TOWARDS URBAN PLANNING AND ENVIRONMENTAL GOVERNANCE LINKAGES IN THE DELIVERY OF SUSTAINABLE PUBLIC URBAN OPEN SPACES IN NAIROBI

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

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ABSTRACT

Good governance is important in all walks of life. In the running of nations and cities, research attests to the critical significance of good governance since it determines whether or not countries and cities advance into wealth and health or stagnate through underdevelopment or even slip backwards through divisive policies and abuse of public resources. Research also confirms the importance of urban planning, which creates living areas that are efficient, equitable, healthy and vibrant with biodiversity and variety. This study aims to investigate whether and how enhanced linkages between governance and urban planning deliver more sustainable public open spaces in Nairobi City. Data was collected through general questionnaire survey (n=400), key respondents questionnaire survey (n=20), key respondent interviews, observations, review of documents and maps. The study revealed intricate inter-linkages between governance and urban planning and how global North countries have exploited these to create urban planning models and strategies that enhance productivity, aesthetics, health and quality of life. The study has shown that these linkages are not

exploited in Nairobi City, which instead uses private interests and market forces to drive urban development at the expense of social interests and urban nature. The study recommends the creation of adequate operational space for urban planning by equipping it with good institutional, planning, open spaces and legal frameworks that enable the profession to execute its mandate of guiding the implementation of the city's visions and goals towards greater wealth, higher employment opportunities, better laid out infrastructure and services and life enhancing environments.

Key Words: *urban governance, urban planning, urban planning models and strategies, Nairobi City, Nairobi City County*

INTRODUCTION

An African proverb postulates that when a leader limps, the whole herd never gets to the green pastures. While good leadership in all contexts is important, that among humans is of special essence (Ghimai, 2011). It determines whether or not the led will achieve their stated goals and aspirations. Leaders select groups of people on whom they confer power to form governments to assist them in decision-making and implementation or governance (United Nations Economic and Social Commission for Asia and the Pacific, 2009). Governments execute governance through exercise of power and incentives to solve common problems and institute development (Capano et al., 2015). They collect and allocate resources, establish rules of governance, ensure compliance and deliver infrastructure and services under the influence of many actors (Avis, 2016; Buizer et al., 2015). Slack and Cote (2004) give the four crucial actors as national and local governments, municipal employees, the private sector and political systems and institutions.

National and city governments engage in an interface of special importance. City governments operate on the laws and policies set out by national governments. They also receive frameworks and institutional guidelines that express the overall urban visions including guidelines that direct growth and preservation of natural resources, planning, implementation and development control. Local or Municipal governments implement frameworks from national governments and those they formulate through their employees. Municipal professional employees including Urban Planners begin their operations at this level reaching downwards to the private sector and other actors including the general populace (Bengston et al., 2004).

The different operational levels and one way downward outreach to citizens are invalidated in collaborative governance by citizen participation and the mantra of service to all especially the poor hence the concept of 'civil service' which ideally produces 'civil servants'. Those at the bottom of the ladder are empowered to contribute to the improvement of their states through consensus decision making in collaborative governance, founded on participatory, accountable, transparent, efficient, equitable and adherence to the rule of law principles (UN-Habitat, 2016). Their power is further enhanced when governance is linked to urban planning.

People have practiced planning just like governance from time immemorial at individual, family and society levels (Dahl and Sanchez, 1999). The field of life therefore encompasses all manner of planning. The planning in this study is urban which goes by such names as 'City Planning,' 'Physical Planning,' 'Land Use Planning,' 'Urban and Regional Planning,' 'strategic planning' (Carmon, 2013; Batley and Marshall, 2009; Narang and Reutersward, 2006) among others. The profession was derived from others particularly architecture in the late 18th century to bring compatible order in the layout of land uses over defined areas, including recreational open spaces then considered indispensable components of urban land use planning (Swanwick, 2003; Braquinho et al., 2015). Understandably, zoning was a primary planning tool (Simon, 2011).

