Oil plam yield estimation model for Krabi , Thailand using remote sensing and surface parameters

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Abstract : The object of this research is to study the effectiveness of remote sensing and surface parameter for Oil plam yield estimation, we have considered NDVI, soil moisture, surface temperature and rainfall data of Krabi, Thailand, for 10 years for oil plam yield assessment and prediction using piecewise linear regression method with breakpoint. Oil plam production environment consists of inherent sources of heterogeneity and their non-linear behavior. A non-linear Quasi-Newton multi-variate optimization method is utilized, which reasonably minimizes inconsistency and errors in yield prediction.

Minimization of least square loss function has been carried out through iterative convergence using pre-defined empirical equation that provided acceptable lower residual values with predicted values very close to observed ones (R^2 = 0.72) for Krabi , Thailand. The oil plam yield prediction model discussed in the present paper will further improve in future with the use of long period dataset.

Keywords : Oil plam , Yield estimation model , Remote sensing