NBRRRI REPORT NO. 23

COLLAPSE OF BUILDINGS IN NIGERIA:

TECHNICAL REPORT ON THE COLLAPSE AT ADENUBI CLOSE, IKEJA, LAGOS STATE, NIGERIA
NBRRI REPORT
No. 23

COLLAPSE OF BUILDINGS IN NIGERIA:
TECHNICAL REPORT ON THE COLLAPSE AT ADENUBI CLOSE, IKEJA, LAGOS STATE, NIGERIA

NIGERIAN BUILDING AND ROAD RESEARCH INSTITUTE
(FEDERAL MINISTRY OF SCIENCE AND TECHNOLOGY)
COLLAPSE OF BUILDINGS IN NIGERIA:

TECHNICAL REPORT ON THE COLLAPSE AT ADENUBI CLOSE, IKEJA, LAGOS STATE, NIGERIA

PROJECT TEAM

DIRECTOR-GENERAL: PROFESSOR DANLADI SLIM MATAWAL

NIGERIAN BUILDING AND ROAD RESEARCH INSTITUTE
(FEDERAL MINISTRY OF SCIENCE AND TECHNOLOGY)
(Building Capacity and Setting the Pace in indigenous Construction Technology Development)
Administrative Headquarters: NBRRI, 3 Gabes Street, Zone 2, Wuse, Abuja, Nigeria
National Laboratory Complex: NBRRI, Km 10, Idiroko Road, Ota, Ogun State, Nigeria
Website: www nbrri gov ng

Phone: +234 6039245620, +234 781788

OCTOBER, 2011
PROJECT TEAM

FALADEF. A., IHEONU E.E., DEDE S., SULYMON N. A.,
EGEGE C. C. AND MOZEAM M. N.

- Falade, F.A., Chairman of the Investigation Team, is a Professor of Civil Engineering at the University of Lagos, Lagos, Nigeria
- Iheonu, E.E., is the Head of Building Research Department of the Nigerian Building and Road Research Institute (NBRRI)
- DeDe, Soibi., was the Director of Road Research Department of NBRRI
- Sulymon, N.A., is a Senior Research Officer in the Building Research Department of NBRRI
- Mozea, M.N., is an Assistant Chief Technical in the Building Research Department of NBRRI
- Egege C. C., is a Research Officer in the Building Research Department of NBRRI

October 2011
FOREWORD

Building failure is an unacceptable difference between expected and observed performance of a structure. A failure can be taken as occurring in a component when that system can no longer fulfil its original and principal functions. For example, a building structure that is deficient in satisfying any of the designed performance provisions can be said to have failed. Where the building structure can no longer provide shelter as originally designed, it is said to have failed.

In Nigeria, building failures occur so frequently today and this situation calls for urgent intervention from all stakeholders. Building failures have been attributed to faulty design, fault on construction site, foundation soil, product failure, faulty execution of work and use of inappropriate materials. Other causes of Building failures may include but not limited to environmental changes; natural and man-made hazards.

It is often said that a building cannot stand on a “weak” foundation. It is important to realize that no matter how well the structural engineering may be, the propensity for the soil underneath it, to move must also be evaluated and addressed to stand the test of time. Ideally, a built foundation should not move once put in place.

In Nigeria, efforts at curbing this menace appear to be uncoordinated, haphazard and sporadic. Initial interest and concern generated at the collapse of any building is hardly sustained, especially from professional bodies. It is in the light of the above that the Institute by her mandate, has considered it necessary to look into the issue of building collapse in Nigeria and come up with possible remedies that could assist in reducing to the bearest minimum the incessant collapse of buildings in Nigeria. One of the building collapse investigations carried out by NBRRI is presented in this report.

This report contains the investigation of the causes of the collapse of a 5-storey building (under construction) at 9B Adenubi Close, Ikeja, Lagos State. It is expected that all Stakeholders will find the Report valuable and useful and assist in proffering solutions to the incessant occurrences of building collapse in Nigeria, particularly those under construction.