Urban planning emerged with the specific mandate of bringing life and health back to cities ravaged by the serious impacts of heavy pollution resulting from the 18th Century industrial revolution in Britain and poor housing (Csepely-Knorr, 2011; Dahl and Sanchez, 1999). With the rampant pollution, slums, environmental degradation and poverty in cities especially in the global South countries, the wheel of urban unsustainability appears to have made a full circle at a time of heightened urbanization and global consumerism. Without critical intervention, these problems will rise to levels not as yet imagined.

By 2050 about 6.9 billion (70%) of the total global population (9.8 billion) will be urban (United Nations, 2014). This is phenomenal growth considering the same population stood at 3% in 1800 (Population Reference Bureau, 2017). Africa's population was estimated at 1.3 billion in 2018 out of which 42.5% was urban. The urban population will grow to 58.9% by 2050. During the same period, Kenya's estimated urban population of 27% (out of estimated 51 million) will stand at 46% requiring development of 37 towns with +100,000 population from the current 21. By 2025, Nairobi's population will be about 6 million (United Nations, 2018; Wolfgang, 2011; World Economic Forum, 2015) from the estimated 4.4 million in 2018.

The new population will require sustainable cities and towns to live in calling for extension of existing and creation of new ones. This calls for concerted efforts from professional disciplines particularly governance and urban planning. Urban planning is a dynamic profession whose main aim is to improve the welfare of communities and ecosystems by creating places that are convenient, healthy, efficient, equitable, accessible and environmentally vibrant with life and biodiversity. It is analytical by nature and always works towards future visions by the results of planning interventions expressed in the present time but projected into the future with appropriate reviews as desired (Carmon, 2013; Bolay, 2015).

Traditional urban planning was a vehicle for development delivery by governments based on firm statistical analysis and sure projections that were goal driven to create cost effective strategies. These development strategies were mapped for ease of understanding and given development timelines. The biggest urban planning drawback was its autocratic top down design model and the lone ranger mentality that went with it, which clashed with the increasingly collaborative governance structures. It operated on top down land use and

development control regulations. It was seen as restrictive, time consuming and expensive. Consequently, urban planning was no longer seen as a useful tool for development and it was increasingly sidelined in the 1980s and 1990s. Private interests and market forces were let loose to drive development of cities under governance often at the expense of the common good (Narang and Reutersward, 2006).

The consequent haphazard urban developments, the neglect of the social sector and the negative impacts resulting from poorly directed developments bore heavily on governance and the environment (Mannucio and Massimo, 2017). The dilemma facing leaders and thinkers was how development and environment could be made mutually inclusive without one harming the other. Up till then the environment had enabled the existence of development through delivery of raw materials whose increasing consumption and detrimental byproducts impaired the giver in tendering further provisioning services. In answer to the dilemma especially in these last decades, governance turned to the increasingly redefining urban planning to accommodate the three pillars of good governance. The pillar of subsidiarity enabled the profession to descend to the lowest units of planning for shared knowledge and resources. With the second pillar of stakeholder involvement in policymaking, the operations of the profession become more democratic through collegial planning policy decision-making. The third pillar forced the separation of roles where the collegially formulated policies were implemented by other agencies within Local Authorities to forestall conflict of interest (SGS Economics and Planning, 2005).

The re-union of governance, urban planning and other professions proved productive as envisaged. It delivered new city design models and strategies that increasingly brought nature to towns and cities, were environmentally cleaner, more cost effective and higher revenue and income generating. Examples of these models are new urbanism, garden city, eco-city, compact city and smart city (Maruani and Amit-Cohen, 2007; Fischer et al., 2018). Most of these models were designed around nature while others like the Compact city and the Smart City are increasingly challenged to improve on open spaces delivery (Newman, 2005; Ahvenniemi, 2017). The design of the nature-based city is based on four guiding principles extracted from the WECD (1987) report (Hamman, 2017). The first principle is holistic urban planning encompassing all the aspirations of peoples firmly built into implementable strategies. The second is preservation of ecological sites during planning and implementation processes. The third is protection of biodiversity and cultural heritage in all states of life. The final principle calls for developments that uphold intra and inter generational equity in their design and implementation frameworks.

