

## Policy Implications of Urbanisation Patterns and Processes in Botswana

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### Abstract

The aim of this paper is to investigate the patterns and trends of urbanisation in Botswana using data obtained from census reports. Information was also sourced from relevant reports from Statistics Botswana and available literature on urbanisation trends and processes. Intercensal data were converted to percent changes and annual rates of increase using the derivative of the geometric population change equation. Primacy indices were calculated and the rank size rule was employed to determine the extent to which the urban settlement system conforms to the normal distribution. Finally, graphs and tables are used to depict and assess the emerging trends of urbanisation. Results indicate that there is rapid urbanisation leading to over-urbanisation, peri-urbanisation and short distance urban-rural migration. The urban hierarchy is dominated by the major metropolitan centre that exhibits megacity tendencies. The capital city is eccentrically located within the national space economy. Recommendations on how to organise and manage urban space to promote sustainable urbanization were then articulated.

### Introduction

The rate of urbanisation refers to the percentage of the national population that resides in places classified as urban whilst the growth rate means the pace at which urbanisation is increasing annually. Globally, the tipping point in the distribution of population between rural and urban settlements was reached in 2007 when over 50% of humanity was classified as urban (UN-HABITAT 2007). Population projections show that by 2050 about 95% of population growth will be concentrated in cities of the developing world (UNESA 2007). Southern Africa has a regional population of approximately 210 million, at least 100 million of whom already live in urban and peri-urban areas. By 2020 this figure is estimated to rise to 150 million or 46% of the population, and to exceed 200 million by 2030 (UN-HABITAT 2008). With an annual urbanisation rate that exceeds the global average, urban development challenges are set to intensify over the coming decades (Crush 2010). Such problems include rapid population growth, unaccompanied by industrialisation or economic growth, lack of economic dynamism, local governance failures, severe infrastructure and service deficiencies, inadequate land administration and social breakdown (Rakodi 2005).

Many of the African urban poor are now in a worse position than the rural poor and rural-urban migration has slowed down considerably, and even reversed in some cases (Hall and Pfeiffer 2000). Hall and Pfeiffer also note that growth rate of larger cities is slowing down. Of the 34 cities with populations of more than 750,000 none grew at more than 3% between 1995 and 2000 and 18 were estimated to have grown at less than the natural rate of increase of 2% (Hall and Pfeiffer 2000).

Smaller cities and towns are, however, growing more rapidly (UN 2001). This is desirable because their growth may counter primacy and produce a more balanced urban hierarchy network and could fulfil the economic functions in their surrounding regions and provide intervening opportunities for migrants. Also property markets are less overheated than in the capital cities and their politics are less volatile because most national politicians live elsewhere, thus providing space for the development of a locally-rooted and accountable political identity and experiments with more appropriate approaches to urban development (Rakodi 2005).

Botswana has had decennial censuses since 1971, with the latest having been conducted in 2011. Findings from the study of patterns and trends of urbanisation derived from the decennial censuses are then reported.

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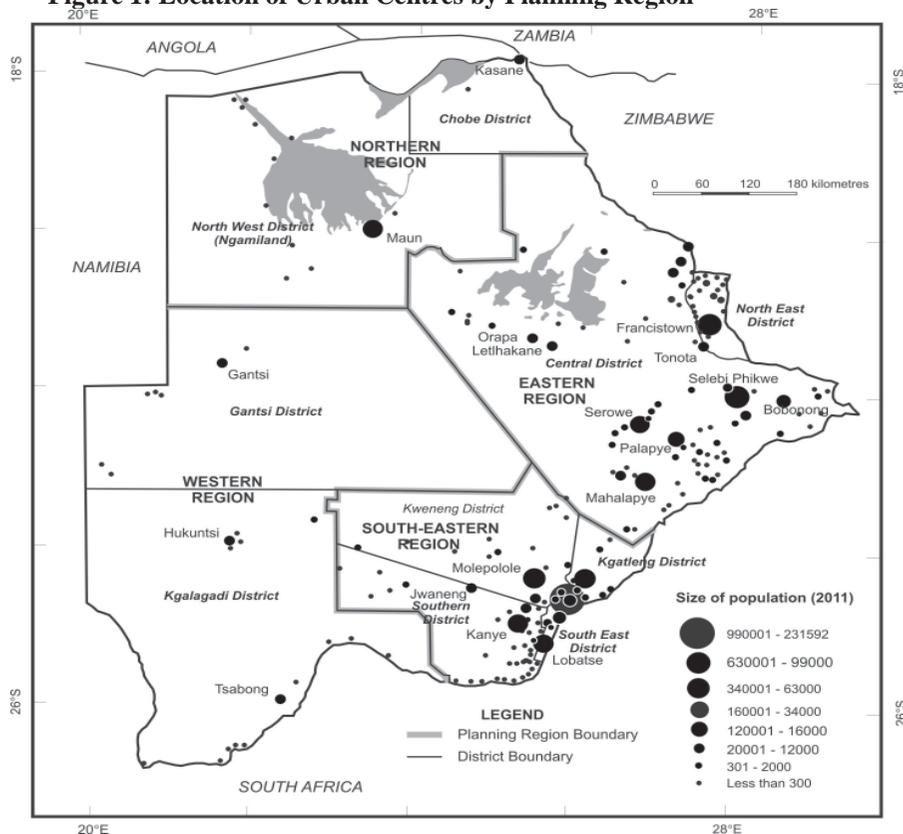
### Report on Research Findings

This section presents a summary of research findings on the spatial distribution of urban settlements, intercensal urban change and growth and the evolving urban hierarchy pattern in contemporary Botswana.

#### Spatial Distribution of Urban Settlements

Figure 1 below shows the geographical distribution of the urban settlements in Botswana by Planning Region.

