SOUTH AFRICAN SPATIAL PLANNING FRAGMENTATION: REPEALING THE APARTHEID PLANNING IMPRINT

Sakiel A Monama, University of Limpopo
Ngoako J Mokoele, University of Limpopo
Koena D Mokgotho, University of Limpopo

ABSTRACT

The South African land use allocation during the colonial and apartheid era was predominantly discriminatory as it placed white people in close proximity to the city. Spatial planning was used as an instrument to allocate different land uses, which consequently placed black, Indian, and colored people in townships. Twenty-seven (27) years into democracy, the spatial arrangements of all South African cities remain fragmented. Urbanization has increased the demand for housing and transport system. However, the current spatial land use distribution in South African cities has demonstrated that many blacks and colored's have long-distance daily travels from the township to the cities. The distance between cities and townships makes it difficult to foster integrated transport plan implementation. Furthermore, the rural-urban migration has resulted in the densification of people in urban areas. Consequently, the rate of urbanization and flawed spatial planning has contributed to multiple challenges in urban areas such as urban sprawl, high unemployment, and poverty. The rapid increase of population in cities means more demand for spatial distribution, whereas the available space in cities is not enough to cater for the existing population. Nevertheless, the government itself is failing to provide infrastructure and services in pace with the population growth in cities. Again, population growth resulted in squatter camps and informal settlements which become more difficult for spatial planners to bring new spatial developments. This paper is purely conceptual as it relied on the extensive review of literature to discuss spatial fragmentation in South African cities, focusing on apartheid planning imprints and the spatial arrangement of different land use activities within a physical setting. Furthermore, considering the existing spatial planning issues in cities, the paper has also criticized the government's response in combating spatial inefficiencies. The paper concludes that the South African government still has a long way to go in correcting the spatial inefficiencies imprinted in the country's geography by the apartheid planning.

Keywords: Spatial planning, Fragmentation, Urbanization, SPLUMA, Integrated Transport Planning

INTRODUCTION

The continuing existence of long-distances between South African townships and cities signals the distortedness and fragmentation of the country's spatial planning (Jacobs et al., 2019). The geographical and spatial fragmentation of South African cities can be traced back to the brutal apartheid government of 1948 and colonial era (Chakwizira et al., 2018). During the

colonial and apartheid era in South Africa, legislations such as the Native Land Act 1913, Native (Urban) Areas Act 1923, Group Areas Act 1950, and The Bantu Urban Areas Act 1953, were all enacted to keep interracial property transactions and land occupation separated and controlled within the country (Newton & Schuermans, 2013) (Breetzke et al., 2021). The notion of ostracism, which isolated the majority of black people from prevalent opportunities in the cities, fueled the distribution of land during the colonial and apartheid period (Newton & Schuermans, 2013). The colonial system forced black, Indian, and colored people to live in isolated places, particularly townships. As a result, apartheid spatial design separated some socioeconomic features in regions remote from growth and development nodes, making it difficult for spatial planners to connect development from the periphery to cities. Furthermore, apartheid planning in South African cities resulted in a fragmented form of spatial development. These legislations (Native Land Act 1913, Native Urban Areas Act 1923, Group Areas Act 1950, and The Bantu Urban Areas Act 1953, were used to designate where non-white people should live, work and exist during the colonial period (Newton & Schuermans, 2013) (Breetzke et al., 2021).

The dawn of South Africa's democracy in 1994, coupled with the rigidity and discriminatory nature of colonial planning have all resulted in unprecedented rate of urbanization, exacerbating the demand for housing and transportation systems in cities (Mokgotho & Mokoele, 2020). According to Syse et al. (2018), the majority of black South Africans, especially youth, who have been historically disadvantaged and marginalized, have flocked to cities in search of better services and opportunities. Many of the city's spatial setup created by the colonial and apartheid administration is immovable and unenviable to dismantle. Therefore, the majority of blacks, Indians and colored are who were previously marginalized and separated from the city bear the burden of having to commute regularly from a township to a city (Newton & Schuermans, 2013). The apartheid spatial planning has dispersed areas on the outskirts of cities, making it impossible to connect development to enable integrated transport planning, which has the potential to reduce traffic congestion, time and cost to accessing the city (Schuermans, 2013) (Mongala et al., 2019) (Mokgotho & Mokoele, 2020). In addition, the influx of people into cities has resulted in a strong demand for land for housing, basic services, and infrastructure, as well as a rise in government spending.

