents consider Nairobi public parks as safe during the day for all categories of people with 24% noting them as very dangerous or dangerous. Only 5% of the respondents consider them as very safe. Majority of respondents (75%) consider Nairobi parks at night as very dangerous or dangerous. Security however gets significantly worse (78%) for ladies at night. This researcher learnt that Kamukunji Park in the eastern outskirts of the central business district is very dangerous even during the day. No respondent mentions it as a favourite park. Uhuru Park, Central Park, City Park and Jevanjee Gardens are used by 77.5% of the respondents. Uhuru Park (46%) and City Park (13%) are the favourite public open spaces due to blue and green provisions and nature respectively.

Management of public open spaces in Nairobi

Urban cleanliness is essential for sustainability rating and is part of good governance. The Nairobi City County scores poorly on management of open spaces reflecting poor governance. An overwhelming number of respondents (95%) attest to littering being a serious problem in Nairobi and to Nairobi Rivers being full of solid waste (95.3%). About 97% of the respondents confirm that Nairobi Rivers are smelly and that majority of Nairobi residents (81.8%) have little respect for open spaces to actually bring and retain them in their current states.

CASE STUDY GOVERNANCE

Karura Forest

Karura Forest was gazetted in 1932 having an area of 1,062.7 hectares. In 1956, 18.6 hectares were excised. Between 1992 and 1996, 476 hectare of forest were excised and allocated to sixty-seven companies (Green Belt Movement, 2010). A number of stakeholders and interested publics both local and international united to save Karura Forest under the direct involvement of Professor Wangari Maathai. While replanting trees in the forest in 1999, hired thugs attacked the group inflicting serious bodily harm to Professor Wangari (Onyango, 2015), thinking probably lame ducks cannot lead. They have been proved wrong by the wonder Karura Forest has become just as envisioned in the Karura Forest Strategic Plan (Green Belt Movement, 2009). The forest conservation and management act (Kenya Government, 2016) legislating stringent measures to protect forests creating management practices outlined in the strategic plan has been enacted.

Twenty-four hectares of forest have been replanted with indigenous trees out of the 100-hectare sections with exotic trees. The exercise is on going to fully restore the forest to its original indigenous state. There is in place Friends of Karura Forest who are taking care of the forest and guarding it against loss. The neighbouring slum community is earning a livelihood from the forest through direct employment, seed gathering to grow seedling for sale and harvesting honey from beehives placed in the forest and locally manufactured for sale. The entire forest has been fenced off. Scouts ensure security of the forest. Students come by the thousands to experience and learn from Karura forest. Visitors and the neighbouring communities cycle, walk and jog in the forest. Animals, birds and insects are slowly growing in numbers with still more room for more small animals and birds like the warthog and peacocks for greater enjoyment of the school children. Collaborative governance has brought together the Kenya government, Friends of Karura Forest, the neighbouring and wider communities to transform a dying insecure forest to a dynamic and thriving Nairobi City lung that supports all forms of life and the local economy.

Uhuru Park

Uhuru Park (12.9 hectares) was planned within the 1948 master plan for colonial capital for the enjoyment of the European community in a city where strict racial segregation was practiced until Kenya's independence in 1963. Uhuru Park, Central Park and Jevanjee Gardens are located in the central business district and within the most expensive locations of

Public Administration and Governance Research Journal

all the public open spaces in Nairobi City. Due to their central locations, they are heavily used.

Uhuru Park was professionally designed and developed through a top bottom-planning model and is administered by the Nairobi City County. It has an artificial dam that is heavily enjoyed through passive recreation and boat riders. The park also has picnic sites, expansive grassed areas, a pavilion used for public gatherings including political rallies and public conveniences. In recent years a lunar park for enjoyment of children has been installed. Due to its high economic potential, the park has been variously threatened with alienation by powerful forces. In 1989 the then president designed a 62 storey Kenya African Union headquarters whose construction was thwarted yet again by Professor Wangari Maathai and other stakeholders (Ruthi William, 2018) at great costs of defamation, verbal abuse even within parliament and incarceration. A major church was constructed on its south eastern corner and was forcefully demolished in 2006 (Kago and Mugonyi, 2006).

