Comparative Study of Defect Liability Period Practice in Malaysia and Nigeria Building Industry

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***Abstract*—Defect liability period (DLP) is the period a contractor is liable to make good the defects and how reasonable the defects liability period is to allow defects (patent and latent) to manifest? Most of the defects are due to shoddy workmanship and sub- standard materials used during construction activities. This paper examines the occurrence of defects during and after the defect liability period and the contractual terms of defects between Malaysia and Nigeria. The Federal university of technology, Akure, Nigeria and Universiti Teknologi, Malaysia (Skudai campus) were chosen as case study cases. 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 allowed which really poses a major threat to employers and amount to economic loss. The study suggests extension of defects liability period in Nigeria to 12 months as it is done in Malaysia so as to allow the employer to have value for money invested.**

***Index Terms*—Construction works, defects, liability period, occurrence.**

I Introduction

The defect liability period practice in Nigeria compare to other developing countries is a major issue to contend with. This study is aimed at conducting a comparative study of defects liability period of building construction practices between Malaysia and Nigeria in accordance with the respective 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 building is completed, while some fund are spent to rectify defects that appear during the building life [1].Reference [2]. defines defect in the context of a building contract as a failure of the completed project to fulfill the quantity obligation, implied quality or express quality of the construction contract. 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 stage [3]. In 2006, the council for the Regulation of Engineering in Nigeria (COREN) recommended the prosecution of a pharmacist who supervised a collapsed building in Port Harcourt in 2005 [4].

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II Literature Review

Building works which fell short of complying with the requirements of contract, specifications or contract drawings, together with conditions of its quality and any implied terms, durability, workmanship, design or performance, aesthetic can be defined as defective building works [5]. Reference [6].described defects in building works as premature failure resulting from errors of workmanship, design, the use of faulty materials or inadequate maintenance.

Hence, most projects are confronted with defective work and possibility of defects, which generally occur in structures that cannot perform their originally intended purposes [5] .From the legal perspective, building defect is defined as an element constructed which is not in accordance with the contract, or as some action having consequences not authorized by the contract [7] .

Defects can be viewed and classified into two main categories which are latent and patent defects [8]. Latent defects can be classified as those concealed or hidden defects which would not be discovered by nature of a reasonable inspection [2]. Reference [9]. was of the opinion that a latent defects could not be dictated on such an examination as a reasonably careful skilled man would make. Patent defects are the deficiency in a structure that is apparent to reasonable inspection or the defects which can be noticed upon examination; for example in differential foundation settlement or roof leak [2]. Patent defects are quite obvious to the eyes and the defects are capable of being assessed, inspect and if necessary; rectified. Therefore, patent defects are defects that can be discovered by means of reasonable examination or testing, inspection and the defects are quite apparent. In the case of Victoria university of Manchester V. Hugh Wilson & Lewis Wormsley (a firm) and (contractor), it was held that the latent is one which could not be discovered by such an examination as a reasonably careful man skilled in that matter would make. Thus, as stated by its nature, a latent defects cannot be discovered until it becomes patent and yet it may not be discovered immediately since there may be no immediately apparent signs to indicate the presence of the defects[10].

Defects liability period is a period stated in the construction contract document agreement. During this period, the occurrence of defects is at the contractor's own liability and the contractor shall be called upon to return to the site to rectify the defects as necessary. In order to attain conformity with the contract, the usual measure of damages for defective work is the cost of rectifying the defects [11].

Defects liability period clause sets out the duration of the defects liability period and also the situations under which the defects liability period may be prolonged. Sub-clause 27.1 of Construction Industry Development Board (CIDB

2000) form and clause 15.4 of Pertubuhan Akitek Malaysia (PAM 2006) form allow the superintending officer or architect to ascertain in the schedule of defects, shrinkage, imperfection or any other fault showing during the defect liability period which occurred due to workmanship and materials not in accordance with the contract. Clause 35.1 of Public works department (PWD 203A) 2007 and clause 6.1 of PAM (2006) require the workmanship of the contractor and materials to be of specified qualities, kinds and standard of workmanship in the industry. The contractor is bound to procure and achieve the specified standard, kind and quality[12].

III Methodology

Federal University of Technology Akure, Nigeria (FUTA) and University Teknologi Malaysia (UTM) were selected for the comparative case studies. University projects were chosen being public buildings and submissions from the findings are applicable to other buildings too.

Three different existing building projects were selected from each case study area to investigate the defects liability period of the projects during and after the defects liability period. The actual period the patent and latent defects manifested were critically observed.

