

Title: Impact of COVID-19 on urban environment in developing countries: Case study and environmental sustainability strategy in Bangladesh

Author: Md Sahidul Islam, Md. Naimur Rahman, Negar Sultana Ritu, M. Safiur Rahman, Md. Nazirul Islam Sarker

Abstract: As of 2023, Bangladesh stands as the seventh most populous nation globally, confronting challenges arising from limited resources and rapid urbanization. The emergence of the COVID-19 pandemic has led to unprecedented disruptions on a global scale, necessitating a detailed examination of its effects, particularly within urban environments. This study meticulously scrutinizes the repercussions of COVID-19 on the urban environment, focusing specifically on Dhaka City. In this comprehensive exposition, we explore the multifaceted impact of the COVID-19 outbreak, spanning environmental and non-environmental aspects like urban water quality, air quality, municipal waste management, and noise pollution. We analyze urban environmental data across distinct timeframes, employing the Indicators, Impact, and Strategy (IIS) framework for environmental improvement and urban sustainability. The study reveals substantial shifts in the urban environment, poised to exert a profound influence on the city's inhabitants and overall urban ecology. Notably, findings indicate a marked improvement in air and water quality, attributed partly to reduced industrial activity and diminished vehicular emissions during lockdowns. However, municipal waste management faced significant challenges, resulting in a deterioration of the overall waste disposal system. Of particular concern was medical waste disposal due to the increased generation during the pandemic. The study concludes by proposing a robust policy framework addressing key concerns, including environmental quality, urban health, and pollution control. These policy recommendations aim to bolster sustainable environmental progress within the unique exigencies of the COVID-19 era. As Bangladesh grapples with the pandemic's aftermath, this research offers valuable insights and a roadmap for ensuring a more resilient and environmentally sustainable urban future in Dhaka City.

Keywords: COVID-19, Environmental impact, Urban sustainability, Future strategy

DOI: <https://doi.org/10.1016/j.grets.2024.100074>

<https://www.sciencedirect.com/science/article/pii/S2949736124000010>