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MAPPING AND ANALYSIS OF BUILDING DENSITY IN LUGBE AREA OF ABUJA, NIGERIA USING GEOINFORMATION TECHNOLOGY

Abstract

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Abstract. The development and the spread of built up areas in Lugbe area does not take into consideration the building density in a giving area, this phenomenon has increased the number of building that are supposed to be within a particular area. This trend, if not checked is taking a negative toll on the existing infrastructural facilities and also hinder the development of other new infrastructural. The building density in an area is determined by the topography and the existing landscape. This empirical study is aimed at mapping and analyzing the building density in Lugbe area of Abuja Nigeria using Geo-information technology. A number of data set were used to map and analyze the building density of this area these includes Shuttle Radar Topography Mission (SRTM) data, the topographic map, very high resolution satellite images from Google earth and Nigeria Sat2 satellite images, digital photographs, GPS coordinates of some areas were collected during field investigation. Two different software were used for analyzing and processing the data acquired, which includes ArcGis and surfer ten software's. (3-dimensional) were generated from SRTM data for the terrain visualization and analysis. The digital terrain models and maps created for terrain analysis include, surface model, land use and land cover maps, shaded relief maps and the digital elevation model of the area. The result shows that the building density within a particular hectare is higher than the acceptable required standard. The danger inherent in this phenomenon is that the existing infrastructural facilities will be stressed leading to their collapse. **Key words**

: Satellite Imagery, Mapping, Building Density, Analysis, Elevation Modeling