D. S. Matawal, DIC, PhD. C.Eng., FNSE, RE(Coren)
Professor of Civil Engineering; Director General/Chief Executive Officer

October, 2011
# TABLE OF CONTENT

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>2.0</td>
<td>Terms of Reference (TOR)</td>
<td>1</td>
</tr>
<tr>
<td>3.0</td>
<td>Project Site</td>
<td>1</td>
</tr>
<tr>
<td>4.0</td>
<td>Meetings</td>
<td>2</td>
</tr>
<tr>
<td>5.0</td>
<td>Investigation</td>
<td></td>
</tr>
<tr>
<td>5.1</td>
<td>Interview</td>
<td>2</td>
</tr>
<tr>
<td>5.2</td>
<td>Visual Observation on the Collapsed Building</td>
<td>2</td>
</tr>
<tr>
<td>5.3</td>
<td>Project Drawings</td>
<td>4</td>
</tr>
<tr>
<td>6.0</td>
<td>Field Work</td>
<td>4</td>
</tr>
<tr>
<td>6.1</td>
<td>Concrete</td>
<td>4</td>
</tr>
<tr>
<td>6.2</td>
<td>Reinforcement</td>
<td>4</td>
</tr>
<tr>
<td>6.3</td>
<td>Foundation</td>
<td>4</td>
</tr>
<tr>
<td>7.0</td>
<td>Non-Destructive Test</td>
<td>4</td>
</tr>
<tr>
<td>8.0</td>
<td>Tensile Test</td>
<td>6</td>
</tr>
<tr>
<td>9.0</td>
<td>Findings</td>
<td>6</td>
</tr>
<tr>
<td>9.1</td>
<td>Construction Period</td>
<td>6</td>
</tr>
<tr>
<td>9.2</td>
<td>Behaviour of the Structure</td>
<td>7</td>
</tr>
<tr>
<td>9.3</td>
<td>Reinforcement</td>
<td>7</td>
</tr>
<tr>
<td>9.4</td>
<td>Concrete</td>
<td>8</td>
</tr>
<tr>
<td>10.0</td>
<td>Stakeholders Participation</td>
<td>8</td>
</tr>
<tr>
<td>11.0</td>
<td>Conclusions</td>
<td>9</td>
</tr>
<tr>
<td>12.0</td>
<td>Recommendations</td>
<td>9</td>
</tr>
<tr>
<td>13.0</td>
<td>Acknowledgment</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Bibliography</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Appendix -1</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Appendix -2</td>
<td>16</td>
</tr>
</tbody>
</table>
1.0 INTRODUCTION
Incidents of collapsed buildings in Nigeria are becoming alarming as there are reported cases across the country almost on consistent basis. The spate of building collapses is of great concern to every Nigerian especially all Stakeholders in the built environment. This is due to the national embarrassment especially to the construction industry, the attendant loss of lives and properties, the huge negative socio-economic impact to Nigeria's infrastructural development, etc. As part of its statutory function and mandate, the Nigerian Building and Road Research Institute (NBRRI) undertook the investigation of a collapsed building which is reported herein.

The collapsed building at No.9B Adenubi Close, Ikeja occurred on Sunday 13th March, 2011. The DG/CEO of NBRRI quickly responded to the challenge by constituting an investigative team to visit the site, identify the causes of the collapse and suggest remedial measures to prevent future occurrence. The Committee was set up via a letter reference No. BRRI/T/205/I/173 of 18th March, 2011 (Appendix 1) with the following members:

1. Prof. (Engr.) F.A. Falade - Chairman
2. *Dr. G. A. Alade - Member
3. Dr. Soibi DeDe - Member
4. Mr. Ernest E. Iheonu - Member
5. Engr. N.A. Sulymon - Member
6. Mrs. M. N. Mozea - Member/Secretary

*Dr Alade could not accept the offer because of ill health. Dr. E.E. Ikponmwosa was appointed to replace him (BRRI/205/173 of 15th June, 2011).

