

# **Analysing the Causes and Challenges of Urban Spatial Expansion in Windhoek, Namibia: Towards Sustainable Urban Development Strategy**

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## **1 ABSTRACT**

The global population has continued to increase over the past fifty years and many scholars believe that this trend will continue until the year 2050 or beyond. The challenge now lies with the ability of most cities especially those within the global south to develop and provide the most needed infrastructure and services. Namibia, with only 2.5 million people, with Windhoek, the capital city accounting for about 400 000 residents; is battling with the high rates of urbanisation since the influx of the people into Windhoek continues to be soaring. There have been massive spatial expansions as new arrivals settle on the urban fringes, consequently, over the years the city has been failing to keep pace in terms of basic service provision. Though there has been some research that have studied the spatial expansion of the city within its peri-urban areas. There is still a need for extensive research that unpacks the key causes of these urban transformations and the challenges of the uncontrolled urban spatial growth. Thus, this paper explores and unpacks the root causes of these spatial urban transformation. The increase of the urban population has led to urban sprawl which has negatively affected the efforts of the city of Windhoek to provide development infrastructures and services. Moreover, the demand for housing have also increased and those that cannot afford to rent in the formal housing sector are pushed into the informal settlements. Thus, the city of Windhoek faces a daunting task in the provision of basic services to its residents as this is exacerbated by the need to adopt a pro-poor planning approach, which in many instances places financial burden on the city. Thus, to address this challenge there is a need for the formulation and effective implementation of spatial planning tools such as the spatial development framework and policies that will specifically guide the urban spatial transformation in the peri-urban areas of Windhoek. A case study research design was adopted to investigate the uncontrolled urban spatial transformations in the peri-urban areas in city. The research employed qualitative data analysis that involved the extensive review of existing technical documents from the City of Windhoek and peer reviewed journals articles.

Keywords: peri-urban areas, spatial transformation, urban growth, urbanisation, Windhoek

## **2 INTRODUCTION**

The world urban population continues to grow and has put pressure on cities to provide for the necessary infrastructures such as better roads and houses to their residents. In 2021, the total world population was 7.9 billion people, and more than 50 % of these inhabitants live in urban areas (UN-Habitat, 2022). De Vidovich (2022: 238) observed that, peri-urban areas and urban fringes are pivotal places as they offer an understanding of the contemporary urban transformation as most of the world urban population lives in these areas. In Africa as a whole this phenomenon has led to an increase in the number of residents who live in the informal settlements also known as the shanty towns. Visagie and Turok (2020: 351) assert that these massive expansions of the urban areas coupled with the lack of infrastructures or services provision in the informal settlements and peri-urban areas have contributed to urban planning segregation and have disadvantaged mainly the urban poor regarding the key services that should be provided by the city administration for all. A shift of population from the rural areas into the urban areas has led to various challenges, one of them has been the uncontrolled urban spatial transformation in most of these cities, especially those in the global south. In most of the cities this sporadic urban spatial transformation has been happening within the peri-urban areas (UN-Habitat, 2014). In Namibia, a country of 2.5 million people, and in Windhoek which is the capital city and accounts for about 400 000 residents, the effects of urban spatial transformation have been clearly observed. The rapid increase of the population moving from rural to urban

areas such as Windhoek has been driven by several factors. The influx of people mainly from the rural areas presents a huge problem to the City of Windhoek and consequently overburdens its efforts in providing the required municipal services. This problem is amplified by the fact that many of the people who migrate to Windhoek find it difficult to get employment opportunities within the formal sectors and hence, they find themselves trapped by poverty within the informal settlements. Therefore, this paper has examined the causes of spatial expansion and the challenges that are associated with this expansion. While, lastly the paper has proposed strategies that could be used as policy intervention in addressing the unsustainable urban spatial expansion.