The current democratic government's mandate is to rectify the spatial fragmentation caused by apartheid planning. Nonetheless, a closer scrutiny on the current implementation of legal frameworks and policies adopted since 1994 to address spatial inefficiencies reveal that most of the legislations appear to be preserving and nourishing apartheid planning in some way (Chakwizira et al., 2018). Although many of the previously marginalized population are not residing in the city, majority, especially the poor and the middle class are still located outside the city and thus, bearing the brunt of commuting to access their area of employment. This makes combating fragmentation or inefficiencies in South African cities impossible. According to Moffat et al. (2021), the city of Polokwane is a perfect example of spatial fragmentation due to its challenges of urban sprawl, population growth and spatial inefficiencies. The city's physical dimensions are distributed in such a way that surrounding areas and small towns (such as Mankweng, Mokopane, & Lebowakgomo) are unable to connect their development to its core due to the colonial system's spatial fragmentation.

Theoretical Framework: Bid-Rent Theory

The theoretical grounding of the paper is on the bid-rent theory. According to Alonso

1960, the bid-rent theory is a geographic theory that is used to determine how the price of land occupation and demand for real estate fluctuate as the distance from the city's core location increases. The theory helps to unpack how land-use patterns are determined by the terrain (Clay & Valdez, 2017). Various land users compete for the occupation of land in the city Centre, which further improves the economy of the city, thereby increasing the value of the land. Alonso 1960 argues that the bid-rent theory is founded on the assumption that retail businesses want to maximize their profits, and as such, they are ready to pay more for land near the city Centre and less for land further away. This notion is founded on the idea that the more accessible a location is, the more profitable it will be (Clay & Valdez, 2017). The bid-rent theory has developed a basic land-use economics theory, which drastically changed the spatial structure and growth of most cities. This theory fuels the placement of the poor and middle-class urban population at the periphery of the city and thus, they are forced to commute to work daily.

Arguably, the most significant impact of changes upon the urban structure has been the mushrooming of informal settlements and squatter-camp areas in most South African cities. The bid-rent theory has spread constraints in land occupation in urban settings, which has had a significant impact on how spatial planning, policymaking, finance and resource allocation are handled in cities (Bochnovic, 2014). Land users, whether retail, office or residential, all bid equally for the available space in the city's central region (Bochnovic, 2014; Clay & Valdez, 2017). The philosophical underpinning of this theory is that those with low purchasing power will not be able to bid for land in the city; instead, they will be able to compete for the affordable places on the outskirts of the city. Therefore, the Spatial Planning and Land Use Management Act that promotes inclusiveness in repealing the apartheid-borne planning practices is nullified by the philosophy of the theory (Bochnovic, 2014). The exorbitant cost of land in the city center has affected the majority of the previously underprivileged people. Consequently, residential settlements (particularly for the majority of black people) are commonly found on the outskirts of many South African cities. It may be argued that this hypothesis is one of the most important in accelerating spatial fragmentation in cities, implying that the lower a household's income, the less probable it is to live in the city's core. On a daily basis, people will commute from the outskirts to the city. According to (Bochnovic, 2014), the price of land in cities will continue to rise as space in the inner city fills up. This connotes that the higher the price of land occupation, the less likely impoverished people will settle in the city Centre.

Evolution of Spatial Planning in South Africa

Prior to 1994, spatial arrangement was intended to fulfill a racial segregation purpose. Land utilization was not the most efficient or productive in this sense. According to Fonkam (2017), provincial governments were more involved in the common Spatial Planning and Land Use Management Act (SPLUMA). In selected areas of the country, the provincial government would delegate decision-making authority to local governments to handle specific sorts of land development applications. According to (Fonkam, 2017), the process of spatial planning was supervised by municipalities that were governed by some ordinances. The local planning of municipal functions, on the other hand, was limited to the development of cities. The field of spatial planning (within the discipline of town and regional planning) has a role in the understanding of land development, allocation and management (Fonkam, 2017).