2.0 TERMS OF REFERENCE
The Terms of Reference (TOR) of the Committee are:

1. To visit the Site of the collapsed Building at Ikeja, behind St. Leo's Catholic Church in Lagos;
2. To ascertain through interviews, visual inspection and Laboratory tests, the remote and immediate causes of the collapse;
3. To inspect documentations including drawings (if available) of the collapsed building;
4. To interact and interview Municipal Regulatory Authorities with respect to the collapsed building;
5. To submit a technical report to NBRRI for appropriate records, cases history documentation, and further actions.

3.0 PROJECT SITE
The site of the collapsed building is located at 9B, Adenubi Close, off Toyin Street, behind St. Leo's Catholic Church, Ikeja, Lagos
4.0 MEETINGS
The inaugural meeting of the Committee was held on 24th March, 2011 at the University of Lagos, Akoka, Lagos. The modus operandi for the execution of the project was defined and responsibilities assigned with a view to fast-tracking the investigation process.

The Committee was initially expected to submit her report on 15th April, 2011 but several distractions inhibited the smooth operation of the Committee, mainly due to the refusal of the Lagos State Physical Planning and Development Authority (LASPPDA) to permit the team “ACCESS” to the site. The team then reported the situation to the DG/CEO of NBRRI and requested him to “intervene”.

The DG/CEO of NBRRI wrote an intervention letter (BRRI/205/VOL1/18 dated 12th April, 2011) to the Executive Governor of Lagos State. Copies of the letter were sent to the Honourable Commissioner, Ministry of Physical and Urban Development and Chairman, Ikeja Local Government Area (Appendix 2). The DG/CEO’s letter indicated that the focus of the investigation was entirely peaceful and in the overall interest of the nation. The letter was delivered to the Governor’s office accordingly. By Thursday 12th May, 2011, the Executive Governor of Lagos State had made his comments on the letter and minuted it to the General Manager (LASPPDA) through the Honourable Commissioner and the Permanent Secretary.

On the strength of the follow-up action by the team, the officials of LASPPDA finally led the team to the collapsed building site on Thursday 2nd June, 2011.

5.0 INVESTIGATION
With the “ACCESS” rights secured and verbal permission granted, the team visited the site of the collapsed building on 6th June, 2011. The highlights of the activities and observations are presented below

5.1 Interview
Members of the Committee interviewed two persons (security man and a labourer) that were found on the site. Information was sought on the administration of the project, the identities of parties that were involved and their observed possible lapses in the construction process.

5.2 Visual Observation at the Collapsed Building Site
The rubbles from the collapsed building have been partly packed before the members visited the site, so there was limited things left in position as the remains of the building. (Plates 1 and 2)
Observations on the rubbles showed discoloration of concrete and improperly bonded concrete components as a result of poor concrete mixes.

All the reinforcements in the observed beams and columns were 16mm bars while the ones in the slab were 10mm and 12mm diameter bars. 4Y16 were seen inside all the visible columns. The reinforcing bars which were supposed to be located at the bottom of the slab with 25mm cover were positioned at the middle of the slab.
5.3 Project Drawings
The members of the Committee visited the Local Government Council and made request for the project working drawings (Architectural, Structural, Electrical and Mechanical) on 9th June, 2011; but were verbally informed that the collapsed building site was not under their jurisdiction and supervision and therefore the drawings were not available. Throughout the period of the investigation, the team did not have access to the project drawings.

6.0 FIELD WORK
6.1 Concrete
Non-destructive tests on concrete using ultrasonic device were carried out. The tests became necessary because it was difficult to obtain appropriate test samples from the rubbles. However, it was possible to conduct in-situ tests on the structural elements of the collapsed building.

6.2 Reinforcements
Tensile strength tests were conducted on the samples of the reinforcements obtained from the collapsed building. 600KN Universal Tensile Testing Machine was used for the test. The tests were carried out at the Structures Laboratory, Department of Civil and Environmental Engineering, University of Lagos.

6.3 Foundation
No investigation could be conducted on the foundation because the entire sub-structure had been uprooted. The type of foundation that was designed for the structure could not be ascertained but visual observation showed that the structure was formed on a shallow foundation.

