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ANALYSIS OF INCIDENCES OF COLLAPSED BUILDINGS IN LAGOS METROPOLIS, NIGERIA

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ABSTRACT. Building collapses in Lagos metropolis have become worrisome to residents, developers, and Government. This study examined the incidences of collapsed buildings in Lagos metropolis over a thirty-year period. Time series analysis was carried out to determine the past and predict direction of the future occurrences. In addition, a process of inference from reports on investigations of past occurrences was adopted to establish causes of building collapses in the study area. Spatial analysis of the collapses showed high concentration in swampy terrain that was reclaimed in the past. The study recommends, amongst other things, comprehensive investigation of the geophysical characteristics of the affected locations towards finding lasting solution to the menace.

KEYWORDS: Collapsed building; Disaster; Distressed building; Spatial analysis; Lagos; Nigeria

1. INTRODUCTION

Buildings are expected to have certain characteristics that make them attractive for many uses which may be residential, commercial, institutional, educational, and industrial to meet people's daily needs. Characteristics of a good building include provision of security, safety to lives and properties, convenience, in addition to social, psychological and economic satisfactions derived by occupiers. In some cases, buildings that are expected to meet the people's daily needs have become source of great concerns to occupiers, owners, developers, governments, and physical development planning authorities, consequent upon their incessant failure and collapses.

Building failure, according to Ayininuola and Olalusi (2004), is an unacceptable difference

between expected and observed performance of building components. They identified two types of failure in building, which are cosmetic and structural types. Cosmetic failure occurs when something has been added to or subtracted from the building, thus affecting the structures' outlooks. On the other hand, structural failure affects both the outlook and structural stability of the building.

Roddis (1993) considered failure as occurring in building components when they can no longer be relied upon to fulfill their principal functions. He distinguished between defect and failure in buildings. Defect is deflection in a building causing certain amount of cracking or distortion while excessive deflection that results in serious damage to partitions, ceilings and floor finishes is referred to as building failure. A distressed building exhibits defects

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