**Figure 1: Location of Urban Centres by Planning Region**



Source: Statistics Botswana (2011)

The distribution of urban settlements is a surrogate indicator of regional development imbalances and the environmental imprints of population concentration. Approximately 90% of the national urban settlements are concentrated on the hardveld where the ecological conditions are most favourable for human habitation and where investment in social services, commercial facilities and physical infrastructure is concentrated. There are, however, variations in urbanisation among the planning regions. About 46% of the urban centres are found in the South Eastern Planning Region, 40% in the Eastern Planning Region, 10% in the Western Planning Region and the rest in the Northern Planning Region.

#### Urbanization Change and Growth

Table 1 below shows urban population change and growth over the intercensal period.

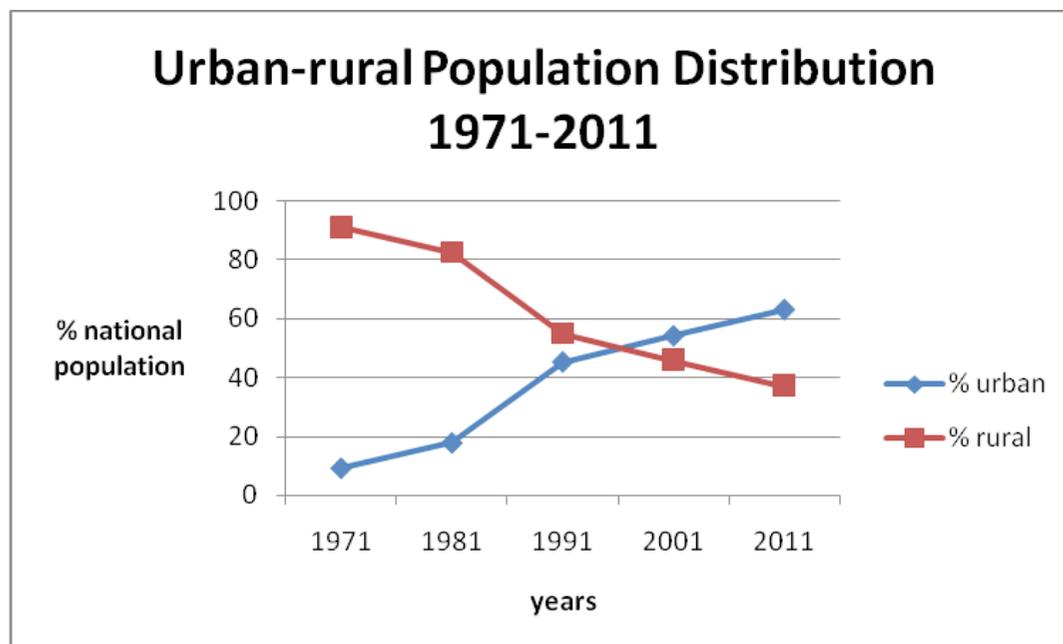
**Table 1: Urbanization Change and Growth**

|  | 1971    | 1981    | 1991      | 2001      | 2011    | Percent Change*<br>2001-2011<br>% change | Intercensal annual growth rate**<br>2001-2011 |
|--|---------|---------|-----------|-----------|---------|--|---|
| <b>Number of Urban Places</b>                                      | 5       | 8       | 25        | 34        | 52      | 47.1                                     | 4.4   |
| <b>Total Urban</b>   | 54 300  | 166 400 | 600 100   | 909 800   | 1297287 | 42.6                                     | 3.6   |
| <b>Total Population</b>  | 596 900 | 941 000 | 1 326 800 | 1 680 900 | 2024904 | 20.5                                     | 1.9   |
| <b>Urban as a Percentage of Total Population</b>                   | 9.1     | 17.7    | 45.2      | 54.1      | 64      |  |   |
| <b>Total urban village as percentage of total urban population</b> | 0.0     | 9.8     | 50.6      | 56.9      | 66      |  |   |

(\* % Change =  $(P_t - P_o) / P_o * 100$ . \*\*Annual growth rate  $r$  is a derivative of the geometric growth rate  $P_t = P_o(1+r)^n$ )

Source: Statistics Botswana (2011)

The total national inter-censal population change since 2001 was 20.5%. This represents an annual growth rate of 1.9% which means that urbanisation has been on the increase. Since the 2001 census the number of places classified has gone up from 34 to 52, a percent change of 47.1. The number of urban places has thus been increasing at a rate of 4.4% annually. Urbanisation has increased from 54% in 2001 to 64% by 2011. About 66% of the urban population resides in urban villages who constitute 42.3% of the national population. Figure 2 indicates that the tipping point came about between 1999 and 2000 when over half of the national population became classified as urban.

**Figure 2: Population Distribution between Rural and Urban Areas**

Source: Statistics Botswana (2011)

Although rural urban migration and natural increase play a role in urban population increase, this trend can mainly be attributed to the reclassification of the previously rural villages to urban status. This is attested to by the fact that the number of urban places increased by 18% and the population classified as residing in urban villages increased by 9.1% between 2001 and 2011. The urban settlements can broadly be divided into towns and cities and urban villages. There are two cities, namely Gaborone which is the capital and Francistown. The 2011 Census on Population and Housing designated Lobatse, Selibe –Phikwe, Orapa, Jwaneng and Sowa as towns. Urban Villages have populations of at least 5,000 with a minimum of 75% engaged in non-agricultural activities. Table 2 groups the urban settlements on the basis of their intercensal change and growth rates.