7.0 NON-DESTRUCTIVE TESTS
The standard method of evaluating the quality of concrete in buildings or any structures is to test specimens cast simultaneously for compressive, flexural and tensile strengths. The main disadvantages of such method are the delay in obtaining results and the fact that the test specimens may not be truly representative of the concrete used in the structures. Factors affecting the strengths of concrete are so many that it is almost impossible to get samples identical in quality with the entire mass of concrete. There is no strength test which provides the requisite information on concrete in-situ without damaging the concrete. These and other drawbacks of destructive test methods made the use of non-destructive methods of testing imperative for this investigation.

Non-destructive tests are quick and can be performed both in the laboratory and in situ with convenience. Although there can be no direct measurement of the strength properties of structural concrete for the simple reason that strength determination involves destructive tests, several non-destructive methods of assessment have been developed. These methods depend on the fact that certain physical properties of
concrete can be related to strength and can be measured by non-destructive methods. Such properties include hardness, resistance to penetration by projectiles, rebound capacity and ability to transmit ultrasonic pulses and X- and y-rays. These non-destructive test methods may be categorized as:

(a) **Penetration Test:** The windsor probe is generally considered to be the best means of testing penetration. It consists of powder actuated gun or driver, hardened alloy probes, loaded cartridges, a depth gauge for measuring penetration of probes and other related equipment. A probe of diameter 6.5mm and length 80mm, is driven into the concrete by means of a precision powder charge. Depth of penetration provides an indication of the compressive strength of the concrete.

(b) **Schmidt Hammer Test:** The rebound hammer is a surface hardness tester for which an empirical correlation has been established between strength and rebound number. The only known instrument that makes use of the rebound principle for concrete testing is the Schmidt Hammer which weighs 1.8kg. The Hammer is forced against the surface of the concrete by the spring and the distance of rebound is measured on a scale.

(c) **Concrete Core Test:** Concrete cores are drilled from the structures and tested in Compression Testing Machine. The average equivalent cube strength of the cores is equal to at least 85% of the cube strength of the concrete specified for the corresponding age.

(d) **Pull out Test:** The pull out test is more authentic than the concrete core test. A special shaped steel rod is embedded in concrete in the form work. After the concrete hardens the rod is pulled out and in so doing it comes out with a block of concrete. The pull out force determined by a hollow tension ram is related to the compressive strength of concrete.

(e) **Ultrasonic Pulse Velocity Test:** The ultrasonic pulse velocity test method is an ideal tool for establishing whether concrete is uniform. It can be used on both existing structures and those under construction. The velocity of the ultrasonic pulses that pass through the concrete section from a transmitter to a receiver is measured. The pulse velocity is correlated against strength. High pulse velocity readings are generally indicative of good quality concrete. If large differences in pulse velocity are found within a structure, there is strong reason to presume that defective or deteriorated concrete is present. The investigation was carried out using the ultrasonic device. (Pictures 1 and 2). The compressive strengths of the tested Columns, Beams and Slabs as determined from the tests are presented in Tables 1A, 1B and 1C.
### TABLE 1(A): Tested Columns

<table>
<thead>
<tr>
<th>STRUCTURAL ELEMENT</th>
<th>AVERAGE COMpressive STRENGTH (N/mm^2)</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLUMN 1</td>
<td>12.3</td>
<td>POOR</td>
</tr>
<tr>
<td>COLUMN 2</td>
<td>8.9</td>
<td>POOR</td>
</tr>
<tr>
<td>COLUMN 3</td>
<td>8.7</td>
<td>POOR</td>
</tr>
<tr>
<td>COLUMN 4</td>
<td>7.1</td>
<td>POOR</td>
</tr>
</tbody>
</table>

**AVERAGE COMpressive STRENGTH = 9.3 N/mm^2**

### TABLE 1(B): Tested Beams

<table>
<thead>
<tr>
<th>STRUCTURAL ELEMENT</th>
<th>AVERAGE COMpressive STRENGTH (N/mm^2)</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEAM 1</td>
<td>8.3</td>
<td>POOR</td>
</tr>
<tr>
<td>BEAM 2</td>
<td>7.3</td>
<td>GOOD</td>
</tr>
<tr>
<td>BEAM 3</td>
<td>15.7</td>
<td>POOR</td>
</tr>
<tr>
<td>BEAM 4</td>
<td>8.1</td>
<td>POOR</td>
</tr>
</tbody>
</table>

