

Managing Urban Growth in South Africa: Challenges and Constraints

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Abstract: The purpose of this paper is to investigate the relationship between urban growth and urbanization to show how their incorporation adversely affects urban development. Urban development in South Africa was affected by the Apartheid era whereby much attention was given to urban areas and after 1994 many people started moving from rural to urban areas which led to massive urbanisation levels especially in Gauteng province. The more population increases in urban areas it requires the need for urban development planning to accommodate the increasing population. Subsequently urban growth poses many problems, some of which are caused by the expansion of the population and some due to the physical expansion of the towns. The major problem includes provision of services, employment, pollution, traffic congestion and urban sprawl. Although there are policies which have been implemented by the government to promote equitable urban development, still increasing urban growth and high levels of urbanisation levels remain a challenge to urban development. It is in this context that this paper argues that unplanned urbanisation interrupts effective urban development in South Africa. Furthermore, the paper emphasises on understanding urbanisation and urban growth which requires considerate variety of factors that can affect the city functionality and sustainability. Thus, the paper concludes that failure to curb urbanisation levels and urban growth in South Africa's cities is an indication of inadequate urban development planning. Therefore, the paper recommends that urban development planning measures such as strategies for growth management, assessing urban settlement sizes and evaluating urban sprawl should be enhanced to maintain a balanced urban morphology.

Keywords: Overcrowding, Urban Growth, Urban Sprawl, Urbanisation

1. Introduction

Urban growth is an increasing challenge in South Africa (Atkinson & Marais, 2006; Raniera, 2013). The movement of people from rural areas to urban areas leads to overcrowding in urban areas, lack of service provision, employment, pollution, traffic congestion and urban sprawl (Cross, Kok & Van Zyl *et al.*, 2005; Tacoli, 2015). The population increase in urban areas requires proper urban management. Urban growth has many problems; some are caused by the expansion of the population and some due to the physical expansion of the towns (Hemson, 2007; Barney, 2015; Gries, 2018). Furthermore urban development policies are put in place to encourage impartial urban growth; however the high levels of urbanization persist to be a challenge to urban development since some policies are not put into practice (Cross, 2001; Kok, Collingson, 2006; Simandan, 2018). The rapid population increase in South Africa requires good methods to manage the consequences associated with urban growth (Krige, 1996; World Bank, 2014). Additionally, the paper emphasises managing urban growth which requires understanding a variety of factors that can affect the city functionality

and sustainability. This paper investigates the relationship between urban growth and urbanization to show how their relation adversely affects urban development. This paper argues that urbanisation should be limited in order to reduce urban growth and the extension of informal settlements, coupled with housing backlogs facing South Africa, perhaps there's must be a call for a shift from master planning and urban development approach to a more proactive, proficient and strategic planning paradigm.

2. Urban Growth

Urban growth is very challenging to control (Cross, 2005; Cross, 2001; Van Aardt, 2004). Johannesburg's has increased by 1.2 million between 2001 and 2011 (Wentzel, 2005; World Economic Outlook, 2014) Johannesburg's population is around 3.6 million (Stats SA, 2001). The increasing number of people who live in towns and cities causes urban pressure, thus the government should ensure that public services accommodates everyone considering availability and accessibility of the services (Gelderblom, 2006; Crush, 2005; Kork, 2006). The pace of urban population growth depends on the natural increase and the

population gained by urban areas through both net rural-urban migration and the reclassification of rural settlements into cities and towns (Kork, Carenne, 2006; National Library Medicine, 2016). There is high population increase in urban areas on daily basis which requires proper urban planning (Hall, 2004; Raniera, 2013; Barney, 2015; Gries, 2018). Urban growth is a major challenge of which strategies and measures must be put in place to address urban growth.

