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Place and Function of African Cities in the Global Urban Network: Exploring the Matters Arising

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Abstract As the world shrinks into a 'global village', cities have come into focus as dominant nodes in the global transactions and flows of capital, commodities, people and services. The resulting economic cum information order is not only transforming the architecture of discrete cities everywhere but is also motivating new patterns of inter-city relations and networks. Global urban network is now synonymous with the trans-state processes that make up the global economy (Taylor, Political Geography 19:5–32, 2000). Hence, cities are increasing perceived as a new 'resource' and 'spring board' for connecting to and operating at the global level. The article explores these issues with reference to the place and function of African cities in the global urban network. A city-based assessment of this nature offers a fresh and fluid scope to African development question and quest as against the more conventional 'state-centric' benchmarking.

> 'Every substantial city nowadays aspires to a world role, at least in some specialty. This makes them expand linkages abroad, participating in more networks. All these trends contribute little by little to building up and intensifying the global weave of urban networks.' (Jean Gottmann 1989, p 64)

Introduction

Under the current globalisation era, characterised by widespread integration and internationalisation of economic, socio-cultural and political processes/structures, cities have taken the centre stage in the general scheme of things. Apart from the daunting prognosis that by the year 2025, a whopping over five billion (above 60%) of the world's estimated 8.3 billion people will be urbanised,[1] sequences of other

[1]United Nations (1998) *World Population Prospects 1950–2050* (1996 Revision). New York: Population Division.

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notable events are also pointing city-wards. The decade-cycle UN Habitat City Summits; the marked shift in World Bank policy towards urban development (World Bank 1991); and the pervasive inter-city competition for key investments or/and hosting rights of international sports fiestas are all common features of this pro-city inclination. What is more, this trend has progressed in tandem with the entrenchment of a city-centric tradition in the Social Sciences (Jacobs 1984; Castells 1996; Amin and Graham 1997). The gradual paradigmatic shift from the familiar 'state-centric' framework to the emerging 'city-centric' one as a basis for international comparisons is both rekindling new interests in the city and opening up additional frontiers of enquiry.

Today, the city is no longer reckoned merely as 'an embodiment of accommodation, social engineering or the spatial fix of economic growth' (Simone 2005, p 1) but as a new 'resource' and 'spring board' for connecting to and participating in the global economy (Short and Kim 1999; El-Khishin 2003; Sim et al. 2003; Simone 2005). From the point of view of municipal administration, Cohen (2001, p 37) conceives that globalisation is affording discrete cities more autonomy and capacity to 'break away from the fate of their national economies'. Underlying all these strands of thoughts is the self-compensating linkages between the city, the economy and globalisation.[2] A hint of this self-compensating interrelationship is emphasised by Short and Kim (1999, p 9) who proffer that:

> Globalization takes place in the cities and cities embody and reflect globalisation. Global processes lead to changes in the city and cities rework and situate globalisation. Contemporary global dynamics are the spatial expression of globalisation, while urban changes reshape and reform the processes of globalisation.

Hence, cities provide the veritable 'laboratory' for investigating the spatial, economic, socio-cultural, environmental and other consequences globalisation (Hilbert and Lawson 1997). Although, national economic and other development indices do reflect city performances, globalisation researchers and other progressive agencies are of the view that a shift from such sometimes subjective aggregate indices, like the Gross Domestic Product, Income per Capita etc., to more specific city-based statistics would provide more specific and clearer pictures (see Jacobs 1984; Sclar 1992; World Bank 1991; Taylor 2000, p 15)[3] The obvious constraint for Africa and, to varying degrees, for other regions of the world, is the general lack of city-based data. Short et al. (1996) underscore the recurrent data constraint in globalisation studies, which they have whimsically couched in an allegorical phrase, 'the dirty little secrets of world city research'. They regrettably opined that:

[2] Based on established positive correlation between urban development and macroeconomic performance, World Bank (1991) has adopted a different axiom of the city as the 'engine of development'. Clark (2003) also espouses the obverse economic viewpoint—the ongoing rapid urban growth and rapid change as the spatial consequence of global capitalism.

[3] One successful attempt at devising city-denominated statistics is the Global Urban Observatory Project initiated by the UN Habitat some time in 1997. The City Development Index (CDI), which measures the 'wellbeing and access to urban facilities by individuals' (refer to UNCHS 2001, p 116) is the flagship of this project.

> Data tend to be national rather than international, and when they are international they tend not to be urban. Much of the data available to scholars provide information for a particular city or individual country, not for cities in different countries around the world. Thus, the changing position of individual cities cannot be noted or identified in any meaningful way (p. 698).

African cities have until recently received scanty attention in world city research, a deplorable situation that has intensified the apparent lacuna on city performance and inter-city networks in the continent (Simone 2005, pp 57–60). It is perhaps for this same reason that Njoh's (2005, p 18) has inferred that 'studies of the role of African cities in regional trade and globalisation suffer from a number of major deficiencies. Prominent amongst these is their lack of historical grounding.' This assertion is thought-provoking and encourages further scrutiny of not just these 'major deficiencies' but also the existing place and function of African cities. In this reckoning, the article seeks to throw more light on the issue by exploring the global urban network or world city network.[4] Besides this, there are basically two other motivations for this enquiry. The first is to build on van der Merwe's (2004) preliminary but pioneering work on the global connectivity of selected sub-Saharan African cities. The second consideration is to initiate a fresh scope for city-based development in the continent, and one that is more amenable to urban planning the discipline from which this article emanates. The article is divided into four sequential parts. 'Introduction' is the introductory segment. 'The World City Theory and Global Urban Network' briefly reviews the theoretical underpinning, evolution and methodologies of world city theory as they apply to the current discourse. 'African Cities in Regional and Global Contexts', thereafter, outlines the data set, analysis and results pertaining to the place and function of African cities in global urban network (both in regional and global setting). Based on the foregoing, 'Globalization, African Cities and Their Global Reach' discusses the likely implications of the results for urban planning and development policy. Furthermore, it also emphasises how such issues may shape development debates in Africa. A concluding segment summarises the subject matter by proffering the way forward.