**AVERAGE COMpressive STRENGTH = 9.9 N/mm^2**

### TABLE 1(C): Tested Slabs

<table>
<thead>
<tr>
<th>STRUCTURAL ELEMENT</th>
<th>AVERAGE COMpressive STRENGTH (N/mm^2)</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLAB 1</td>
<td>7.6</td>
<td>POOR</td>
</tr>
<tr>
<td>SLAB 2</td>
<td>8.5</td>
<td>POOR</td>
</tr>
<tr>
<td>SLAB 3</td>
<td>13.0</td>
<td>POOR</td>
</tr>
<tr>
<td>SLAB 4</td>
<td>19.7</td>
<td>GOOD</td>
</tr>
<tr>
<td>SLAB 5</td>
<td>7.1</td>
<td>POOR</td>
</tr>
</tbody>
</table>

**AVERAGE COMpressive STRENGTH = 11.2 N/mm^2**

### 8.0 TENSILE TEST

This is the maximum load sustained by the test-piece, when the latter is tested to destruction. The tensile strengths values obtained for the reinforcing bars are presented in Table 2.

### 9.0 FINDINGS

From the interviews conducted at the site and analysis of tests carried out on the construction materials obtained from the rubbles on site, the following findings were made:

### 9.1 Construction Period

Information supplied by those interviewed at the project site indicated that the construction of the
building started by the middle of January, 2011; and by the middle of March, 2011 the building was already on the 5th floor. Considering stage-by-stage construction process of building projects and the need to allow one floor to cure for minimum of 21 days before moving to the next level, it was obvious that adequate time was not given for the concrete to harden properly before loading.

9.2 Behaviour of the structure
The labourer interviewed at the site informed the members of the Team that before the collapse of the building, the ground floor to first floor columns “opened up”. By his description, the columns actually “buckled”. This may be due to the small size of the columns compared with the imposed load on the structure.

9.3 Reinforcements
The reinforcing bar (Y12 and Y16) used for the project was of good quality having tensile strengths of 630.94 N/mm² (Table 2) as opposed to 410 N/mm² usually considered during the design of reinforced concrete structures. The tensile strengths of the reinforcing bars are adequate. However, the 16mm diameter bars (4 No.) are inadequate to carry the loads on any columns of a 5-storey building at a lower level.

<table>
<thead>
<tr>
<th>TABLE 2: Tensile Strengths Values Of Reinforcing Bars</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BAR</strong></td>
</tr>
<tr>
<td><strong>Size</strong></td>
</tr>
<tr>
<td>(mm)</td>
</tr>
<tr>
<td>Y12</td>
</tr>
<tr>
<td>Y12</td>
</tr>
<tr>
<td>Y12</td>
</tr>
<tr>
<td>AVG</td>
</tr>
<tr>
<td>XX</td>
</tr>
<tr>
<td>Y12</td>
</tr>
<tr>
<td>Y12</td>
</tr>
<tr>
<td>AVG</td>
</tr>
<tr>
<td>XX</td>
</tr>
<tr>
<td>Y16</td>
</tr>
<tr>
<td>Y16</td>
</tr>
<tr>
<td>Y16</td>
</tr>
<tr>
<td>AVG</td>
</tr>
<tr>
<td>XX</td>
</tr>
<tr>
<td>Y16</td>
</tr>
<tr>
<td>Y16</td>
</tr>
<tr>
<td>Y16</td>
</tr>
<tr>
<td>Y16</td>
</tr>
<tr>
<td>XX</td>
</tr>
</tbody>
</table>
9.4 Concrete

The results of the ultrasonic in-situ tests on the concrete showed that the average compressive strengths of the concretes used are $9.2\text{N/mm}^2$ for columns, $9.85\text{N/mm}^2$ for beams and $11.18\text{N/mm}^2$ for slab (Tables 1A, 1B and 1C). While it is acknowledged that the Committee did not have access to the structural design calculations and structural drawings, it is noted that for a structure of this nature (a 5-storey building), the minimum concrete strength for any of the structural elements should not be less than $25.0\text{N/mm}^2$. Visual assessment of the concrete also attests to its poor quality. The brownish nature of the rubbles as well as the loose nature of the rubbles is a pointer to poor quality concrete.