### 3 CONCEPTUAL SYNOPSIS

In the case of Windhoek, some scholarly work indicates that some of the primary factors that enticed the rural population to flock to Windhoek can be attributed to the “pull factors” which are perceived by the rural residents as better health services, good education facilities and the prospects of better job opportunities that are found in the urban areas. While on the other hand, lack of better health care and education facilities in rural areas are seen as some of the “push factors.” Crush, Nickanor and Kazembe (2019: 3) argues that the vast number of the people who move from the rural to the urban areas of Namibia greatly influence the spatial transformation of the peri-urban areas of Windhoek. According to Indongo, Angombe & Nickanor (2013) and Chitekwe-Biti, 2018: 403) one aspect that led to the increased number of residents in Windhoek after independence was the abolishment of the apartheid policy that restricted the movements of residents into Windhoek without the “PASS law”. Windhoek has now seen more demand for housing, and this puts enormous pressure on the City of Windhoek to deliver serviced land and road infrastructures. De Vidovich, (2022: 239) and Katumba & Evaratt (2021: 148) argue that another aspect that put many of the post-apartheid African cities such as Windhoek and Johannesburg at disadvantage are its mono-functional design concept which encourages residential sprawl. This concept was borrowed from the Western planning ideals and amplified during the apartheid planning era. Umenne, Stoffberg and Kandjinga (2021: 237) assert that due to impact of this past apartheid policy on planning many of the urban centres such as Windhoek were left with a high level of disparities and uneven spatial development. In trying to respond to some of the challenges the City of Windhoek had to extend its boundary of the town and townland, with the aim of ensuring that there is sufficient land for the ever-increasing demand of land. While the City of Windhoek has been pro-active in extending its boundary there is still a rapid increase of people in the peri-urban areas with some scholars estimating that close to 50% of the residents in Windhoek live in the informal settlements (Crush, Nickanor and Kazembe, 2019: 1). According to Urban Dynamics (2020: 98) this historical expansion of the City of Windhoek municipal boundaries makes it one of the largest in the world. However, this expansion has created several challenges. Many of those who live in the peri-urban areas of Windhoek are still not connected to most of the municipal services.

This now means that a rapid spatial transformation is taking place within the peri-urban areas of Windhoek and due to this continued pressure, there has been sporadic conversion of productive agricultural land into residential areas, which is mainly dominated by informal settlements comprising unserviced land on the fringes of Windhoek. Van Greunen (2021: 4) posits that informal settlements should be viewed as part of the urban production process, especially in many cities of developing countries. This assertion rests on the inability of many cities in the global south to adequately provide key municipal services. However, some scholars have looked at the concept of co-production of urban spaces within the peri-urban areas as a solution to the proliferation of the informal settlements which lack basic services. Delgado, Muller, Mabakeng and Namupala (2020: 176) argue that through co-production different interest groups could find a common ground in terms of how informal areas can best be upgraded and thus the process could benefit from the local knowledge. Concurring with the above assertion, Miltin and Bartlett (2018:356) note that the defining characteristic of co-production is that the community and the state together co-deliver the necessary urban services with the low-incomes groups. From a policy perspective the City of Windhoek has also adopted and approved the preparation of the Windhoek Urban Structure Plan - WUSP. Once fully implemented the WUSP aims to firstly curtail the unsustainable urban growth and spatial patterns of physical development, as well as to serve as a framework that will guide the spatial distribution of municipal services. Furthermore, once approved the WUSP will provide a legal guiding framework that will ensure that urban

land in Windhoek will be used for the highest and best use in line with the existing policy framework (Urban Dynamics, WUSP, 2020).

#### 4 RESEARCH METHODOLOGY

The study has employed a qualitative approach in terms of data collection where various technical documents and scholarly articles were reviewed. The technical documents that were reviewed included the WUSP, informal settlement upgrading approaches. The journals articles reviewed are those that had thematic areas that covered the spatial expansion within the peri-urban areas. For the journals articles only those that were published in the past ten years were selected to provide both the trend and guidance in terms the relevant literature in the domain. This has allowed for an in depth understanding of the key causes of urban spatial expansion within the peri-urban areas of Windhoek. The researcher extensively used different search engines such as Google scholar, SAGE, ELSEVIER, SPRINGER, Google search to obtain the information. O'Connor (2019: 67) asserts that document analysis is a sub-branch of discourse analysis which focuses on the analysis of meaning in words and images.

