COMPARATIVE STUDY OF DEFECT LIABILITY PERIOD PRACTICES BETWEEN MALAYSIA AND NIGERIA

ALEJO AYODELE .O

A project report submitted in partial fulfillment of the requirements for the award of the degree of Master of Science (Construction Contract Management)

Faculty of Built Environment

Universiti Teknologi Malaysia

AUGUST 2012

DEDICATION

In blessed memory of my Dad: late Elder Frederick.O. Alejo. May your soul continue to rest in perfect peace of the lord? I miss you...

ACKNOWLEDGEMENT

The ultimate gratitude goes to the Almighty God for his mercy that endureth forever in my life

I am heartily grateful to my supervisor, Prof. Ahmad Rosdan Razak; whose guidance, support and encouragement from the initial to the final stage enabled me to develop an understanding of the issue. Big thanks also go to lecturers in Master of Science in construction contract management for their motivation, advice and knowledge impacted during the programme.

I sincerely recognized and appreciate my fellow postgraduate students and course mates who have/had provided assistances at various occasions. Time will fail me to mention your names.

Finally, I am too grateful to my entire family members for their unconditional love, unflinching support and encouragement throughout my studies. I shall make it up to you.

Abstract.

Defect liability period is the period contractor is liable to make good of the defects but how reasonable is the defects liability period to allow defects (patent and latent) to manifest? This thesis examines the occurrence of defects during and after the defect liability period and the contractual terms of defects between Malaysia and Nigeria. Federal university of technology, Akure, Nigeria and Universiti Teknologi, Malaysia (Skudai campus) were chosen as case study areas. Findings from the study revealed that 12months defects liability period practice in Malaysia is reasonable enough to allow defects to manifest within the period. whereas in Nigeria most of the defects manifestation often occur after the 6 months defect liability period which really poses a major threat on employers and amount to economic loss. The study suggests extension of defects liability in Nigeria to 12 months as is done in Malaysia so as to allow the employer to have value for money invested.

ABSTRAK

Tempoh liabiliti kecacatan adalah kontraktor tempoh adalah bertanggungjawab untuk membuat baik kecacatan tetapi bagaimana yang munasabah adalah tempoh liabiliti kecacatan untuk membenarkan kecacatan (paten dan pendam) yang nyata? Tesis ini mengkaji berlakunya kecacatan semasa dan selepas tempoh liabiliti kecacatan dan syarat-syarat kontrak kecacatan antara Malaysia dan Nigeria. Persekutuan universiti teknologi, Akure, Nigeria dan Universiti Teknologi Malaysia (Skudai kampus) telah dipilih sebagai kawasan kajian kes. Hasil kajian menunjukkan bahawa 12months kecacatan liabiliti tempoh latihan di Malaysia adalah cukup munasabah untuk membolehkan kecacatan pada yang nyata dalam tempoh. manakala di Nigeria kebanyakan manifestasi kecacatan sering berlaku selepas 6 bulan tempoh liabiliti kecacatan di Nigeria hingga 12 bulan seperti yang dilakukan di Malaysia untuk membolehkan mempunyai nilai untuk wang yang dilaburkan.

TABLES OF CONTENTS

CHAPTER		TITLE	PAGE	C
	DE	CLARATION	ii	
	DEI	DICATION	iii	
	AC	KNOWLEDGEMENT	iv	
	ABS	STRACT	v	
	ABS	STRAK	vi	
	TAI	BLES OF CONTENT	vii	
	LIS	T OF TABLES	Х	
	LIS	T OF FIGURES	xi	
	LIS	T OF ABBRIEVATIONS	xii	
	LIS	T OF CASES	xiii	
1	INT	RODUCTION	1	
	1.1	Research Background	1	
	1.2	Problem Statement	4	
	1.3	Aim and objectives	12	
	1.4	Research Questions	12	