In the South African context, spatial planning has a long and illustrious history (Du Plessis, 2014; Odendaal & McCann, 2016; Turok, 2016). The historical spatial planning of the colonial

and apartheid system has had the most profound influence on the current spatial layout of South African cities (Mabin, 1992; Odendaal & McCann, 2016; Turok, 2016). The promulgation and ultimate implementation of the colonial and apartheid influential planning policies from 1913 to the late 1980s have been the largest contributor (Mabin, 1992; Odendaal & McCann, 2016; Turok, 2016). According to Du Plessis (2014), the formation of township communities on the outskirts of cities like Khayelitsha in Cape Town and Ivory Park in Midrand had a significant impact during the colonial period. However, in most cities, the influence of colonial spatial design continues to increasingly delay the integration of socio-economic factors inside the core area (Du Plessis, 2014; Turok, 2016).

Prior to 1994 in South Africa, land-use planning was used to enforce racial segregation and confine black, Indian and colored people at the outskirts of cities. From 1913 until 1994, racial segregation and land occupation were enforced primarily by planning legislations such as the Native Land Act 1913, Native (Urban) Areas Act 1923, Group Areas Act 1950 and The Bantu Urban Areas Act (1953) (Breetzke et al., 2021; Lemon, 2021). According to Ebrahimnia and Daneshpour (2018), spatial planning refers to "systems utilized by the state to impact the distribution and arrangement of socio-economic factors in spaces of varied sizes and shapes". Acheampong (2018) deconstructs spatial planning as a process of determining land uses and space design in light of the social, economic, physical, environmental and local factors. These spatial planning regulations were used to regulate black South Africans' settlements, existence, and work, as well as maintain racial segregation within towns and cities (Acheampong, 2018; Breetzke et al., 2021). The National Party's colonial worldview was driven by spatial planning rules that limited development and opportunity to areas where black South Africans were oppressed (Newton & Schuermans, 2013), which was in townships and rural areas.

The apartheid's superiority in building residential and economic sectors for each race in cities was backed up by the Group Areas Act 1950 (Lemon, 2021; Rogerson & Rogerson, 2021). The Act divided South Africa's cities into residential and commercial zones, effectively separating colored's, blacks and Indians from areas designated for white settlements (Rogerson & Rogerson, 2021). The Group Areas Act gave South African cities the spatial construction and pattern of white residential areas, which were located in more suitable space in the city's core, while the periphery was populated by other populations. According to Breetzke et al. (2021), these colonial planning regulations were founded on racial segregation, control and dispossession of black people's socioeconomic opportunities. The white minority spatial planning legislation evicted black people from their homes and established dwellings for black families on the outskirts of cities. Furthermore, apartheid-era spatial zoning regulations were part of the legal arsenal employed to maintain urban fragmentation. Consequently, the black South Africans' spatial control pressure in the form of sanctions and resistance forced the then regime to change planning regulations (McCarthy, 2003; Fourie, 2019). The government then attempted to alter planning regulations through building township infrastructure and lifting limits on minority groups' residential rights (McCarthy, 2003; Fourie, 2019). According to Chakwizira et al. (2018), the new administration took a drastic and critical approach to confront spatial fragmentation and inefficiencies imprinted by the apartheid era.

Since 1994, the early spatial planning rules to address spatial catastrophes in the South African environment have remained in force until the Spatial Planning Land Use Management Act, 2013 (SPLUMA), which came into effect in 2015 (Coetzee, et al., 2014; Fourie, 2019). The fundamental goal of this legislation (SPLUMA) is to provide effective land use and development

control in cities (Fourie, 2019). However, the National Development Plan (NDP) is the main driver behind the existing spatial planning legislations. In South African cities, planning is currently governed by regulatory frameworks that aim to remove spatial fragmentation and ensure interactive land development and land use. The other guiding planning frameworks include the Integrated Development Plan (IDP) and Integrated Urban Development Framework (IUDF) of 2016. According to Coetzee et al. (2014), the IDP is obliged by law to include a spatial development framework, which must incorporate basic rules for the municipality's land-use and distribution system. The IUDF (2016) lays out the policy framework for reshaping South Africa's urban spaces in response to the spatial inefficiencies. The goal of the IUDF is to achieve inclusive, likeable, safe, resource-efficient towns and cities that are socially integrated, economically inclusive and competitive (De Beer, 2016). However, these spatial planning instruments are highly precise, and are implemented and overseen by capable municipalities.