3. Population Statistics

South Africa is experiencing rapid urban growth due to international migration. South Africa's population has increased, between 2010 and 2035, the urban population is expected to be more than double from approximately 298 million to 697 million (Viljoen & Wentzel, 2005; Van Aardt, 2004). By mid-century, it is estimated that over 1 billion people will reside in urban areas. Whereas urban growth has the potential to act as an engine of economic growth and human development if it is planned properly as it will bring massive challenges. Johannesburg's has increased by 1.2 million between 2001 and 2011 (Wentzel, 2005; Gries, 2018) Johannesburg's population is around 3.6 million (Stats SA, 2001). Thus, urban areas are facing huge development challenges along with major opportunities. About 63% of South Africans are currently residing in urban areas and 40% in metropolitan municipalities (Stats SA, 2003). Approximately by 2030 another 7.8 million people will be living in South African cities and by 2050 an additional 6 million, of which will add pressure to housing, services and infrastructure (Van Aardt, 2004; Tacoli, 2015). Moreover, the NDP foresee that the crude binary rural-urban distinction needs to be replaced by the perspective of a rural-urban continuum. The largest population growth in South African cities is Johannesburg; it has the highest population compared to other cities (Wentzel, 2005; Barney, 2015). Most of the urbanisation is taking place in informal settlements or slums; this implies that people who migrate to the cities find city life alienating in all forms. A smaller percentage of new arrivals could afford city life. The poor tend to live on marginal land, in unplanned areas that are consequently poorly serviced; distances are huge and transport costs expensive (Stats SA, 2017).

4. Problems Associated with Urban Growth

Migration and changing settlements have a drastic impact on urban areas which leads to urban poverty

as the population is high in urban areas thus some will have no access to employment due to lack of knowledge and illiteracy (Cross, 2005; Barney, 2015; Gries, 2018; Simandan, 2018). Urban growth causes economic injustices such as urban poverty as there's lack of employment and economic decline which makes it difficult for some of the people to survive in urban areas (Hunter, 2006; Kok & Collingson, 2006). Urban environments generate various types of waste, with serious implications for human health and environmental sustainability. The types of waste generated include municipal solid waste, wastewater from various sources including households and industries, and sludge from human excreta (Hall, 2004; Cross, 2001; Cross, 2005). Due to rapid urbanisation the urban area, especially the inner city, experiences great pressure to try and cope with this increase. This results in inner city problems such as the followings:

4.1 Traffic Congestion

An increase in urbanisation leads to a situation whereby there's an increase in vehicles, everyone driving their own cars which leads to traffic congestion. The transport networks cannot cope with such an increase, it normally happens during peak hours e.g. morning when going to work and afternoon when coming from work (Hunter, 2006).

4.2 Lack of Planning

Planners are unable to plan properly for the over increasing population of rural areas, and thus there's a need for proper planning to ensure that the services and infrastructural development cater for all (Tacoli, 2015; Raniera, 2013).

4.3 Overcrowding

People move to urban areas whilst they are poor, as a result they end up living in low rentals. Furthermore this leads to families living in small rooms, shacks or even a few families sharing a room due to overcrowding. This forms enormous pressure on basic services and facilities such as schools (Hall, 2004).

4.4 Housing Shortages

Growing urban populations create housing shortages. This has resulted in informal settlements, urban blight and urban sprawl (Cross, 2005). The

government's housing project has helped but because of the massive increase in urbanisation it was not effective. The government tries to also create housing through municipal flats that people will pay certain less rent (Cross, 2005).

4.5 Service Provision

High population rate in cities result in high demand of services in informal settlements and transition zone especially considering the existing gap of amenities in townships (Atkinson, 2006). People need infrastructure to access the services and function offered by the city, the services includes healthcare, educational facilities, sanitation, water and electricity. When people do not get the services, they end up in protesting (Aliber, 2003).

4.6 Environmental Injustice

Urban growth problems lead to environmental injustices such air pollution caused by carbon emissions / greenhouse gases from vehicle, industries, people etc. Noise pollution comes from vehicle, people, activities etc (Atkinson, 2006; Gries, 2018).