A case study design approach was adopted with the understanding that this approach would complement the qualitative data collection method by unpacking the drivers of urban spatial transformation within the peri-urban areas of Windhoek. Havana informal settlement was selected as the case study where urban spatial expansion has taken place. Since the City of Windhoek has developed several plans and policy documents, the researcher deemed it necessary to reviews these documents using the document analysis method. For spatial analysis, Google earth application was used to track the physical expansion of Havana informal settlements using a real-life tracking option that allowed the researcher to travel in time and thus view the actual expansion of the informal settlement as it developed over the years.

#### 5 RESULTS AND DISCUSSION

This section will discuss in detail four key factors that were identified to be the primary contributors to the urban spatial transformation within the peri-urban areas of Windhoek. Though from extant literature it is evident that there are many factors that have contributed to the uncontrolled expansion within the peri-urban areas of Windhoek, the section below will discuss four of the causes that were uncovered.

##### 5.1 Causes of urban spatial expansion of the city

The expansion of development within the peri-urban areas of Windhoek is very complex as it is influenced by a range of interconnected factors. Therefore, the paper deemed it necessary to select the main causes as they would offer a better illustration of the problem at hand.

###### 5.1.1 Rapid pace of Urbanisation in Windhoek

Most of the reviewed literature indicates that immediately after Namibia got its independence in 1990 many of the people who were in the rural areas started to move to Windhoek. In 1991, the Namibia Population and Housing Census indicated that the urban population stood at 28%. This population then increased to 33% in 2001 and 42% in 2011 respectively (Namibia Statistics Agency, 2012). Indongo, Angombe and Nickanor (2013:4) observed that “though there has been an overall population increase in Namibia, Windhoek city has actually accounted for 36% of the total share and thus making it the primary focus of urbanisation.” The reasons for these rural-urban migrations are several. However, some studies have identified three main factors that have contributed to this phenomenon. Indongo, Angombe and Nickanor (2013:4) assert that the three main reasons why people move from rural to urban areas are due to better job opportunities, good education facilities, and escaping poverty in rural areas. Further to this, some literature indicates that some of the reasons for moving from rural to urban areas has been tied to economic opportunities and this speaks to the uneven development of, and provision of services in the country with greater bias towards the urban centres. Moreover, empirical evidence from some of the studies conducted in Windhoek indicates that “as the city continues to grow and develop it then automatically attracts more people from rural areas and consequently increases the demand for more services.

In a study that was conducted by Endjala and Botes (2020: 162) within the Northwestern informal areas of Windhoek, it was discovered that one of the main reasons why people were moving to Windhoek was to seek employment, while those who moved with the family was the second reason. However, there was also a

group of those who moved to the city in search of better services such as education. What is important to note is that many of the rural population who migrated to Windhoek in search of better opportunities were not literate and thus they may only find employment within either the informal trading business or at times they find temporary employment.

Reasons for coming to Windhoek	Frequency	Percent
To look for a job	60	57.1
Better services in the city	11	10.5
Tertiary education	8	7.6
Transferred with work	6	5.7
Moved with family	13	12.4
Better Healthcare	2	1.9
Total	105	100

Table 1: Reasons as to why people move to Windhoek: Source: Endjala and Botes (2020)

### 5.1.2 Increased Demand for Housing, Infrastructure, and Services

As indicated in the previous section the rapid increase of population in Windhoek has put tremendous pressure on the ability of the City of Windhoek to provide for all the necessary services. In most instances people who move to Windhoek are seeking employment opportunities and thus do not have income to rent in the formal housing sector once they arrive in the city. This means that their only alternative is to stay with their relatives in the informal settlement or if they are lucky to occupy unserviced land within these areas.