The World City Theory and Global Urban Network

Emergence and Essence of the Theory

The phrase 'world city' is known to have been first devised in 1915 by a Scottish town planner, Patrick Geddes. Considering the protracted half a century it took for this terminology to resurface again in urban discourse, hardly anyone would have predicted the current ripples the 'world city concept' appears to be generating today.

[4] The world city network idea encapsulates the idea of 'cities in globalization', denoting the fact that globalization processes are not limited to 'world cities' alone but also do encompass small- and medium-sized towns (and even villages!) all over the world. This theory was largely developed by Peter Taylor and his colleagues of the Globalization and World City (GaWC) Study Group and Network based at Loughborough University in UK. It is a more inclusive alternative to the global urban hierarchy perspective advanced by Peter Hall, John Friedmann, Saskia Sassen, and others.

Incidentally, it took another town planner, Peter Hall, to reintroduce the concept in 1966, but this time with a little more elaboration. Hall (1966) used a set of criteria (political power, trade, finance, communications, culture and higher education) to distinguish the eight most outstanding cities/urban complexes at the top of global urban hierarchy at that time. The early 'world cities' he isolated based on the above-listed attributes were London, Paris, New York, Moscow, Tokyo, the Randstad (Holland) and the Rhine-Ruhr area (Germany).

The intervening phase between 1960s and 1980s marked a crucial gestation period for the world or global city concept during which the meaning, delineation criteria, methodologies (and by implication, the subsisting rosters of world cities) have become more robust. It was at this conceptual stage, Hymer (1972) introduced the concept of 'economies of scale' into the world city equation, a measure which was necessitated by the advent and convergence of multinational corporation headquarters and other large banking/finance outfits in the major cities of the world. By pioneering 'the 'economic turn' in world city studies that has continued to dominate to the present' (Beaverstock et al. 1999, p 66), Stephen Hymer's work arguably constitutes the crucial linchpin connecting the early Geddes-Hall phase to the contemporary phase in the concept development. Following from this lead, two leading world city researchers, John Friedmann and Saskia Sassen, successively introduced key definitive attributes that helped shape the theory. Whereas Friedman (1986) brought the locational activities of multinational corporations (MNCs) to bear on world city formation, Sassen (1991, 1994) was of the view that advanced producer service firms (APSFs) engaging in banking, finance, accountancy, insurance, advertising as well as law/legal practice do also constitute a defining feature of world city formation. In this reckoning, world city has come to seen as the 'chief strategic city' that function as both 'basing point' and 'command/control centre' for the flow of global capital. The management structure plus the chain of command activities of these globetrotting corporations and firms do normally evince a global hierarchical order of metropolitan centres based on their significance in the global economy. In other words, MNCs and APSFs base the location of their head-, regional- and subsidiary-offices on the relative importance particular cities in their respective global regions. Typically, the popular 'triads' of London, New York and Tokyo with the greatest concentration of head-offices have tended to emerge as the unassailable leaders in this 'global circuit of capital'. Besides the 'office geography' of MNCs and APSFs, many other criteria and indicators have also emerged in globalisation literature as a means of city ranking. Some authors have used: telecommunications nodes (Graham 1994, 1999; Warf 1989, 1995, for example), transportation nodes (Cattan 1995; Knox and Taylor 1995); as well as sites of global spectacle (Short et al. 1996). But in most of these analyses, lack of consensus at the very top echelon of various world city rosters has remained a notable deprecatory factor in the standardisation the theory (Taylor 1997; Geyer and van der Merwe 2006).

Significantly, emphasis is shifting from the conception of world cities as separate 'nodes' to one that stresses the flows and interconnectivity between them and other subordinate cities/towns (Taylor 1997, 2001; Beaverstock et al. 1999; Taylor et al. 2002; Fyfe and Kenny 2005). This new network perspective signifies that cities (and indeed, smaller towns) in both the developing and

developed regions of the world are economically, politically and culturally connected and, as such, development in any one of them cannot be fully explained without ample reference to the others (King 1990; Robinson 2002). van der Merwe (2004) has also affirmed the rationale and value of this modified 'world city' perspective which encompasses cities and minor towns, even in backwater regions of the world! He argues that:

> Since globalisation *is* ubiquitous across the world it follows that the process is not just a feature of global/world cities. Small towns and medium-sized cities across the world also have links and flows that are part of the myriad of global relations. Hence, most urban nodes currently exist within the globalisation context. The important point is that some are more connected than others (p 5).

But what is the exact nature and features of this global urban network and flows?

Concept and Measurement of the Global Urban Network

Contemporary viewpoints on globalisation are predicated on the trans-national transactions and flows of capital, commodities, people and services across the world. This derives, to a great extent, from Castells's (1996) concepts of 'spaces of flows' and 'spaces of places', corresponding to the city and state realms respectively. Taylor (2001) sees inter-city network as a virtual dynamic structure arising from the interactions between three composite layers of the global system: the nodes (which are the cities themselves), the supra-nodal level (the world-economy) and the sub-nodal level (consisting of the MNCs and APSFs). This assumption is based on the basic rationale that:

> Cities do no create city networks. City governments may and do build, or support the building of infrastructure networks (airports, smart buildings etc.) but these do not constitute city networks: It is the people, commodities and information that flows through the infrastructures that define the inter-city networks.

The sum total of this cumulative activity flux is more commonly referred to as the 'global urban network', although a number of other globalisation literature denote it by several alternative names. In fact, a review of close to 100 works by Taylor and Lang's (2004) revealed a litany of 100 alternate terminologies denoting this same virtual network phenomenon! Some of these include: 'global city network', 'worldwide grid of global cities' 'cities in global matrices', 'global network of cities', 'global urban system', 'planetary urban network', to mention the frequently used ones. Although this profusion is an indication of the popularity of the concept, it is increasingly a source of serious methodological confusion. Let us then examine the basic operational features of the 'global urban network'.

