

NBRRI REPORT NO. 22

COLLAPSE OF BUILDINGS IN NIGERIA:

TECHNICAL REPORT ON THE COLLAPSE OF A 2-STOREY BUILDING AT MARARABA (NEAR ABUJA)

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(FEDERAL MINISTRY OF SCIENCE AND TECHNOLOGY)

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PROJECT TEAM

MATAWAL D. S.; OMANGE G. N.; DANJUMA H.;
DANTALA S; UMOCHE T.; AND GAI F.

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OCTOBER, 2011

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FOREWORD

Failure in a building can be due to serviceability and ultimate limit violations. Serviceability limit violations serve as pre-warning which allows pre-emptive evacuation or remedial measures to be carried out. Where buildings undergo sudden catastrophic structural failure, there is dire consequence of total or partial collapse oftentimes accompanied by loss of lives and properties. Consequently, building collapse is not desirable in construction.

The Nigerian construction industry has been plagued with incessant cases of building collapse. In recent times, the situation has assumed a national dimension and has become an embarrassment and a source of serious concern not only to the construction industry but to Governments and the Nigerian populace. There is a logical understanding and a general consensus that this has to be checked. It has been observed that whenever buildings collapse, several uninformed reasons are usually advanced as the causes by public without due scientific backing or investigation. There has therefore been the need for proper investigation to be carried out on every reported case of building collapse as soon as they occur. Such interventions and their results will need to be brought to the attention of Stakeholders in the construction industry so that a lasting solution can be found to safeguard buildings that are at the verge of collapse and prevent actions that lead to building collapse in the country.

As part of its statutory mandate, the Nigerian Building and Road Research Institute (NBRI) conducted investigations on some reported cases of building collapse in the first part of 2011, with the primary objective to identify the causative factors and propose actions that will permanently address and mitigate the building collapse phenomenon in Nigeria. One of the first cases of building collapse in Lagos State in 2011 was reported in March and NBRI responded immediately with the constitution of an investigative team. Not long after that, NBRI raised another team to investigate two cases of building collapse in Enugu. The Reports of these collapses are being published.

While these were going on, specifically in June 2011, NBRI responded promptly by raising another team to investigate a case of collapsed building which occurred in the Mararaba sprawling suburb of Abuja, though located in Nassarawa State. The outcome of this investigation is presented in this NBRI Report. It should be noted that in all cases mentioned above, the investigation teams were made up of professionals, scholars, professional bodies, etc. in the catchment area of the building collapse.

It is hoped that the results published herein will be found useful by all Stakeholders including professionals, professional bodies, construction companies, contractors, Governments, individuals, etc.

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