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CHALLENGES OF USING THE COST METHOD OF VALUATION IN VALUATION PRACTICE: A CASE STUDY OF SELECTED RESIDENTIAL AND COMMERCIAL PROPERTIES IN AWKA AND ONITSHA, ANAMBRA STATE, NIGERIA

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ABSTRACT: *By Definition, the cost method also known as the Depreciated Replacement Cost (DRC) method of valuation is a method of determining the value of a property or an asset by reference to the cost of replacing the property or asset as new, and then making allowance for depreciation to take care of age, wear and tear and other forms of obsolescence (Ifediora, 1993). In valuation practice, it is usually adopted where there is a lack of data for income method or where the property is new and there is no sufficient evidence of recent property transactions in the open market. The DRC method from the professional view point however relies on a good knowledge of construction costs or unit rates of construction as regards landed property or assets generally. This can pose serious challenges where relevant data is not available. It could in turn result to assumptions which are indefensible in a court of law.*

KEYWORDS: Replacement Cost, Depreciation, Valuation, Construction Rate

INTRODUCTION

Background of the Study

A critical look at the DRC method of valuation in Nigerian appraisal practice reveals that it is one method Valuers find very useful even where a valuation requires other methods. Therefore, there is need to constantly zero into the method critically with a view to finding out the challenges or problems peculiar to it.

One of the requirements of the method is availability of data on unit costs and depreciation figures; where the required data is unavailable, and other methods are not suitable, it could lead to non–scientific assumptions or what one could refer to as " on-the-spot" assumptions, particularly where time is of essence.

However, it is possible to provide these figures and their data through academic and field surveys so that, in the end, opinions of value can be reliable.

Statement of Study Problem

It has been discovered that Valuers in practice encounter some challenges in the application of the cost method of valuation. Some of the challenges include, inter alia, unavailability of up-to-date data on construction costs; inadequate data for calculation of depreciation (where cost of construction or historic cost is known). The aforementioned problems have led to numerous assumptions which can render a value opinion inaccurate and unreliable.

Aim and Objectives of the Study

This analysis aims at proffering solutions to the challenges peculiar to the cost method of valuation in professional practice.

The objectives include:

i. A review of the method as used by Valuers in practice with a view to articulating the challenges.
ii. To generate cost data with respect to different types of residential and commercial properties.
iii. To provide practicing Valuers with an updated framework for determining and making allowance for depreciation
iv. To reduce assumptions on unit rates of construction and depreciation to the barest minimum.
v. To provide practicing Valuers with a databank of costs and depreciation rates which can be regularly reviewed

THEORETICAL FRAMEWORK

The Depreciated Replacement Cost (DRC) Method

As earlier defined the DRC method of valuation is a method of determining the value of a property or an asset by reference to the cost of replacing it or procuring an acceptable substitute. The method is often used by practicing Estate Surveyors and Valuers, which acclaims its wide acceptance as a good method (Ifedora, ibid). The Dictionary of Real Estate Appraisal (4th ed.) defines replacement cost as the estimated cost to construct, at current price as of the effective appraisal date, a building with utility equivalent to the building being appraised, using modern materials and current standards, design, and layout. The aforementioned definition gives the DRC method a global undertone. Depreciated cost itself simply means cost less depreciation (for wear and tear, deterioration, etc) as at the date of the appraisal.

Therefore put together the DRC method can be defined as the replacement costs of an asset which is subject of a valuation or appraisal, less depreciation to allow for determination physical wear and tear or other forms of depreciation.

Data Requiements

Valuation by the DRC method requires the following data:

- replacement cost new of subject property
- depreciation allowance to take care of age, wear and tear, etc
- value of land as though it were vacant

Replacement Cost New

In theory estimating the cost of reproducing the subject property as if new (or reproducing a new similar property or comparable) entails calculating the gross floor area of the property and then multiplying by the construction cost per square metre. But in practice, this not so easy to

come by as the appraiser would need to source for relevant cost information from government ministries or departments such as housing and works. On the other hand, relevant cost info can be gotten from the experience of the Valuer or by reference to comparables.

