

EJISDC (2012) 54, 5, 1-20

The Electronic Journal on Information Systems in Developing Countries

<http://www.ejisdc.org>

URBANIZATION AND 3D CITY MOELLING FOR DEVELOPING COUNTRIES: A COMPARATIVE STUDY

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ABSTRACT

The study examines urbanization and its associated effects in terms of infrastructure, planning and congestion in two West African cities: Ibadan in Nigeria and Accra in Ghana. A comparative planning scheme for Accra, Ibadan and Kuala Lumpur in Malaysia is also analysed. Quantitative and qualitative approach in the form of orthophotos and satellite imagery, planning schemes and questionnaire were used for the study, 519 respondents were randomly sampled. Results from the study reveal that more than half of the respondents from Accra and Ibadan stated that the level of provision of sanitary facilities is not adequate or in most cases not present at all, while majority of respondents from Kuala Lumpur stated that sanitary facilities are adequate. Similarly, findings from the study show that majority of respondents from Accra and Ibadan stated that the provision of transport and recreational facilities is poor as compared to Kuala Lumpur. In the three cities more than half of the respondents claimed that they spent over 21 minutes to and from their work place. Overall impression about the physical infrastructure was poor in Accra and Ibadan. Also, it was observed from the findings that respondents incur both human and material losses due to traffic congestion in both cities. Some of the causes of traffic congestion identified especially in Accra and Ibadan in the study include: high number of vehicles plying the roads, narrow road networks, bad roads, lack of alternate routes, erection of structures near some major routes in the city and impatience on the part of some drivers. The cities of Ibadan and Accra are sprawling in a horizontal direction thereby taking a lot of land space with no effort being made by building and planning agencies to start building structures in the vertical direction above and below the city

surface. The two cities therefore cannot boast of any significant landmarks in the category of the Twin Towers of Kuala Lumpur, hence the tourism potential of these cities cannot be maximally utilized. The study suggests the adoption of 3D city modelling and techniques in Accra in Ghana and Ibadan in Nigeria for spatial planning, also a generic framework is presented so as to overcome some of the transport and infrastructural problems to improve the quality of life as observed in Kuala Lumpur in Malaysia.

Key words: Urbanization, Level of Service (LOS), City Modelling, Traffic-Congestion, Ibadan, Accra