

UNIVERSITIES AS VANGUARDS OF URBAN REVITALIZATION: SATELLITE CAMPUS DEVELOPMENT IN NAIROBI CBD, KENYA.

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ABSTRACT

Universities have been hailed as generators of knowledge-based economies. However, in Nairobi City, the proliferated increase of campuses and infrastructural unpreparedness of the Central Business District has ignited a myriad of frictions. This paper focuses on the social, economic, infrastructural and environmental implications of the satellite campuses and the most appropriate panacea to arrest the induced roller coaster of space contestations. It also adopts a case study approach to illuminate the attraction factors and impacts of campuses and provide an entry point for empirical decision making and solution prescription. This paper also presents a silver bullet approach in ameliorating the place-based tensions in Nairobi Central Business District by designating campus districts, developing *Convenient, Contextual, Cohesive, Ecological and Integrated Campus district models*, campus and building prototypes. The proposed spatial framework advocates for efficient and sustainable midwifery of the roles of campus development in Cities.

Keywords: Satellite Campus; Central Business District; Impacts; Knowledge-based economy; Campus planning.

1.0 INTRODUCTION

1.1 Major facets of a knowledge economy.

The chronological evolution of campuses from exclusive intellectual hives into cities within a city was profoundly perpetuated by the dynamics of intellectual activities, social and cultural perceptions and architectural designs (Kurtulus & Griffiths, 2017). Cities have since been scaffolded by helical bolsters of energy, society, and economics, however, the quest for sustainability has paved way for the fourth juggernaut of a knowledge-based economy; creativity (Hillier, 2016).

1.2 Impacts and role of universities in Cities/urban landscape.

The quest to establish the impacts and relationships forged between urban universities and cities engineered the classification of their roles as drivers of economic growth, revolutionary engines of human capital, nodes in a Nexus network and cities within a city (Parkinson, et al., 2006; Magdaniel, 2013). Magdaniel et al (2018), successfully distills out the instrumental avenues that campuses ignite innovation and revitalization in cities; *Innovation spaces, functional diversity, innovative climate and interminable flows of incentives.*

1.3 Challenges & problems faced by campuses.

Privatization and exogenous pressure have basically perpetuated the operation of universities as social, political and institutional enclaves. Inevitably, campuses have been plunged into the grim hole of academic exacerbation and sterility (Furedi, 2005). Intense regional competitions among universities have blurred the connections and exchanges among local universities and hence an abbreviated commitment to regional development and transformation and stifling of academic autonomy and freedom (Bank & Sibanda, 2018).

1.4 Panaceas of how to do it better.

Hajrasouliha (2015) illustrates a formidable recipe to a comprehensive campus master plan by deriving four conceptual approaches of campuses i.e. convenient campus, contextual campus, ecological campus, and cohesive campus. The concepts are distilled from the principles of a comprehensive educational campus (Calvo-Sotelo, 2010). In 2013, Goddard and Valence acknowledged that universities can be welded into cities frameworks to form a 'civic university' model that invigorates territorial growth and development.

The structure of the paper clearly answers the questions of (i) what is the spatial location of university satellites and neighbouring land uses? (ii) What are the attraction factors of Satellite universities to a CBD? (iii) What are the impacts of establishing satellite universities within a CBD? (iv) What planning panaceas can be employed to guide the future establishment of sustainable satellite universities?

2.0 MATERIALS AND METHODS

The research study exploits a case study approach in examining the attraction factors, historical evolution and impacts of satellite campuses in CBDs. Cluster, stratified and purposive sampling was harnessed in tapping relevant information from sample frame i.e. campus students(128), campus administrators/directors(8), neighbouring land user(34), Nairobi City County (NCC) and Commission of University Education (CUE). Data collection methods include instrument administration, interviewing, observation and examination of published documents. Apart from field survey, other spatial data were sourced from USGS, Japan International Cooperation Agency (JICA) and Survey of Kenya. Spatial analysis was harnessed in designing and planning of campus districts.

The Nairobi CBD covers approximately 123.8Ha and hosts 21 satellite campuses.

3.0 RESULTS AND DISCUSSIONS

3.1 Attraction factors

The field survey (2018) revealed that the prevailing attraction factors to the satellite campuses in the CBD include educational services and packages offered at the respective institutions (34%), convenience of engaging in other activities in the CBD (19%), quality of the campus infrastructure (18%), no campus in various residential neighbourhoods (15%), proximity to their place of work(11%), proximity to the place of residence offered (2%), affordable educational services (0.5%) and provide quality services (0.5%),(Okundi,2018a).

3.2 Historical evolution of Campus

The assessment of the sprout of satellite campuses was in three phases i.e. 2005-2009, 2010-2014 and 2015-2018. The first, second and third phases saw the emergence of seven, ten and four campuses respectively.

3.3 Impacts

The impacts harvested during the field study were classified into four namely social, economic, physical/infrastructural and environmental. They can be summarised in the table below.

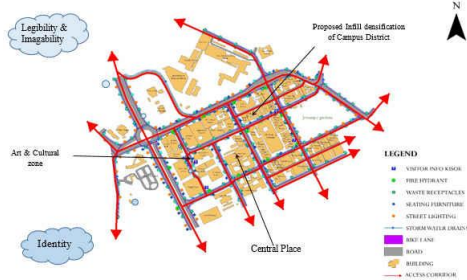
Table 1: Impacts of Satellite Campuses on Nairobi CBD

IMPACTS				
	Social	Economic	Infrastructural	Environmental
1.	Benefits of close proximity to public spaces.	Magnets of human labour.	Urban renewal	Air pollution
2.	Social access enclave.	Purchases and economic spin-offs.	Parking issues	Noise pollution
3.	Campus community services.	Economic Revitalization.	Infrastructural demand	Poor waste management
4.	Infringe of serenity and privacy.	Agglomeration economies.	Structural implications	
5.	Harmful Campus milieu.	Accelerated economic development.	Frictions with land use planning.	
6.		A rise in property rates.		
7.		Shortage of good office space		

Source: (Okundi, 2018a)

3.3 Campus Planning and Design

Cohesive Campus District Model



Ecological Campus District Model



Contextual Campus District Model



Integrated Campus District Model



Figure 1: Campus District Models. Source: (Okundi, 2018b)

The frictions between the satellite campuses and the CBD necessitates the delineation of campus districts. The actual alternative designs amplified the cohesive model, contextual model and ecological model which envelops the planning and design principles (Hajrasouliha, 2015). For this to be realized it calls for a quadruple helix of universities, industries, (local) governments and citizens (Dameri, 2017).

CONCLUSION

Frictions arise due to the lack of inclusion of campus districts in the CBD zoning ordinance. Entrusting spatial provision entirely to market forces have haphazardly sprouted campuses in compromising districts. Zoning and design of campus districts would, therefore, defibrillate the planning issues in Nairobi CBD.

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