

Varying Geometry Area Determination of Selected Sites in Rivers State University, Port Harcourt, Nigeria.

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SUMMARY

In land parcellation exercise computing area of parcel is an important process of obtaining surveying deliverables. The aforesaid is a critical activity associated with land management which underscores that shape and size of land determines its use. The neglect of geometry is the contributing factor to variations in size and the resultant effect to prospective vendees paying more for less value because land is mostly parcellated based on the perimeter without due consideration to its geometry. This research investigates the variations in the area of each parcel of land with varying geometry. A sample of 18 varying parcels; nine 30 by 45m and nine 100 by 100m were traversed using classical method with same traverse length. The computed boundary coordinates were adjusted using least squares, and the area of each parcel was computed and the plans of the different parcels were superimposed on each other. The angular misclosures ranges from -1" to 39.6" and -6" to 58.38" with linear accuracies of 1:9,000 to 1:228,000 and 1:8,000 to 1:232,000. The difference in area from the variations in the geometry ranges from 5.339m² to 326.238m² and 38.129m² to 2344.237m² on the smaller and larger parcels respectively. The adjusted coordinates of each parcel with their standard errors were computed using least squares; after which the areas of each parcel were computed and the difference in area between the unadjusted and adjusted coordinates were also computed, hence geometry has obvious impact on the area of any landed property.

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