As a rule, networks comprise of 'nodes' and links. Hence, the Interlocking Network Model, developed by Peter Taylor and his colleagues at the GaWC, attempts to measure the size of the constituent nodes (i.e. city sites) and their respective 'interlock' connectivity indices (city situations) (see Taylor 2001; Taylor

et al. 2002; Taylor 2004). These two values are operationalized by equating the activities of APSFs within and across cities with the trans-state processes and flows that connect cities together in discernible networks. Peter Taylor outlines two basic formulae for measuring Nodal Size and Connectivity:

1. $S_a = \sum_i V_{ia}$ (where S_a is the Nodal Size of city a, V_{ia} is the Service Value of an institution (i) in city (a). The Service Value is scored from 0 (indicating no ipresence) to 5 depending on the importance of a particular city to the institution's or firm's office network].
2. $C_a = \sum_j \sum_i V_{ia} \cdot V_{ij}$ (where a does not equal to j; and where C_a is the interlock connectivity of city a, V_{ia} is the Service Value of an institution (i) in city (a) relative to the total Service Value to all other cities within the network, V_{ij}).

On the basis of the current study, a total of 32 African cities and the Service Values of APSFs in accounting, advertising, banking/finance, insurance, law and management were obtained from the GaWC dataset 11.[5] Whereas the Nodal Size is derived from the summation of the Service Value scores of the six APSFs, we however relied on the World City Subroutine statistical package[6] in order to generate the Interlock Connectivity Indices of the selected African cities. The results are presented in Table 1 in 'African Cities in Regional and Global Contexts' section along with some brief assessments.

African Cities in Regional and Global Contexts

Apart from being the least urbanised regions of the world (UNCHS 2001), Africa is also the continent with the least evidence of global or world city formation (Taylor 1997; van der Merwe 2004). This poor performance is attributable to both the assessed weak city development scores (UNCHS 2001) and the continent's marginal stake/role in international trade and foreign direct investment portfolio (Ajayi 2001; Kiggundu 2002). According to UNCHS (2001), the African region has equally the least City Development Index (CDI; 42.85) in the world. This is as compared with the other designated region of Arab States (CDI; 64.55), Asia-Pacific (65.35), Highly Industrialised Countries (96.23), Latin America and the Caribbean (66.25) and Transition Countries (78.59). African's total imports and exports amounted correspondingly to merely 2.2% and 2.3% of the world trade (Ajayi 2001), thus propelling the question of how this bleak economic and uninspiring city development statistics might appear through the 'prism' of 'world city' theory?

[5] The APSFs contained in 'GaWC 100' are 19 global accounting firms (like Arthur Andersen, KPMG, Price-Water-House Coopers etc.; 15 global advertising firms (like Impiric, Saatchi & Saatchi, Young and Rubicam Inc., etc.; 23 global banks and financial firms (like ABN-AMR Holding NV, Citi Group, Deutche Bank etc.); 11 global insurance firms (like Alliance Group, Lloyd's, Chubb Group etc.); 17 global law firms (like Baker and Mckenzie, Allen and Overy, Latham and Watkins etc.); and 17 global management consultancy firms (like Deloitte-Touche-Tohmatsu, Andersen Consulting, Watson Wyatt Worldwide etc.). For the complete list of these global firms (refer to www.Iboro.ac.uk/gawc/dataset/da11_1.html).

[6] This statistical package was developed by Messrs E. C. and C. C. Rossi and is based on Peter Taylor's second formula outlined above in the text. The World City Subroutine is available on the GaWC website.

Place and Function in the Global Urban Network

A cross-sectional dataset showing 32 African cities with their respective Nodal Size values (expressing the characteristics of the Site) and City Connectivity Indices (CCIs; Situation) are presented in Table 1. Whereas the Nodal Size refers to the activity value within a particular city, the Connectivity Index on the other hand describes the relative importance of a node in the entire network. The CCI model assumes that 'the amount of activity of an institution in a city generates a proportionate amount of flows from that city to other cities' (Taylor 2005, p 2). London, which is widely regarded as the most dominant world city, was included in the presentation as a reference point to facilitate global comparison. The wide disparity in connectivity scores across African cities (ranging from 1909 down to a paltry 60), infers some hierarchical tendencies in their linkages to the global urban network. Based on this, following van der Merwe's (2004) four-pronged classification, we also partitioned the connectivity range into four groups, namely: the first-order nodes (with CCI of more than 1,500); the second-order nodes (CCI of between 1,500 and 1,000); the third-order nodes (1,000 and 500); and the fourth-order nodes (CCI of below 500). Table 2 shows the classification of African cities based on this taxonomy. Clearly, Johannesburg and Cairo manifesting very high CCIs of 1909 and 1691 (and equally large nodal sizes 124 and 87),[7] respectively, fit into the very top category. For one, Johannesburg stands out as a clear leader in Africa[8] with its NCI and Nodal Size values roughly one third and half correspondingly those of London (at nodal size of 368 and network connectivity of 3150). Hence, Johannesburg and Cairo after it have the strongest connection to the global urban network in the continent, often extending far beyond their African region. And by implication, the two cities not only retain the most distinctive traits of world 'city-ness' but are playing significant roles as 'accumulators and transmitters' as well as cultural centres in Africa (van der Merwe 2004, *for Johannesburg*; and El-Khishin 2003, *for Cairo*).

