

# An Assessment of Gully Morphometry in Gboko East, Benue State

by

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## Abstract

*This study investigated the morphometric characteristics of gullies in Gboko East. Purposive sampling technique was used to select 3 out of 9 gullies in the area. The gully elements; depth, shoulder and bed widths, length and slope angle were measured at 10m interval along gully courses. Data was analyzed using both inferential and descriptive statistics which include percentages, mean, standard deviation, coefficient of variation and Pearson Product Moment Correlation Coefficient. The result of the analysis showed that, the gullies in the area were short, broad and have fairly straight courses with no defined patterns of gully depth increase or decrease towards a particular direction. The analysis of the gully parameters studied in the area indicated by their means revealed that shoulder width ranged from 23.3m to 27.4m, bed width from 14.8m to 21.4m, gully depth from 1.63m to 2.5m and slope angle from  $1.4^{\circ}$  to  $1.9^{\circ}$ . The nature of correlation among the gully parameters in Gboko East (the gully besides Gboko Polytechnic) through the results of Pearson's Moment Correlation Coefficient indicated weak relationships among most of the gully parameters tested at 0.05 level of significant. This led concluded that there was a complex inter-relationships of the gully elements in the study area due to the action of man that have modified the natural processes that would have occurred in the area. Urbanization as part of man's attempt to modify the environment has altered the natural processes. It was recommended that there should be further excavation of sediment deposited and reduction of refuse dumps in the drainage channels in the study area as a way of reducing the menace of gully in the area.*

**Key Words:** Gully morphometry, Urbanization, Gully elements