10.0 STAKEHOLDERS PARTICIPATION

The Stakeholders in a building project of this nature are:

(i) Client
(ii) Architect
(iii) Structural Engineer
(iv) Electrical Engineer
(v) Mechanical Engineer
(vi) Quantity Surveyor
(vii) Project Manager
(viii) Contractor

In order for the Committee to obtain information on the above listed individuals, members of the Committee visited relevant organizations, namely:

(i) Local Government Council, (LGA) Ikeja
(ii) Lagos State Physical Planning and Development Authority (LASPPDA), Ikeja

Though the DG/CEO of NBRRI wrote to the Chairman of the Ikeja Local Government, the Committee was not allowed to see him. The letter that was submitted in his office was misplaced and members were requested to resubmit another copy. The photocopy of the original letter was then re-submitted. In spite of this, the team was not allowed to see the Chairman.

The team met the engineer at the Local Government Council, who ordinarily should be in the custody of the structural drawings if not the entire set of the project drawings; but the Engineer informed the team that the project was not under the jurisdiction of the Local Government. The submission of the Engineer appears to be unfounded because when a project is on-going in any Local Government area, the Local Government is supposed to raise a monitoring team that ensures compliance of the construction activities with stipulated regulations; and to ensure that Form C is completed at every critical stage of the construction process.

At the Lagos State Physical, Planning and Development Authority, the members of the Committee eventually met with the General Manager who directed the team to her Subordinate. The Subordinate told the team that “they” got the information that the building had collapsed. He was not ready to
entertain further questions and he was not prepared to disclose any information about the identity of the parties that were involved in the project. The NBRRRI Investigative team was told that the Authority had raised a Committee to investigate the collapse of the building and that NBRRRI Team would be contacted if their assistance was needed.

In all the efforts made, the identity of the Stakeholders was not disclosed to the members of the investigative team.

11.0 CONCLUSIONS

From the foregoing, the following conclusions are made:

(i) The concrete used for the construction work was of a poor quality.

(ii) Regulations on construction process of allowing adequate curing period (21 days) before loading the next floor was not followed. Otherwise there was no way for a construction that commenced by middle of January, 2011 could have reached 5th floor by middle of March, 2011.

(iii) The deliberate non-disclosure of information concerning the project and identities of its stakeholders by the relevant officials at the Local Government Council and the Lagos State Physical Planning and Development Authority was rather unfortunate and absolutely negated the good intention of NBRRRI to investigate the collapse with a view to unravelling the immediate and remote causes of the collapse in order to prevent future occurrence.

12.0 RECOMMENDATIONS

This investigation, to a large extent, could not be brought to its logical conclusion because of non-availability of project drawings and lack of information on the administration of the project. The Committee hereby recommends that:

(i) Lagos State Physical and Development Authority (LASPDA) should be encouraged to co-operate with government agencies on mission to evolve recommendations that will complement their scheduled duties and activities. In this respect, LASPDA should be encouraged to provide the project drawings and information on the identities of the Stakeholders in order to obtain evidences that will improve housing delivery and construction processes. The LASPDA should be assured that the mission of NBRRRI investigation was not to apportion blame or sanction any professional.

(ii) It is also important to know the owners, the officials of the Local Government or Lagos State Physical and Development Authority that are in charge of the project; in order to ascertain if Form C was administered appropriately as demanded by regulations.

