

**UNIVERSITI TEKNOLOGI MARA**

**PADDY'S HEALTH RESPONSE  
ANALYSIS TO THERMAL  
RADIATION EMITS BY POWER  
TRANSMISSION LINE**

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Thesis submitted in fulfillment  
of the requirements for the degree of  
**Bachelors of Surveying Science and Geomatics**


**Faculty of Architecture, Planning and Surveying**

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## AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Undergraduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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## ABSTRACT

Recently threat to crop health are observed by exposure of the crop to the thermal radiation. The power transmission line are the big structure that known gives the thermal radiation. It became one of the factor that may influence the crop health. This study was to analyses the paddy's health affected by the exposure. There are various type of power line. This study used high voltage power line, 115 kV which composed of seven single cable. The conventional method from previous research is limited to analyses the large cover area as they performed experiment in laboratory. Therefore, remote sensing method is be able to overcome those. It offers fast processing computer based method. Two type of satellite images used which are Sentinel 2 and Landsat 8. Sentinel 2 were used to analyze the paddy's health by Normalized Difference Vegetation Index (NDVI) and emission of thermal radiation is detect using Landsat 8 by Land Surface Temperature (LST). Both are processed in Erdas software then map and analyze in ArcGIS software. This study are for 2 years observation during paddy's growth. Therefore, the study reveals that thermal radiation from the power line did effect to paddy health. It is found that R-squared value of correlation are 0.2083 for 2 m distance of paddy field with power line in year 2016 and increase with 0.3326 for year 2017. However, the relationship are weak and it is not the main factor that contributes to paddy healthiness. This research benefit to related party such as MADA or farmer himself, considering that remote sensing is easy and suitable method for them to analyse paddy's health effectively

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