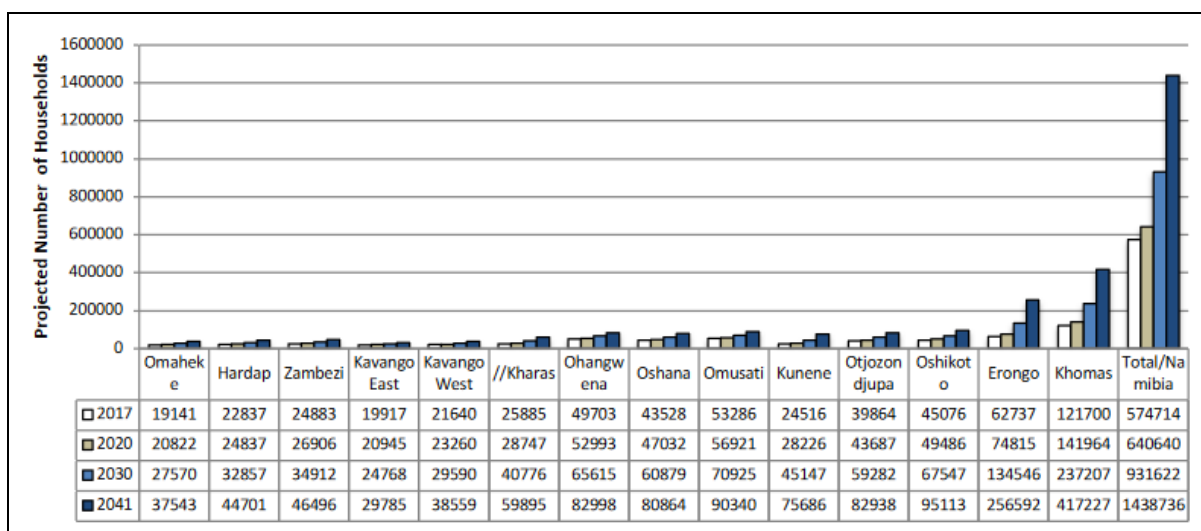


Table 2: Demand for housing in Windhoek, Khomas region: Source: Asino and Christensen, (2018)

Consequently, the increase of the population in urban areas such as Windhoek put pressure on the provision of properly planned townships which should then be accompanied by road infrastructure. Indongo (2015:4) observed that unless prompt policy interventions are introduced, the great population increase will overburden the municipal infrastructures and services. Moreover, an increase in the Windhoek population requires a municipal planning system that can fast-track and deliver affordable land to the urban residents. Unfortunately, in the case of the City of Windhoek the municipal planning system has not been able to effectively address the housing and infrastructure because the city cannot keep up with the pace and thus it is difficult to provide for all their needs in good time. The Table above indicates the gross national housing demand for all the regions in Namibia. One will observe that the Khomas region where Windhoek is located has the highest number of demands for housing. However, Asino and Christensen (2018: 24) noted that within the medium period of 2021 to 2030, the demand for housing could drop before it increases again in the long-term period from 2031 to 2041. This means that though the demand of housing units in the formal sector were expected to drop in the medium term, the city still faces a daunting task in providing for municipal services that are key to township establishments, such as road networks, water reticulation systems and

electricity grid in the informal areas and especially those within the urban fringes as they are far from existing municipal infrastructures.

### 5.1.3 Uncontrolled occupation of unserviced land

The increase of the Windhoek population mainly due to the rural-urban migration has become a time-ticking bomb. In 1946, Windhoek had a population of less than 20, 000 people, in 1975 it had a population of 80,000 people, while in 2001 the urban population in Windhoek has doubled to 200,000 people. The Namibia Statistics Agency in 2011 indicated that the Windhoek population was 325,800, which was a 50% increase from the previous census. Hence the increase in the population led to the rapid expansion of the physical borders of the City of Windhoek. The city now started to expand into the commercial farms which are privately owned. After the city realised that it was running out of land for its residents, it entered into agreements with these farm owners to purchase land from them though this exercise was later seen to be counterproductive. From the policy perspective the city then applied to the Ministry of Urban and Rural Development to expand its boundaries (Windhoek Urban Structure Plan, 2020).

