

Does flooding undermine the management capacities of the COVID-19 pandemic? A study of Lagos State, Nigeria

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Received: 18 July 2022; Revised: 20 October 2022; Accepted: 24 October 2022; Published online: 31 October 2022

Abstract: Given the dynamics of climate events (hazards) and their linkages to human health, it is imperative to continually check the impacts of these events on the public health system. While efforts have been made to understand fluvial flood and COVID-19 vulnerability and impacts, substantial gaps about impacts of their simultaneous occurrence on densely-populated communities abound. This paper presents an assessment of the occurrence of fluvial flooding and its potential to undermine the management of the COVID-19 pandemic in Lagos State, Nigeria. This study applied the indicator-based risk assessment method to determine the pattern of COVID-19 risk in the study area. Flood hazard and health facilities datasets of Lagos State were also used to determine the flood extent and pattern of flood-exposed health facilities in ArcGIS 10.7.1. Results revealed that Apapa, Eti Osa, Ibeju Lekki, Mushin, and Lagos Mainland local government areas (LGAs) were at a very high risk of COVID-19. Results also highlight six LGAs that should be prioritized in managing COVID-19 due to the exposure of the majority of its health facilities to flood. Far-reaching recommendations on the need to prioritize these flood-exposed health facilities for COVID-19 risk reduction, humanitarian aid and prevention strategies is made. Also, future research in the study area should explore sustainable strategies to adapt to COVID-19 and flood events from an interdisciplinary perspective.

Keywords: COVID-19 risk, fluvial flood, hazard, health infrastructures, Lagos State.

Citation: Ihinegbu, C., Turay, B., & Akwafuo, S. (2022). Does flooding undermine the management capacities of the COVID-19 pandemic? A study of Lagos State, Nigeria. *Central European Journal of Geography and Sustainable Development*, 4(2), 50–63. <https://doi.org/10.47246/CEJGSD.2022.4.2.3>

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