Furthermore, the Second-Order nodes comprising of cities, namely: Nairobi (CCI, 1,233), Cape Town (1,102), Lagos (1,063), Harare (1,050), Accra (1,040), Lusaka (1,002) and Tunis (1,000) play relatively less significant economic and cultural roles than the first-order nodes (see Table 2). Nairobi's position at the pinnacle of this category is justified by its niche function as centre of multilateral agencies and international NGOs in Africa. Others at the base like Harare, Accra, Lusaka and Tunis are consigned to much less dominant positions presumably because they exist under the shadows of more dominant nodes or cities within their respective sub-regions: Harare and Lusaka in Southern Africa; Accra in West Africa; and Tunis in North Africa. The third-order nodes made up of cities like Windhoek, Kampala, Dar-es-Salaam, Maputo,

[7] Taylor (2005) has specified that the two measures of nodal size and network connectivity are not mutually proportional. In essence, a larger nodal size does not necessarily amount to equivalent proportion of connectivity (previously published as GaWC Bulletin 146). This explains why cities with larger nodal sizes can less on connectivity index than those with lower nodal sizes (refer to Table 1).

[8] The fact that Johannesburg is ranked in the GaWC's world city roster as a 'Gamma world city' is a partial confirmation of the current ranking. The only other African countries mentioned in that particular roster with 'some evidence' and 'minimal evidence' of world city formation are Cairo and Cape Town respectively (see Beaverstock et al. 1999, p 456).

Table 1 Network connectivity indices of 32 African Cities in the year 2000

Rank	City	Country	Service values of advanced producer service firms (apsfs)						Site (size)	Situation (connectivity)
			Accounting	Advertising	Banking and finance	Insurance	Law	Management		
London		UK	74	53	84	47	58	52	368	3,150
1	Johannesburg	South Africa	27	22	35	16	5	19	124	1,909
2	Cairo	Egypt	33	16	29	3	2	4	87	1,691
3	Nairobi	Kenya	19	14	12	1	0	2	48	1,233
4	Cape Town	South Africa	29	12	2	3	1	4	51	1,102
5	Lagos	Nigeria	18	12	6	1	0	4	41	1,063
6	Harare	Zimbabwe	10	14	6	5	0	6	41	1,050
7	Accra	Ghana	12	10	6	1	0	4	33	1,040
8	Lusaka	Zambia	10	10	8	1	0	4	33	1,003
9	Tunis	Tunisia	22	8	2	3	0	4	39	1,000
10	Windhoek	Namibia	9	8	7	5	0	4	33	905
11	Kampala	Uganda	6	10	6	3	0	4	29	892
12	Dar-es-Salaam	Tanzania	6	10	4	1	0	4	25	830
13	Maputo	Mozambique	8	10	4	1	0	3	26	772
14	Durban	South Africa	21	4	0	3	0	0	28	753

15	Dakar	Senegal	11	4	6	1	0	3	25	734
16	Gaborone	Botswana	11	4	2	0	0	4	21	686
17	Douala	Cameroon	11	4	2	1	0	2	20	636
18	Luanda	Angola	5	0	6	1	0	4	16	532
19	Addis Ababa	Ethiopia	4	4	2	1	0	2	13	448
20	Pretoria	South Africa	12	0	0	0	0	4	16	394
21	Bulawayo	Zimbabwe	8	0	2	1	0	0	11	366
22	Mombasa	Kenya	4	0	4	1	0	0	9	286
23	Kinshasa	Zaire	2	0	4	3	0	1	10	284
24	Alexandria	Egypt	8	0	0	1	0	0	9	278
25	Algiers	Algeria	2	0	6	1	0	2	11	268
26	Freetown	Liberia	4	0	0	1	0	2	7	254
27	Khartoum	Sudan	4	0	0	1	0	0	5	174
28	Monrovia	Liberia	2	0	0	1	0	2	5	172
29	Lome	Togo	4	2	2	0	0	0	8	154
30	Yaounde	Cameroon	4	0	0	0	0	0	4	142
31	Conakry	Guinea	0	0	4	1	0	3	8	96
32	Djibouti	Djibouti	0	0	2	1	0	0	3	60

Source: Author's data analysis of GaWC Dataset 11 using the World City Subroutine package developed by E. and C. Rossi (September 2007).

Table 2 Classification of 32 African cities based on their Network Connectivity (2000)

City Connectivity Index (CCI)			
1,500 and above	1,000–1,499	500–999	Below 500
First-order nodes	Second-order nodes	Third-order nodes	Fourth-order nodes
Johannesburg	Nairobi	Windhoek	Addis Ababa
Cairo	Cape Town	Kampala	Pretoria
	Lagos	Dar-es-Salaam	Bulawayo
	Harare	Maputo	Mombasa
	Accra	Durban	Kinshasa
	Lusaka	Dakar	Alexandria
	Tunis	Gaborone	Algiers
		Douala	Freetown
		Luanda	Khartoum
			Monrovia
			Lome
			Yaounde
			Conakry
			Djibouti

Source: Author's data analysis (2007)

Durban, Dakar, Gaborone, Douala and Luanda, with CCI values of between 500 and 999, are mostly relegated to more auxiliary functions outside their national sphere of influence. By inference, the Fourth-Order nodes, with CCI values of below 500, can be said to play relatively minor roles. Since capacities are most likely to diminish as we go down the Connectivity scale, Djibouti city (CCI, 60)—the capital of the drought-prone and heavily indebted country of Djibouti—unsurprisingly has the weakest node and the least connected city in the sample.

In actual fact, determining particular function(s) of specific cities is a serious challenge, and one that can only be properly done through in-depth purposive study which is beyond the scope of this article.[9] Many, and often overlapping, roles have been ascribed to cities in recent times—'engines of development',[10] 'national economic motors',[11] 'base points of capital',[12] or 'key creative and cultural centres',[13] etc. Since cities are mostly 'multiplex' in nature (Amin and Graham 1997; Simone 2002), they are bound to combine various roles, subject to their dominant ones. But the critical point is that a city's capacity to perform one or

[9] However, Amin and Graham (1997: 416) who introduced the new idea of the 'variegated and multiplex city' believe rather than resort 'to totalizing paradigmatic examples and over-generalizing from narrow, partial perspectives' urban studies will be better served by better methodological approaches that rely on in-depth studies of discrete cities.