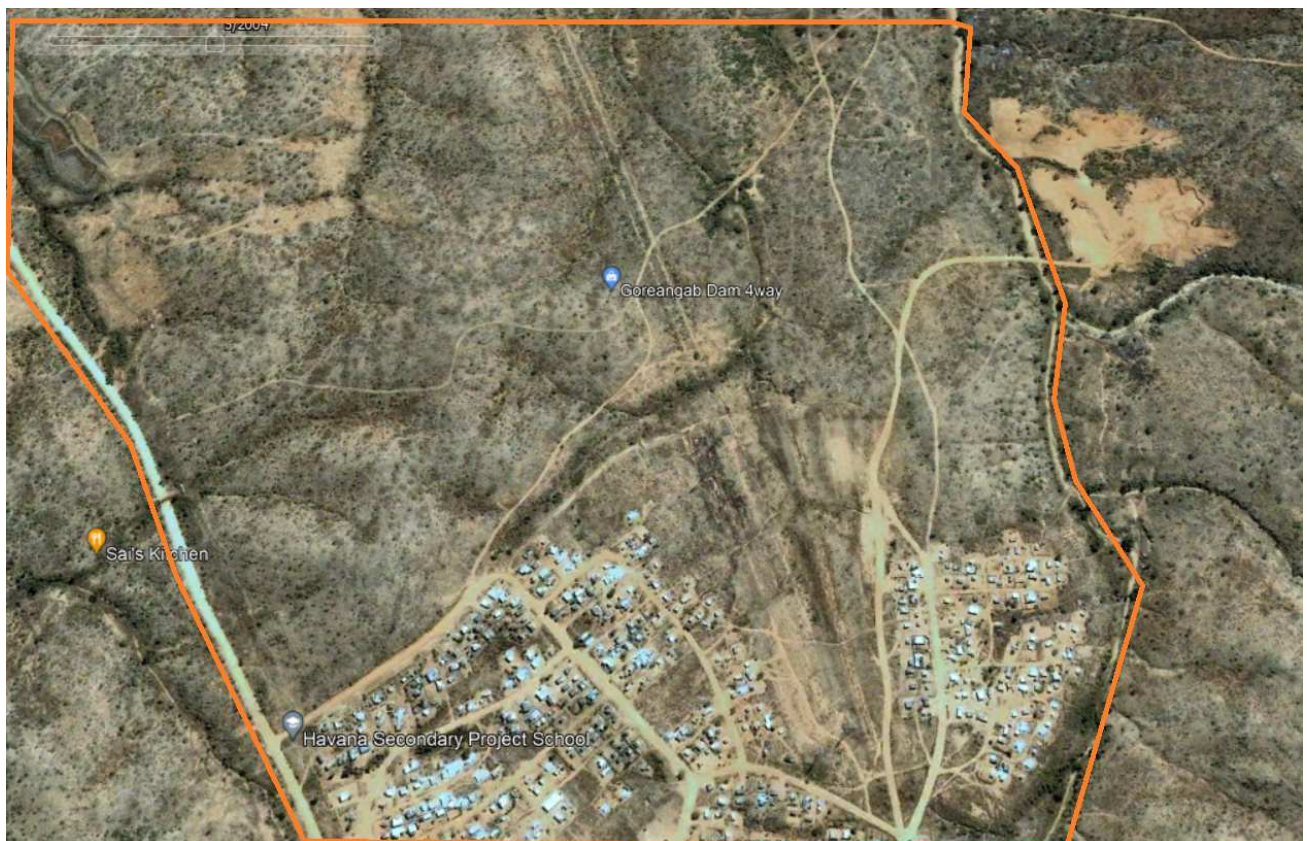


Figure 1: The footprint of Havana informal settlements in Windhoek in 2004, source: Google earth

After Namibia got its independence many of the segregation laws were abolished and this led to the influx of the people in the capital city. Figure 1 shows that in the year 2004 there was little expansion within the peri-urban areas of Windhoek. These areas which are also known as the North-Western informal areas include the Havana informal settlement. These areas were first developed by the City of Windhoek as the reception centres of the excessive urban population, and the city administration at that point, hoped that these could be temporary areas and once the migrants have established themselves, they should move into the formal residential areas. However, the rural migrants opted to permanently stay in the areas that were established as reception areas. Weber and Mendelsohn (2017: 19) observed that one of the key drivers of informal settlement growth was rural-urban migration and mainly from the Northern of Namibia.