1.5	Scope of study and limitation	13
1.6	Significance of study	13

CONSTRUCTION INDUSTRY AND CONSTRUCTION

2

DEFI	ECTS	15
2.1	Construction Industry In Nigeria.	15
2.2	Construction Industry In Malaysia	17
2.3	Construction Procurement In Nigeria	19
2.4	Construction Procurement In Malaysia	20
2.5	Construction Defects	22
	2.5.1 Definition of Defects	23
	2.5.2 Types of Defects	24
	2.5.2.1 Latent Defects	24
2.5.2.2 Patent Defects		26
	2.5.3 Causes of Defective work	27
2.6	Contractual Provision and Quality	28
	2.6.1 Quality of workmanship	30
	2.6.2 Standard of Design	32
	2.6.3 Quality of Building Materials	34
2.7	Defects Liability Period	36
	2.7.1 Defects Liability Period Contractual Provision	38

CASI	E LAW RELATED TO DEFECTIVE WORKS	41
3.1	Introduction	41
3.2	Design defects and contractor's liability	42
	3.2.1 Related cases on contractor's liability on faulty des	ign.42
3.3	Employer's duty to notify the contractor of defects and	
	the contractor's responsibility.	45
	3.3.1Related law cases on employer's duty to notify	
	the contractor of defects and the contractor's responsibil	ity.45
3.4	Defects caused by materials supplied by the employer	47
	3.4.1Related law cases on defect caused by materials	
	supplied by the employer.	47
3.5	Consequential loss	48
	3.5.1 Related law cases on Consequential loss	49
3.6	Cost of Rectification	50
	3.6.1 Related law cases on Cost of Rectification`	51
3.7	Loss of Amenity	54
	3.7.1 Related law cases on Loss of Amenity	54
3.8	Economic Loss	55
	3.8.1 Related Law cases on Economic Loss	56
RESI	EARCH METHODOLOGY	59
4.1	Introduction	59
4.2	Preliminary Study	60
4.3	Literature Review	61
4.4	Data Collection Sources	62
	4.4.1 Secondary Data	62
	4.4.2 Primary Data	63
4.5.	Data Analysis	64

3

4

5	DAT	A ANALYSIS	66
	5.1	Types of Building	66
	5.2	Procurement Method	66
	5.3	The Samples	67
	5.4	Contract Form and Provisional Clause for Defects	67
	5.5	Defects Liability Period	68
	5.6	Data Analysis Of Findings	79
	5.7	Data Analysis Results	83
6	CON	CLUSION AND RECOMMENDATION	84
REFERENCES 8			86
APPENDICES			89-91

LIST OF TABLES

TABLE NO	TITLE	PAGE
4.4	Data Collection Sources	62
4.2	Research approaches and methods	66
5.1	Types of Building	67
5.2	Procurement Method	67
5.3	The Samples	68
5.4	Contract form And Provisional clause for Defects	68
5.5.1.1	Wall, floor and finished defect	70
5.5.1.2	Doors, windows and Fitting Defects	70
5.5.1.3	Sanitary fittings, fixture and Toilet cubicle defects.	71
5.5.1.4	Ceiling and Roof defects	71
5.5.2.1	Wall, floor and finished defect	71
5.5.2.2	Doors, windows and Fitting Defects	72
5.5.2.3	Sanitary fittings, fixture and Toilet cubicle defects.	72
5.5.2.4	Ceiling and Roof defects	72
5.5.3.1	Wall, floor and finished defect	73

5.5.3.2	Doors, windows and Fitting Defects	73
5.5.3.3	Sanitary fittings, fixture and Toilet cubicle defects.	73
5.5.3.4	Ceiling and Roof defects	74
5.5.4.1	Wall, floor and finished defect	75
5.5.4.2	Doors, windows and Fitting Defects	75
5.5.4.3	Sanitary fittings, fixture and Toilet cubicle defects.	76
5.5.4.4	Ceiling and Roof defects	76
5.5.5.1	Wall, floor and finished defect	77
5.5.5.2	Doors, windows and Fitting Defects	77
5.5.5.3	Sanitary fittings, fixture and Toilet cubicle defects.	78
5.5.5.4	Ceiling and Roof defects	78
5.6.1.0	Analysis of defects during defects liability period	80
5.6.2.0	Analysis of rate of defects during defect liability period	81
5.6.3.0	Analysis of rate of defects during defect liability period	81
5.6.4.0	Analysis of defects after defects liability period	82
5.6.4.1	Analysis of rate of defects after defect liability period	83
5.6.4.2	Analysis of rate of defects after defect liability period	83

