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Drainability of Peat Dome Areas

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Most of the large peat areas in Indonesia and Malaysia have a dome-shaped surface with an inverted saucer-shaped interface between the underlying peat/mineral contact. This results in the peat dome having a lens-shaped cross-section. The concept of drainability is determined by referring the elevation of the peat dome surface in relation to the mean height of the river level to which the peat dome is being drained to. Where this dome surface is lower than the mean elevation of the water in the river, backflow into the peat area can take place.

With global warming and climate change being experienced these days, the development of peat swamps for agricultural activities may result in such a backflow. This is attributed to subsidence, decomposition and compaction of the peat after a period of agricultural development/activity having taken place. In the case of oil palm cultivation, the Roundtable on Sustainable Palm Oil (RSPO), or the Malaysian/Indonesian Sustainable Palm Oil (MSPO/ISPO) Certification Scheme and the Greenpeace initiative requires existing oil palm estates to conduct a drainability study to determine if the estate may in the future have backflow from the river into the estate. This determines the length of time the estate can use natural drainage and not resort to expensive pumping.

This paper reviews the concept of drainability and the problems associated in determining the drainability of peat domes. The usage of instruments such as altimeter and global positioning system (GPS) are also discussed. With the advent of technology, the determination of drainability on peat dome is made easier but remain challenging e.g. hindering the drainability team to survey along the banks of the river by native peoples. A few examples from Malaysia also are presented in this paper.

Keywords: *Drainability, peat dome, oil palm, climate change, RSPO.*

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