

Environmental Sustainability Dimension of Urban Prosperity in Selected Settlements of Ogun State, Nigeria

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Abstract

This study investigated the extent of residents' perception of urban prosperity in selected settlements (Ota and Agbado) in Ogun State, Nigeria using the UN-Habitat (2012 / 2013) prosperity of cities dimensions (Environmental Sustainability). The sample frame consisted of 4,375 households in Ota (Otun) and 3, 312 households in Oke-Aro (Agbado Core), which translates to 7, 687 households' heads. The sample size was 722 households' heads. The method of data analysis used include frequency table, cross tabulation, Likert scale outputs through the Statistical Package for Social Science (SPSS). The study revealed that the extent of urban prosperity in terms of environmental sustainability were encased in pollution and emission (3.66 R.P.I.); rate of noise pollution (3.59 R.P.I.); water quality satisfaction (2.48 R.P.I.); air quality (2.33 R.P.I.) and sustainable environment (1.62 R.P.I.) respectively. The environmental sustainability in terms of green/recreational facilities revealed that green space availability found 1.86 as the Residents' Perception Index. In conclusion, urban settlements (Otun and Oke-Aro) have tendency of becoming a prosperous urban centres, most especially, if the suggested pragmatic strategies will be implemented.

Keywords: Environment, Sustainability, Urban, Prosperity, Settlements

INTRODUCTION

Rapid increase in population of urban centres in most countries of the world is an indication of the pace of social and economic change (Donk, 2006). In many cities of the developing world, urban expansion has taken the form of "peripherization" that is characterized by large peri-urban areas with informal or illegal patterns of land use, combined with a lack of infrastructure, public facilities and basic services, and often accompanied by a lack of both public transport and adequate access roads. Urban expansion is the consequence of poverty, not affluence, as informal unplanned settlements on the periphery spring up in response to a lack of affordable housing options within the city itself (UN-Habitat, 2013).

While urbanization can mean economic dynamism, inclusion and democracy, it also creates enormous challenges, and the difficulties of urban life are magnified when the public sector is weak (Glaeser and Joshi-Ghani, 2013). At the same time, growing cities also pose a number of challenges such as pollution, excessive resource usage and energy consumption, climate change mitigation, congestion, spatial competition, safety and health issues, inequality, poverty, and segregation (Burton, 2000; McCormick, Anderberg, Coenen, and Neij, (2013). The right response to the challenges of urban life is having urban

visioning and proper planning implementation. Close proximity increases human connections and enhances urban growth.

Both in academic literature and in policy documents, creativity is considered essentially an urban phenomenon because human, economic and institutional resources are generally located in the big cities (Florida, 2002). Cities are traditionally considered as places of development, centre of growth or growth poles, areas of concentrated prosperity. Similarly at the individual level, cities have been viewed as places of dynamism and concentrated opportunities. All these indicated the continuous influx of people to urban centre has both positive and negative effects. One of these is appreciable for urban prosperity in world cities today.

To date, more than half of the world's population lives in urban areas (United Nations, 2011). Cities are driving forces and centre of economic, technological, and human development (Polese, 2005; UN-Habitat, 2013; Bettencourt, Lobo, Helbing, Kuhnert., and West, (2007) and Porter, 2000). Searching to improve their quality of life, people move to cities (Taylor, 2012). There is a near perfect correlation between urbanization and prosperity across nations (Glaeser, 2011). The city is a powerful and wonderful construct of history that

developed in response to geographical forces that are now well understood, as are the main keys to urban prosperity (Jean-Claude Prager, 2008).

Urban prosperity takes different forms and characterizations. Each individual city, depending on its own stage of socioeconomic development, history and culture, can be seen as giving its own unique interpretation of prosperity, including in the way it is shared among the population. Still, it is possible to find a common set of conditions that enable urban residents to flourish, feel happy and healthy, and in which business can thrive, institutions develop, and physical spaces become more integrated and diverse (UN-Habitat, 2013).

Every year millions of people, in a population movement that is unprecedented in the history of humankind, continue to migrate from the countryside to the city, because prosperity is to be found in urban settings: the best predictor of income in the world today is not what or whom you know, but where you work (World Bank, 2009). Glaeser (2008) points revealed that "cities are full of poor people because cities attract poor people, not because cities make people poor. However, most studies have concentrated on the urban poor and relatively little is known about the prosperity of urban settlement (residential core areas). This becomes a gap that this study intends to fill. Therefore, the focus of this paper is to investigate the extent of environmental sustainability of urban prosperity in the selected settlements of Ogun State (Agbado and Ota), Nigeria using UN- Habitat urban prosperity index.