To make it scientific, unit construction rates can be gathered and published by Real Estate based Institutions like the Nigerian Institution of Estate Surveyors and Valuers (NIESV). As at the time of this analysis there has been no documentary evidence of building cost information by NIESV within the study areas of Awka and Onitsha. In places like Port-Harcourt, the Institution issues out, at different intervals, such documents (with official stamp) to its members as a working guide.

Therefore the only method available to especially young surveyors, who in most cases carry out the valuation, is assumption based on the premise used for previous valuations or phone contacts. In later chapters we shall review the method of estimating cost new as used in practice, and also generate the quantity surveyor's cost

In estimating the cost new of a property the Valuer should note the distinction between reproduction cost and replacement coast. Reproduction cost is the cost of creating a replica building or improvement on the basis of current prices using the same or closely similar materials while Replacement cost is the cost of creating a building or improvement having the same or equivalent utility, on the basis of current prices and using current standards and design (Ifediora, 1993; Olusegun, 2008). However, practicing Valuers generally use the replacement cost but there is need to take note of the distinction.

Depreciation

According to Kalu (2001), depreciation is the allocation of a tangible asset's cost over its useful life. In appraising, it is defined as a loss in value from any cause; the difference between the cost of an improvement on the effective date of the appraisal and the market value of the improvement on the same date (Dictionary of real Estate Appraisal, 4th ed.) Put together, it could be intended to mean some form of gradual or rapid depletion in the value of an improvement which might be caused by physical, natural and economic forces. It is believed that depreciation beings where construction stops, and therefore, it is a key factor to analyze in any valuation by cost method if one were to arrive at an appropriate or reliable value opinion. The term is often used interchangeably with the word obsolescence.

Causes/ Types

The physical causes or types of depreciation are as follows:

a. Physical Deterioration/Depreciation

b. Functional Deterioration/Depreciation

c. Economic Deterioration / Depreciation

a. Physical Deterioration /Depreciation

This is characterized by physical (visible) wear and tear of the subject property. The Valuer should observe the different components of the subject property namely roof

members, wall, doors, windows, floors etc. to visualize any physical defects on the structure. The defects observed do affect the value of the property

In practice whatever is visualized should be backed up by photography as evidence for the present time and for posterity.

b. Functional Depreciation

Functional depreciation or obsolescence, unlike physical depreciation, is not easily noticed except through careful observation. Many a property which is subject of valuation exercise is found wanting in this type of defect, even though they may appear good looking and stable. Ifediora (ibid) affirmed that functional depreciation could result from;

- Faulty design: ceilings too high or too low; improper location of kitchen, bathrooms, etc, wasted spaces; etc. This has been observed a couple of times due to the fact that the bulk of buildings in Nigeria are not designed by qualified Architects.
- Dysfunctional structural facilities: external walls not water resistant; ceilings and walls not insulated; inadequate electrical wiring, plumbing, etc. One could also add visible untidy wiring.
- Dysfunctional water cistern, soak away pits and septic tanks.
- Water not well drained in bathrooms/ toilets. One would not want to view some bathrooms and toilets during valuation exercises. Brooms will usually be seen as back-ups to draining water after bath.
- Old fashioned facilities, e.g. outmoded kitchen sink, coal burning kitchen sink; etc.

c. Economic Or External Depreciation

Economic depreciation is the worst of them all because it acts outside the subject property. It is beyond the containment of the property arising from the fact that the variables that warrant it are external to the property.

Therefore while the physical and functional obsolescence can be solved by carrying out appropriate remedial actions in the property by the lessor that of economic obsolescence is beyond the control of lessor.