When the three pillars of governance and the three pillars of development are combined in governance and planning, high-level sustainable developments take place at national and local levels. Economic pillar, the long preferred development sector due to its direct fiscal benefits deals with generation of finances in sectors such as commercial, industrial, technological, communication, infrastructure and services among others. The social pillar sees to the satisfaction of human needs and improvement of quality of life in areas such as health, employment, equity, culture and others. Environmental pillar concerns itself with

nature such as the atmosphere, ecosystems, biodiversity, green, blue and grey open spaces and others (Tapper, 2018).

The three pillars of governance and the three pillars of development were combined under the six principles of good governance to create yet greater sustainable growth bed-rocked on public participation (UN-Habitat, 2016). Transparency in governance and planning resulted in honesty in allocation of economic and natural resources to the three pillars of development ensuring that none was left behind limping. Accountability resulted in efficiency across the three pillars of development, demanding above board and cost-effective utilization of public resources thereby creating new possibilities for greater economic advancement for all. Rule of law ensured that none was above the law buttressing the resolve for self-control in dealings with public resources. Facilitative governance in urban planning necessarily combined with professional innovativeness that contributed to better functioning cities and improved city design models and strategies with well thought out implementation techniques. The ensuing sustainability through the nurturing of urban nature in the third environmental pillar of development, created a state of equilibrium and beauty exemplified by biodiversity, clean air, water bodies and soils that timely delivered all their determined ecosystem services, while expansive and well landscaped open spaces provided passive and active recreation in support of healthy, productive citizens in present and future times (Hamman, 2017; Elmqvist et al., 2015; Narang and Reuterward, 2006).

Public participation and engagement of civic society is the guiding principle for the new urban planning and governance. All residents should carry on their shoulders the burden of contributing to the transformation of their cities for the common good. Inclusivity especially in the social pillar of development, increasingly urge planners and governors to effectively deal with the needs of the urban poor and the disadvantaged. Urgently needed particularly in the global South cities are planning and design strategies that are translated into projects and implemented to reduce poverty and crime so as to improve stakeholders' social, cultural and economic status through community and individual empowerment (Narang and Reutersward, 2005). In so doing urban planners should keep a firm eye on the indicators of urban livability given as gainful engagements, healthy environments, public open spaces, housing, social infrastructure, public transport and walkability (Badland et al., 2015).

These new urban planning models, strategies, livability indicators and collaborative governance are not particular hallmarks of Africa where autocracy and rational planning are still in widespread practice (Guneralp et al., 2018; World Bank, 2016). Nairobi City still practices non-participatory planning and governance despite constitutional and legal rights to public participation (Government of Kenya, 2012; Government of Kenya, 2010; Government of Kenya, 1996). Weak local authorities and development control mechanisms have been noted in Kenya and Nairobi City (Guneralp et al., 2018).

RESEARCH MATERIALS AND METHODS

The study's theoretical framework is based on collaborative governance and planning theories and the theory of environmental sustainability. The first two theories are counter

indicative of rational theory of planning and support full stakeholder involvement in the planning and governance processes (Hamman, 2017). The environmental sustainability theory propounds equal treatment of the three pillars of development in support of adequate provision of urban open spaces (Harting et al., 2011). The conceptual framework demonstrates the great significance of good governance in creating planning and legal frameworks that guide delivery, implementation and management of sustainable urban open spaces. Nairobi City formed the study setting due to its importance in size and functions as the capital City of Kenya and headquarters of UN-Habitat and UNEP. The study employed both quantitative and qualitative methods of scientific investigation for better results (Williams, 2007). The qualitative method was based on case studies combined with documentary reviews, map interpretation, participant observation and interviews (Dammak, 2015). The qualitative approach was based on scientific questionnaire surveys for general respondents (n=400) and purposefully sampled key respondents (n=20).

RESEARCH RESULTS

Collaborative Governance and Urban Planning are needed in Nairobi City

Review of literature has shown the significance of collaborative governance and planning in the delivery of urban services including public open spaces as propounded by the collaborative governance and planning theories (Salat et al., 2017). Yet planning and governance in Nairobi has strong autocratic tendencies. Reports from the two resident association coupled with documentary evidence proved that all the public open spaces in the estate including a section of fully developed El Molo Drive have been allocated for private development amid serious court battles with the resident associations. The construction of a church along Chalbi Drive continues its operations and new construction despite residents' objections due to its sheer size and traffic generation, actual and potential, when the development is completed. Commencement of a power station construction opposite the said church caught the residents by surprise creating a falsehood of an ongoing construction. In further support of the absence of collaborative governance in leadership and urban planning in Nairobi City, 51% of the respondents have no option but silent suffering when wrong decisions concerning them are made. Only 3% would involve their elected leaders while about 5% would go to court. Demonstrations seen as an option by 10% of the respondents have little effect in the city on policy changes.