LITERATURE REVIEW

Environmental Sustainability

Cities with higher levels of environmental sustainability tend to be more economically productive and provide residents with a higher quality of life. Environmental sustainability is central to the qualitative changes necessary to transform cities and urban lives, particularly the lives of the urban poor. (UN- Habitat, 2013) This implies that there is no trade-off between any city's environmental sustainability and their economic growth and prosperity. For cities, the amelioration of the air quality, the reduction of traffic congestion, and the health of their inhabitants are much more direct benefits of greener practices.

Environmental sustainability requires capacity-building and resource availability at the at all levels; global, region, nation and even at local. A place cannot be single –out for environmental sustainability due to interdependent of human race and settlements. The

sustainability of environment is majorly on quality, CO2 emissions, Energy and indoor pollution.

Prosperity

For a prosperous life, the provision of basic material and immaterial needs is crucial (UN-Habitat, 2013). However, that there is more to it: prosperity is not only about fulfilling basic needs or combating urban problems. Instead, the essential aspects of prosperity are summarized in the following quote: Prosperity consists in our ability to flourish as human beings within the ecological limits of a finite planet. The challenge for our society is to create the conditions under which this is possible. It is the most urgent task of our times. (Jackson, 2009,) To achieve this, a shift away from materialistic, 'status-drive consumerism' is necessary, argues Jackson (2009). Druckman and Jackson (2010, p. 1803) adds to this point by emphasizing the importance of providing capabilities for a less materialistic flourishing; nutritional health, life expectancy, and participation in society (Jackson, 2009). Jackson (2009) emphasizes the importance of meaningful participation in society through meaningful employment because employment provides opportunities for individuals to connect and interact with others.

The five components encompass productivity, infrastructure, environmental sustainability, and equity (UN-Habitat, 2013). For example, quality of life includes key aspects: knowledge and intellectual development (education), meaningful work (employment), recreation, good health, safety/ security, and participation in decisions that affects people's lives (political rights). These aspects are derived from (UN-Habitat, 2013) and (Jackson, 2009).

STUDY AREA

Ota is situated near the boundary with Lagos State and has steadily grown to be the largest industrial town in Ogun State, largely as a result of its proximity to Lagos and it is located within the tropical zone lying between 6° 47' of the equator and 2° 33' E and 3° 18' of the Greenwich Meridian covering a land area of 1,263 square kilometre, it has terrain of 1, 1010 square kilometre. (Ado-Odo / Ota Local Government Economic summit, 2010). Oral tradition has it that Ota was founded in about 1835 by the Aworis who originated from Ile-Ife, the cradle of Yoruba's. The population figure of Ota in 1963 was put at 14,248, in 1991 was 103, 32 and when the 2006 national Population Census was conducted it was put at 142,793. CPMS, (2008). Ota growth also could trace to industrial estates, religious worship centres, government housing estate, universities, access to border towns and most

importantly a nodal town on Lagos-Abeokuta Expressway.

Agbado has grown strongly in its physical extent along the railway station, north to Iju_Ishaga of Lagos State and extends to a distance of about 6.5km terminating at Akute. The physical extent of the town along Ijoko Road which runs in an south direction extends west ward from Ijaye-Ojokoro of Lagos State. Population figure of 35,470 was recorded 1991 and 49,016 in 2003 (NPC, 1998). Agbado station is a town consist with areas like Oke-Aaro, Ibaragun, and Matogbun, Aboru etc and shared boundaries with Ado-Odo /Ota local Government in Ogun State and Ifako-Ijaiye Local Government in Lagos State.

METHODOLOGY

Data for this study were obtained from the primary and secondary data sources. The secondary data were obtained from reports, textbooks, journals, file of government agencies and UN-Habitat, prosperity of cities 2012/2013, National Population Commission among others. The study area entailed the traditional core area of Ota (Otun) and Agbado (Oke-Aro). The sample frame was 4,375 households in Ota (Otun) and 3, 312 households in Oke-Aro (Agbado Core), which translates to 7, 687 households. The sample size was calculated using Yard's formula and it was estimated as 367 from 4,375 households for Otun (Ota) and 355 from 3,312 households for Oke-Aro (Agbado). Based on the sample size, sets of questionnaire were administered. The study adopted systematic random sampling technique. The sampling procedure entailed the identification of the study area, selection of buildings and households and the conduct of interview with households' heads through the structured questionnaire. Data were analysed using the frequency tables and outputs of the likert scale.