Legislative Framework

The South African government has pledged to overcome not only apartheid's legacy, but also spatial fragmentation in urban areas (Van der Berg, 2017). The rationale for the latter is to achieve more inclusive, safe, and livable towns and cities (De Beer, 2016). The connotation of this rationale revolves around towns and cities that effectively integrate socioeconomic factors and allow people to actively participate in urban life. The government has established spatial policies, legislation, and frameworks to address spatial fragmentation in the South African environment. The Constitution of the Republic of South Africa 1996, the SPLUMA, (2013), IUDF 2016, and the NDP 2012, Vision 2030 are all part of the frameworks. Chapter 2 of the Constitution of the Republic of South Africa 1996 stipulates explicitly that the land reform, protection of property rights and expropriation of land should be done in the public interest. Section 25 of the Constitution (1996) further expounds the clauses to address the consequences of the legacy of apartheid with respect to land. Moreover, the Constitution provides the joyous basic rights to all citizens to occupy and own land property, and have access to housing. This connotes that the Constitution of the Republic of South Africa (1996) is important in redressing the past forms of discrimination.

Spatial Planning and Land Use Management Act, 2013 (SPLUMA)

SPLUMA is a South African Act that governs all spatial planning and land use management regulations (Mokgotho & Mokoele, 2020). The fundamental aim of SPLUMA is to eliminate historical spatial inefficiencies. Furthermore, this Act reinforces and unifies the NDP's vision in terms of employing spatial planning mechanisms to combat poverty and inequality. Nel (2016) indicated that SPLUMA combats poverty by fostering inclusive growth and social and geographical cohesion (Coetzee et al., 2014; Fourie, 2019; Mokgotho & Mokoele, 2020). It restructures settlements in South African cities to overcome the discriminatory, inefficient and wasteful spatial pattern. It also intends to close the racial disparity in terms of space, while also changing the country's settlement patterns in a way that complies with its major constitutional principles. Through increased access and assuring the inclusion of historically disadvantaged populations, the SPLUMA attempts to achieve spatial justice, which is concerned with past spatial and other development injustices (Fourie, 2019).

Integrated Urban Development Framework, 2016 (IUDF)

The IUDF is a policy project aimed at increasing government and stakeholder awareness of how to best manage urbanization, meet the goals of economic development, job creation, and improved living circumstances in urban areas (De Beer, 2016). This policy also provides a framework to address South Africa's spatial issues through the creation of inclusive, resilient and loveable urban settlements (Abrahams, 2016). De Beer (2016) postulated that the IUDF offers a way for cities that are spatially organized to lead investment in fostering integrated social and economic growth and maintaining a high standard of living. Moreover, this framework aims to ensure integrated transportation and mobility through constructing cities that enable walking, cycling, and other transportation to access socioeconomic opportunities, services and infrastructure (Mokgotho & Mokoele, 2020). Furthermore, the IUDF promotes integrated long-term human settlements by fostering spatially equitable cities with well-connected settlements to the critical and socioeconomic services (Abrahams, 2016; Mokgotho & Mokoele, 2020).

National Development Plan, 2012 (NDP) Vision 2030

According to the NDP, Vision 2030, all government domains, in collaboration with other stakeholders, must plan and manage the new wave of urbanization in cities in a way that contributes to rural development (National Planning Commission, 2012). The chapter 8 of the NDP addresses the evolution of human settlement and the space economy. The relevance of spatial transformation in addressing poverty and inequality through eradicating apartheid legacies is emphasized throughout chapter 8 of the NDP. Furthermore, the NDP places a focus on spatial development in rural and urban regions (Mongala et al., 2019). The plan further ensures that there is a systematic response to the apartheid spatial formations which exacerbated social inequality and inefficiency in many South African cities.