Collaboration between City Government and Urban Planning is Necessary

Literature review pointed to the side lined urban planning by governance for market driven investment and growth raising the question whether the latter could replace urban planning. The ensuing urban unsustainability negated the question and called for redefined philosophies in basic planning practises towards increasingly green and health sustaining cities (Narang and Reutersward, 2006). However, urban planning in Kenya and Nairobi has strong manifestations of still being side lined. The findings of the study confirmed those of others on the absence of proper institutional structures and frameworks for urban planning (World

Bank, 2016; UN-Habitat, 2016). National urban planning functions are scattered across five ministries and one constitutional commission without a parent ministry to nurture its growth and instil discipline. The county urban planning functions are fragmented within small subsectors that mostly act independently except in the online scrutiny of development plans. There is no sub-sector specifically mandated to deal with the planning of open spaces nor are there open space legal and planning frameworks or official policies on alienated open spaces especially public roads and wetlands.

Nairobi Lacks Equity in Development Approvals

Various developers have noted the absence of a level playing field in the practice of urban planning in Nairobi City as reported by key respondents and noted through observations. In many estates, different planning parameters are used for different locations within the same zone. In Riverside Estate for example, developers along the river valley are permitted higher plot ratio than those along Riverside Drive. The city planners justify this by way of hardly noticeable skyline at the bottom of the valley. Yet densities are based on infrastructure and services, not on skylines. Some developers are permitted to have reduced building setbacks such as building lines on average set at 6 and 9 meters depending on the size of the abutting road. Deficient building lines often point to higher ground coverage and excessive plot ratio and consequent reduction of on-site open spaces. A drive through Nairobi reveals interesting disparities. The respondents who considered the City governance as corrupt (61.5%) supported these observations.

Anchoring Planning and governance on the Three Pillars of Development

Literature has shown strong linkages between governance and urban planning in delivering sustainable development based on the three pillars of development as propounded by the environmental sustainability theory. This study defines sustainability a state of being within the three pillars of development that passes on to the next generation more improved capital, particularly natural capital, than received from the previous generation. Sustainable developments grow even faster through inclusion of the three pillars and the six principles of governance (UN-Habitat, 2016; World Economic Survey, 2013). The survey findings reflect the unbalanced growth of development in Nairobi City where urban open spaces have been decimated to accommodate the economic pillar. High levels of poverty do exist in the city as seen first hand during the data collection phase in Deep Sea slum and the unplanned settlements of Kangemi located in Westlands Sub-County. In addition environmental degradation, endemic traffic jams and pollution are daily experiences of those who live in Nairobi City in the absence of sustainability.

Creating an Open Space Model to Guide Sustainability

The respondents demonstrated their willingness to contribute in the creation of sustainability in Nairobi City. About 92% are ready to plant trees and take care of them. About 95% are ready to protect open spaces against alienation while 80% are willing to freely donate their

time in to sweep public streets and clean public open spaces. Urban governance and planning are complex in nature and require holistic approaches that are best developed into models for better comprehension of the issues at hand. Operational models are important in the area of open spaces delivery as they guide stakeholders and interested public on how they interact to actualize given visions or perform certain duties including the necessary provisioning instruments to deliver the expected outcomes (Maruani and Amit-Cohen, 2007). Models infer provision of per capita open space provision standards broken down by typologies. These were provided by the study through the collaborative efforts of the respondents at 1.2ha/1000, 0.4ha/1000 and 0.8ha/1000 population for neighbourhood/local, district and urban parks respectively issuing in 24M2 per capita. By means of such a framework, the study provided the open spaces current and projected requirements for Nairobi City from 2018 to 2025 (Table 1). Year 2018 reports a very large deficit in open spaces delivery carried on from previous years. The shortfall will go on building as population rises over the years until provision evens out or outstrips demand.