The park is heavily used and often shows signs of over usage. With proper management, it could be redesigned to enhance its beauty and activities such as perimeter walking and jogging trails. It could also benefit from more shrub and tree planting as has been done along Uhuru Highway. From its past history, the governance of the park appears to autocratically give temporary leases to transact businesses in the park other than recreation. In the past, it compromised the existence of the park by colluding with the government to alienate some part of the park. Had Kenyans and friends of good will not been active in preventing the construction, Uhuru Park would have been permanently disabled. The park is still susceptible to alienation in the future and needs to be accorded a monument status to completely protect it from future abuse. The park urgently needs collaborative action like Karura Forest and friends for protection, further beautification and enhancement of recreation activities.

Lavington Estate

Lavington estate was developed as a high-end residential district through the private initiative of the Holy Ghost Fathers. The fathers came to Nairobi in 1899. Bishop Allegeyer directly purchased 67 acres from the chief where St Austin Parish and St Mary's School are currently located. This annoyed John Ainsworth, the Government Vice Consul, who ruled no land would be bought henceforth from the natives as it belonged to the crown (O'toole, Undated journal). According to the same source, which is supported by the Local Government Commission (1927), the Holy Ghost Mission purchased 458.9 hectares (1133 acres) and 194 hectares (478 acres) freehold and leasehold land respectively from the government. The bigger parcel was given land reference number (L. R. No.) 3734 and the smaller one 3735. Land reference number 3735 became Lavington Estate, but was initially the first coffee estate in the interior Kenya.

Lavington Estate was comprehensively planned and constructed in the late 1950s with a provision of 85.77 hectares of recreational open spaces comprising 18.7% of the entire landholding (Figure 3). These were left in the care of the national government. To date, all

these open spaces and part of fully developed El Molo Drive have been allocated for private use contrary to the deed of trust that issued in free surrender for public use. Ownership of three undeveloped open spaces is currently in court. The city government has clandestinely shifted the Lavington boundaries to illegally introduce high-density flats or amended development densities without reference to the stakeholders. The court cases relating to these illegalities are many and have left some leaders of resident associations bruised, traumatized and unwilling to engage in court battles in future. Lavington residents deserve collaborative governance practices that give them some say in the management of their estate.

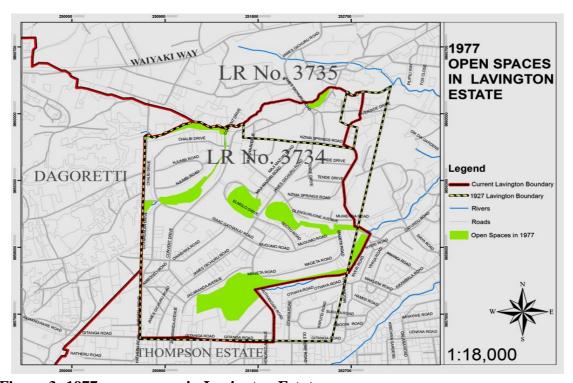


Figure 3: 1977 open spaces in Lavington Estate

Preferred leadership options

The study result showed that Nairobi city does not enjoy collaborative governance except in some enclaves like Karura Forest, which is a great case study for good governance. Respondents needed this form of governance and have overwhelmingly suggested profound institutional changes in the structure of city authority. They began by strongly agreeing and agreeing (94.3%) with the statement that governance is the single most important component in open space planning). Consequently, 52.8% and 38.5% (= 91.3% with N = 400) strongly agreed and agreed respectively that Nairobi should be accorded special status district. About 90% of key respondents support the special district status with 65% strongly agreeing and 25% agreeing.

DISCUSSION

This paper confirms the findings of various researchers on poor urban governance in many countries of Africa including Kenya (Makwaro and Mireri, 2011; Hichert, et al., 2011; Resnick, et al, 2014; World Bank, 2016; Cobbinah and Mensah, 2016). The case studies support collaborative theory in its ability to galvanize public participation in creating collaborative local governance in Karura Forest and continued top bottom leadership in the Uhuru Park. The study has demonstrated that where stakeholder participation is denied and contested in courts as in the case of Lavington, autocratic governance dominates to a point where every inch of green public open space and some rivers and even fully developed public roads are allocated to private developers. Where organized groups fight for open spaces as in the case of Uhuru Park and Karura Forest, the war for green is won albeit at great costs.