Spatial Planning Fragmentation and Challenges in South African Cities

The formations of cities in South Africa have been severely impacted by colonial spatial planning imprint. Most of the South African urban areas were built during the colonial period. Therefore, the apartheid's beginnings are still marked by measures of social and economic segregation that reflect racial parameters in urban areas. Spatial fragmentation is an exceedingly unequal spatial pattern in the built environment, which is characterized by separation of land-use activities and physical qualities of space (Zambrano et al., 2019; Breetzke et al., 2021). The concept of spatial fragmentation is based on the accumulation of time and the emergence of very diverse spatial patterns within the actual built environment (Zambrano et al., 2021). The fragmentation and distortions in urban environments make the provision and integration of infrastructure and service delivery very confusing for the government. Worth highlighting, however, is the fact that such distortions and fragmentation have deep roots in the colonial design, which substantially affect the current spatial planning. This fragmentation has a significant impact on the interplay of human social dynamics, well-being, and ecological services (Zambrano et al., 2019).

Post-1994 in South Africa, the colonial government's spatial fragmentation has confronted urban spatial planning with severe service delivery and infrastructure challenges. The problem of informal settlements in cities has been exacerbated by the exponential expansion in population as

a result of increasing urbanization (Scorcia & Munoz-Raskin, 2019; Ghosh & Meer, 2021). According to Connolly et al. (2021), urbanization is the process through which people migrate from rural to urban areas, which results in more people living and working in towns and cities. Because of the rising demand for housing and transportation systems, the government has been pressed to provide services and infrastructure to keep up with population expansion in cities (Connolly et al., 2021; Myers, 2021). Urbanization brought with it the problems of urban sprawl and the distortions that followed from fragmentation. The present democratic government has just taken on the task of addressing the scars left by apartheid spatial planning on the South African environment.

The practice of urban containment and gated communities continues to cultivate and nourish spatial fragmentation and ostracism in most South African cities (Myers, 2021). According to Gharipour (2016), the introduction of containment and gated communities in cities has privileged most urban places, making them exclusively useful to a few. Due to their absolute privatization, they also created new extraterritorial zones that are outside public control and supervision (Gharipour, 2016). According to Altinok and Cengiz (2008), urban containment and gated communities are part of a commoditization of urban public space. Arguably, the commoditization and reduction of public spaces in cities is normally detriment to the weakest social classes. Gated communities have become a prominent visible effect of spatial fragmentation and segregation in South African cities (Altinok & Cengiz, 2008). Furthermore, cities would gradually become clusters of urban regions owned by irreconcilable ethnic groups rather than public places shared by all residents, resulting in spatial fragmentation and segregation, which is a typical problem in most South African cities today (Cooke et al., 2018). Due to the construction of a beltway system, subdivisions of local municipalities and the tendency of metropolitan regions to become more peripheralised, the process of urbanization in cities has intensified in an unpredictable manner (Cooke et al., 2018). Open spaces in cities are privileged, insufficient and only available to those with a steady income, leaving the poor strata with little access (Gharipour, 2016). Consequently, the majority of black people are forced to travel daily from outlying areas to the cities. This spatial layout increases the traveling cost and time to access the city.

The City of Polokwane continues to demonstrate geographical fragmentation, which results in an exclusive and inefficient urban development system marked by racial segregation and socioeconomic disparities. The city's residential formation is racially segregated, with whites dominating the core, colored's dominating the periphery Westernburg and the majority of black people living in townships Seshego Lethuli and Mankweng. The outcomes of apartheid-driven spatial and transportation inefficiencies may be found in the city's periphery (Ntema & Venter, 2016; Schalekamp & Klopp, 2018). The apartheid spatial planning has left indelible scars on the cityscape, affecting the existing spatial junction of development and transportation network to the outskirts. As a result of the fragmentation, establishing a physical link between the growth of urban spaces and territory is challenging.

The demand for housing which has morphed into an inescapable and uncontrollable issue has characterized city expansion processes. Due to the housing shortage caused by the influx of people into cities, the development of squatter camps and informal settlements continue to vanish cities. Such intolerable conditions (urban sprawl, poverty, unemployment and high demand for housing and transportation) have prompted the government to expand infrastructure and service delivery spending. According to Moffat et al. (2021), the current state of affairs in most South

African cities indicates that more spending and investment are still required to meet the growing demand for housing, space and transportation. Currently, it is commonly acknowledged that apartheid planning laws and legislation resulted in significant inefficiencies in the construction and structure of South African cities (Zulu, 2016; Drummond & Nel, 2021). The connotation of the foregoing is that the state of South African cities is characterized by unequal access to socioeconomic opportunities, limited public transportation and badly spatial arrangement. Despite these issues, the South African government is unable to keep up with the rapid growth of the urban population.