Causes of economic depreciation include

- Neighbourhood hazards and nuisance; heavy traffic flow; smoke; dust; noise; offensive odours; etc
- Infiltration of less desirable neighbours
- Road re-alignment or indexing which may cut off an area and decrease demand
- Decreasing demand; population shifts; depression or other adverse economic factors such as financial meltdown or cash scarcity/ squeeze.

Value of land (as if vacant)

The value of the land on which the subject property is situate is also important. Land in this case will be considered as though it were vacant because the land is in destructive even if the property disappears tomorrow. The Valuer will need to carry out a survey to keep abreast of current land values within the subject neighbourhood.

Valuation Procedure in Cost Method

The procedure for valuation by the DRC method is as follows:

1. Determine the replacement cost (new) of the subject property, C = unit cost × gross floor area
2. Make allowance for depreciation (Depreciation will usually be an accrued percentage over *n* years) D= x% (annual dep.) x *n* years
3. When the result of (a) is applied to that of (b), the result will be the DRC , C x D = C.D
4. Add value of land as of vacant, C.D + L
5. The final result gives us the Capital Value.

METHODOLOGY

Selected Properties

The study is restricted to two properties each in Awka and Onitsha and they will be based on real figures carried out on the field. The valuation data was collated from the firms of Estate Surveyors and Valuers in Awka and Onitsha.

Instrument for Data Collection

Questionnaires were used to get the views of estate surveyors in practice about the challenges they have encountered in using the cost method of valuation within the study. Relevant data was also collated from professional quantity surveyors with a view to providing estate surveyors in the area a reliable basis for using cost and depreciation figures.

Method of Data Analysis

The statistical technique used for data analysis is frequency distribution.

Methodology for Determining Cost and Depreciation

The Superficial/ Floor Area Method

This is a very popular method of approximate estimating principally arising from its simplicity in use and application. The method involves calculating the total floor area (or gross floor area – GFA) of the subject property and determining the unit rate of construction in ₦ per square meter for such structure. When the unit rate of construction is multiplied by the GFA, the result

will be the replacement cost of the property. In a complex structure, this is done for all building units and other appurtenances using different unit rates of construction. The aggregate replacement cost is derived by adding up the individual costs of the subject property.

Ifediora (ibid) opined that the sources of rates, in the case of Nigeria include:

- ✓ The quantity cost bulletin of the Nigeria Institute of Quantity Surveyors (NIQS)
- ✓ Cost guidelines from the federal ministry of works.
- ✓ Cost rates obtained from local firms of quantity surveyors or substantial contractors;
- ✓ Cost index from other valuers.

If a property is newly developed it is easier to obtain replacement cost new which will be a combination of direct and indirect building costs.

Measurement of Depreciation

Method by calculation

There are various methods of calculating Accrued Depreciation (AD) and they include:

However, the straight line method, being the most widely used and accepted approach will be discussed here for practice purposes.

The straight line method of depreciation

The popularity of this method stems from the simplicity of its application. To derive depreciation under the straight line method all that is necessary is to estimate the annual rate of depreciation by dividing the total economic life of the property into 100 percent (of value). The resultant annual rate is then multiplied by the effective age (effective age = Total (average) economic life of the asset *minus* remaining (estimated) economic building life) arrive at the accrued or accumulated rate, or percent, of depreciation (Ifediora, ibid). Kalu (2001) opined that, based on the assumption of receipt of equal benefits from an asset in each year of the it's life, the total cost is allocated over the term of the useful economic life (or effective age) of the asset.

By multiplying the percent of depreciation thus obtained by the replacement cost new of the building improvement, the total naira amount of accrued depreciation is derived .

