

**Directional felling within selective management system of Peninsular Malaysia:
comparison between current and extended techniques**

ABSTRACT

Directional felling has been implemented in Peninsular Malaysia as part of the Selective Management System (SMS) to obtain optimum yield from the forest resources while reducing damage to the environment and residual trees. Some questions regarding its effectiveness have been questioned a few times, resulting in a joint research project at Ulu Jelai Forest Reserve, Pahang, Malaysia to compare between the current directional felling technique and the new (extended) techniques, in terms of accuracy of tree felling, volume of felling logs, expected damage on residual trees, and time taken for tree felling. For this study, 38 trees were felled with the current and extended techniques. By using the extended technique, 91.3% of the trees were felled within the 0°-5° range, and 100% within the 0°-10° range, compared to 28.01% (within the 0°-5° range) using the current technique. The extended technique also recorded higher volume recovery (14% higher) and lower damage on the residual trees by almost 50%. However, the extended technique took longer time, i.e. 4.56 minutes per tree, as compared to 2.50 minutes. The main contributor to the difference is the presence of gauge cut in the extended technique. Generally, the studies suggest that the extended technique is preferred as it is safer to the feller and surrounding people, while reducing the collateral damage on the harvested trees, as well as the residual trees.

Keyword: Directional felling; Extended technique; Selective management system