IV Findings and Discussion

The entire contract in Nigeria based on above samples use Joint contracts tribunal (JCT) standard form of contract, while Malaysia uses Public works department (PWD) standard form of contract for public buildings. This implies that Nigeria and Malaysia use different form of contract.

TABLE I: Selected Case Studies Samples

Samples	Projects	Country	Number	%
S1	Administrative building phase II (New build) office complex	Nigeria	3	50
S2	School of mines and earth (New build) institutional/ offices	Nigeria		
S3	School of Environmental Technology (New build) institutional/offices	Nigeria		
S4	Chemical Engineering Pilot Plant.	Malaysia	3	50
S5	Faculty of computer science and information.	Malaysia		
S6	Faculty of Built Environment (B11)	Malaysia		
		Total	6	100

TABLE II: Contract form and Provisional Clause for Defects.

Samples	Contract Form	Provisional Clauses	Remark
S1	JCT Design and Build contract 2005	Clause 7.5	100%
S2	JCT Design and Build contract 2005	Clause 7.5	
S3	JCT Design and Build contract 2005	Clause 7.5	
S4	PWD Form 203A	Clause 48.0	100%
S5	PWD Form 203A	Clause 48.0	
S6	PWD Form 203A	Clause 48.0	

TABLE III: Analysis of Defects During Defects Liability Period

Items.	**Nigeria**			**Malaysia**		
Samples.	**I**	**II**	**III**	**IV**	**V**	**VI**
Type of building	Public building	Public building	Public building	Public building	Public building	Public building
Type of contract	Design and build	Design and build	Design and build	Conventional contract	Conventional contract	Conventional contract
Defect liability period(months)	6	6	6	12	12	12
Commission date	19th November, 2011	2nd December, 2006.	17th December, 2005.	17th October 2010	19th July, 2011	26th April, 2011
Type of defects:	During defects liability period (6 Months)			During defects liability period (12 Months)		
Walls, floors and finished defects	3	3	4	8	5	4
Doors and fittings defects	3	2	2	7	4	5
Sanitary fittings, fixture and toilet cubicle	1	1	2	8	4	6
Ceiling and roof	2	2	3	8	3	3

TABLE IV: ANALYSIS OF DEFECTS AFTER DEFECTS LIABILITY PERIOD

Project.	I	II	III	IV	V	VI
Type of building	Public building	Public building	Public building	Public building	Public building	Public building
Type of contract	**Design and build**	**Design and build**	**Design and build**	**Conventional contract**	**Conventional contract**	**Conventional contract**
Defect after DLP (months)	18	18	18	12	12	12
Commission date	19th November, 2011	2nd December, 2006.	17th December, 2005.	17th October 2010	19th July, 2011	26th April, 2011
Type of defects:	Defects after defects liability period			Defects after defects liability period		
Walls, floors and finished defects	4	5	14	1	Nil	Nil
Doors and fittings defects	5	8	10	-	Nil	Nil
Sanitary fittings, fixture and toilet cubicle	1	5	10	-	Nil	Nil
Ceiling and roof	1	7	13	1	Nil	Nil

From the above analysis, the defect that manifest during the defects liability period in samples IV-VI were higher than defects that manifest in samples I-III.

From the above analysis, the defect that manifest after the defects liability period in samples I-III are higher than defects that manifest in sample IV.

From the above data analysis,

1) The defects liability period in Nigeria is 6 months while in Malaysia it is 12 months. Therefore the defects liability in Malaysia is twice longer compared to the practice in Nigeria.
2) During the defects liability period in Malaysia, the occurrence of defects is higher and the occurrence of defects is lower after the defects liability period in Malaysia.
3) During the defects liability period in Nigeria, the occurrence of defects is lower and the occurrence of defects is higher after the defects liability period.
4) The defects liability period being practiced in Malaysia allow defects to manifest during the defects period compared to defects that manifest in Nigeria during the defects period.
5) The occurrence of defects after defects liability period in Nigeria is higher compare to Malaysia.
6) Hence, the defect liability period practice in Nigeria is not reasonable enough to allow defects (latent or patent) to manifest.

V CONCLUSION

This research has succeeded in bringing to the fore the dynamics of defects liability period in Malaysia and Nigeria: where and when they occur most, the trend of defects during the defects liability period. From the foregoing discussion and analysis, it became apparent that the defect liability period practice in Malaysia is far better than the one being practice in Nigeria. Despite the short period of defects liability in Nigeria, other major causes of frequent occurrence of defects range from poor workmanship by contractors, sub-standard building materials, faulty construction methods, incompetent contractors, non-compliance with standards/specifications by developers/contractors and defective design. The greatest numbers of claims made by employers are related to defects and the employers often pursue legal actions many years after the work was carried out. This will continue and it often amount to economic loss.

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