**Table 2: Intercensal Urban Population Change and Growth Rates**

| Percent Change 2001-11 | Intercensal annual growth rate / %2001-11 | Class of Intercensal % change/growth | Settlement name   |
|------------------------|---|--------------------------------------|---|
| <1.0                   | <1.0                                      | Negative                             | Lobatse, Selibe-Phikwe  |
| 5-25                   | 0.0-2.5                                   | Low                                  | Gaborone, Francistown, Orapa, Jwaneng, Serowe, Mahalapye, Sowa, Kanye, Moshupa, Molepolole, Thama-ga, Tutume, Letlhakeng, Mmadinare, Maitengwe, Mmathethe   |
| 26-40                  | 2.6- 3.3                                  | Medium                               | Maun, Kasane, Mochudi, Bobonong, Tonota, Shoshong, Mankodi, Mathangwane   |
| 41--45                 | 3.4-4.0                                   | High                                 | Palapye, Ramotswa, Gabane, Gumare, Tsabong  |
| >45                    | >4.0                                      | Very high                            | Tlokweng, Mogoditshane, Letlhakane, Ghanzi, Kopong, Lerala, Bokaa, Borolong, GoodHope, Kumakwane, Masunga, Metsimothabe, Mmopane, Nata, Oodi, Otse, Sefophe, Shakawe, Tati Siding, Kang, Molapowabojang |

Source: Statistics Botswana (2011)

Lobatse and Selibe-Phikwe are economic downward transitional areas whose dominant economic bases are in a state of decline. Low growth settlements include cities of Gaborone and Francistown that are losing population to their satellites. Francistown has lost employment in the retail sector because of diminishing custom from Zambia and Zimbabwe. The mining towns have been vulnerable to the global recession. Major urban villages have lost out in competition to city satellite communities or to more strategically located centres. Medium growth centres are either upcoming tourist/administration centres, satellite communities of cities or settlements that have been earmarked for district administration. High growth areas combine strategic location and administrative significance. Very high growth centres are either part of the Gaborone urban system or those settlements that have been targeted to play important administrative and service functions.

*Urbanisation and the Evolving National Urban Hierarchy*

Urbanisation and the evolving national urban hierarchy can be analysed in terms of the absence of polycentrism, based on Jefferson’s notion of primacy. He defines a *primate* city as being ‘at least twice

as large as the next largest city and more than twice as significant' (Jefferson 1939). In this case, as shown in Table 3, Gaborone would be considered to be significantly *primate* being at least 2.3 times the size of Francistown. Moreover, its population is 1.3 times that of the combined populations of its three rivals, namely Francistown, Lobatse and Selibe-Phikwe.

**Table 3: The National Primacy Index Trends 1981-2011**

| Index  | 1981 | 1991 | 2001 | 2011 |
|--------|------|------|------|------|
| 2 city | 1.90 | 2.38 | 2.24 | 2.30 |

Source: Statistics Botswana (2011)

Over the past censal period the index has increased from 2.24 to 2.30 due to the comparatively phenomenal growth of employment in the construction, commercial and industrial sectors in the capital. In comparison to the urban hierarchy for Mauritius, Port Louis the capital has a population that is 1.5 times that of the second largest centre and its population is 0.5 times that of the combined populations of its next three competitors. There is thus a more balanced urban development. Another way of looking at the absence of a normal urban settlement distribution would be in terms of the expected sizes of the rest of the urban centres relative to the largest one.

In terms of the rank size distribution, the expected population of each centre, relative to the population of the largest centre provides a good estimate of the population of that centre, provided the hierarchy of centres is normal. From Table 4 the large discrepancy between the observed and expected population of the four largest urban centres reflects the extent of dominance of the capital city, Gaborone, and the extent of an unbalanced urban network in Botswana.

**Table 4: Four Largest Urban Places**

| Urban Place   | Actual Population | Expected Population |
|---------------|-------------------|---------------------|
| Gaborone      | 231 592           |                     |
| Francistown   | 98 961            | 115 796             |
| Selebi-Phikwe | 49411             | 77 197              |
| Lobatse       | 29007             | 57 898              |

Source: Statistics Botswana (2011)

Gaborone, therefore, exhibits the megacity syndrome by dominating the national urban settlement distribution. The capital dominates the space economy in the provision of public services, financial institutions, human, and intellectual resources, the greatest domestic demand for public infrastructure investment, creating a 'hub effect'. This dominance or macrocephaly implies an excessive concentration of opportunities and public services in one centre of the urban settlement system.

Some of the factors that could have created this primacy include rural-to-urban migration due to wage differentials between rural and urban areas, economies of scale in production, which lead to greater labour productivity and increased wages, which in turn attract an inflow of labour from rural areas. The resulting increase in population intensifies existing economies of scale, through multiplier effects, and creates a self-reinforcing cycle of agglomeration otherwise known as cumulative causation.

Firms located in the capital also benefit from strong backward and forward linkages from superior access to consumers and a convenient market for their product, and from access to suppliers

of the inputs of production and intermediate goods. Urban firms also benefit from convenient access to financing, better access to government production permits, licensing for international trade and to a large and diverse labour pool. Gaborone enjoys underpriced externality for traffic congestion, parking, air and water pollution.

The major disadvantages associated with this pattern of urban development include agglomeration diseconomies such as the daily transport congestion, shortage of land, shortage of accommodation and increasing antisocial behaviour. At the national level, there is regional economic polarisation, regional income inequalities and a highly centralised administration. The Gaborone system of settlements includes the capital and its satellite communities that are listed in Table 5.

