

Quantifying branch architecture of tropical trees using terrestrial LiDAR and 3D modelling

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Online Resource 1: Plot design

A regular 30x40 m grid plot (Figure OR1.1) was established around each selected tree. The grid was designed to cover the expected felled area by being oriented in such a way that the y-axis was aligned to the expected felling direction (yellow arrow in Figure OR1.1). The origin of the local coordinate system was located at bottom left corner of the plot (bottom left red sun cross). The selected tree was located at (15 m, 5 m) from the origin and a total of thirteen scan locations were set up in the plot (sun crosses in Figure OR1.1).

Out of these 13 scans locations, nine were placed in pre-defined positions in the grid (red sun crosses in Figure OR1.1) and four were placed within canopy gaps to capture the top of tree canopy, and hence, their positions varied (blue sun crosses in Figure OR1.1). Once each plot was set up, it was scanned with TLS, and then the selected tree was logged and its geometric structure measured.

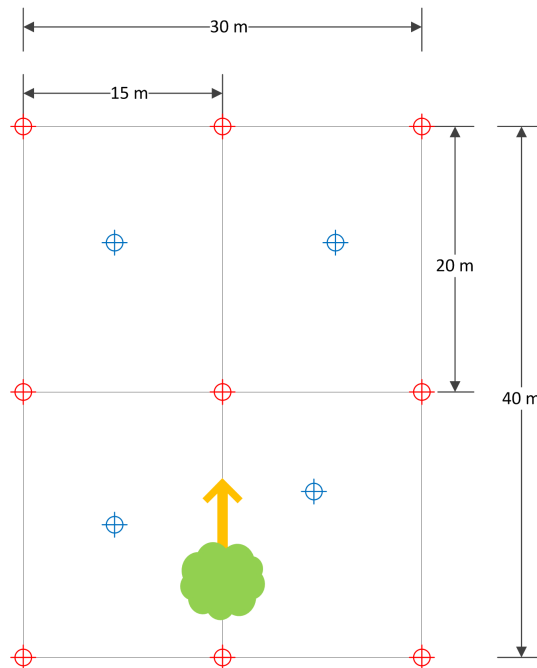


Figure OR1.1: A plot of 30x40 m was established around each harvested tree (green tree) and aligned towards the expected felling direction (yellow arrow).