[10] Bequeathed and popularised by World Bank (1991)

[11] Accredited to Amin and Graham (1997)

[12] See Friedman (1986)

[13] See Landry and Bianchini (1995).

combination of role attributes will certainly depend on both its comparative advantage and the extent of its connectivity to the global urban network. We can, therefore, conjecture that the functional capacities of African cities, whether as 'information disseminators, service providers and economic cores in their respective mega-regions' in van der Merwe's (2004, p 40) calculation, or as diminishing 'centres of long distance trade, art and craft' (Njoh 2005, p 18) would most certainly vary with their respective connectivity indices. This insight is also collaborated in Simone's (2000, p 39) reflection on the skewed adaptations to globalisation in many African cities and towns:

> (A)n intricate framework for operating at a 'world level' is being created. It is being created through individual travel, the cultivation of permeable boundaries through which goods and money can pass with minimal regulation, the incorporation of formal financial and political institutions within informal mechanisms of disposing goods and accessing markets, practices of dissimulation and a willingness to take substantial risks. This 'worlding' may be a constantly unstable and precarious practice, unable to substantially alter the position and capacities of distinct African cities within a globalised urban network.

In more ways than one, Abdou-Maliq Simone invokes Portes' (1985) interesting connection between globalisation/dependency and urban informalisation processes. This is the view that associates the current massive expansion of the informal sector (or economy) to the machination of global capital in the bid to lower production cost.

In attempting to construct a 'city-based development picture' of Africa, it is essential to clarify how the current effort relates and differs from van der Merwe's (2004) earlier analysis (refer to Table 3) Although the two studies are based on the GaWC database and methodology,[14] three distinct differences are nonetheless implicit. First and foremost, is the variation in sample size and scope: whereas van der Merwe focused on only 14 cities in sub-Saharan Africa (excluding the North African sub-region), the current analysis adopted a larger sample size of 32 cities in order to capture a more holistic view of the continent. Second, there are also some differences in methodology. Merwe used the 'proportionate percentage' contribution of each service sector represented (or 'percentage service value', more or less) as a means of deriving City Connectivity. Instead, the present study preferred to use the actual Service Value for the firms and then analysed the data set using the World city Subroutine. Third, despite their common entry-points, the two works have separate points of departures. Whereas van der Merwe (2004, p 36) set out to establish 'whether the integration of Sub-Saharan Africa into the global city network is an empirical fact or only a theoretical fiction', this study builds on this conclusion by exploring this connectivity equation and related planning/development issues.

Apparently, the emphasis and interpretation of the connectivity outputs are also slightly dissimilar between van der Merwe's (2004) analysis and the current one

[14] The recourse to the same dataset may seem far from appropriate but this is part of the serious data constraints, which Short et al. (1996) have whimsically dubbed 'the dirty little secrets of world city research'. As a measure to get around it, the current analysis had chosen a larger sample size, adopted a different analytical technique, and a few other differentiations like calculation of the nodal sizes.

Table 3 Possible Global Cities in sub-Saharan Africa (2000)

Country	City	Connectivity Index	Accounting (% firms)	Advertising (% firms)	Banking/Finance (% firms)	Insurance (% firms)	Law (%firms)
London		2.42					
South Africa	Johannesburg	1.00	31.9	18.8	26.4	11.5	1.2
South Africa	Cape Town	0.58	65.3	19.7	4.5	5.3	0
Kenya	Nairobi	0.55	47.8	23.6	23.5	2.1	0
Nigeria	Lagos	0.48	53.3	23.7	13.8	2.4	0
Cote d'voite	Abidjan	0.44	40.9	17.2	29.3	5.1	0
Zimbabwe	Harare	0.43	36.9	29.3	15.1	8.7	0
Ghana	Accra	0.40	46.3	24.9	18.0	2.8	0
Zambia	Lusaka	0.39	40.9	24.1	23.9	2.9	0
Tanzan-ia	Dar-es-Salaam	0.31	37.5	32.4	16.0	3.6	0
Mozam-bique	Maputo	0.29	40.4	34.1	16.0	3.6	0
Senegal	Dakar	0.28	47.7	16.4	23.7	4.0	0
Camer-oon	Douala	0.25	62.1	15.8	11.2	4.4	0
Angola	Luanda	0.22	46.0	0	34.3	5.1	0
Ethiopia	Addis Ababa	0.16	42.5	28.1	12.9	6.9	0
World average			45.5	10.9	21.0	10.1	1.9

Source: van der Merwe (2004)

(compare Tables 1 and 3). Some parallels are evident as in the case of Johannesburg remaining at the pinnacle of both lists in the continent (Connectivity Index, 1.00 in Table 3, and 1909 in Table 1). Also Nairobi which is third on Merwe's ranking (with 0.55) after Cape Town remained third here (with 1,233) after Egypt, Cape Town (0.58; 1,102), Lagos (0.48; 1,063), Harare (0.43; 1,050), Accra (0.40; 1,040), Lusaka (0.39; 1,002). However, certain differences are also obvious and can be attributed to the inclusion of North African cities (Cairo, Algiers and Tunis) and many other cities not represented in Table 3.