13.0 ACKNOWLEDGEMENT

The members of the Committee thank the Nigerian Building and Road Research Institute (NBRRRI) for the opportunity given to them to serve the nation in this capacity.
BIBLIOGRAPHY


28. UNCH. (1980). Building Codes and Regulations in Developing Countries, Stockholm; Spangbergs.


PICTURE 1: SHOWING TESTED COLUMN OF THE COLLAPSED BUILDING

PICTURE 2: SHOWING THE TESTED BEAM OF THE COLLAPSED BUILDING
APPENDIX -1

APPOINTMENT LETTER TO PROFESSOR F. A. FALADE
Professor (Engr.) S.A. Falade
Head,
Civil Engineering Department
University of Lagos, Akoka
Lagos

CONSTITUTION OF INVESTIGATING COMMITTEE ON BUILDING COLLAPSE IN NIGERIA

Please refer to the above subject matter.

In consideration of the perennial building collapse in the country in recent times and the need to proffer solutions towards averting future occurrences, the Nigerian Building and Road Research Institute (NBRRI) has considered it necessary to look into the issues of building collapse in Nigeria and to come up with possible remedies as this falls within its mandate.

With the recent report in the dailies of a hotel under construction which collapsed at Adenubi Close, Behind St. Leo’s Catholic Church, Off Toyin Street, Ikeja, Lagos by 3.30pm on Sunday, 13th March 2011, the Management of the Institute has considered it fit to constitute a Committee of experts to investigate the collapse of the said building at Ikeja, with you as Chairman.

Other members of the Committee to work with you are:

(I) Dr. G.A. Alade
Department of Building
Covenant University
Idirokô Road
Canaan Land
Ota, Ogun State — Member
(2) Dr. Soibi DeDe  
Director  
Road Research Department  
NBRRRI, Ota  
-  
Member

(3) Mr. Ernest E. Iheonu  
Head,  
Building Research Department  
NBRRRI, Ota  
-  
Member

(4) Engr. N.A. Sulymon  
Building Research Department  
NBRRRI, Ota  
-  
Member

(5) Mrs. M.N. Mozea  
Building Research Department  
NBRRRI, Ota  
-  
Member/Secretary

Terms of Reference (TOR) are as follows:

(1) To visit the Site of the collapsed Building at Ikeja, Behind St. Leo’s Catholic Church in Lagos;

(2) To ascertain through interviews, visual inspection and Laboratory tests, the remote and immediate cause(s) of the collapse;

(3) To inspect documentations including drawings (if available) of the collapsed building;

(4) To interact and interview Municipal Regulatory Authorities with respect to the collapsed building;

(5) To submit a technical report to NBRRRI for appropriate records, case history documentation, and further actions;

(6) The Committee is expected to submit its report to NBRRRI on or before 30th April, 2011.

The logistics and coordination for this work shall be provided by Mr. E.E. Iheonu, Head of Building Research Department, NBRRRI, Ota.
APPENDIX 2

LETTER OF INTERVENTION TO THE EXECUTIVE GOVERNOR OF LAGOS STATE, HONOURABLE COMMISSIONER, MINISTRY OF PHYSICAL PLANNING & URBAN DEVELOPMENT AND HONOURABLE CHAIRMAN, IKEJA LOCAL GOVERNMENT AREA, LAGOS STATE.
His Excellency
Babatunde Raji Fashola
Executive Governor of Lagos State,
Government House,
Ikeja, Lagos,
Nigeria.

His Excellency,

TECHNICAL REPORT ON COLLAPSED HOTEL BUILDING AT IKEJA, LAGOS STATE.

The mandate of the ‘Nigerian Building & Road Research Institute (NBRRI)’ is to conduct integrated applied R&D in Building and Construction sectors of the economy. The Institute is required to build capacity and set the pace in indigenous construction technology development to improve quality of life of Nigerians in the areas of affordable housing and increased R&D in Building, Roads and Engineering materials sector.

In pursuance of its mandate, the Institute, amongst others-decided to focus recently in the area of building collapse in the country; a matter that has become of concern to the Federal, State and Local Governments in Nigeria.

Our focus is totally peaceful: To investigate and Research into every Building Collapse in the Country; prepare a ‘Technical Report’ which will be used as a Case-History in Teaching and Research. It is therefore not a probe to victimize, witch-hunt or even apportion blames.

