

Original Article/Research

Patterns, determinants, impacts and policy implications of the spatial expansion of an African capital city: The Greater Gaborone example

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Abstract

Africa has experienced unprecedented rates of urban growth, at above 3% annually. This growth was accompanied not only by agglomeration economies and spread effects but negative externalities that impinge on the inhabitants and the natural resource base in the rural–urban transition zone. Already, cities occupy large geographical areas that are continually expanding. Botswana's population is small with a recent urbanization history. However, it has recorded one of the highest urbanization levels (61%) and annual urban growth rates (2.5%). Unlike in most developed countries, the dynamics of peri-urbanization in Gaborone reflect a strong interplay of market and institutional factors. Actual population growth and demand for space has always defied projected forecasts. The country presents unique prospects for investigating patterns and processes that characterize urban growth and their intersecting environmental and policy implications for sustainable urbanization.

The study utilizes a developmental approach based on spatial data to describe, interpret and analyse patterns and processes that determined the growth of Gaborone. It is evident that certain developments within the urban shadow of the city have been unregulated. In spite of the apparent ecological footprints resultant from the geographical manifestation of urban growth, legislative mitigation measures have rarely been implemented to promote sustainable urbanization.

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Keywords: Urbanization; Peri-urban; Ecological footprint

1. Introduction

Demographic and spatial aspects of urbanization have always held academic fascination among social scientists

and planners in Africa. The first facet relates mainly to the rapid increase of the sheer numbers of urban residents. The second concerns both the organization of urban space, necessitated by the demographic growth of towns and cities, and the dynamics of settlements as a hierarchical system (Geyer, 2003; Gwebu, 2006; Gwebu, 2012). Concomitant with the above dimensions have been the sociological and economic processes that accompany urbanization. The first dynamic perceives urbanization as a way of life that permeates and transforms the behavioural patterns of the urbanized sub-populations, for example, in terms of their consumption, production, reproduction and secular

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outlook. The second component views urbanization as a powerful engine for national economic growth.

The impact of the dynamic urbanization synergy of the above dimensions can be observed both *in situ*, within towns and cities and throughout the entire space economies of the African continent, as impulses of urbanization diffuse from cores to the national geographical peripheries. Of practical significance is the fact that these processes generate stresses and conflicts among the various stakeholders. This creates the need for coherent, systematic and equitable regulatory instruments to be put in place to manage urbanization sustainably.

Rapid urbanization has not only brought about regional development inequalities and over-urbanization but agglomeration economies, to the advantage of national economic development. It is in an attempt to regularize and streamline its urbanization process that Botswana has adopted and adapted the concept of sustainable urbanization (ROB, 2004; Drakakis-Smith, 1996, 2000; UN, 2004). Previous studies on the geographic growth of major urban centres in Africa have only made cursory reference to the spatial manifestation of such expansion. This paper intends to both describe and analyse, in detail, the spatial expansion of Botswana's national capital. The focus is on the built-up and fringe zone of transition in land-use, social and demographic characteristics lying between the continuously built-up area and the rural hinterland, shown in Fig. 1.

The aim of the study is to therefore generate knowledge on the: spatial patterns of urban growth; stresses and conflicts that have arisen among competing resource claims; the role of public planning in resolving such conflicts; and presenting possible future scenarios on how the urbanization process could be rationally and sustainably managed. The paper is organized into subsections. After this Introduction, the conceptual base of urban structure and

growth are discussed. Next, the features of the study area are summarized. The methodology for conducting the research is then outlined. Fourthly, the findings from the study are reported and analysed. Finally, conclusions and recommendations are made.

1.1. Conceptual basis of urban spatial structure, expansion and response

The study examines the relationship between the built-up city and the spaces of its shadow zone shown in Fig. 1. What is interesting about this study is that both market and institutional factors seem to play an active role in determining patterns and processes of peri-urbanization in the study area.

Bryant et al. (1982: 34) have pointed out that a city spreads out into the countryside like an advancing wave on a beach and land in the fringe, be it farmland, grassland or forest, and is converted to urban use. Bryant et al. (1982: 34) best captures this scenario thus:

...there is more than just the advance of the built-up edge. Like a wave braking on a rocky shore, irregular patches of urban and urban-associated land uses develop well beyond the built-up edge with ribbons of development, at least in the early stages of development...It is this ribbon and scattered development that can best be labelled 'urban sprawl' and which generates most land-use conflicts.

Similarly, Greene and Pick (2006) have made reference to the bow wave analogy in explaining the processes that

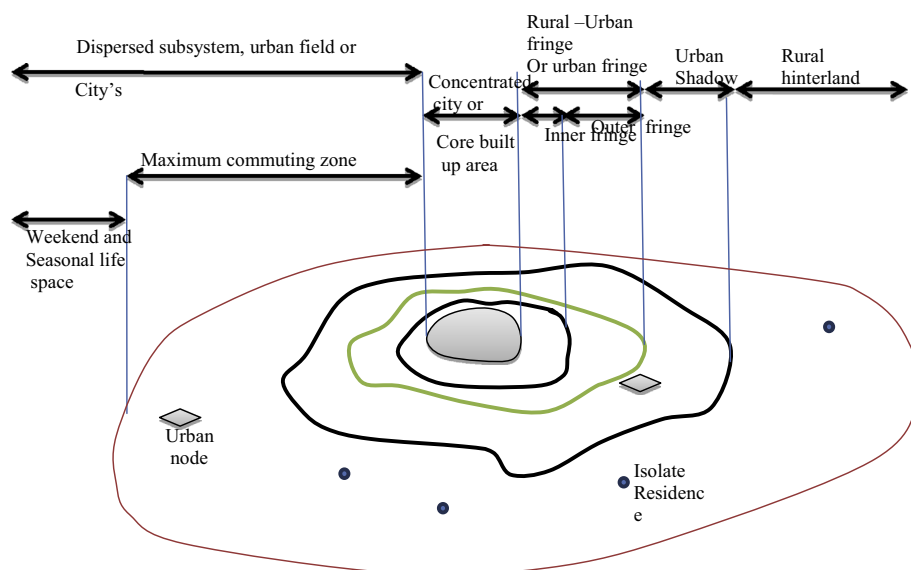


Fig. 1. The structural elements of the city region. Source: Bryant et al. (1982).

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