

## Impact of lockdown on air quality in Myanmar and some Asian countries during COVID-19 pandemic

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**Abstract** – Myanmar has been one of the countries combating air pollution. Corona virus infection started in Myanmar with the first case on 23<sup>rd</sup> March 2020. The first wave hit the country from March to May and stay-home order was announced for the period of April-May 2020. The second wave started in the last week of August. Yangon has been the most affected region in Myanmar since then. As a result, the city has been placed under stay-home order and curfew from 12:00 midnight to 4:00 am since the 2<sup>nd</sup> week of September. In Yangon, our research team conducted assessments of PM<sub>2.5</sub> and PM<sub>10</sub> concentrations in February (before stay-home order), in September (stay-home period at the start of the second wave), and in December (stay-home period during the second wave). It was found that both PM<sub>2.5</sub> and PM<sub>10</sub> concentrations were lower in September compared with February data. In December, PM<sub>2.5</sub> and PM<sub>10</sub> concentrations measured in the mornings rose again to nearly the levels measured before stay-home period. According to data from IQAir, air quality index (AQI) was in the red zone in December. The majority of the cities in Asian countries such as China, South Korea, India, and Southeast Asian countries, except Jakarta, reported that there was an improvement in air quality during lockdown period. The air quality in Jakarta during lockdown remained poor due to emissions from coal power plants surrounding the city. However, another study conducted in Jakarta reported air quality improvement in areas with high COVID-19 prevalence, because of large-scale social restriction. It could be concluded that there is a noticeable improvement in air quality during restriction period as a result of reduction in vehicle volume, human mobility and industrial activities. In addition, it seems that AQI and PM<sub>2.5</sub> and PM<sub>10</sub> concentrations also depend on the type of restriction, and the weather condition.

**Keywords:** Air quality; Lockdown; Particulate matter; Myanmar