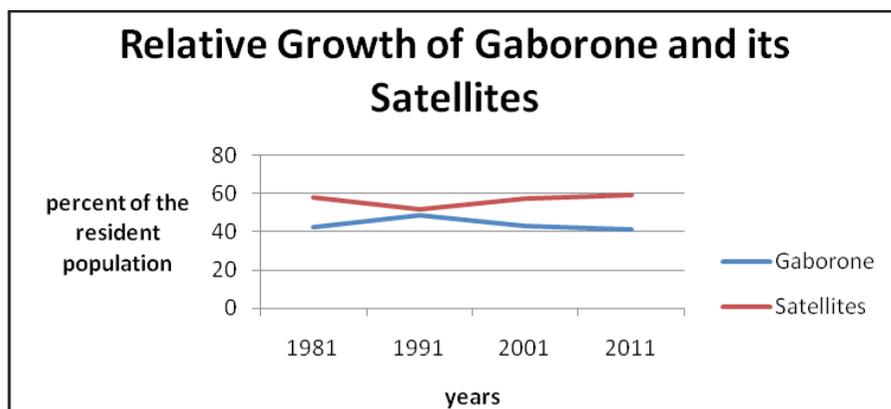
**Table 5: Population Growth Trends of Gaborone and its Satellites**

| Area                           | 1981            | 1991            | 2001            | 2011            | 1981    | 1991       | 2001       | 2011       |
|--------------------------------|-----------------|-----------------|-----------------|-----------------|---------|------------|------------|------------|
|                                | Popula-<br>tion | Popula-<br>tion | Popula-<br>tion | Popula-<br>tion | Percent | Percent    | Percent    | Percent    |
| <b>Gaborone</b>                | 59 700          | 133 500         | 186 000         | 231 592         | 42.5    | 48.6       | 42.9       | 41.0       |
| <b>Gaborone<br/>Satellites</b> | 80 889          | 141 297         | 247 100         | 333 319         | 57.5    | 51.6       | 57.1       | 59.0       |
| <b>Total</b>                   | <b>140 589</b>  | <b>274 797</b>  | <b>433 100</b>  | 564 911         | 100     | <b>100</b> | <b>100</b> | <b>100</b> |

Source: Statistics Botswana (2011)

The share of Gaborone’s population in the system, as shown in Table 6, increased from 42.5% in 1981, peaked at 48.6% in 1991 before declining thereafter. Population increase in the satellite communities reflects the relocation of the population and direct movements into the satellite communities, and from elsewhere. Table 2 clearly shows the distance decay in this growth with Mmopane recording a 119% intercensal change and a 15.9% annual growth rate. Over the same period Metsimotlhabe recorded 119% and 8.1%, respectively. These processes characterise the coalescence of the various spatial components of the Greater Gaborone Area to form a conurbation that will incorporate the proposed New Gaborone City Greenfield and overspill into Kopong. The Greenfield is larger than all the present Phases 1, 2, 4 and Blocks 3, 5, 6, 7, 8, 9 and 10 combined (DTRP 2012). The area is estimated to yield over 60,000 plots, an approximate equivalent of 12 neighbourhoods of about 5,000 plots each (DTRP 2012). The growth of these satellites is related to the inward migration of the population that intends to benefit from close proximity to the capital city.

**Figure 3: The Growth of Gaborone Relative to its Satellites**



Source: Statistics Botswana (2011)

Figure 3 shows that whereas Gaborone seems to have grown at the expense of its satellites in the 1980s, the reverse appears to have been the case since the 1990s. Urbanisation economies therefore appear to have been superseded by agglomeration diseconomies over time. This trend of events has been in the form of differential urbanisation in Botswana (Gwebu 2006).

Table 6 shows the share of the Gaborone and its satellites to the national population over time. If the population of Associated Villages and other villages is included, the implication is that close to a third of the national population lives within the orbit of the national capital. While this situation has its advantages, it poses serious planning challenges in terms of creating a prosperous and productive nation.

**Table 6: Gaborone and Satellite Percentage of National Population, 1981-2011**

| Year                           | 1981 | 1991 | 2001 | 2011 |
|--------------------------------|------|------|------|------|
| Percent of national Population | 14.9 | 20.7 | 25.8 | 27.9 |

Source: Statistics Botswana (2011)

### Discussion of Research Findings

This section of the paper attempts to articulate the major thematic outcomes from the research findings namely; rapid urbanisation, over-urbanisation, peri-urbanisation, migration and urban hierarchy within the broader Sub-Saharan context.

#### *Rapid Urbanisation*

Like most of sub-Saharan Africa, Botswana is experiencing rapid urbanisation. At twice the global average, the pace of urbanisation is already highest in sub-Saharan Africa. The average rate of urban growth for sub-Saharan Africa is close to 4% and this positive trend is expected to persist for decades to come. The number of people living in urban areas is rising particularly rapidly in the Southern African Development Community (SADC). In most SADC countries more than one third of the population is already urban. Although this distribution is uneven between countries, more than 60% of the population of Botswana and South Africa is urban.

Urbanisation in Botswana is a product of three factors namely; reclassification of previously rural settlements, migration and natural increase. The number of urban places has changed by 47% between 2001 and 2011 at a growth rate of 4.4%. The major driver of urbanisation in Botswana is the reclassification of its villages to an urban status once they exceed a certain threshold population size and attain a minimal functional characteristic of being 75% non-agricultural. This is a positive development because the new urban villages will now be entitled to better infrastructure and social services commensurate with their population, function and status in the settlement hierarchy. From available data, it is feasible to determine, *apriori*, the probable future candidates for inclusion into the existing urban hierarchy. Proactive policies and mechanism therefore need to be put in place to plan for such settlements.

Like other African countries rapid urbanisation has been confronted by the lack of capacity to provide systematic, sustainable and commensurate mechanisms of physical planning. The problems associated with the physical growth of towns and cities are worsening in spite of the fact that nearly every African country has physical planning and development control legislation in its human settlements planning statute books (Silitshena 1996; Clancy 2008 and Lovett 2008). The imported systems based on European legal principles, concepts of tenure and administrative arrangements have failed to cope

with rapid urban growth at low income levels, in particular, unplanned development and lack of clarity and security with respect to tenure typify most towns and cities (Rakodi 2005).

In Botswana several challenges face the newly designated planning areas, if conventional urban standards and building codes are to be applied. Large finance for higher standard housing infrastructure, social services, their management and maintenance would now be required. The Revised National Settlement Policy refers to 'Upgrading of old neighbourhoods to bring them in line with current development standards and make them safe and pleasant living environments for their inhabitants' (Republic of Botswana 2004:21). This, indeed, is a noble response to the National Policy on Housing (2000) in terms of promoting housing provision to low and middle income groups in the urban and rural areas and also using housing as an instrument for economic empowerment and poverty alleviation.