5. Managing Urban Growth

Urban growth in South Africa can be managed through increase in employment opportunities and promoting economic growth by having developmental projects (Tomlinson, 2006). Furthermore by encouraging decentralisation of functions by putting people at the centre of development whereby they are given opportunities to fully participate in development initiatives (Cross, Kok, Wentzel, Tlabela, Weir-Smith & Mafukidze, 2005; Tacoli, 2015). The development of green cities incorporates the green area and open spaces into the design from the start, also the need for spatial development planning and to have proper land allocation (Tomlinson, 2006). Have transport routes with pedestrian access in residential areas and wider streets which integrate with the environment e.g. planting trees on the side of the road (Mafukidze, 2005; Simandan, 2018). The emerging re-definition of urban areas to include old apartheid townships and bigger urbanizing agglomerations in former homelands adds another particularity to the South African context of urbanization (Todes, 1999; Royal Town Planning Institute, 2014). The fundamental factors reason for South Africa's increasing rates of urbanization which range between 3% and 5%, depending on the category

of city and urbanizing agglomeration, thus there's a need for proper planning in urban areas to deal with urbanization (Stats SA, 2017).

6. Relationship Between Urban and Urbanisation

Urban growth and urbanization have harmfully impact on urban development and it impact on urban development planning. Urbanisation transpires when there's population shift from rural to urban areas, the increase in the proportion of people living in urban area (Roberts, 1989; Raniera, 2013; World Economic Forum, 2015). Urbanisation trends in South Africa also approve the generally accepted understanding that rural-urban migration, circular migration and natural growth are the main underlying factors to urbanization (Wentzel, Tlabela & Mafukidze, 2005; Gries, 2018). Urban growth and urbanisation it's the process by which towns and cities are formed and they become greater as more people begin living and working in central areas (Hemson, 2007; Tacoli, 2015). The increasing urban growth is due to urbanisation this draws the nexus between urban growth and urbanization whereby when people move from urban areas they cause urban pressure, as urban areas needs to cater for everyone, also this includes issues of remittances whereby people who moved from rural areas to town also provides for those who are at rural areas (Kok, Collingson, 2006; Simandan, 2018). The rural-urban linkage is not about rural development versus urban development but rather about recognizing that they are "two sides of the same coin", with the coin being the development agenda. Hence, a policy that promotes either rural or urban development must contemplate the relationship and inter-linkages between rural and urban areas (Collingson, 2006; Gries, 2018). The framework for integrated urban development responds to South Africa's unique rural-urban situation.

7. Challenges and Constraints of Managing Urban Growth

In South Africa, many problems of human settlements come from an incorporation of insufficient and unsuitable planning as well as the failure to implement relevant plans which are already in existing (Aliber, 2003; Tshikotshi, 2014). The challenge still, is not only about how to direct urban growth but also on how to organise financial and technical resources and to adequately address social,

economic and environmental needs (Tsenoli, 2010; Reitsma, Femke, Seto & Karen, 2016). Although urban growth is a local or regional phenomenon, it has impacts far beyond city boundaries. They are challenges in terms of improving waste management services (Borowiecki & Karol, 2013; Auber, 2013). This is due to rapid cities growth, which affects the amount of waste generated (Hunter, 2006; Eckert & Kohler, 2014). Change in human consumption patterns and the change in structure of economic activity generate various types of waste which must be properly managed to confirm sustainable development and a decent standard of living for all people living in urban areas (Harris, 1990; Cox, Hemson & Tude, 2004). In low-income countries rapidly, urban growth put pressure on limited urban resources for the provision of crucial basic services, additional strain capacity in urban management. Moreover, unsuitable policies have contributed to the growth of life and health-threatening slums, where urban waste management services are often insufficient (Harris, 1990; Cox, Hemson & Tude, 2004). A key indicator of the challenge to manage some of these waste streams is reflected in the effort to meet the Millennium Development Goals, especially that on sanitation and slums (Tude, 2004; Borowiecki & Karol, 2013; Benedictus, 2017). Indeed, efforts to improve the circumstances have been outstripped by rapid population growth and urbanization (Hunter, 2006). The over increasing urbanisation rate adds pressure on municipalities to provide services to the increasing and demanding population which the municipalities end up not being able to provide services that will accommodate old and new entrants (Kok & Collingson, 2006). Building new residential and commercial areas demands more resources. Use of land for special concern can be considered as non-renewable resources, at least according to human time scales (Hall, 2004; Raniera, 2013). It's not impossible to identify the land cover lost because of new urban developments (Atkingson, 2006; Tude, 2004; World Bank, 2014). Encouraging urban economic development and creating institutions for service delivery requires significant transformation and capacity-building which is a challenge for the government to accomplish (Hunter, 2006, Barney, 2015; Tacoli 2015). It is in this context that this paper argues that unplanned urbanization interrupts effective urban development in South Africa which will lead to city problems in future as the more the population increase, there's also a need to have spatial development planning and increased infrastructural development.