Figure 2: Physical expansion of Windhoek in 2022: Source: Google Earth.

The image above was taken during March this year (2022) and one can clearly see the rapid urban transformation which has led to an increase in the sporadic occupation of unserviced land within the peri-urban areas of Windhoek. Moreover, it is also evident that outside the study area (outside the orange solid line) there has been rapid proliferation of informal housing activities. This continuous pressure has forced the city to be proactive and look for new ideas on how to address these socio-spatial problems that were amplified by urbanisation. The Namibian government, together with its stakeholders such as the City of Windhoek then developed the Flexible Land Tenure Systems Act of 2012 as a tool to address tenure insecurity amongst the low-income groups. Another critical aspect within the flexible land tenure system is the emphasis that it puts on the participatory approach, especially during the in-situ upgrading process of the informal areas. Kohima, Mabakeng and Alexander (2022: 8) noted that the involvement of community members within the informal settlement upgrading allows them to provide inputs into the planning and development of their area.

#### 5.1.4 Sporadic conversion of agricultural into residential land

Since much of the land on the periphery of Windhoek is owned by private individuals or by entities which opt to sporadically convert this agricultural land (small-holdings) into residential areas through new “private townships” that provide their own services to its own residents. However, in principle the development of new “private townships” on the periphery of Windhoek cannot be discouraged as these developments happen on private owned land. The unfortunate thing is that these developments only address the housing needs of middle- and upper-income groups, as many of the private developers who undertake this process are driven by profit maximisation. This means that the City of Windhoek as the local authority is the one that is left with the sole responsibility for providing housing and service needs for the low-income groups.

## 5.2 Challenges due to the urban spatial expansion of the city

Each of the four causes that were discussed in the section above present a challenge to the proper administration of peri-urban land, as well as the provision of the basic municipal services by the City of Windhoek.

### 5.2.1 The city can no longer accommodate all its residents due to shortage of land

The biggest challenge that the City of Windhoek will continue to face for many years is the fact that it does not have enough land within its area of jurisdiction which would have enabled it to expand sustainably and at the same time provide the necessary municipal services to its residents. Even if formally the City of Windhoek has extended its boundary which now includes close to 75 farms and small-holdings, technically the city does not own these properties as indicated in the Windhoek Urban Structure Plan report. Therefore, since the only available land is privately owned the City of Windhoek has found itself in a difficult position where it cannot accommodate the ever-increasing number of the population due to in-migration and natural population growth. What saddens is that some of the residents who opt to occupy the unserviced land find themselves facing a lot of challenges, some of this land is in the river catchment area and hilly topographies. The Flexible Land Tenure Act of 2012 aims to provide secure tenure to the urban poor, through a process that allows for block registration of land rights to which a group of members will have rights to. Lauterbach and De Vries (2021: 1) posit that the key defining attribute of the flexible land tenure system is to provide a land registration system that is less complex and affordable to the urban poor. Thus, the idea is to have a system of registration that is not as complex as the conventional one which has been marred by bureaucracy. However, the flexible land tenure has also been very slow in terms of the implementation process.

### 5.2.2 Provision of municipal services & infrastructure is costly

The provision of basic municipal services in the peri-urban areas of Windhoek has been observed by many of the urban poor residents as the greatest challenge of all time. Since many of these residents have occupied land that is very far from most of the municipal network in terms of roads, electricity, water, and sewer reticulation systems they are totally disconnected from the formal part of the city. However, the City of Windhoek over the years has introduced communal water points where many of the residents could get water using a “water token” that is purchased from the city offices. However, for other infrastructures such as the roads and sewer system it has been quite difficult for the city to provide them as they require substantial investment which in most cases is based on the cost-recovery approach, which is not feasible in the low-income areas. In their study Demmert and Ndhlovu (2018: 71) observed that the cost of providing bulk services within the formal planning system and the professional fees attached to this process are hampering the provision of serviced land to the low-income groups.