Urban standards will, however, require more formal housing solutions involving securing planning and building permits. The plans, building materials and construction costs are, however, often unaffordable to the most of the rural residents. The adoption and improvement of traditional building materials and techniques could be a step in the right direction but would require innovative efforts and resources before they can provide a healthy and structurally stable environment. Purchasing of serviced land and construction of houses require large financial resources, which are beyond the reach of a sizeable proportion of the urban village residents. The other point raised in the Revised National Settlement Policy is that 'Upgrading of existing parts of village primary centres shall include surveying to cadastral level roads, water, electricity and telephone reticulation provision' (Republic of Botswana 2004:22). This would involve destruction of some of the existing housing stock, displacement of neighbours and a general disorientation of settlement cohesion. Mechanisms need to be set in place to provide adequate compensation and minimize the potentially disruptive socio-cultural effects of these activities. This is the essence of a compassionate, just and caring nation as espoused in the national *Vision 2016* which talks of 'Towards Prosperity for All' (Government of Botswana 1997:8).

Planners are usually obsessed with the superficial structural aesthetics of a place. They are oblivious of *topophilia* or attachment to place. The phenomenological underpinnings of what place means to residents are lost on the drawing boards of technical urban design. Novel approaches to settlement and building design that blend what is deemed modern while retaining cultural essentials need to be considered. This will assist in integrating indigenous building practices and architecture with modern forms of design.

### *Overurbanisation*

The urbanisation process has an immense potential for development. For example, when properly regulated, urbanisation encourages compact settlements and leads to the full utilisation of services. Also agglomeration encourages economies of scale and concentration of people in towns, cities and urban villages who, with better incomes, provide a good market for goods and services through effective demand. The rapid growth of urbanisation has resulted in high demand for employment, infrastructure and services, outpacing the rate at which they are provided in towns and cities.

The major crisis of urbanisation in sub-Saharan Africa is that of growth without development. African urban areas cannot support their growing populations despite poor macroeconomic performance and without the benefit of significant foreign direct investment (FDI) in their economies (Montgomery *et al* 2004). The World Bank (2000) observes that they do not provide the necessary thrust for economic growth and structural transformation. Their poor economic performance is connected to limited national growth and also to failure to provide a conducive urban business environment (Rakodi 2005). The failure of service provision and operational efficiency for water, sewerage and electricity facilities to keep pace with urban growth have been attributed to governance failure and structural adjustment policies that advocate for market price cost recovery on utilities.

In Botswana there has been a high demand for serviced land and housing units in towns. Evidence of this has been the backlog in serviced urban land and housing units leading to a strain on infrastructure and services and overcrowding in existing housing areas (Gwebu 2004b). There is pollution of groundwater by nitrates and bacteria from pit latrines in the Self Help Housing Agency residential areas. Water samples from Gaborone Dam and the Notwane River have confirmed this. Contamination of rivers and streams by sewage outflows and waste disposal threatens environmental sustainability.

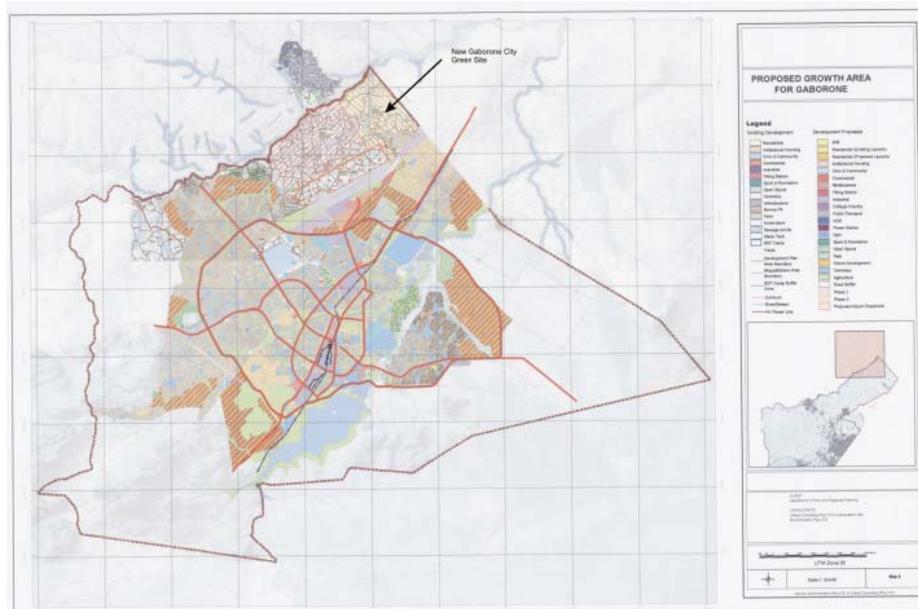
### *Peri-urbanisation*

African cities have come to occupy large geographical areas and are continually expanding spatially (Sebego and Gwebu 2013). For example, Addis Ababa now covers 530 km<sup>2</sup>, Cairo 270 km<sup>2</sup>, Kampala 195 km<sup>2</sup> and Lagos 145 km<sup>2</sup> (*Africa Environment Outlook 2010*). For each unit square kilometre of outward urban extension there are opportunity costs, conflicts and several other challenges associated with urbanisation (Areola et al 2013). In spite of the apparent negative ecological footprints resulting from the geographical manifestation of urban growth, mitigation legislation measures have rarely been implemented (Silitshena 1996; Clancy 2008 and Lovett 2008). The peri-urban developments will therefore continue to pose immense socio-economic and environmental challenges to sub-Saharan Africa that would require proactive sustainable urban management.