DATA PRESENTATION AND ANALYSIS

Presentation of Selected Properties

Properties in Awka

a. Property location: Road 1 – Udoka Housing Estate, Distance from middle of road , 7 metres

b. Use: residential

c. Type: Bungalow

d. Purpose of Valuation: security of credit

e. Basis of valuation: open market value

f. Method used: Depreciated Replacement Cost (DRC)

g. Unit construction rate used: N25,000 per sq.m (main building); N12,000 per sq.m, (BQ); N3,500 sq.m (gate house), N80,000 per sq.m (gate)

h. Condition of property: appears stable with modern construction and aesthetics.

i. Basis of construction rate used: information from other estate surveyors practicing within Awka

j. Depreciation rates applied

- main building: 10%
- boys' quarter: 7%
- gate house: 5%
- gate : 12%
- fence : 15%
- DRC: N15,500,000

Date: August 2012

k. Challenges encountered

i. Inability to generate adequate data on open market value of similar properties within the neighbourhood for possible use of income method.

ii. lack of data on age of the building / unwillingness of the property owner to disclose such ─ a key factor in calculating depreciation

iii. Time constraint with respect to acquiring data on unit rate of construction.

iv. Assumption of depreciation rate based on opinion and physical appearance

Property II

a. location: Ifite Awka; distance from middle of road: 10 metres

b. Use: residential/commercial

c. Type: 2-storey building

d. Purpose of valuation: security of credit

e. Basis of valuation: open market value

f. Method used: DRC method

g. Unit construction rate per square metre: N5000 (main building), N10,000 (one room apartments); N5000 (gate house) N50,000 (gate)

h. Condition of property: appears good and stable; although some facilities such as doors, windows, rendering, roof and pavements need to be modernized.

i. Basis of construction rate used: information from other estate surveyors and from previous valuations close to the neighbourhood.

j. Depreciation rates:

- main building: 20%
- 3 nos one room apartment: 12%
- gate house: 15%
- gate : 30%
- fence : 40%

Depreciated Replacement Cost: N32,500,000

Date of valuation: June 2011

Challenges Encountered

i. Bank's unwillingness to disclose client physically for vital information due to insecurity

ii. Voids: many spaces in the property have not been occupied for at least 6 months

iii. Lack of data on effective age of building

iv. Depreciation rate based on physical assessment and not on measurement due to lack of data to facilitate calculation of accrued depreciation.

v. Time constraint with respect to assessment of economic depreciation. There is usually pressure on Valuers to complete a valuation speedily or risk not being paid their fees.

Properties in Onitsha

Property I

a. Location: Kano Street, Main Market, Onitsha

b. Use: commercial

c. Type: 2-storey building

d. Purpose of valuation : security of credit

e. Basis of valuation: open market value

f. Method used: DRC method

g. Unit construction rate used: N70,000 per square metre

h. Condition of property: old construction; appears a lot old and needs modernization and so the annual value may not be judged by its rental value.

i. Basis of construction rates used: information from other estate surveyors and by experience.

j. Depreciate rate used: 35%

Basis: considerable physical wear and tear even though the building is in the heart of a commercial area

Depreciated replacement cost: N55, 500,000

Date of valuation: February 2012

k. Challenges Encountered

i. Lack of data on effective age of building as basis for calculating depreciation

ii. lack of documented information on unit rates of construction for the class of property

iii. The fact that phone contacts are unreliable

iv. Inability to measure depreciation

Property II

a. Location: Niger bridge Estate, Fegge, Onitsha

b. Use: residential

c. Type: duplex + appurtenances

d. Purpose of valuation: security of credit

e. Basis: open market value

f. Method used : DRC method

g. Unit construction rate used: N55,000 per square metre (main building), service quarter (N15,000 per sq.m), gate house (N10,500 per sq.m)

h. Condition of property: Good aesthetics; constructed with modern facilities all through; courtyard well paved.

i. Basis of construction rate used: information generated from a Quantity surveyor

j. Depreciation rates applied:

- main building :5%

- service quarter :7%
- crate house : 10%
- fence : 15%
- gate: 5%

DRC = N40, 500,000

Date of valuation: October 2012

k. Challenges Encountered

i. Assumption of depreciation rate based on opinion and physical appearance

ii. Amount of time spent on consulting a Quantity surveyor

Distribution and Collection Of Questionnaires

Response rate: this is done to determine the percentage of questionnaires distributed and returned. The formula used in computing the response rate is given below:

$$\text{response rate} = \frac{\textbf{No. of questionnaires distributed}}{\textbf{No. of properly completed and returned questionnaires}}$$

30 copies of questionnaires were completed and returned using the above formula; the response rate is equal to

21/30 x 100 = 70%

This represents 70% of the distributed questionnaires which qualifies as a good basis for generalization.