Spatial Planning Implementation in South African Cities

The dawn of democracy in South Africa has prompted desperation among spatial planners, development practitioners, policymakers and stakeholders, forcing them to tackle the apartheid-borne spatial fragmentation. The confrontation was aimed to solve the spatial inefficiencies imprinted on South Africa's terrain in order to integrate scattered portions of the city through the building of economic lines and nodes, as well as residential development predominantly focused on public transportation networks (Chakwizira et al., 2018). In 1994, the democratic government formulated new spatial development planning policies to address fragmentation and segregation, as well as other challenges faced by many South Africans such as marginalization, displacement, insufficient housing, tenure, and asset insecurity (Schensul & Heller, 2011; McGranahan et al., 2016). Through the Reconstruction and Development Programmer (RDP), the South African government did a good job of capturing these issues (Republic of South Africa, 1994).

The regulations such as White Paper on National Land Transport (1996) and the Urban Development Framework (1997) have been useful in guiding the transition from private to public transportation spending, as well as the compaction and densification of cities (Schensul & Heller, 2011). According to Harrison and Todes (2015), the scale, nature and outlook of South African cities have altered the quality of life for many black residents in the city. The vast majority of persons who were previously denied full citizenship rights now have unrestricted access to essential services and resources. Harrison and Todes (2015) argue that far-reaching spatial modifications have been happening throughout South African cities, albeit at a different pace and in distinct forms.

Spatial planners, development practitioners, policymakers and stakeholders have been working for twenty-seven (27) years to eliminate spatial inefficiencies in the South African terrain through spatial planning laws. The transition process has frequently been delayed and insufficiently inclusive and has in some cases exacerbated unfavorable urban trends. The ultimate goals of the Urban Development Framework (1997), SPLUMA (2013) and NDP (2012) vision 2030 in resolving inefficiencies and providing inclusive, developmental, equitable and efficient spatial planning appeared to be insufficient and are yet to be realized (Moffat et al., 2021). Despite the implementation of the foregoing planning policies, spatial fragmentation, socioeconomic isolation, and inequality continue to plague South African cities (Drummond & Nel, 2021; Moffat et al., 2021). The majority of black people still live on the outskirts, where they must travel a significant distance to reach the city. Urbanization is accelerating, raising housing demand and the growth of informal settlements, sprawl, poverty and a high unemployment rate (Mokoele, 2019). Despite differing objectives, modern spatial design frequently reinforces an inequitable and unjust status quo. The daunting issue of overcoming apartheid-era spatial planning and inefficiencies that have become embedded in the South

African urban landscape continues to be increasingly endured. Furthermore, in many cities, contemporary spatial planning has mistakenly arranged settlements according to classes and is gradually neglecting the spatial growth of peripheries. Most cities' settlement development policies prevent previously disadvantaged and underprivileged individuals from settling in the city's Centre. In this context, spatial fragmentation continues to be a key concern in many South African cities, limiting the government's ability to link people and development.

CONCLUSION

Based on the arguments presented in the literature, one could conclude that the South African government still has a long way to go in correcting the spatial inefficiencies imprinted in the country's geography by the apartheid planning. This article indicates that spatial fragmentation continues to be a destructive scourge impeding present spatial development in South African cities. This study also concludes that the spatial fragmentation in cities is exacerbated by the early implementation of policies aimed at fostering, nursing, and nourishing the spatial formation and pattern imposed by the colonial system. Therefore, in order to properly accomplish the agenda of eliminating inefficiencies in cities, measures such as the SPLUMA, NDP, IDP, RDP should be implemented as planned and documented on paper. Again, rather than nursing apartheid planning's imprints, the study advises refocusing and redirecting state resources to regions where they are most needed, especially in townships and rural areas. Furthermore, urbanization is to blame for the current climate in cities, which is marked by the transferring of poverty, a high unemployment rate, the mushrooming of informal settlements, and urban sprawl. In this way, urbanization remains a contentious and complex challenge for South African cities' effective and efficient spatial development planning. The most crucial solution for good spatial planning and development, according to this article, is the transfer and redirection of state resources to the construction of townships and de urbanization. Finally, the paper states that in order to anticipate the next wave of urbanization in cities, the government must take serious measures to address spatial inefficiencies.

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