Collaborative governance theory clearly points the way to good governance through transparent, accountable and facilitative leadership that enhances community participation and mutual trust (Ansell and Gash, 2007) both of which are missing in Nairobi. The fact that only 16 out of 298 respondents would go to their members of county assembly or members of parliament points to a serious confidence crisis in the city leadership that questions the purpose of its existence in its current form. The same could be said of the Kenyan courts concerning solutions of public disputes within Nairobi with only 6.4% of respondents willing to have their recourse. The Nairobi county governance needs reform that would enables it to engage the residents in building the city.

Cities in developed countries are critical generators of wealth, health and culture (Slack and Cote, 2014). Nairobi is not doing this, at least not to the majority of its residents. With 90.3% of respondents (N = 400) earning monthly incomes of less than Kenya shillings 40,000 and only 1% with incomes of over Kenya shillings 100,000, Nairobi is growing not like a developing but retrogressing city. Nairobi needs facilitative governance that creates business and employment platforms for all residents while enhancing the green space for better health of peoples and ecosystems. UN-Habitat (2016) has shown that parks in Nairobi lack in basic facilities, accessibility and comfort. The current study reveals unacceptable levels of park insecurity and serious inadequacy of public open spaces at 5.3M2 per capita compared to the World Health Organization's (2010) recommended minimum of 9M2 indicating unsustainability in open space planning and management.

The national and county governments have to be serious in reclaiming especially all lost wetlands and riparian reserves at whatever cost, which is a fraction of future costs to the economy and human lives if open space deficiency and all forms of pollution are not reversed (Manucci, 2017). This is what 93.5% of the respondents and 100% of key respondents expect them to do. The county government should enforce the 10% open space reservation as opposed to surrender as supported by 75% of the respondents and 95% of key respondents and to create provision standards as overwhelmingly backed by an average of 91.6 % of the respondents and key respondents or improve on them. The government should ensure that all undeveloped former open spaces are returned to public ownership and titles issued for protection. The process of alienating public land for private development should be made more rigorous and completely transparent.

City and district parks require the concerted efforts of national and city governments. Sixty percentage points (60%) of the respondents and 100% of key respondents believe these ought to be provided by national government due to the costs involved. To enhance liveability in Nairobi, the national government should make annual allocations for direct acquisition of land for this purpose.

Nairobi is home to millions of people and is additionally a city of numerous local and international visitors. The city has to be kept clean through enforcement of anti littering laws and provision of planned work places away from road reserves and neighbourhood parks. City Rivers need to be cleaned and protected against pollution. More blue areas need to be created along river valleys, disused quarries and other suitable locations. Above all there is need to redesign Nairobi as a green liveable city by creating platforms for tree planting on public open spaces, streets, private properties, institutions, wetlands and riparian reserves.

These changes cannot be effected by an autocratic governance hence the need to create Nairobi as a special status city or region with special governance and institutional structures to steer its urbanization process creating sustainability in all sectors of development including open spaces.

CONCLUSION

Many are of the opinion that Nairobi is a beautiful city that could be driven to high levels of sustainability with proper governance. Establishing a city that is an engine of economic and social growth while protecting and enhancing strong city-nature links demands innovative, transparent and facilitative governance with comprehensive institutional and legal frameworks, which upholds the rule of law for all. Kenya alone can create this governance in Nairobi restoring the city's past prosperity, order and beauty thus eliminating slums, enhancing sanitation and protecting the residents from further enhancement of pollution, climate change and extreme weather events. This is of critical importance since what happens in Nairobi will be replicated in other cities and towns of Kenya.