30% (100% - 70%) were not returned.

Merging of Scoring Scale

The scoring scales, Strongly Agree (SA) and Agree (A) are merged as *Agree*; Strongly Disagree and Disagree (D) as *Disagree*; Undecided (U) stands on its own.

Presentation and Analysis of Questionnaire

Presentation and Analysis of Demographic Data of Respondents

The percentage responses are presented below:

Table 4.1

S/No	Items /sub – item	Frequency	%	Comment
1	Sex: Male Female	16 5	76 24	It is a fact that more men practice valuation than woman
	Total	21	100	
2	Membership status in NIESV Fellow Associate Graduate/ Probationer	 - 10 11	 48 52	This is a balanced distribution in terms of opinion collated
	Total	21	100	
3	Are you a practicing Estate Surveyor/ Valuer Yes No	 19 2	 91 9	The two that answered 'No' are probationers; 19 is a good representation of the expected number
4	Have you done valuation by the DRC method in Awka or Onitsha Yes No	 17 4	 81 19	
	Total	21	100	
	If yes, how many? More than 5 Less than 5	 10 7	 59 41	 10 out of 17 above 7 out of 17 above
	Total	17	100	
5	How many years have you practiced valuation Above 20 years 15-20 years 10 – 15 years 5-10 years Less than 5 years	 3 4 1 2 11	 14 19 5 10 52	The majority of respondents who have practiced less than 5 years are probationers/ graduates
	Total	21	100	

Presentation and Analysis of Research Questions and Sub Questions

Question One: Amongst the three major methods of valuation ─ cost, income and market comparison ─ which method do Valuers mostly use in your firm?

Table 4.2

S/No	Item	Frequency	%
1	Cost (DRC) Income Market comparison	10 4 7	48 19 33
	Total	21	100

Question Two

Does your firm prefer the cost method even if the property has data for the application of other methods?

Table 4.3

S/No	Items	Tally	Frequency	Percentage
1	Yes		6	29
2	No		15	71
	Total		21	100

Question Three

How do you derive your cost of construction per square metre?

Table 4.4

S/No	Item /sub-item	Frequency	Percentage
1	By assumption	10	48
2	Phone contacts	5	24
3	Cost bulletin from NIESV	0	0
4	By reference to previous valuations	3	14
5	From Quantity surveyors	3	14
6	Others	0	0
	Total	21	100

Question Four

How do you measure your depreciation figure?

Table 4.5

S/No	Item /sub-item	Frequency	Percentage
1	By assumption	9	43
2	Phone contacts	2	10
3	Cost bulletin MESV	3	14
4	By reference to valuation	1	5
5	By calculation	5	23
6	Others	1	5
	Total	21	100

Question Five

Do you consider economic depreciation in your valuations?

Table 4.6

S/No	Item /sub-item	Frequency	Percentage
1	Yes	10	48
2	No	11	52
	Total	21	100

Question Six

What challenges do you encounter when using the DRC method of valuation?

Table 4.7

S/No	Sub question	Agree (freq.)	%	Disagree (freq.)	%	Undecided (freq.)	%
1	Lack of documented data on unit of construction for property valued	18	86	-	0	3	14
2	Lack of documented data on depreciation	14	67	1	5	6	28
3	Inability to determine the effective age of a property for depreciation purposes	4	19	6	29	11	52
4	Inability to measure economic depreciation	9	43	2	10	10	47

Question Seven

What is the solution to the challenges in question six?

