

## عنوان مقاله:

The impact of coronavirus induced general holiday on air quality in urban area

## محل انتشار:

فصلنامه بین المللی سرمایه انسانی در مدیریت شهری، دوره 5، شماره 3 (سال: 1399)

تعداد صفحات اصل مقاله: 10

## نویسندگان:

A.A. Nayeem - *Department of Environmental Science, Stamford University Bangladesh, Dhaka-1209, Bangladesh*

A.K. Majumder - *Department of Environmental Science, Stamford University Bangladesh, Dhaka-1209, Bangladesh*

W.S. Carter - *Department of Environmental Science, Stamford University Bangladesh, Dhaka-1209, Bangladesh*

## خلاصه مقاله:

**BACKGROUND AND OBJECTIVES:** The Bangladesh government declared a general holiday beginning on March 26, 2020 aimed to combat coronavirus (COVID-19) pandemic. The aim of this study was to assess the impacts of the general holiday on air quality in Dhaka city area of Bangladesh. **METHODS:** Hourly PM<sub>2.5</sub> (aerodynamic diameter  $\leq 2.5 \mu\text{m}$ ) data was collected from publicly available World's Air Pollution: Real-time Air Quality Index Project from March 1 to May 16 for the five years 2016 to 2020. Tukey Multiple Comparison test was conducted to address the observable level of air quality changes between the years. Additionally, Moderate Resolution Imaging Spectroradiometer using the Aerosol Optical Depth with 550nm wavelength was analyzed during the same time period. **FINDING:** This Study found that, between April 7 and May 16, the mean daily reading of PM<sub>2.5</sub> was less in 2020 when compared to previous years. The mean hourly reported PM<sub>2.5</sub> during working hours of 6AM and 8 PM for 2020 was statistically lower (at  $\alpha = 0.01$  level) than all other years 2019, 2018, 2017 and 2016. The mean hourly reported PM<sub>2.5</sub> for 2019 was statistically higher (at  $\alpha = 0.01$  level) than all other years 2020, 2018, 2017, and 2016. The Bus Rapid Transit and Mass Rapid Transit Construction in 2019 contributed between 24.2% and 38.6% of the PM<sub>2.5</sub> dust during this period. The elimination of diesel bus traffic during working hours in 2020 reduced the dust levels between 15.9% and 36.3% compared to the previous four years. A declining trend of AOD<sub>550</sub> values was observed from April 7 to May 16, 2020 compared to previous four years (2016-2019). **CONCLUSION:** During the general holiday period in Dhaka, the daily and working hour PM<sub>2.5</sub> as well as daily Aerosol Optical Depth were reduced compared to previous four years (2016-2019). Government action is recommended to reduce dust created during major construction projects. It is recommended the government authorize the replacement of buses with less polluting vehicles.

## کلمات کلیدی:

Corona Virus, Air quality index (AQI), General Holiday, pollution

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1043328>



