

**Spatial variation of physical environment and environmental aspect of selective logging:
a case study of tropical hill dipterocarp forests of Peninsular Malaysia.**

ABSTRACT

A systematic sampling and survey along the gradient directed transect was conducted within study area to investigate the effects of selective logging on tree species diversity, stand structure and physical environment of tropical hill dipterocarp forest of Peninsular Malaysia. In this study baseline information on environmental aspects of selective logging have been generated and compared with that of pre-logging condition by surveying the same samples. Soil physical parameters and microclimatic variables are mainly included for comparing spatial variation as well as species distribution. However, canopy openness is also discussed to find out its relationship to soil moisture and forest microclimate variation following logging. The variation of species composition in relation to habitat types as identified by numerical methods (Cluster and Principal Component Analysis) has been characterized and described in terms of possible environmental data. The results have been compared with the available studies from Malaysia and overseas. However, for the lack of pre-logging data as well as limited information particularly on microclimate, comparison was compounded. This study shows that the study site, Ulu Muda Forest Reserve, Kedah seems to be largely controlled by local micro-topography and associated microenvironment.

Keyword: Physical environment; Forest