LIST OF FIGURES

FIGURE NO.	TITLE	PAGE`

1.1	Catastrophic collapse at Ikole Street, Abuja of 11th	
	August 2010 (courtesy The Nation on line)	5
1.2	Flowchart- PAM 2006 Standard form of contract clause-15	
	Practical completion & Defects Liability.	9
1.3	Flowcharts- IEM/JKR Clause- 45	
	Defects liability and making good.	10
1.4	Flowchart- CIDB Clauses 27.	
	Defects liability after completion.	11
4.1	Research Methodology	60
5.1	Graphical representation of defects liability period in	
	Sample 1-3	74
5.2	Graphical representation of defects liability period in	
	Sample 4-5	79

LIST OF ABBREVATIONS

ABBREVATION TITLE

AC	Appeal Cases, House of Lords
All ER	All England Law Reports
ALJR	Australia Law Journal Reports
AMR	All Malaysia Reports
OAD	Office of Asset and Development
BCL	Building and Construction Law Cases
BLR	Building Law Reports, UK
Con LR	Construction Law Reports
ER	Equity Reports
FUTA	Federal University of Technology, Akure.
ICR	Industrial Cases Reports
ILR	International Law Reports
IR	Irish Reports
JCT	Joint Contract Tribunal
JP	Justice of the Peace / Justice of the Peace Reports
LIL Rep	Lloyd"s List Reports
MLJ	Malayan Law Journal
NSWLR	New South Wales Law Reports

PWD	Public Works Department
QB	Law Reports: Queen"s Bench Division
QSR	Queensland State Reports
SC	Session Cases
SCR	Supreme Court Reporter
SLR	Singapore Law Reports
UTM	Universiti Teknologi Malaysia
WLR	Weekly Law Report

LIST OF CASES

CASES

Adcock's Trustee v Bridge R.D.C.(1911) 75 J.P. 24	34
Aubum Municipal Council v ARC Engineering Pty Ltd (1973) NSWLR 513	34
Bellgrove v Eldridge (1954) 90 CLR 613	52
Bruce J in Tate v latham (1897)66 LJQB 351	23
Brunkswick construction v Nowlan (1974) 21 BLR 27.	33
Canadian National Railway Co. v. Norsk Pacific Steamship Co. [1992]	
1 SCR 1021 (Canada), per McLachlan J	56
Construction warranty vs. statute of limitations between Builder and Owner,	
Construction law blog. Posted on Tue, April 17, 2012	7
Director of War Service Home v Harris (1968) Qd R 275	7
Greaves & Co (Contractors) Ltd v Baynham Meikle & Partners (1975)	
1 WLR 1095	6,33,42
Hancock and others v BW Brazier (Anerly) Ltd (1966) 2 All ER 90	30
HW Nevill (Sunblest) Ltd v William Press & Son Ltd (1981) 20 BLR 78	49, 50
IPA w EMI Electronics Ltd & DICC Construction Ltd (1090) 14 DI D	22
IDA V ENIT Electronics Lia & BICC Construction Lia (1980) 14 BLR	33
James Png Construction Pte Ltd V Tsu Chin Kwan Peter [1991]	