Global Urban Network: City Connectivity and National Economy

The relationship between the city and national economy is very tenuous and has been the subject of many notable works (Jacobs 1984; Sclar 1992; World Bank 1991; Taylor 2000). Whereas the World Bank (1991) harps on the strong association between urban productivity and national macro-economic performances, Jacobs (1984) and Sclar (1992, p 30) see the national economy essentially as "nothing more than the sum of the economic strengths of its metropolitan regions." Taylor (2000) has even associated the size of national economy (as measured by the Gross Domestic product (GDP)) with world city formation in several countries. Based on this, the study seeks to evaluate the relationship between the derived Connectivity Indices of the selected African cities and the size of their economies (as measured by both GDP and Per Capita Income). Table 4 shows a cross-sectional dataset of the Connectivity indices of 24 African cities (actually 8 cities had to be dropped from the previous list to allow for one city per country), their respective GDPs and Per Capita Incomes (PCIs). In this case, the City Connectivity Index (CCI) is taken to be

Table 4 The inter-relationship between City Connectivity and National Product (2000)

City	Country	Connectivity Indices	GDP (1999)	
			Total (B US $)	Per Capita (US $)
Johannesburg	South Africa	1,909	133.17	2,958
Cairo	Egypt	1,691	90.47	1,370
Nairobi	Kenya	1,233	12.9	430
Lagos	Nigeria	1,063	35.96	313
Harare	Zimbabwe	1,050	5.79	464
Accra	Ghana	1,040	7.71	397
Lusaka	Zambia	1,003	3.13	299
Tunis	Tunisia	1,000	20.73	2,193
Windhoek	Namibia	905	3.39	1,827
Kampala	Uganda	892	6.01	255
Dar-es-Salam	Tanzania	830	8.64	254
Maputo	Mozambique	772	4.45	254
Dakar	Senegal	734	5.14	510
Gaborone	Botswana	686	5.14	2,962
Douala	Cameroon	636	10.02	689
Luanda	Angola	532	6.15	456
Addis Ababa	Ethiopia	448	6.13	92
Kinshasa	Zaire	284	2.37	713
Algiers	Algeria	268	48.64	1,620
Freetown	Liberia	254	0.44	152
Khartoum	Sudan	174	10.6	329
Lome	Togo	154	1.58	304
Conakry	Guinea	96	3.43	415
Djibouti	Djibouti	60	0.54	773

Source: City Connectivity Indices was derived from Author's data analysis; the 1999 GDP (Total and Per Capita) figures were obtained from International Telecommunications Union Internet database (www.itu.int/ITU-D/ict/statistics/at_glance/_page.print), 24th of April, 2008.

the dependent variable while the first and second independent variables are the GDP (total) and the Per Capita Income respectively. The analytical technique used for assessing the above equation is Multiple Regression.

From the Pearson Correlation and model results presented in Table 5, it is easy to tell that while they are closely associated (0.565), the two national economic indices (GDP and PCI) are not equally related to city connectivity (CCI). With an Adjusted R^2 of 0.38 and resulting matrix at a significant level of.002, it is obvious that size of the economy as measured by GDP (0.670), rather than per capita share of the national economy, PCI (0.392), is more critical to city connectivity in Africa as well.[15]

[15] Taylor (2000) had earlier established a positive relationship between levels of world city formation and the size of national economies (as measured by GDP) in 72 cities across the world but was careful to specify that "beyond the size of economy, what are important are the economic opportunities that exist in a country." (p.16)

Table 5 Correlation Matrix and Model of City Connectivity Index (CCI), Gross Domestic Product (GDP) and Per Capita Income (PCI)

	Var. 1 (CCI)	Var. 2 (GDP)	Var. 3 (PCI)
Var. 1 (CCI)	1.000	0.670	0.392
Var. 2 (GDP)	0.670	1.000	0.565
Var. 3 (PCI)	0.392	0.565	1.000

R^2 =0.450, adjusted R^2 =0.397, standard error of the estimate (SEE)=374.518, F=8.574, Sig.=.002
Source: Author's data analysis

Another crucial aspect of the 'world city' theory, which borders on the size of the economy, is the change- or time-dimension of city connectivity measurement. The imperative question here is what if the economy shrinks or grows? Are cities prone to improve, maintain, or diminish in connectivity ranking over time? More specifically, is a city like Harare for example, ranked sixth in the current Connectivity table, likely to loose this position and associated function(s) with the ensuing political and economic crises that has ravaged Zimbabwe in the last three or four years? Without delving into details, reality and common sense would evince a quick answer in the affirmative. Fortunately, Taylor et al. (2003) and Taylor and Aranya (2008) have anticipated such 'expansion' or 'retraction' in the network connectivity model in the number of APSFs and other agents or agencies in inter-city flow to be measured over time. Recent results confirm that, indeed, cities can improve, maintain, or diminish in connectivity ranking over time as the case may be. Hence, it is logical to infer that a city like Harare that has been at the epicentre of devastating political and economic crises would have long diminished in ranking due to the certain loss of those 'interlocking' agents and agencies that had buoyed up the trans-national flows of capital, commodities, services and manpower. In a recent analysis of the changes in world city network involving 315 cities between 2000 and 2004, Taylor and Aranya (2008, p 7) came up with the following possible inferences: capital cities are more likely to experience positive change than negative change; USA and sub-Saharan African cities are more likely to experience negative change than positive change; while cities in Western Europe, Pacific Asia and 'Greater' Middle East are more likely to experience positive change than negative change. But the critical question is in what specific way(s) can the current analysis and other globalisation studies influence urban planning and development policy/programme in the African region?

Globalization, African Cities and Their Global Reach

The marginal connectivity scores recorded by the vast majority of African cities clearly indicate their disadvantaged place and function in the global economy, in spite of the fact that all the cities considered are capital cities. Since 'capital cities are more likely to experience positive change than negative change' (Taylor & Aranya 2008, p 7), it implies therefore that their respective subordinate cities, towns and

villages are even further estranged from the global urban network. Hence, the observed marginal ranking of these cities have serious and diverse implications not only for the city regions alone but also for the national/regional economy and structures.

Globalization and the City: Disrupting Spatial Coordinates[16]

The interplay between global economy and urban development is instigating both visible and virtual transformation in the architecture of discrete cities everywhere.[17] This is however not a novel occurrence, especially when we consider the fact that space and capital have long featured as mutual concepts in the urban philosophy of Henri Lefebvre, Manuel Castells and others. In his explicit review of the 'urban question', Saunders (1981, p 159) recounts Lefebvre's dominant thesis, that:

> The architecture of our cities symbolises capitalist relations... The organisation of space—the essential similarity of different places, the fragmentation of life between different places and the hierarchy of control between dominant and subordinate places—thus carries within it the inner logic of capitalist hegemony.