RESULTS AND DISCUSSION

Environmental Sustainability which is the basis of healthy living, revealed information on sustainable environments, that captures the quality of air, pollution and emission, noise pollution and quality of water in the area.

Results on environmental sustainability in **Oke-Aro** revealed that 8.2 % of the respondents were Strongly Dissatisfied, 20.6 % were Dissatisfied , 7.0 % were Moderate , 61.4% Satisfied and 2.8 % did not respond, while in **Otun**, its shows 27.8 % were Moderate,63,.8% Satisfied and 8.4% Strongly Satisfied. Majority of respondents satisfied the environment in terms of sustainability.

Perception on Air Quality

Results on the quality of air in **Oke-Aro** found that; 30.4 % of respondents opined that they were Strongly Dissatisfied, 18.6 % were Dissatisfied, 26.2 % were Moderate, 9.9% were Satisfied, 14.9 % were Strongly Satisfied, while in **Otun**, it was revealed that 27. % of the respondents perceived the quality of air as Moderate, 63 .8% as Satisfied and 8.4% as strongly Satisfied. Majority of the respondents were satisfied with the quality of air.

Perception on Pollution and Emission

This result indicated the perception of residents on pollution and emission in **Oke-Aro**; 7.0 % opined that they were Strongly Dissatisfied, 13.6 % opined that they were Dissatisfied, 44.2 % opined that they were Moderately satisfied, 25.4% Satisfied, 9.3 % were Strongly Satisfied and 0.8% did not respond , while in **Otun** , it was found that 0.8 % were Moderate, 65 .9% were Satisfied, 30.0% were Strongly Satisfied and 3.3% did not respond. Majority of respondents were Satisfied with the settlements level of pollution and emission, and this could be because there were no Diesel Engines or Industrial Machine within the traditional core areas (see Table 1).

Perception on Noise Pollution Level

Analysis on residents' perception on noise pollution revealed the level of noise pollution in **Oke-Aro**; as 8.4 % were Strongly Dissatisfied, 11.0% were Dissatisfied, 32.4 % were Moderate, 37.7% were Satisfied , and 10.4 % were Strongly Satisfied, while in **Otun**, results showed that 8.4 % were Dissatisfied, 3.3% were Moderate, 81.5% were Satisfied, 6.8 % were Strongly Satisfied . Majority of the respondents were satisfied with lower level of noise pollution in the environment and this could be to the fact that there were no industrial machines and many Entertainment/Music Shops within the tradition cores (see Table 1).

Perception on Water Quality

The water quality of **Oke-Aro** showed that; 30.7 % were Strongly Dissatisfied, 17.7% were Dissatisfied, 18.0% were Moderately satisfied, 27.3% were Satisfied, and 6.2 % of the respondents were Strongly Satisfied, while in **Otun**, results showed that 7.6 % were Strongly Dissatisfied, 66.2% were Dissatisfied, 17.7 % were Moderately satisfied, 0.3% were Satisfied and 8.2% were Strongly Satisfied. Majority of the respondents were dissatisfied with the settlement in terms of shortage of quality water in spite the presence of Lagos Water Corporation (Works) and Ogun State Water Corporation (Facilities). The settlement lives on individual facilities, Pure Water Companies and Bore-Holes.