PAGE

1 MLJ 449	57
Khong Seng v Ng Teong Kiat Biscuit Factory Ltd (1963) MLJ 38	34
Linden Gardens Trust Ltd v Lenesta Sludge Disposals Ltd (1993) 3. All E.R. 417	6
London and SW Railway V. Flower (1875) 1 CPD 77	45
Lynch v Thorne (1956) 1 WLR 303	30
Manchester V. Hugh Wilson & Lewis Wormsley (1984) 2 Con LR 4	25
McGlinn v Waltham Contractors Ltd & Others [2007] EWHC 149 (TCC)	53
Pearce & High Ltd v Baxter and Anor (1999) BLR 101	45, 53
Ruxley Electronics & construction Ltd v Forsyth (1996) AC 344	51, 54
Skandia Property UK Ltd v Thames Water Utilities Ltd [1999] BLR 338	55
TEH KHEM ON & ANOR v YEOH & WU DEVELOPMENT SDN BHD & ORS	
[1995] 2 MLJ 663	56,85
Victoria University of Manchester V Hugh Wilson & Lewis Wormsley	
and Pochin Ltd (1984) 2 ConLR 4	26
William Tonkinson & Sons Limited -v- the Porochial Church Council of	
St. Michael and Others (1990), 6 Const LJ 814	49
Young & Marten Ltd v McManus Childs Ltd (1969)] 9 BLR 77	47

CHAPTER 1

INTRODUCTION

1.1 Background of Study:

The causes of building collapse in Nigeria can be traced to abnormal factors not obtainable in many other developing nations like Malaysia. All over the world structural defects occur, but rate of occurrence in Nigeria is beyond bound. Aside from the generally known causes of collapse such as ageing, material fatigue, design flaws, extreme operational, environmental conditions, natural hazards, accidents and terrorist attacks, the Nigeria factor becomes a prominent issue to contend with¹. The defect liability period practice in Nigeria compare to other developing countries is the major issue to contend with. This study is aimed to conduct a comparative study of defects liability period of building construction practices between Malaysia and Nigeria in accordance with the standard form of contract. Research has proved that significant proportion of fund are for the rectification work to correct defects at the point when the

¹ Ede, A. N. (2010). "Structural Stability in Nigeria and Worsening Environmental Disorder: the Way Forward". The West Africa Built Environment Research Conference Accra Ghana, July 26-28, 2010, pp 489-498.

building is completed, while some fund are spent to rectify defects that appear during the building life.²

Cama³ defines defect in the context of a building contract as 'a failure of the completed project to fulfill the quantity obligation or implied quality or express quality of the construction contract. Defect is defined by law as failure of any building component or failure of the building to be erected in a reasonably workmanlike manner. Sweet⁴ and Marianne⁵, define construction defects as a failure of a building component to be erected in the appropriate manner.

In construction projects delivery, construction defects are inevitable and are usually contentious between the contractor or sub-contractors and employer. The unacceptable qualities of a project which can be identified and remedied are the construction defects.

² Hassan. F; Ismail. Z; Isa. H.M and Takim.R (2011). Tracking Architectural Defects in the Malaysian Hospital Projects. 2011 IEEE Symposium on Business, Engineering and Industrial Applications (ISBEIA), Langkawi, Malaysia. Pp229.

³ Cama, J. (2004). Who Pays to Fix Building Defects? American Systems USA inc. Berrymans Legal Consultants. Chan (2002),

⁴ Sweet, J. J. (1993). Avoiding or Minimizing Construction Litigation. San Jose California: Wiley Law Publication.

⁵ Marianne, J. (2005). Building defects spoil homeowners' dreams. Portland: The Oregonian News. The Aldrich Law Office, P.C. 522 SW 5th Avenue.

Patent and latent defects are two main categories defects can be classified. Patent defects can be detected by normal testing or examination but latent defects take time to manifest after a period of time. It cannot be discovered by normal examinations.⁶

Contractor(s) obligation comes to an end after the issuarance of certificate of practical completion and defects due to materials and poor workmanship not in accordance with the contract terms or clauses are required to be remedied at the contractor cost.

In construction contracts it is common to require the contractor to warrant that the works upon completion are free from defects and to make good defects which occur during the defects liability period. Practical mechanism provision to the employer for the repair or making good of defects which may not be obvious before completion, without restoring to resolution is the defects liability period⁷. After the expiration of defects liability period and defects appeared, employer's remedy in most cases is limited to pursuing a legal claim in damages. Defect liability clause of JCT Standard Form of Contract stated that:

"... After receipt of such schedule the defects, shrinkages and other fault therein Specified shall be made good by the Contractor at no cost to the Employer ..."

