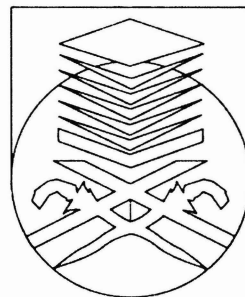# ASSESSING THE HEALTH OF DURIAN TREES USING HIGH SPATIAL RESOLUTION IMAGERY IN MARDI SERDANG, SELANGOR

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2016354481

Thesis submitted to the Universiti Teknologi MARA Malaysia in partial fulfilment for the award of the degree of the Bachelor of Surveying Science and Geomatics (Honours)

JANUARY 2020

DECLARATION

I declare that the work on this project/dissertation was carried out in accordance with the regulations of the Universiti Teknologi MARA (UiTM). This project/dissertation is original, and it is the result of my own work unless otherwise indicated or acknowledged as referenced work

In the event that my project/dissertation be found to violate the condition mentioned above, I voluntarily waive the right of conferment of my degree of the Bachelor Surveying Science and Geomatics (Honours) and agree to be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

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ABSTRACT

Durian fruits have been known as a tropical fruit that can be found in South East Asia. But, as far as been known that durian tree has been exposed to disease and mostly infected by patch canker and leaf spot. The health of the durian tree will be affected by the production of durian fruit. Not to mention, the large area of durian plantation is difficult to be accessed for mapping and monitoring the health of the tree. This research was carried out to demonstrate the capability of high spatial remote sensing imagery in analysing the health of durian trees. This provides high-quality spectral reflectance curve data due to the excellent spatial and spectral accuracy of field spectrometer datasets. High spatial resolution imagery with 0.5-meter resolution will be given an accurate image of durian trees. The procedures that involve in this study were divided into two main stages, one stage for data acquisition and another one is the processing stage. Field spectrometer used to perform field sampling data acquisition in MARDI, Serdang and the software that has been used is ENVI 5.3 to process the satellite image Pleiades imagery. The vegetation that has been performed is NDVI and NPCI to determine between healthy and unhealthy durian trees. The objective of this research is secured. The result shows that the data from hyperspectral such as field spectrometer is needed in assessing the health of durian trees.

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