

## Influence of spatial distribution on the regeneration of the dense forest of Kalikuku, Lubero, North Kivu, Democratic Republic of Congo

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**ABSTRACT:**

The objective of the present study was to highlight the spatial structure of the trees and to determine its influence on the natural regeneration of the dense forest of Kalikuku. Data collection was carried out by measuring the diameter at breast height for 10 plots of 0.5 ha each. During the data analysis, the Dajoz test made it possible to determine the horizontal spatial distribution model of the two most abundant tree species in the forest, notably *Piptadeniastrum africanum* and *Ocotea usambarensis*. The chi test ( $\chi^2$ ) was used to compare the frequency distribution of the diameter classes for the two species under observation. To estimate the difference between the number of seedlings in aggregate areas compared to non-aggregate areas, the signed Wilcoxon test was used. In addition, the equitability index made it possible to verify the preponderance of the proportions between the diameter classes. Finally, the natural regeneration index was determined. The results showed that reforestation measures are not advisable now, before any measure to be put forth, logging and land clearing should be stopped. Also natural regeneration of forest vegetation should be favoured for better results.

**Keywords:**

Spatial distribution, Natural regeneration.