⁶ Anon, 2007: "What Are The Obligations Of The Contractor During Defect Liability Period?" The Entrusty Group, Master Builders, 1st quarter 2007

⁷ Mallesons Stephen Jaques, 2003. "Defects Liability Period - an introduction. Asian Projects and Construction Update."

1.2 Problem statement

The case in the building cannot be different, as disobedience to civil laws is common in Nigeria. On this note, lawlessness finds a fertile ground in non-adherence to the building codes and hasty construction.⁸. Defects in building occur during construction, during defects liability period and post defects liability period. Most of the defects verified in the in the recent years occurred during construction stage⁹. In 2006, the council for the Regulation of Engineering in Nigeria (COREN) recommended the persecution of pharmacist who supervised a collapsed building in Port Harcourt in 2005¹⁰.

The high- lightened facts above can be buttressed by one of the recent collapse verified in Abuja (figure 1) at Ikole street. On the 11th of August 2010, thirteen people died in the collapse building; 35 persons were trapped in the debris while 10 persons were rescued¹¹.

⁸ Ede, A. N. (2010). "Structural Stability in Nigeria and Worsening Environmental Disorder: the Way Forward". The West Africa Built Environment Research Conference Accra Ghana, July 26-28, 2010, pp 489-498.

⁹ Ede, A. N. (2010). "Structural Stability in Nigeria and Worsening Environmental Disorder: the Way Forward". The West Africa Built Environment Research Conference Accra Ghana, July 26-28, 2010, pp 489-498.

¹⁰ Olajumoke, A. M., Oke, L. A., Fajobi, A. B. and Ogedengbe, M. O. (2009). "Engineering Failure Analysis of a Failed Building in Osun State, Nigeria" Journal of failed analysis and Prevention, Vol. 9, pages 8-15.

pages 8-15. ¹¹ Bukola Amusan (2010). Nine feared dead in Abuja building collapse http://thenationonlineng.net/web3/news/9389.html



Fig.1.1 Catastrophic collapse at Ikole Street, Abuja of 11th August 2010 (courtesy The Nation on line)

After the issuarance of final certificate the onus of the building is passed onto the employer and defects in building components may occur shortly after the defects liability period. Most of the defects are due to shoddy jobs and sub-standards materials the contractor used during the construction activities. This often poses unnecessary liability on the employer and often led to dispute.

Common types of construction defects include: faulty electrical wiring or defective and /or lighting; structural defects resulting in cracks or collapse; inadequate or faulty ventilation; heating; suppression systems/ inadequate fire protection and

inadequate heating or cooling systems; inadequate or faulty drainage systems; defective or faulty plumbing and inadequate sound proofing or insulation.¹².

According to Marianne¹³ these common types of constructions defects can be classified into the following four major categories: material deficiencies, design deficiencies, subsurface/geotechnical problems and construction deficiencies. The failure of the contractor to perform or negligently perform these responsibilities or duties constitute a breach, hence the contractor will be accountable or liable to employer who may have suffered as a result of contractor wrongful act. In Greaves & co. v Bayham Meikle¹⁴, Lord Denning M.R stated: 'Apply this to the employment of a professional man. The law does not usually imply a warranty that he will achieve the desired results, but only a term that he will use reasonable care and skill. The surgeon does not warrant that he will cure the patient nor does the solicitor warrant that he will win case'. Furthermore, in respect to defect liability, the House of Lords in Linden Gardens Trust Ltd v Lenesta Sludge Disposals Ltd¹⁵, the court held that the recovery of damages for breach of contract was not dependent or conditional on the plaintiff having a proprietary interest in the subject matter of the contract at the date of the breach. It was stated that the present owner could recover damages for defective work even though the owner suffered no actual damage as the building had been sold for full value before the damage was discovered.

¹⁴ (1975) 1 WLR 1095 ¹⁵ (1993) 3. AllE.R. 417

¹² Kenneth. S. Grossbart. (2002). Construction Defects, An analysis of SB 800. Reeves Journal.ABI/INFORM Trade & Industry, pg.8 London: Spon Press.