Table 1: Analysis of Environmental Sustainability Dimension

Variables		Frequency						Total
		Strongly Dissatisfied	Dissatisfied	Moderate	Agree	Strongly Satisfied	No Response	
Sustainable Environment	Agbado (Oke Aro)	29 (8.2%)	73 (20.6%)	25 (7.0%)	218 (61.4%)		10 (2.8%)	355
	Ota (Otun)			102 (27.8%)	234 (63.8%)	31 (8.4%)		367
	Total	29	73	127	452	31	10	722
Injurious Air	Agbado (Oke Aro)	108 (30.4%)	66 (18.6%)	93 (26.2%)	35 (9.9%)	53 (14.9%)		355
	Ota (Otun)	100 (27.2%)	218 (59.4%)	1 (0.3%)	24 (6.5%)	24 (6.5%)		367
	Total	208	284	94	59	77		722
Pollution and Emission	Agbado (Oke Aro)	25 (7.0%)	47 (13.2%)	157 (44.2%)	90 (25.4%)	33 (9.4%)	3 (0.8%)	355
	Ota (Otun)			3 (0.8%)	242 (65.9%)	110 (30.0%)	12 (3.3%)	367
	Total	25	47	160	332	143	15	722
Noise Pollution	Agbado (Oke Aro)	30 (8.4%)	39 (11.0%)	115 (32.4%)	134 (37.7%)	37 (10.4%)		355
	Ota (Otun)		31 (8.4%)	12 (3.3%)	299 (81.5%)	25 (6.8%)		367
	Total	30	70	127	433	62		722
Water Quality	Agbado (Oke Aro)	109 (30.7%)	63 (17.7%)	64 (18.0%)	97 (27.3%)	22 (6.2%)		355
	Ota (Otun)	28 (7.6%)	243 (66.2%)	65 (17.7%)	1 (0.3%)	30 (8.2%)		367
	Total	137	306	129	98	52		722

Source: Field work, 2014

Table 2: Perception Index of Residents' Environmental Sustainability Dimension

Factors	Rating and Weight Value					Deviation			
	SS(5)	S(4)	MS(3)	DS(2)	SDs(1)	SWV	RPI	RPI-PPI	(RPI-PPI) ²
Pollution and Emission	143	332	160	47	25	2642	3.659	0.929	0.863
Rate of Noise Pollution	62	433	127	70	30	2593	3.591	0.861	0.741
Water Quality Satisfaction	52	98	129	306	137	1788	2.476	-0.254	0.0645
Air Quality not injurious	77	59	94	284	208	1679	2.325	-0.405	0.164
Sustainable Environment	31	452	127	73	29	1167	1.616	-1.114	1.240
Total							13.667		3.0725

Source: Field work, 2014

$$\sum \frac{RPI}{N} = \frac{13.667}{5} = 2.73$$

Column 7: Addition of the variables of environmental sustainability dimension with their levels of satisfaction and their respective weight values. For instance, sustainable environment $31(5) + 452(4) + 127(3) + 73(2) + 29(1) = 1167$

Column 8: Perception index of the variables of infrastructure development dimension with their levels

of satisfaction and their respective weight values, equals summation of weight value (SWV) divided by the addition of individual satisfaction on the variable of productivity. For instance PI for waste collection point is $1167 / 722 = 1.616$

Column 9: The deviation equals to means of perception index for all the 5 variables for environmental sustainability subtracted from perception index value for each indentified variables $1.616 - 2.73 = -1.114$ for environmental sustainability.

Column 10: the Square of the Deviation) $\sqrt{RPI - PPI}$
Using the formula below, the variance, standard deviation and co-efficient of variation of residents' perception responses is as calculated below

$$\text{Variance} = \frac{\sum (RPI - PPI)^2}{N} = 3.0725 / 2 = 0.6145$$

$$\text{Standard deviation (SD)} = \sqrt{\text{variance}} = \sqrt{0.6145} = 0.783$$

$$\text{Co-efficient of variation} = \left\{ \frac{SD}{PPI} \right\} \times 100\%$$

$$= \frac{0.783}{2.73} \times 100 = 28.7\%$$

The highest of the residents' perception components from the Likert scale output of environmental sustainability are; pollution and emission (3.65), low rate of noise pollution (3.59) and water of water satisfaction (2.47). This explained environmental sustainability of urban prosperity of Respondents' perception index.

Environmental Sustainability Dimension in Study Area (Green/Recreational Facilities)

Table 3: Response on Environmental sustainability dimension in study area (Green/Recreational facilities)

Variables		Frequency						Total
		Strongly Dissatisfied	Dissatisfied	Moderate	Satisfied	Strongly Satisfied	No Response	
Green Space	Agbado (Oke Aro)	119 (33.5%)	198 (55.8%)	38 (10.7%)				355
	Ota (Otun)	44 (12.0%)	297 (80.9%)	26 (7.1%)				367
	Total	163	495	64				722
knowledge about renewal energy and recycling	Agbado (Oke Aro)	162 (45.6%)	67 (18.9%)	35 (9.9%)	(20.0%)		20 (5.6%)	355
	Ota (Otun)	140 (38.1%)	226 (61.6%)	1 (0.3%)				367
	Total	302	293	36	71		20	722

