UNIVERSITI TEKNOLOGI MARA

COVID-19 LOCKDOWNS POLLUTION EMISSIONS MONITORING: MALAYSIA CASE STUDY

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Thesis submitted in fulfilment of
requirements for the degree of
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Faculty of Architecture, Planning and Surveying

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AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation 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 Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.

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ABSTRACT

Numerous epidemiological researches have proved that particulate matter (PM 2.5) is formally classified as particulate matter with a diameter of less than 2.5 nm, which is one of the most dangerous air contaminants affecting human health, during the Movement Control Order (MCO) within six months. The coronavirus pandemic has led to an increase in air quality index all around the world, especially in Malaysia region. The aim of this study is to assess the impact of COVID19 Lockdown on air pollution emissions monitoring at Selangor and Wilayah Persekutuan District. To achieve the aim, the objectives of this study are to produce the interpolation of API Index map of before for year 2019 and after MCO period for year 2020 and to extrapolate the effect of pollution during COVID-19 lockdown by using Sentinel 5p and Sentinel 2A before and after MCO period. Data that will be used is Sentinel 5P, Sentinel 2A and Air Pollution Index of Malaysia (APIMS) to monitor the air quality that contain nitrogen dioxide concentration. Software that will be used in this process are ArcMap and VISAN application in the Basic Envisat Atmospheric Toolbox (BEAT). This can help the improvement of air quality beyond the spreading of Corona Virus Disease-19 in Malaysia.

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