### 5.2.3 Increased transportation cost to the ultra-low-income groups

The city of Windhoek has a dedicated municipal bus system that is normally used by the urban poor. The unfortunate part of this bus system is that it only operates in the formal part of Windhoek. Thus, within the informal settlement areas many of the urban poor depend heavily on informal transport, such as unregistered taxis and minibuses. This further complicates the livelihood of these residents as they walk long distances in the event of an emergency before they can find a bus stop or taxi rank. Since there are no proper roads, the police and ambulance services struggle to attend to critical matters in the informal areas.

### 5.2.4 Windhoek lacks spatial governance due to diverse land ownership on its periphery

In recent years the biggest challenge that the city is facing has been the issues of spatial governance. With all the fragmented land development and sporadic land occupation that is taking place on the periphery, the city is faced with the daunting task of providing effective spatial governance. In as much as most of the new townships that are being developed on the periphery belong to private entities, there is a need for the city to provide spatial direction that will sustainably guide the future development of the city. The Windhoek Urban Structure Plan report of 2020 indicates that there is a great possibility that a formal town could be established on the northern edge of the city and along the B1 road which stretches from Windhoek to Okahandja. This assertion is based on the increasing number of privately developed estates/gated communities in this area. This development has been amplified by the upgrading of the B1 national road to a dual carriage way that has significantly decreased the travelling time between Windhoek and Okahandja.

## 6 TOWARDS A SUSTAINABLE URBAN DEVELOPMENT STRATEGY

Based on the discussion presented above in this paper it is clear that the city administration has several legal instruments that they can use to control and steer development especially within the peri-urban areas, yet this

appears not to be the case. This means that there is a contradiction in terms of what the city can legally do and what the city has been able to do, within the ambit of these existing legal instruments.

The paper therefore, recommends the following interventions in solving the burden on the municipal infrastructure caused by the ever-increasing urban population which in turn leads to urban spatial expansion within the peri-urban areas of Windhoek.

- The Status quo Report on the formulation of the Windhoek Urban Structure Plan, advocates for deliberate efforts to be undertaken by the city to encourage sustainable land development approaches that includes infill development; this requires the city to identify all those vacant erven/plots which are linked to the municipal services and encourage investment in these areas through policy formulation and implementation. This paper concurs with this approach which should be done as matter of urgency.
- The Flexible Land Tenure System Act of 2012 and its regulations, provides the necessary registration process that can enhance the provision of the affordable and secure land right for the ultra-low-income groups. However, what is needed is the effective implementation of this legal instrument. Moreover, the City of Windhoek Upgrading and Development strategies should be used to complement the Act.
- More importantly, there is a need for the city to look at innovative ideas regarding provision of better housing to alleviate the ever-growing number of substandard houses in the already overcrowded informal settlements. While from a national policy perspective, the Namibia government should as much as possible try to balance the development of infrastructure and provision of social services equitably amongst all urban centres and rural areas. It is hoped that this could deter rural residents from migrating to the urban areas.

## 7 CONCLUSIONS

The City of Windhoek faces a daunting task in trying to provide basic services to its residents. This is because the provision of basic services such as serviced land, road and water supply require the city to apply pro-poor planning frameworks which in many instances become a financial burden foil the city administration. Moreover, while many of the current residents find it difficult to make ends meet the city is still seen by those in rural areas as the “the promised land” where there are better job opportunities, good education facilities and an effective health care system. This perception continues to foil the movements of rural populations to urban centres such as Windhoek and thus these centres are continuously required to provide basic services to the urban poor even when the urban centres find themselves in very deep financial distress. However, if correctly understood and implemented both the flexible land tenure system and the WUSP could serve as guiding legal frameworks for a more effective and participatory type of planning, especially for the peri-urban areas of Windhoek. The emphasis now should be on the effective implementation of these legal instruments.

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