¹³ Marianne, J. (2005). Building defects spoil homeowners' dreams. Portland: The Oregonian News. The Aldrich Law Office, P.C. 522 SW 5th Avenue.

A similar case related to liability for defect, in the Supreme Court of Queensland, Sir Harry Gibbs in the case of *Director of War Service Home v Harris*¹⁶ said: "If the owner subsequently sold the building, or gave it away, to a third person, that would not affect his accrued right against the builder of damages." In this case the defective works carried out by the defendant for the plaintiff were not discovered until after the houses were sold. By the verdict of learned judge and agreed with by Stable and Hart JJ, that the employer is entitled to recover damages for the cost of rectification of the defective works.

A defects liability clause may also address the procedures for notifying the contractor of the defects which require remedy, the circumstances under which the defects liability period may be extended, as well as any limits on such extensions to the defects liability period¹⁷

'Like the strings of a marionette puppet, after the completion of a New York construction project there are various legal theories that serve as ties between the builder and the owner'.¹⁸

'For the builder, the sooner these lingering ties can be removed the less exposure they face for claims of defects. For the owners, the longer they are able to establish

¹⁶ (1968) Qd R 275

¹⁷ Monica Neo (2005), "Construction defects: your rights and remedies" Sweet & Maxwell Asia, Singapore, pp.24.

¹⁸ John Caravella, Esq.(2012). Construction warranty vs. statute of limitations between Builder and Owner, Construction law blog. Posted on Tue, April 17, 2012. Via: www.liconstruction law.com/construction-la (visited 18th April 2012).

these connections the longer they may have legal recourse against the builder for defects, should that be necessary? ¹⁹

In Malaysia, after the completion of the building project the defects liability period is 12 months whereas in Nigeria after the completion of the building project the defects liability period is 6months. This study is aim to investigate the effects of defect liability period in respect to the study area by conducting critical assessment of their existing defect liability policies and provide a recommendation policy on the appropriate defect period for building construction work. The flowcharts below are the contractor(s) liability to defects during defects liability period.

¹⁹ John Caravella, Esq.(2012). Construction warranty vs. statute of limitations between Builder and Owner, Construction law blog. Posted on Tue, April 17, 2012. Via: www.liconstruction law.com/construction-la (visited 18th April 2012).



Figure 1.2. Flowchart – PAM 2006 Standard form of contract clause 15 – Practical Completion & Defects Liability.(*Source: Anon (2007), "What are the Obligation of the Contractor during Defect Liability Period?" The Entrusty Group, Master Builders*. 1st auater 2007



Figure 1.3. Flowchart – IEM/JKR Clause 45 – Defects liability and Making Good.(*Source: Anon (2007), "What are the Obligation of the Contractor during Defect Liability Period?" The Entrusty Group, Master Builders*, 1st quater 2007



Figure 1.4. Flowchart – CIDB Clause 27 – Defects liability after completion.(*Source: Anon (2007), "What are the Obligation of the Contractor during Defect Liability Period?" The Entrusty Group, Master Builders*, 1st quater 2007

1.3 Aim and Objectives:

The aim of this study is to compare the defects liability period practice between Malaysia and Nigeria and the objectives:

- a) To study the contractual terms of defects liability period and occurrence of defects during and after the defects liability period in the study area.
- b) To compare the occurrence of defects during the defect liability period and after the defect liability period of the study area respectively.

1.4 Research Questions

- a) Does the defect liability period practice in Nigeria reasonable enough to allow defects (latent and patent) to manifest?
- b) Does the defect liability period practice in Malaysia reasonable enough to allow defects (latent and patent) to manifest?
- c) Which of the two countries is having the preferred practice of defect liability period?

The scope of this research shall be:

a) In-depth understanding of the construction defect liability policy obtainable in the study area with legal issues.

The limitation of the research:

b) The research shall be limited to defect liability period on building components.

1.6 Significance of study

The defect liability period in the study area varies despite that the two countries are having similar climatic weather condition. Thus, the defects liability period in Malaysia is 12 months while in Nigeria is 6 months. Therefore, there is a need for an indepth study to determine the occurrence of building defects in the study area by way of comparative study of the defect liability periods in the two countries.