Reference has been made to legal pluralism, a situation in which two or more legal land tenure systems co-exist at the urban fringe, each with its own basis of legitimacy and validity (Von Benda-Beckmann 2002). From a pluralistic legal perspective it should be appreciated that there is not just one legal system that applies to peri-urban land claims nor a simple division between customary and statutory rules but rather overlapping legal and normative frameworks at work. The (mis)appropriation of communal or tribal land and disenfranchisement of communal citizens including those surrounding the expanding urban areas, in East and Southern Africa (Gwebu 2001:148149) can be rationalized from this conceptualisation.

In Botswana central cities seem to be experiencing declines in their annual rates of growth whilst most of the peri-urban and satellite communities have experienced robust growth. This implies increased demand for infrastructure and services. Settlement sprawl is costly in terms of service and infrastructure delivery. As more and more people are moving closer to the cities and towns, peri-urban virgin land is becoming rapidly depleted. Peri-urbanisation has led to the encroachment of freehold farms/tribal lands which are close to major towns and cities. Examples of impact of peri-urbanisation have been the expansion of Gaborone since the 1990s westwards, northwards and southwards. The recent acquisition of 5,270ha, known as the New Gaborone City Greenfield, in the northeast part of the city, from Kweneng District in the Ledumadumane area, north of Mmopane is a case in point (See Figure 4).

Figure 4: The Greater Gaborone Area including the Proposed Gaborone City Greenfield



Source: Department of Town and Regional Planning (2012)

The case of Kgosi Gobopaone Diutlileng and some 600 residents of Ledumadumane, who were given six months to vacate their village so that their land would be provided to Gaborone City for expansion, has been narrated, graphically, by the media. For example, the *Sunday Standard* in its 21 May 2012 edition covered these issues. Although the Land Board did set aside 249 hectares to accommodate the displaced villages, no provisions were made for their livestock, the main source of their livelihoods. Land conflicts have characterised the urban frontier as it encroaches on land at the periphery.

In the neighbouring Mogoditshane there was a total collapse of the legal procedures for allocating land, a proliferation of illegal land transactions and uncontrolled house-building. There were at least eight hundred illegally created plots, unauthorized subdivisions, unauthorized change of use and development apart from unauthorised transactions. The chaotic scenario that led to the institution of the presidential commission on land problems in Mogoditshane in 1991 serves as a reminder of how the unscrupulous and predatory elements can dispossess unsuspecting rightful owners of their land resources (Government of Botswana, 1991).

The expansion of cities has caused the loss of valuable commercial and tribal farmland and threatens food security nationally and for the peri-urban residents. This calls for an intensification of urban development and innovative architectural designs to minimize the spatial spread of towns and cities. The environment has come under increasing pressure as the city continues to spread outwards. Demand for construction aggregates is escalating as river sand is being mined from rivers and building sand is being dug from the surroundings (Geoflux 1994). With increasing fuel costs, wood is being harvested as a source of domestic energy by the lower income groups and deforestation has become a serious environmental threat. Destruction of vegetation and natural river courses threatens biodiversity and the integrity of the ecosystem. The ecosystem has become seriously fouled and impaired such as has happened along the Segoditshane River in which solid and liquid wastes have been dumped.

Environmental dereliction is a direct outcome of uncontrolled littering of construction rubble, solid domestic and commercial waste. This threatens environmental aesthetics and health. Air pollution is a health threat because of increasing traffic, firewood and litter burning, mixed with dust. Demand for water is increasing whilst supply is declining due to more frequent droughts, drying up of reservoirs

and falling water tables.

The above activities require serious policy attention in the form of adherence to and compliance with the Millennium Development Goal (MDG) 7 that stresses the importance of ensuring environmental sustainability. *Vision 2016* Pillar 2 also alludes to the creation of a prosperous, productive, and innovative nation (Government of Botswana 1997). This implies promoting sustainable economic growth and diversification, job creation and access to shelter and a sustainable environment.

Proactive measures are also required to ensure the proper development of settlements. For example, strategic environment assessment principles that anticipate the probable effects of development activities should influence decision-making by informing policy and plan making and facilitate the achievement of sustainable development. Several strategies need to be implemented to achieve the above ideals. The Revised National Settlement Policy advocates for the identification of all fertile arable land in order to protect it from indiscriminate encroachment by settlements. The National Land Policy (2003), coupled with the integrated land use plans, could assist by guiding the allocation and management of land in a systematic and sustainable manner. Enforcement of the Tribal Land Act (Cap.32.02) 1993 would address issues on land competition, land use pressure and conflict whereas the Town and Country Planning Act (Cap.32:09) 1977 would ensure the proper growth and development of primary centres and an orderly development of land in towns and districts and preserve and improve amenities therein.

The National Conservation Strategy Authority maintains that all aspects of the Town and Country Planning Act will be enforced to ensure the improved provision, design and management of human settlements, including public open space and recreational facilities and the conservation of natural resources within the planning areas of all settlements. The National Population Policy aims to stimulate development in the rural areas by expanding and improving physical and socioeconomic infrastructure, the creation of alternative growth points to achieve a more even population distribution, and the generation of employment opportunities in the rural areas (Government of Botswana 2004).

### *Migration*

The focus of the relationship between migration and urbanisation in sub-Saharan Africa has been on rural–urban migration, in response to perceived better employment opportunities and life chances offered by towns and cities. The economic, socio-demographic, infrastructural and social impacts of rural-urban migration on the areas of origin and destination have been highlighted. However, from the above analysis of the census results on Botswana there are two other noteworthy patterns of migration that relate to the growth of urbanisation. First, the population is being forced to relocate from the main urban centres to the neighbouring peripheral areas in search of cheaper accommodation and land. Such intra-subregional moves within the orbits of major centres need to be regulated along the same lines as what has been suggested under peri-urbanisation.