In cities everywhere, this capital-space dynamics has intensified under globalisation. In Africa, for instance, new urban sub-nodes (or coordinates) and channels are emerging, while the old ones are assuming different forms and meaning. Cyber cafes, call centres, cable television, international money transfer outlets and other activity centres, which are essentially part and parcel of the 'global village' coordinates, have diffused the cities and towns, opening up fresh avenues for new opportunities, deprivations and an even dangers (see Hilbert and Lawson 1997; Simone 2000). Obviously, cities, towns and even villages in the continent are affected by globalisation and its many consequences—human and capital flights, remittances, global mass culture and exotic conventions,[18] and many other 'imports' usually emanating from the dominant centres of the world, like London and Paris, and most recently, Johannesburg (South Africa). Have these

[16] The phrase 'disrupting spatial coordinates' was borrowed from Simone (2000: 38), who used it to denote the intriguing transformations in the African urban space resulting from globalization.

[17] Globalization has its economic, political, socio-cultural as well as spatial dimensions or cognates. Though these manifestations often seem abstract but in many cases they are 'at home' with us. This is what is usually referred to as 'globalization on the ground'. Chakrovorty's (2000) work is a good case in point. He illustrated India's long engagement with the global economy and how the interactions are transforming and reshaping the economy and structure of its famous mega-city, Calcutta.

[18] As in other parts of the world, the Internet, GSM, and cable television are revolutionalizing communication in Africa. The new information upsurge has many benefits (see Njoh 2005) as well as other 'side attractions' such as the spread of global mass culture and exotic convention. One pervasive example is the new wave of football spectatorship/supporter-ship being stimulated by cable television and the internet in Africa. The attraction for foreign football clubs in the British Premiership, Italian Serie A, and Spanish La Liga, for example, is currently very high, and it is proceeding at the expense of the once-thriving local football leagues (see Tell Magazine, June 2009). Some observers do not see these activities as mere conventions or passing fads but bemoan them as clear signs of socio-cultural disorientation and domination.

'disruptions in spatial coordinates' strengthened or weakened the role attribute of African cities as 'engines of development'?

Urban Planning, Cities and Global Reach

Beyond the hypes and symbolism of aspiring for the 'world city' label as the 'spatial signature of national economic and political success' (Douglass 2000, p 48), empirical evidence from location theory literature confirm that cities with sufficient 'pool' of world-class urban infrastructure, trained workforce and allied services tend to attract more foreign and local firms (UNCHS 2001; Sridhar and Wan 2007). This is more so if such cities are embedded in the global or regional core regions (Henderson et al. 2000; Geyer 2006; Naudé 2007). Many countries or municipalities, through what is now widely known by the term 'boosterism' are increasingly responding to some of these challenges by embarking on strategic plans, programmes and projects to extend the 'global reach'[19] of their prime metropolitan centres. The experiences of some Southeast Asian city-states like Singapore and Hong Kong and others like Dubai in the Middle East inform this global vision of transforming into a major industrial, commercial, IT, high-tech or financial hubs or even tourists haven, as the case may be, in order to develop a viable cluster of MNC and global other firms that will boost both the city and national economies. Some of these efforts, which often involve consortiums of economists, management consultants, architects, urban planners and public administrators, have translated into industrial estates, trade free zones, infrastructure and facility upgrading, new town schemes as well as city centre redevelopment projects. However, it is admissible that hinging on the spatial factors and high-scale projects alone may not turn the tide of economic doldrums (especially, in remote location); and may in fact (if not pursed with discretion) lead to capital dissipation and economic recession/crash (Lovering 2009). Sim et al. (2003) have isolated three key factors in Singapore's global competitive edge, and they are: sound vision and development strategy, persistent competitiveness and stable institutional structure/business environment. Incidentally, their summation agrees with Yeung's (2000, p 4) analysis of the core principles in Singapore's enviable global reach, that sifts participation in material influence, engagement in discursive practices and building institutional capacities as the 'trump cards' of the prosperous city-state.[20]

In contrast to the above examples, El-Khishin (2003) attributes Egypt's waning significance in African and the Middle East, and its unrealized 'global city' quest to factor which read exactly like the obverse of Yeung's (2000) 'recipe'—lack of strategic vision, paucity of financial resources, and limited institutional capacity at

[19] Global reach is defined by Yeung (2000, p 1) as 'the complex processes through which a city articulates itself into and benefits from participating in the global economy'.

[20] Some world city researcher (including Henry Yeung, himself) believe that in addition to these governance or management practices, certain historical and geographical factors have combined to predispose many established 'world cities' to the capital and capacity accumulation that gave them force. This view is also espoused by a number of urban economists and geographers (see Henderson et al. 2000; Naudé 2007).

the local government level. Little wonder why Angotti's (1996, p 4) spoke so glowingly about a global vision and new mandate for urban planners:

> Local and national efforts to improve cities need to be informed by a global vision or we can easily end up endorsing simplistic calls for decentralisation and grassroots initiative. Progressive planners should find ways to support local efforts in community development and planning that contribute to broader structural change at the national and global levels. If we are not aware of the global trends and do not act to confront, them our local efforts can solid by the international structure of poverty and inequality.