Three (3) weeks ago, there was collapse of a Hotel Building under construction in Ikeja, Lagos State. Using experts from University of Lagos and our Research Laboratories in Ota, Ogun State (just neighboring Ikeja), we set out to conduct the research. However, this has met with limited success because of ACCESS rights. This letter is to request that Your Excellency kindly facilitate access to NBRRI researchers to conduct and conclude this very important Task, which will also be initiated in any part of this Country, where a collapse occurs.

Accept compliments, best wishes and the assurances of my esteemed regards.

Danladi Slim MATAWAL, DIC, PhD, CEng., FNSE, RE(coren)
(Professor of Civil Engineering)
Director-General/Chief Executive Officer

cc: Chairman. Prof. S. A. Falade (UNILAG)
Honourable Commissioner,
Ministry of Physical Planning &
Urban Development,
Lagos State,
Nigeria

Honourable Commissioner,

TECHNICAL REPORT ON COLLAPSED HOTEL BUILDING AT IKEJA, LAGOS STATE.

The mandate of the ‘Nigerian Building & Road Research Institute (NBRRl)’ is to conduct integrated applied R&D in Building and Construction sectors of the economy. The Institute is required to build capacity and set the pace in indigenous construction technology development to improve quality of life of Nigerians in the areas of affordable housing and increased R&D in Building, Roads and Engineering materials sector.

In pursuance of its mandate, the Institute, amongst others-decided to focus recently in the area of building collapse in the country; a matter that has become of concern to the Federal, State and Local Governments in Nigeria.

Our focus is totally peaceful: To investigate and Research into every Building Collapse in the Country, prepare a ‘Technical Report’ which will be used as a Case-History in Teaching and Research. It is therefore not a probe to victimize, witch-hunt or even apportion blames.

Three (3) weeks ago, there was collapse of a Hotel Building under construction in Ikeja, Lagos State. Using experts from University of Lagos and our Research Laboratories in Ota, Ogun State (Just neighboring Ikeja), we set out to conduct the research. However, this has met with limited success because of ACCESS rights. This letter is to request that you kindly facilitate access to NBRRI researchers to conduct and conclude this very important Task, which will also be initiated in any part of this Country, where a collapse occurs.

Accept compliments, best wishes and the assurances of my esteemed regards.

Danladi Slim MATAWAL, DIC, PhD, CEng., FNSE, RE(coren)
(Professor of Civil Engineering)
Director-General/Chief Executive Officer

cc: Chairman, Prof. F. A. Falade (UNILAG)
The Honourable Chairman,
Ikeja Local Government Area,
Lagos State,
Nigeria.

Honourable Chairman,

TECHNICAL REPORT ON COLLAPSED HOTEL BUILDING AT IKEJA, LAGOS STATE.

The mandate of the ‘Nigerian Building & Road Research Institute (NBRRI)’ is to conduct integrated applied R&D in Building and Construction sectors of the economy. The Institute is required to build capacity and set the pace in indigenous construction technology development to improve quality of life of Nigerians in the areas of affordable housing and increased R&D in Building, Roads and Engineering materials sector.

In pursuance of its mandate, the Institute, amongst others-decided to focus recently in the area of building collapse in the country, a matter that has become of concern to the Federal, State and Local Governments in Nigeria.

Our focus is totally peaceful: To investigate and Research into every Building Collapse in the Country, prepare a ‘Technical Report’ which will be used as a Case-History in Teaching and Research. It is therefore not a probe to victimize, witch-hunt or even apportion blames.

Three (3) weeks ago, there was collapse of a Hotel Building under construction in Ikeja, Lagos State. Using experts from University of Lagos and our Research Laboratories in Ota, Ogun State (just neighboring Ikeja), we set out to conduct the research. However, this has met with limited success because of ACCESS rights. This letter is to request that you kindly facilitate access to NBRRI researchers to conduct and conclude this very important Task, which will also be initiated in any part of this Country, where a collapse occurs.

Accept compliments, best wishes and the assurances of my esteemed regards.

Danladi Slim MATAWAL, DIC, PhD, CEng., FNSE, RE(coren)
(Professor of Civil Engineering)
Director-General/Chief Executive Officer

cc: Chairman, Prof. F A. Falade (UNILAG)