

## **Predicting rat occurrence in oil-palm plantation using GIS and GeoEye data**

### **Abstract**

Rats (*Rattus* spp.) can cause substantial economic loss to oil palm (*Elaeis quineensis* Jacq.) plantations. Spatial occurrence of rat in oil palm plantation has not been adequately dealt. We evaluated the rat occurrence at an oil palm plantation in Sabah, Malaysia using habitat factors from GIS and GeoEye data. Among the regression models examined, binomial logistic regression model best predicted the rat occurrence. Overall accuracy of the occurrence prediction calculated from an independent dataset was nearly 80%. The results allow us to identify factors of rat occurrence and recommend necessary control measures to the plantation management.