Source: Field work, 2014

Table 4: Perception Index of Respondents' Response on Environmental Sustainability Dimension in Study Area (Green/Recreational Facilities)

Factors	Rating and Weight Value				Deviation				
	SS(5)	S(4)	MS(3)	DS(2)	SDs(1)	SWV	RPI	RPI-PPI	(RPI-PPI) ²
Green Space Availability			64	495	163	1345	1.86	0.195	0.0380
Knowledge of Energy renewal and recycling		71	36	293	302	1064	1.47	-0.194	0.0376
Total							3.33		0.0756

Source: Field work, 2014

$$\sum RPI = 3.33, PPI = \frac{\sum RPI}{N} = \frac{3.33}{2} = 1.665$$

Column 7: Addition of the variables of green / recreation facilities with their levels of satisfaction and their respective weight values. For instance, sustainable environment $64 (3) + 495 (2) + 163 (1) = 1345$

Column 8: Perception index of the variables of green space availability dimension with their levels of satisfaction and their respective weight values, equals summation of weight value (SWV) divided by the addition of individual satisfaction of the variables. For instance PI for green space availability is $1345 / 722 = 1.862$

Column 9: The deviation equals to means of perception index for all the 2 variables for green space availability subtracted from perception index value for each identified variables $1.862 - 1.665 = 0.197$ for environmental sustainability.

Column 10: the Square of the Deviation) $\sqrt{RPI - PPI}$
Using the formula below, the variance, standard deviation and co-efficient of variation of residents' perception responses is as calculated below.

$$\text{Variance} = \frac{\sum (RPI - PPI)^2}{N} = 0.0756 / 2 = 0.0378$$

$$\begin{aligned} \text{Standard deviation (SD)} &= \sqrt{\text{variance}} = \sqrt{0.0378} \\ &= 0.194 \\ \text{Co-efficient of variation} &= \left\{ \frac{SD}{PPI} \right\} \times 100\% \\ &= \frac{0.194}{1.665} \times 100 = 11.65\% \end{aligned}$$

The highest of the residents' perception components from the likert scale output of environmental sustainability are; green space availability (1.86). This explained environmental sustainability of urban prosperity of Respondents' perception index.

RECOMMENDATIONS AND CONCLUSION

The study which was conceptualized on prosperity wheel as dimension parts of urban prosperity has examined the residents' perception of environmental sustainability dimension of urban prosperity in traditional core areas in Oke-Aro and Otun. The traditional core areas were dominated by the indigenes of 78.7% of the total population of 722 respondents. As at present environment could be sustainable due to less noise and pollution from heavy trucks and industries that could be injurious the ecosystem. The absent of green space for neighbour children and recreation centre for adult relaxation was traced to land speculators. There is a need for sustainable city plan by the state government for the core areas. The "hubs" (urban and regional planning, national building code, laws, regulations, institutions and agencies) that can bring about the change in building prosperous area should also be revisited and implemented. Urban upgrading programme or policy is recommended to the core areas for a facelift and sustainability. Most ancient structures could be conserved. The provision of infrastructures in core areas could be carried out by quasi-governmental agencies which could solve problems related to water, sanitation and health related issues with a view to providing a functional, liveable and aesthetically pleasing environment and promoting urban prosperity for all, particularly for the self-employed, less educated and health challenged persons in selected core areas. All the afore-mentioned will surely drive the wheel of urban prosperity towards prosperous urban core, in areas that promote and enhance environmental sustainability.

REFERENCES

Adebayo O.F (2014). Housing the urban poor in Nigeria through community participation using lessons from Nairobi, Kenya. In Oduwaye, Lawanson, Agunbiade and Aluko (Eds). Urban agenda for Africa: Proceedings. 3rd international conference of urban and regional planning (ICURP), 13 - 15 October 2014, Lagos, Nigeria. 540

Agunbiade M and Olajide O. (2014) .The limit of land regularization as poverty alleviation strategy in informal settlements. Empirical evidence from Lagos, Nigeria. In Oduwaye, Lawanson, Agunbiade and Aluko (Eds), Urban agenda for Africa: Proceedings. 3rd international conference of urban and regional planning (ICURP), 13 - 15 October 2014, Lagos, Nigeria. 155

Agunbiade and Olajide (2014). The reality of Lagos megacity urban development vision and livelihoods of the urban poor. In Oduwaye, Lawanson, Agunbiade and Aluko (Eds), Urban agenda for Africa: Proceedings. 3rd international conference of urban and regional planning (ICURP), 13 - 15 October 2014, Lagos, Nigeria. 258

Bettencourt, L. M. a., Lobo, J., Helbing, D., Kuhnert, C., and West, G. B. (2007). Growth, innovation, scaling, and the pace of life in cities. Proceedings of the National Academy of Sciences of the United States of America. 104 (17), 7301-7306.

