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RSPO Tier 1 Drainability Assessment in Deep Peat of Kinabatangan River Basin-A Case Study

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A case study of peat drainability assessment based on the tier 1 method of roundtable on sustainable palm oil (RSPO) was conducted in three estates covering over 1421 hectares of oil palm planted in contiguous deep peat. The objective of the study was to understand whether the land can be replanted with oil palm for future cultivation as per RSPO principle 7, criterion 7.7 and indicator 7.7.5. The factors surveyed and measured were the peat land area cultivated, its elevation, thickness, subsidence, determination of drainage base, daily measuring of mean water level at outlet to nearest waterbody, depth to the drainage base and finally the drainage limit time (DLT) for replanting and cultivation of oil palm. Based on the evaluation in 1421 hectares, it was measured and observed that the depth to the drainage base was higher than the peat thickness in 526 hectares (37%). In such condition if organic matter is fully subsided, the land is suitable to be cultivated with oil palm on the underlying gleyic alluvium soil. In the rest of the fields of 895 hectares (63%) the peat thickness or depth was higher than the depth to the drainage base while the balance of 204 hectares of land has the DLT of less than 40 years (calculated at 5 cm default value of subsidence). The balance of 690 hectares with DLT more than 40 years can be replanted and cultivated with oil palm, provided that stringent water management programmes are implemented in place to reduce the subsidence of peat for prolonged cultivation.

Keywords: Peat subsidence, peat drainage assessment, drainage limit time drainage base.

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