Table 1: Nairobi per Capita and Public Open Spaces requirements by typology

Year	Projected Population	Annual population increase	Existing Per Capita on 2,363 ha.	Total provision in hectares			Proposed Per capita (M^2)	
				Neighbourhood	1.2			Total
2018	4,416,875	169,105	5.3				12	
				District	0.4	5,300	4	24
				Urban	0.8		8	
				Neighbourhood	1.2	205	12	
2019	4,587,808	170,933	5.2	District	0.4	68	4	
				Urban	0.8	137	8	24
				Neighbourhood	1.2	213	12	
2020	4,765,357	177,549	5	District	0.4	71	4	
				Urban	0.8	142	8	24
				Neighbourhood	1.2	221	12	
2021	4,949,776	184,419	4.8	District	0.4	74	4	
				Urban	0.8	148	8	24
				Neighbourhood	1.2	230	12	
2022	5,141,322	191,546	4.6	District	0.4	77	4	
				Urban	0.8	153	8	24
				Neighbourhood	1.2	239	12	
2023	5340302	198,980	4.4	District	0.4	80	4	
				Urban	0.8	159	8	24
				Neighbourhood	1.2	248	12	
2024	5,546,972	206,670	4.3	District	0.4	83	4	
				Urban	0.8	165	8	24
				Neighbourhood	1.2	258	12	
2025	5,761,639	214,667	4.1	District	0.4	86	4	
				Urban	0.8	172	8	24
Total	5,762,639	1,344,764	Average 4.7	All types		8,079	24	24

Formulating Open Space Indicators to Assess Sustainability

Research strongly collates open spaces to urban sustainability since they have social, cultural, economic and environmental benefits including numerous provisioning services (BOP Consultants, 2013). The residents of Nairobi City agree that nurtured and treed urban nature are positively correlated to involvement in open space provision (87%), public acceptance of the resource as theirs (85%), good governance (93%) and that it generates pride in residents (92%) as this makes their city beautiful (98%). The views of the respondents and the benefits that issue from sustainable open spaces should move planners to formulate urban open spaces indicators (Table 2) as tools to measure the delivery of the resource towards sustainability (Arnberger, 2012; Salat et al., 2017).

Table 2: Indicators for sustainable urban open spaces and greening deliveries

Classification of Open Spaces	Type of space	Indicators
Green open spaces	Building	• Green roofs. • Edible trees and vegetables on private lots or allotted gardens. • Green walls.
	Boundary walls	• Within zoning policies on ground coverage, plot ratio, set backs and minimum plot sizes.
	Built areas	• Developed grey, green open spaces and blue open spaces created from dammed rivers and rain runoff where these do not naturally occur. • Ease of access for all including those with physical challenges. • Heavy tree cover in all open spaces.
	Local area Parks (share same standards with neighbourhood parks)	• Set provision based on standards. • Attractive and well equipped area for children • Well landscaped. • Secure and utilized. • Distance no further that policy determined. • Seats for adults to sit on and relax • Well maintained.
	Neighbourhood Parks	• Standard based larger parks. • Passive and active recreation space. • Distance no further than policy determined. • Accessible and comfortable. • Secure and utilized • Well maintained and clean. • Provision of rest rooms, picnic sites and cafes. • Heavily treed along boundaries, roads of access, footpaths and picnic areas.
	District Parks	• Regional Parks developed in accordance with set standards of provision. • Developed for wider regional use with comprehensive range of activities both passive and active. • Provision of picnic sites and cafes. • Large water features from rain runoff where possible. • Heavy tree cover within not too busy sections, periphery