8. Urban Development Policies

South African urbanization was shaped historically by policies to control the movement and settlement of black people (Tshikotshi, 2014; Tsenoli, 2010; Aliber, 2007). Policies try to limit access by Africans to cities, and to restrain many of them to 'homelands', most of which were mainly rural and with limited economic base (Meth, 1998). There's Polluter pays law or principle which it's a mere gesture as is there in paper but is not adhered to as people continues to pollute the environment, there's still waste management issues which threatens human health (Hunter, 2006; National Urban Development Framework). The Department of Land Affairs has established a new Directorate which indicates that Land Use Advisory Services is there with the purpose achieving optimum use of land for land reform (Kok, Hemingson & Tode, 2004). The roles of the directorate include, inter alia, the development of mechanisms to indorse operative land use management and planning (Hunter, 2004). This will guarantee that there's proper spatial planning in urban areas so that people can be allocated land looking at availability of space (Tshikotshi, 2014). The Development Facilitation Act is also there for accelerating the identification and release of land for development, particularly for housing (Tsenoli, 2010; Tshikotshi, 2014). South Africa's Urban Development Strategy has been released as a discussion document, some urban development policies are there in paper but not put into practice such as the National Urban Reconstruction and Housing Agency is tasked with expediting housing delivery within metropolitan areas, but the process is slow and sometimes they are complaints regarding not having enough funds (Tsenoli, 2010). Project Preparation Facilities are being established in the provinces to give them the capacity to plan projects with community involvement at the city and local level. The forum for Effective Planning and Development will reappraise and reform the urban and regional planning system in South Africa (Tshikotshi, 2014; Hunters 2006).

9. Recommendations

The paper recommends that they should be urban development planning measures such as strategies for growth management, assessing urban settlement sizes and evaluating urban sprawl to maintain a balanced urban morphology. Furthermore, to have spatial development planning in urban areas

to plan for the land and space available to accommodate the increasing population in urban areas looking at the space for infrastructural development and services and prioritization of the services needed (Wegerif, Russell & Grundling, 2005). There should be measures taken for improvements of waste management services and, more broadly, urban slums should be addressed. To discourse current urban problems, healthy cities projects have been introduced in two South African cities, namely Johannesburg and Pretoria. The projects pursue enhancement of the physical, mental, social and environmental well-being of people that live and work in cities, thus such project should be introduced to all the cities of South Africa to be able to manage urban growth in the entire South African cities (Van Aardt, 2004; Brandful, Odei & Amoaten, 2015; Cohen, 2003). The urban planners should also use the compact city model as a strategy to support sustainable development within urban areas.

10. Conclusion

Failure to curb urban growth will result in increased urbanization levels and urban growth in South Africa's cities which is an indication of inadequate urban development planning (Gelderblom, 2006; Crush, 2005; Robbins, Todes & Velia, 2004). Thus, this will cause overcrowding in the future since urban areas increases daily and the public services and infrastructural activities should available and accessed by all, although this will cause congestion in public facilities e.g. clinics and hospitals which will results in poor service as the clinics and hospitals will have to cater for many people (Collingson, Kok & Carene, 2006). The city image will be impacted as well as people will be scattered everywhere, whereas there's limited space currently in urban areas thus in the coming year approximately by 2030 the urban areas will expand drastically (Crush, 2005; National Urban Development Framework, 2017).

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