REFERENCES

- Ansell C. and Gash, A., (2007). Collaborative Governance in Theory and Practice, Journal of Public Administration Research and Theory, 18 (4), 543-571
- Avis William Robert, (2016). Urban Governance Guide, Birmingham, UK: GSDRC, www.gsdrc.org/wp-content/uploads/2016/11/UrnaGov_GSDRC.pd
- Basiago, A. D., (1998). Economic, Social, And Environmental Sustainability In Development Theory And Urban Planning Practice, the Environmentalist, Vol. 19, Issue 2., pp. 145-161
- Bengston David N., Fletcher Jennifer O., Nelson Kristen C., 2004. Public Policies for Managing Urban Growth and Protecting Open Space: policy Instruments and Lessons Learned in the United States, Landscape and Urban Planning, 69, 271-286

- Bogar Sandra and Beyer Kirsten, (2015). Green Space and Crime, Violence and Abuse, A Systematic Review, Sage Journals, journals.sagepub.com/doi/pdf/10.1177/1524838015576412-
- Brinkerhoff Derrick W. and Goldsmith Arthur A., (2002). Clientelism, Patrimonialism and Democratic Governance: An Overview and Framework for Assessment and Programming, Prepared for U. S. Agency for International Development, Office of Democracy and Governance
- Buizer Marleen, Elands Birgit, Mattijssen Thomas, Van der Jagt Alexander, Ambrose Bianca, Gerőházi Éva, Santos Artur, Møller Maja Steen, (2015). The Governance Of Urban Green Spaces In Selected Eu-Cities, FP7 project GREEN SURGE (ENV.2013.6.2-5-603567; 2013-2017), greensurge.eu. Accessed on 24th April 2018
- Campbell, Scott, (1996). Green Cities, Growing Cities, Just Cities? Urban Planning and the Contradictions of Sustainable Development, Journal of the American Planning Association, Vol. 62, 3
- Capano Gilberto, Howlett Michael, Ramesh, M., (2015). Bringing Governments Back In: Governance in Comparative Policy Analysis, Journal of Comparative Policy Analysis, Research and Practice, Vol. 17, 311-321
- Cobbinah Patrick B., Darkwah Rhoda M., (2016). Urban Planning and Politics in Ghana, Geo Journal, 82(6)
- Cohen Matthew, (2017). A Systematic Review of Urban Sustainability Assessment Literature, Sustainability 2017, 9(11)
- Csepely-Knorr Luca, (2011). The Birth of the Theory of Urban Green Systems in Britain and Hungary, Correspondence between Thomas H. Mowson and Bella Rerrich concerning Urban Design Principles, Agriculture and Environment Supplement, 41-53
- Dammak Abderrazak, (2015). Research Paradigms, Methodologies and Compatible Methods, VERITAS, Vol. 6, No. 2.
- Dunnett N. (2003). Nature, role and value of green space in towns and cities: An overview, Built Environment, 29(2), 94-106.
- Fukuyama Francis, (2013). What is governance? Working Paper 314, Centre for Global Development, www.cgdev.org
- Ghirmai Kefela T., (2011). Good governance enhance the efficiency and effectiveness public spending -Sub Saharan countries, academic.journals.org, downloaded 1st July 2018
- Government of Kenya, (2017). Kenya Gazette Supplement, No. 107, Legislative Supplement, Legal Notice No. 111, Government printers, Nairobi
- Government of Kenya, (2016). Forest Conservation and Management Act, 677, Government