		boundaries and internal boundaries and along roads of access and footpaths. • Secure, clean, utilized and comfortable. • Animal and bird life a plus factor.
	Urban Parks	• Size insignificant depending on ecological significance or beauty with city as catchment area. • Fully developed to offer variety of experiences. • Heavy tree cover with botanical gardens. • Secure and utilized. • Provision of rest rooms, picnic sites and cafes. • Well maintained.
	Accessibility	• Accessibility for all potential users. • Well linked to public means of transport.
	Quality	• Provide high level of man nature contact. • Comfortable with necessary conveniences. • Clean. • Visible security presence. • Interlinked with other open spaces by green ways.
	Safety Lighting	• Secure all times of nights. • Use of clean energy like solar power for street lighting.
	Urban forests	• Densely planted with indigenous trees with walking or cycling trails and heavy with biodiversity. • Trees planted on private properties along building lines and uncovered areas. • Heavy tree covering on road reserves. • Treed open spaces. • Flowering trees and shrubs to enhance biodiversity.
	Cemeteries	• Plant trees along internal roads of access. • Plant trees along footpaths and in between spaces. • Accessible.
	Riparian reserves and green belts	• Plant friendly trees, shrubs and grass along rivers. • Create big dams wherever possible to conserve rain runoff, mitigate climate change, maintain constant river flow and encourage water based sports.
Blue open spaces	Lakes, dams and rivers	• Clean. • Landscaped shores. • Boating, fishing and passive recreation. • Safe and secured 24/7. • Recreation and edible fish available.
	Swimming pools	• Clean. • Secure always when in use.
Grey open spaces	Streets	• Standard based and well maintained. • Separated from pedestrians and cyclists. • Green and tree lined. • Secure. • Clean.

	Bicycle paths	• Based on set standards. • Well separated from vehicles and pedestrian traffic. • Green and tree lined. • Free from obstruction. • Well marked. • Rest areas, rest rooms and snacking facilities as necessary.
	Footpaths	• Based on set standards. • Well separated from vehicular and bicycle traffic. • Green and tree lined. • Free from obstruction. • Well marked. • Clean and secure.
	Plazas	• Attractively designed. • Mix of grey and green. • Sitting on benches. • Water features. • Accessible and Clean.
Citywide	All possible open spaces	• Interconnected by green and grey open spaces and green belts. • Attractive to residents and visitors. • Restaurants or cafes, public conveniences, water points, dustbins and parking for cars and bicycles where necessary.

Source: Author, 2018 (reconstructed from literature reviewed)

DISCUSSION

The study findings clearly show that collaborative governance and effective urban planning are not effectively practiced in Nairobi City County despite the constitutional and legal provisions requiring citizen participation in governance and planning processes (Government of Kenya, 2012; Government of Kenya, 2010; Government of Kenya, 1996). As a consequence, the delivery of urban open spaces in the city is poor and continues to be open to abuse. In addition, developments that contravene the zoning policy and planning standards go ahead creating concrete jungles in the city that once was hailed as the 'green city in the sun.'

One of the solutions to this serious challenge that would turn Nairobi City to sustainability and productivity is political good will that demands implementation of the six principles of good governance. In tandem with this, transformative urban planning systems should be created to work collaboratively with teams of professionals for technical inputs for strategic planning based on up to date spatial information systems and newly emerging city models and designs. This would require strong and focused governance, intent on transforming urban planning and equipping it to implement the vision and goals for Nairobi City's development in line with other cities of the world (Narang and Reutersward, 2006). Weak local authorities and development control mechanisms and poor implementation as noted by Guneralp et al., (2018) and UN-Habitat (2016) in Kenya and Nairobi can be incrementally strengthened and stronger institutional structures made with enhanced capacity to accord urban planning better operational platforms.

Nairobi planners could be more proactive in growing their profession through participatory people-centered practices, unity of purpose and sharing of knowledge and information. They could also broaden their view to the global planning stage to assess how the new urban planning knowledge and practice could benefit Nairobi. On the local scene, they could fast track development approval processes and remove unnecessary bottlenecks to encourage and attract investment and employment to Nairobi City. Planners ought to equally enforce the approved development parameters and uphold honesty and equity with all stakeholders.

CONCLUSION

Collaborative governance and urban planning make strong alliances that Kenya and Nairobi City need to embrace for greater sustainable growth that ameliorates negative urbanization impacts. Only Kenyans can successfully handle the many challenges facing them in urban areas including Nairobi City. The Chinese proverb proposes that a journey of a thousand steps starts with the first. Nairobi governance should endeavor to make first firm steps towards total commitment to sustainable developments that will uplift the residents of the city and the country at large.

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