Secondly, population from the rural areas and elsewhere is settling in the peripheral satellite communities where prospects of finding accommodation are better and where they are within access for possible employment opportunities in the main urban centres. Some migrants, nonetheless, still move to the main centres where they either target low income residential areas or establish squatter settlements. The impact of net migration into urban areas have included overcrowding in destination areas such as Old Naledi in Gaborone, squatting such as in Senthumole near Jwaneng, in Ghanzi Township and within the 50km radius of Gaborone in the Kweneng District. Squatters destroy the environment. They also lack proper sanitation and safe drinking water.

In the past, agriculture has been the pivotal mainstay of the rural economy. Today agriculture is characterised by low productivity that has been declining for years. The major challenges include persistent shortage of water, poor grazing conditions mainly due to recurring droughts, poor management

practices, low technology use, pests and diseases, poor access to finance, poor marketing facilities, unremunerative prices and lack of business skills. There continues to be urban attraction for real and imagined cash employment, better social and physical infrastructure. The youth also view rural-urban migration as an escape route from restrictive and traditional lifestyles.

The National Settlement Policy has made suggestions on how to minimize rural-urban migration such as:

- Planning for the provision of similar level of infrastructure and services to villages on the same hierarchical level with towns,
- Provision of incentives for the location of job creating activities in rural areas and villages,
- Provision of financial and other incentives to investors locating in village primary centres, in line with the Financial Assistance Policy,
- Promotional Programmes to publicize opportunities in village primary centres, and
- Improvement access to loans and financial resources to rural areas and villages

In the past, the low standard of infrastructure and services and low purchasing power of rural inhabitants has rendered villages and rural areas unattractive to private investors and financial institutions. Moreover, with the current economic downturn which started in 2008, the scale and range of projects and those activities that had been intended to make lower order centres attractive to their potential migrants appear to have been scaled down significantly. Furthermore, migration is an issue of how the actors perceive the differences between the origin and destination. Currently, society and the educational curriculum put a premium on academic education that is employer-tied. However, after three years of secondary education, it should be possible, through various types of aptitude tests, to streamline students and start preparing those with vocational aptitudes for self-employment.

The importance of developing the agricultural sector is acknowledged. In this context the role of the National Action Plan on the Convention on Combating Desertification (Republic of Botswana 2006), the National Policy on Agricultural Development (Republic of Botswana 1991) aimed at improving Agricultural production, the Integrated Support Programme for Arable Agricultural Development (Republic of Botswana 2008), designed to improve income levels and the food security situation in rural areas through subsidized inputs and improved extension outreach and the National Master Plan for Arable Agriculture and Dairy Development (NAMPAADD) (Republic of Botswana 2002) to assist with transitioning from subsistence to commercial farming, provide critical inputs to a strategy towards making agriculture a viable alternative to urban based employment. The intention of this paper is not to provide a critique of these programmes. However, these efforts need to be complemented by other non-agricultural micro-enterprises such as eco-tourism, manufacture of veld products, small scale mining, welding and small scale construction. Rural Industries Promotion Company (RIPCO) could provide the technology, Local Enterprise Authority (LEA) the training and Citizen Entrepreneurial Development Agency (CEDA) the finance.

### *The Emerging Urban Hierarchy*

The urban hierarchies of most Sub-Sahara African countries are characterized by primacy wherein the metropolitan capitals have more than their fair share of the national populations and investment. Because of the extractive and mercantile nature of the colonialist organisation of geographic space, most capital cities were located on coastal areas. The above factors have promoted regional economic polarisation in which favoured areas prosper whilst peripheral regions languish in poverty. Certain African governments have made attempts to reverse polarisation by adopting development centre

models and encouraging the development of mid-sized human settlements.

The emerging urban hierarchy shows that Gaborone has undesirable megacity tendencies and continues to dominate the urban hierarchy (Gwebu 2004a). Coupled with this is the rapid growth of its peripheral settlements. Although these growth patterns towards a conurbation present ideal opportunities for urbanisation economies, they pose serious challenges in terms of providing adequate social services, employment, physical infrastructure and sustaining the environment. These are the issues that relate to the MDG objective of eradicating poverty and hunger and sustaining the environment. They are at the very heart of Vision 2016 that concerns creating a prosperous and productive nation.

The dominance of Gaborone, as shown by the rank size and primacy indicators, implies regional disparities, polarisation and imbalances in economic development. Gaborone is eccentrically-located, as the national capital city. Moreover, its role in creating and reinforcing regional disparities among the planning regions requires serious planning attention. Furthermore, its location relative to availability of water implies that there is need for a shift and relocation of the capital to the northern part of the country and more accessible and relatively central part of the country such as in Palapye where there is adequate land for expansion, non-existence of physical obstructions to city growth, proximity of water resources and better access to national and international centres (Gwebu 2004a). The apparent political contestations over this proposition might have to yield to pragmatism and futuristic thinking, based on the imminent climate change dynamics, evolving population distribution patterns and the accepted regional development planning praxis, in order to resolve this issue. Contemporary examples of where this has been done include Brasilia in Brazil, Abuja in Nigeria, Yamoussoukro in Cote d'Ivoire, Lilongwe in Malawi and Arusha in Tanzania. Decentralization aimed at polycentrism through the National Settlement Policy thus makes political sense in the form of promoting social justice but also economic sense in promoting income distribution.

### **Conclusion**

Although Botswana's urbanisation history is relatively recent, its level of urbanisation at 64% is almost twice that of other African countries. Unlike in most African countries the main driver to urban growth has been the reclassification of former rural settlements. The country's rapid urbanisation has not been accompanied by sustainable economic growth. As a result the creation of adequate employment, social services and infrastructure continue to lag behind rapid population growth.