- printers, Nairobi
- Government of Kenya, (2010). The Kenya Constitution, Government Printers, Nairobi
- Green Belt Movement, (2009). Karura Forest Management Plan,
- Guneralp Burak, Lwasa Shaib, Masundire Hillary, Parnell Susan and Seto Karen C., (2018). Urbanisation in Africa: Challenges and Opportunities for Conservation, environmental Research Letters, 13, 015002
- Hamman Phillipe, (2017). Definitions and Redefinitions of Urban Sustainability: A Bibliometric Approach, Les espaces verts urbains : éclairages sur les services écosystémiques culturels, Volume 11
- Hichert Tanya, 2011. Nairobi City Scenarios, Institute of Economic Affairs, Nairobi, https://www.ieakenya.or.ke/downloads.php?page=Nairobi-City-Scenarios.pdf. Accessed 10-02-18
- Huxham, Chris, Vangen Siv, Enden Colin, (2000). The Challenge of Collaborative Governance, Public Management Review, 2(3), 337-358
- Jennings Vivience, (2016). Advancing Sustainability through Urban Green Space: Cultural Ecosystem Services, Equity, and Social Determinants of Health, Int. J. Environ. Res. Public Health 2016, 13, 196
- Kago Toony, Mugonyi David, "Council right to bring doem church in park, sys Kombo, Daily Nation, June 12, 2006, https://www.nation.co.ke
- Kolczak, Amy, (2017). Singapore Calls itseld the Garden City and it's Making good on that Promise, https://www.nationalgeographic.com/.../green-urban-landscape-cities-Singapore/accessed 9th February 2019
- Makwaro Mical and Mireri caleb, 2011. Public Open Spaces in Nairobi City, Kenya, Under Threat, Journal of Environmental Planning and Management, Vol. 54, No. 8, 1107-1123
- Mannucci P. M., Franchini M, (2017). Health Effects of Ambient Air Pollution, Int J Environ Res Public Health., 14(9)
- Nikolaidou, S., Klöti, T., Tappert, S., & Drilling, M. (2016). Urban Gardening and Green Space Governance: Towards New Collaborative Planning Practices. *Urban Planning*, *I*(1), 5-19
- Olago Daniel O., (2011). Kenya: Climate Change Impacts, Vulnerability, Mitigation And Adaptation Strategies, Institute Of Climate Change And Adaptation (ICCA) And Department Of Geology, University Of Nairobi, https://caast-nplus.org/object/news/903/attach/KenyaClimChangADAPTStrats.pdf
- Ongoma Victor, Nzioka J. Muthama, and John K. Ng'ang'a. (2010). Effects of Urbanization on Climate of Nairobi City, Journal of Meteorology and Related Sciences, 4, 49–60.

- Onyango Protus, 2015. Kenya's Karura Forest Symbol of Green Belt Movement Suffering, death by 1,000 Cuts, https://news.mongabay.com/2015/.../kenyas-karura-forest-symbol-of-greenbelt-move...
- Oyugi Maurice Onyango, Karanja Faith N., Odenyo Victor A. O., (2017). Modelling the Effect of Land Use and Land Cover Variations on the Surface Temperature Values of Nairobi City, Kenya, Resources and Environment 2017, 7(6): 145-159
- O'Toole Locan (Undated). History of St. Austin's Mission 1899-1911, Vol I and II of St. Austin's Journal with Introduction, St Austin's Archives
- Resnick Danielle, (2014). Urban Governance and Service Delivery in African Cities: the Role of Poitices and Policies, Development Policy Review, 32 (s1): s3-17
- Local Government Commission, (1927). Report on the Local Government Commission, Colony and Protectorate of Kenya Vol. 1, Nairobi and Its Environs, Mombasa and Its Environs, Waterlow & Sons Limited, London, Dunstable and Watford
- Ruthi Williams, "Celebrating city's iconic park, Daily Nation, July 11, 2018, https://www.nation.co.ke
- Slack Enid and Cote Andre, (2014). Comparative Urban Governance, Institute of Municipal Finance and Governance, www.gov.uk/go-science,URNGS/14/810
- Serageldin Ismail, 1996. Sustainable Development: From Theory to Practice,
- Townsend Mardie, Henderson-Wilson Claire, Warner Elyse and Lauren Weiss, (2015). Healthy Parks Healthy People: the state of the evidence 2015, Prepared for Parks Victoria, School of Health and Social Development, Deakin University
- Un-Habitat, 2016. Nairobi Community Led Citywide Open Space Inventory and Assessment, www.unhabitat.org
- UN-Habitat, (2017). Economic Foundations for Sustainable Urbanization: A Study on Three-Pronged Approach: Planned City Extensions, Legal Framework, and Municipal Finance, www.unhabitat.org
- Wang Dong, Mateo-Babiano Iderlina and Brown Gregory, (2013). Rethinking Accessibility in Planning of Urban Open Space Using an Integrative Theoretical Framework, Final Paper Submitted to State of Australian Cities Conference 20
- Whitzman, C., Gleeson, B. & Sheko, A., (2014). Melbourne: What Next? Research Monograph No. 1, Melbourne Sustainable Society Institute, The University of Melbourne.
- Williams C., (2007). Research Methods, Grand Canyon University Journal of Business & Economic Research, Volume 5, Number 3
- Word Bank, (2016). Republic of Kenya: Kenya Urbanization Review, Report No: AUS8099, GSU Africa, pubrights@worldbank.org