The articulation of global visions requires great imagination and foresight, both of which are critical to achieving a city's developmental aspiration and extending its global reach. More and more, cities are being perceived as inventive 'products' that can be 'packaged' and 'marketed' in such a way that they can appeal to potential investors (MNCs and APSFs): the sort of paradigmatic shift that at the moment motivating 'the dominance of economic interests in the decision-making process of urban planning' (UNCHS 2001, p 26). Consequently, the task of repositioning aspiring African cities and states in order to confront or engage globalisation, clearly goes beyond the municipality. In fact, it demands the kind of politico-institutional synchronisation plus synergy characteristic of city-states like Singapore and Hong Kong, where city development goals fuse with national and regional economic visions. Development studies literature is replete with many viable ideas of 'best practices' in urban development and management. But for lack of time and space, we shall for starter refer to Kiggundu's (2002) advice on how African nations can be better prepared to confront globalisation, which has a lot of implications for African cities. Despite acknowledged 'low levels of readiness for globalisation' in Africa, Kiggundu (2002, p 108) is of the view that since tactile encounter is inevitable, engagement remains the only feasible option. He reasons that:

> Globalization affects all Africans no matter where and how they live. The best strategy is to fight back and respond in kind in order to take advantage of its opportunities and to minimise its potential adverse consequences. This requires a strategic approach. Africa and Africans should not see themselves as helpless victims of globalisation. Rather, they should actively take the initiative to understand the nature of globalization, its causes and consequences on the ground, assess their opportunities, strengths and limitations and develop realistic goals and a plan of action for managing globalization.

Conclusion and Recommendations

Globalization is configuring an intensely competitive environment, where place-making, image-building and outreach strategies are now the new stock-in-trade of urban planners and other design practitioners, urban managers and key public

administrators. No doubt, this recent mandate poses a big planning challenge in Africa for two related reasons. The first and one which this article has attempted to (re-)established is that the vast majority of African cities occupy marginal and subsidiary place/function in the global urban network. The second reason, which van der Merwe (2004) also valorises, is the diversity and distinctness of the continent's urban forms and system.[21] In laying the foundation for the adaptation of globalisation and 'world city' studies in Africa, van der Merwe (2004) had specified, among other things, that 'African cities should not always be considered on the same *competitive* level as in the developed industrial world, but on a relative basis within the norms of its unique *local and regional context.*' Another recommendation, which is part of his 'hybrid' framework, is the notion of a 'collective world city', a probable situation in Africa where 'two or three cities collectively play the role of a global city.' The current article re-validates van der Merwe's (2004) main viewpoint that 'the existence of global cities in Africa is not a theoretical dream, but can also be established on the basis of empirical fact'. Furthermore, it goes on to expand the scale and scope of this conjecture by both adopting an Africa-wide perspective to the case study and broadening the horizons of the issues implicated. By so doing, it opens up this novel and nutty issue for further debate and enquiry.

The issue of urban network connectivity is both crucial and timely. If Michael Cohen's hints from his working experience at the World Bank are anything to go by, then the concept of global or world city network will amount to one of the most significant innovations of the cross-disciplinary concourse, widely referred to as Urban Studies. Cohen (2001, p 60) emphasises that:

> (t)he new term of our historical moment is 'network', within and between cities. We have not focused enough attention on understanding cities, the hub of these networks. Regardless of their size, it is precisely in those hubs or places that the new urban residents of the next 25 years will be building.

Articulating the place and function of African cities in the global urban network not only afforded us a city-based perspective of the serious development challenge facing the continent, it is also awakening urban planners to whole new spheres of city geography, sociology and economics. Apart from mirroring the economic, political and socio-cultural performances of cities (acting in conjunction with the embedding states) in the global sphere, this connectivity scheme also takes on some traits of dynamism (implying that denoted rankings or ratings can and do vary over time). For African cities, a number of which used to be 'major centres of regional and international socio-economic activities prior to the European colonial era', it has been a regrettable story of steady decline (Cook 2003; Njoh 2005, p 18). In the opinion of Cook (2003, p 130), 'Africa is markedly less integrated in the global economy than it was in the 1950s or even 12 years ago.' And so, the major challenge in Africa seems to lie in stemming this tide of decline.

[21] It is also for this same reason and other related issues that urban planning in Africa has found itself at the crossroads. Despite this apparent 'commotion' in planning theory and practice in Africa is attributable to the 'clash of rationalities', innovative measures are seemingly on course to get around it (Watson 2003, 2009; Harrison 2006). At this, Watson (2009: 2273) suggests a shift that involves 'turning the concept of conflicting rationality into a useful analytical and normative tool for planning' not just in Africa but the whole of global South.

Urban planning has come a long way. From the erstwhile fixation with predominantly drafting responsibilities and spatial phenomena, the planning discipline has progressively reinvented itself in the constant struggle to confront the complex and changing challenges facing the 21st Century city (see Commonwealth Association of Planners 2006; Watson 2009). The concept of urban global network and 'world city' studies are set to benefit urban planning in two discernable ways. One, the scheme affords planning a city-based perspective of development, which otherwise is commonly articulated from national, regional and global standpoints; and two, the prospects of 'intentionally creating world cities' do allocate certain deterministic responsibilities/roles to urban planning professionals (UNCHS 2001; Douglass 2000, p 45; El-Khishin 2003). Since systematic visioning normally precedes adroit and sustainable design, African urban planner should be inclined to designs and projects that 'contribute to broader structural change at the national and global levels' (Angotti 1996, p 4). Such a universal outlook would necessitate both learning from international best practices in urban planning and building what Simone (2002) calls 'functional networks of interchange among African cities'. According to him:

> Much of these trans-urban activities and networks have remained informal. Beyond the various associations of local authorities, it is time for municipalities to systematically think about ways of enlarging and deepening the networks and coalitions among them and identify a potential range of possible structured exchanges. Even at a basic level, municipal officials from different cities could talk to each other about their respective markets, transport facilities and some economic activities in which their residents collaborate or compete (p 57).

Beyond the economic benefits of such regional cooperation (Naudé 2007), African cities/states must seriously reconsider the informal sector question and how to mitigate the 'informality cycle' (Van Dijk 1995; Onyebueke 2001; Kazimbaya-Senkwe 2004; Dobson et al. 2009). With all other necessary measures in place, aspiring African cities may once again *redeem* their place and role in the global economy.

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