Two patterns of migration are noteworthy. Firstly, there is short distance urban-rural relocation to the metropolitan peripheries that is associated with the slow growth of cities due to urbanisation diseconomies. Accompanied by urban sprawl from the main centres this is creating environmental problems, causing conflicts between land tenure and land use systems and making the provision of social services and physical infrastructure expensive. Secondly, the major destination of rural-urban migration are the satellite communities that serve as dormitory settlements for the commuters to the main centres. These urban villages, as they are called locally, are experiencing very rapid population growth.

As in most sub-Saharan African countries, the urban system is characterised by primacy or macrocephaly; Gaborone has the megacity tendencies of having a disproportionate share of the national population and investment. Fortunately, the National Settlement Policy seems to be operating effectively to counter these tendencies. However, Gaborone is eccentrically-located. There is moreover a mis-match between its location and the supply of reliable water supplies. For these reasons a location that is geographically central to the country is recommended.

## References

- Areola, AA, Gwebu, TD and Sebege, RJ 2013. 'A Spatio-temporal Analysis of Peri-urbanisation in sub-Saharan Africa: A Case study from Lobatse, Botswana. *African Geographical Review*, vol. 33, pp.174-201.
- Crush, J (ed) 2010. *The State of Urban Food Security in Southern Africa*. Cape Town: Unity Press.
- Geoflux 1994. *Environmental Impact Study of Exploitation of Sand, Clay, Gravel and Rocks and Dumping of Construction Waste in the Gaborone Region*. Gaborone: Geoflux.
- Government of Botswana 1969. 'Tribal Land Act'. Gaborone: Government Printer.
- Government of Botswana 1991. *Report of Presidential Commission of Inquiry into Problems in Mogoditshane and Other Peri-Urban Villages*. Gaborone: Government Printer.
- Government of Botswana 2001. *Report of the Second Presidential Commission on the Local Government Structure in Botswana*. Gaborone: Government Printer.
- Gwebu, TD 2004a. *Urbanisation in Botswana. Analytical Report, 2001 Population and Housing Census*. Gaborone: Government Printer.
- Gwebu, TD 2004b. 'Patterns and Trends of Urbanization in Botswana: Policy Implications for Botswana', *City Futures Conference on Global Urbanization, held at Intercontinental Hotel, Chicago. 8-10 July 2004*.
- Gwebu, TD 2006. 'Towards a Theoretical Exploration of the Differential Urbanization Model in Sub-Saharan Africa: The Botswana Case'. *Journal of Economic and Social Geography*, vol. 97, pp.418-433.
- Jefferson, M 1939. 'The Law of the Primate City', *Geographical Review*, vol. 29, pp.226-232.
- Lovett, JC 2008. 'Urbanisation and Over-population', *Afr. J. Ecol.* vol. 46 (962), pp.461-462.
- Montgomery, MR, Stren, R Cohen, B, Reed, HE (eds) 2004. *Panel on Urban Population Dynamics. Cities Transformed: Demographic Change and its Implications in the Developing World*. Washington DC: National Academies Press.
- Rakodi, C 2005. 'The Urban Challenge in Africa', in Keiner, M and Koll-Schretzenmayer, M and Schmid, WA (eds), *Managing Urban futures-Sustainability and Urban Growth in developing Countries*. Hampshire: Ashgate Publishing.
- Republic of Botswana 1991. *National Policy on Agricultural Development*. Gaborone: Government Printer.
- Republic of Botswana 1998. 'The National Settlement Policy'. Gaborone: Government Printing.
- Republic of Botswana 2002. *National Masterplan for Arable Agriculture and Dairy Development*. Gaborone: Government Printer.
- Republic of Botswana 2004. *The Revised National Settlement Policy*. Gaborone: Government Printer.
- Republic of Botswana 2006. *Botswana National Action Plan on the Convention on Combating Desertification*. Gaborone. Government Printer.
- Republic of Botswana 2008. *Integrated Support Programme for Arable Agricultural Development*. Gaborone: Government Printer.
- Republic of Botswana 2009. 'National Development Plan 10, vol.1. Gaborone: Government Printing.
- Republic of Botswana 2004. *Analytical Report 2001 Population and Housing Census*. Gaborone: Government Printing.
- Sebege, RJ and Gwebu, TD 2014. 'Patterns, Determinants, Impacts and Policy Implications of the Spatial Expansion of an African Capital City: The Greater Gaborone Example', *International Journal of Sustainable Built Environment*, vol. 2, pp.193-208.
- Silitshena, RMK 1996. 'Urban Environmental Management and Issues in Africa South of the Sahara', in Benneh, G, Morgan, WB and Uitto, JI (eds), *Sustaining the Future. Economic, Social and*

- Environmental Change in sub-Saharan Africa*. New York: United Nations University Press.
- Statistics Botswana 2011. Population and Housing Census, 2011*. Gaborone: Government Printing.
- UNESA 2008. *World Population Prospects: The 2006 Revision and World Urbanization Prospect: The 2007 Revision*. New York: United Nations.
- UN-HABITAT 2008. *The State of African Cities, 2008: A Framework for Addressing Urban Challenges in Africa*. Nairobi: United Nations.
- UN-HABITAT 2007. *State of the World Report*. Nairobi United Nations.
- United Nations 2004. *Botswana Millennium Development Goals*. Gaborone: United Nations.
- Von Benda-Beckmann, F 2002. 'Who's Afraid of Legal Pluralism?: Legal Pluralism and Unofficial Law in Social, Economic and Political Development', paper delivered at the 13th International Congress of the Commission on Folk Law and Legal Pluralism, 7–10 April 2002, Chiangmai, Thailand, pp.293.
- Wily, A 1999. 'Land Tenure Reform and Balance of Power in Eastern and Southern Africa', in *Natural Resource Perspectives No. 58*, ODI/DFID.
- Wily, A 2000. 'Reconstructing the African Commons', *Africa Today*, vol. 48, pp.77-85.