Bigelow, B. J. (2006). There's an elephant in the room: The impact of early poverty and neglect on intelligence and common learning disorders in children, adolescents and their parents. Developmental Disabilities Bulletin, 34, 177-215.

Blower, Andrew, (Ed), (1993). Planning for a sustainable environment. A report by the Town and Country Association. London: Earth scan Publication Limited,

Burton, E. (2000). The compact city: Just or just compact? A preliminary analysis. *Urban Studies*, 37(11), 1969-2006.

Casanova, L. (2003). Environmental citizenship: An introductory guidebook on building partnerships between citizens and local governments for environmental sustainability. Osaka: UNEP/IETC. <http://www.unep.or.jp/ietc/publications/integrative/ims5/index.asp>.

Donk, V.M (2006). Positive urban futures in Saharan Africa: HIV/AIDS and the need for ABCCA, Broader Conceptualisation. *Environ. Urban* 18 :155-177

Druckman, A. and Jackson, T. (2010). The bare necessities: How much household carbon do we really need? *Ecological Economics*, 69(9):1794-1804.

Edward Glaeser and Abha Joshi-Ghani (2013). Rethinking cities: Toward shared prosperity, economic premise. The World Bank .October 2013, 126.p 2

- European Commission (2011). Cities of tomorrow-challenges, visions, ways forward. Luxembourg: Publications Office of the European Union. P 43
- Florida, R. (2002.).The rise of the creative class: And how it's transforming work, leisure, community and everyday life. New York: Basic Books.
- Glaeser, Edward L. (2011). The triumph of the city: How our greatest invention makes us richer, smarter, greener, healthier and happier. New York: Macmillan. Kindle.
- Glaeser Edward and Abha Joshi-Ghani(2013). Rethinking cities: Toward shared prosperity, economic premise. The World Bank .October 2013, 126.p 2
- GlobeScan and MRC McLean Hazel (2011): Megacity challenges: A stakeholder perspective, Siemens AG Germany. 15
- Glaeser, Edward.L., and Resseger, M.G. (2008) . The complementarities between cities and skills. Journal of Regional Science 50, 221-244.
- Jackson, T. (2009). Prosperity without growth: Economics for the finite planet. Earthscan, London.
- Jean-Claude Prager, (2008). Value creation and urban prosperity. Director of Economic Studies, Société du Grand Paris .www.lafabriquedelacite.com
- Kessler,R .C. (1979). Stress, social status,and psychological distress. Journal of Health and Social Behaviour 20, 259-272.
- Legatum Institute (2014). The 2014 Legatum Prosperity Index
- McCormick, K., Anderberg, S., Coenen, L., and Neij, L. (2013). Advancing sustainable urban transformation. Journal of Cleaner Production. 50. 1-11.
- Porter, M. E. (2000). Location, competition, and economic development: Local clusters in aglobal economy. Economic Development. Quarterly, 14(1), 15-34.
- Stojnic.(n.d).Centrifugal and centripetal force in the sustainable development of Monte Negro: Nutura Montenegrina, podgorica, Vol 7, nos 3 pg 555
- Taylor, P. J. (2012). Transition towns and world cities: Towards green networks of Cities. Local environment. 17 (4). 495-508.
- UN-Habitat (2013). Streets as public spaces and drivers of urban prosperity. Nairobi. 21
- UN-Habitat (2013). State of the world's cities 2012/2013: Prosperity of cities. Routledge, New York.
- UN-Habitat. (2003).The challenge of slums: Global report on human settlements. Earthscan, London.
- UN-Habitat. (2013). Urban planning for city leaders: 2nd Edition, Kenya.
- United Nations. (2011). Population division, department of economic and social affairs of theUnited Nations. Technical report. Population division, Department of economic and social affairs of the United Nations.
- United Nations Centre for Human Settlements. (1996). An urbanizing world: Global report on human settlements: Oxford University Press. World Commission on Environment and Development (1987) Our Common Future, Oxford University Press. 8
- World Bank. (2009). World development report 2009: Reshaping economic geography. Washington, DC: World Bank