On the completion of the study, it will help to determine the specific time lag in which the building defects will manifest. This study will use the user feedback to determine the reasonable period for a building defect in the study area. However, the study will engender further research in the subject matter.

REFERENCES

Achuenu, E. (1998): Assessment of Cost Overrun of Public Building Projects In Nigeria. NJ.C.T.M., Yol.I, No.1.

Anon, 2007: "What Are The Obligations Of The Contractor During Defect Liability Period?" The Entrusty Group, Master Builders, 1st quarter 2007

Ataev, S.S, Zolotnitsky, N.D Bondarik, V.A. Gromov, I.N, Ovhinnikov, E.V, and Tamkovich, A.I. (1995). Construction Technology. Mir Publishers, Moscow. Russia.

Bukola Amusan (2010). Nine feared dead in Abuja building collapse http://thenationonlineng.net/web3/news/9389.html

Bishop, W. (1982). "Economic loss in tort". *Oxford Journal of Legal Studies 2 (1): 1–* 29. DOI:10.1093/ojls/2.1.1

Cama, J. (2004). Who Pays to Fix Building Defects? American Systems USA inc. Berrymans Legal Consultants. Chan (2002),

Ede, A. N. (2010). "Structural Stability in Nigeria and Worsening Environmental Disorder: the Way Forward". The West Africa Built Environment Research Conference Accra Ghana, July 26-28, 2010, pp 489-498.

Giwa, S.L. (1987): Abandonment of Building Projects in Nigeria: Causes, Effects and Solutions. Unpublished Seminar paper, Department of Building, A.B.U. Zaria.

Hassan. F; Ismail. Z; Isa. H.M and Takim.R (2011). Tracking Architectural Defects in the Malaysian Hospital Projects. 2011 IEEE Symposium on Business, Engineering and Industrial Applications (ISBEIA), Langkawi, Malaysia. Pp229.

John Caravella, Esq.(2012). Construction warranty vs. statute of limitations between Builder and Owner, Construction law blog. Posted on Tue, April 17, 2012. Via: www.liconstruction law.com/construction-la (visited 18th April 2012).

Kenneth. S. Grossbart. (2002). Construction Defects, An analysis of SB 800. Reeves Journal.ABI/INFORM Trade & Industry, pg.8 London: Spon Press.

Kolawole, i.o. (1991): Project Evaluation and Supervision. Builders Magazine, Yo1.6, NO.2.

Mallesons Stephen Jaques, 2003. "Defects Liability Period - an introduction. Asian Projects and Construction Update."

Marianne, J. (2005). Building defects spoil homeowners' dreams. Portland: The Oregonian News. The Aldrich Law Office, P.C. 522 SW 5th Avenue.

Mbachu, J.I.C. (1998). Prediction of the construction duration of institutional building project in Nigeria. Nigeria Journal of Construction Technology and Management. Vol.1 No1 Pp 88-92

Monica Neo (2005), "Construction defects: your rights and remedies" Sweet & Maxwell Asia, Singapore, pp.24.

Nwafor, C.A. (1989): An Investigation and Analysis of Cases of Delay and Cost Overrun in Nigeria Construction Industry. Unpublished B.Sc. Project, Department of Building, University of Jos.

Olajumoke, A. M., Oke, L. A., Fajobi, A. B. and Ogedengbe, M. O. (2009). "Engineering Failure Analysis of a Failed Building in Osun State, Nigeria" Journal of failed analysis and Prevention, Vol. 9, pages 8-15.

Sweet, J. J. (1993). Avoiding or Minimizing Construction Litigation. San Jose California: Wiley Law Publication.

Umar, A.A. (1993): Cost and Time Performance of Construction Contract in three Nigerian Universities. Unpublished B.Eng. Project report, Civil Engineering Department, University of Maiduguri.

W. H. van Boom, Helmut Koziol, Christian A. Witting (2004). *Pure economic loss*. *p.115*.