Table 4.8

S/N	Sub question	Agree	%	Disagree	%	Undecided	%
1	Generating a database of costs from quantity surveyors	15	71	-	-	6	29
2	Pre-calculating depreciation for various types of property and adjusting where necessary	12	57	1	5	8	38
3	Production of cost and depreciation bulletins by NIESV	14	67	1	5	6	28
4	Provision of a criteria/ yard stick for judging or measuring economic depreciation	13	62	1	5	7	33

Analysis / Interpretation

Table 4.2

From this table, it can be observed that the majority of respondents (representing 48%) use the DRC method in their valuations. This is closely followed – by the market comparison method (33%) which could be regarded as a bail out method where the DRC method is difficult to use.

The fact that the DRC method takes 1st position concurs with the earlier assertion that most values in practice prefer the method.

Table 4.3

From this table only 29% of the respondents affirmed that they use the DRC method even where other methods can be applied. The 71% prefer other options where the DRC method is inapplicable. This has a lot to do with table 4.2 where 33% of respondents prefer the market comparison method.

Furthermore, the implication is that it may be difficult to apply.

Table 4.4

Here the majority (48%) of respondents derive their unit rate of construction by assumption. 28% prefer phone contacts; 14% prefer referencing of previous valuations and consulting of quantity surveyors respectively.

Assumption and phone contact maybe regarded as non-reliable premised for deriving the unit rate of construction. Therefore a framework for reducing assumptions must be in place.

Table 4.5

Here, the majority (43%) respondents measure depreciation by assumption. this can really effect the opinion of value by either decreasing or increasing it. Only 23% either respondents use calculation. About 10% use phone contacts which is also unreliable approach because the person you call may not even be sure or may also assume any figure.

Table 4.6

Here, 52% of the respondents do not consider economic depreciation where as other 45% do so. Economic depreciation can make run sense of a Valuer's opinion of value because it acts outside the control of the property and as owner. Those that say they consider it stated a few criteria; some opened that they compare, for example, the rental value of the subject property with similar properties within the neighbourhood; others prefer to study the economic factors that affect the property and carefully assume a factor that will affect the depreciation rate

Table 4.7

Here 71% of the respondents agree that generating a data base cost form is undecided. The majority also agree to pre-calculation depreciation (one could interpret it as developing a depreciation schedule or table just like valuation tables).

Expectedly, the majority of respondents want the NIESV to produce cost and depreciation bulletins. Also, the majority will like the provision of a criteria/yard stick for measuring economic depreciation. 35% are undecided while 5% disagree.

Mini Database of Construction Costs from Quantity Surveyors (Replacement Cost New Basis)

S/N	Property Type	Location	Structural details	Condition	Accommodation/use	Neighbourhood characteristics	Construction Cost per Sqm (₦)	Date
	A	**Onitsha**						
1	1 storey building 557.56 sqm	G.R.A	Floor: ceramic tiles Wall: sandcrete blocks rendered smooth on both surfaces, painted Door: combination of metal panel and wooden panel types. Window: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum paved area: mass concrete	Good	2 Nos 2-bedroom flat on each floor	Low/medium density residential	30,000	Feb. 2014
2	4 bedroom Bungalow	G.R.A	Floor: ceramic tiles Wall: sandrete blocks rendered, smooth on both surfaces and painted Door: combination of metal and wooden panel types. Window: Glazed aluminum sliding types Ceiling: flat asbestos Roof: Long span aluminum Paved area: mass concrete	Good		Low/medium density residential	30,000	Feb 2014
3	3 storey building 1448 sqm	Odoakpu (along new market road)	Floor: ceramic tile Wall: sandcrete blocks rendered blocks smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete.	Good	2 bed room flats converted to offices	Medium density; mixed uses	30,000	Feb 2014
4	2 storey building 752.55 sqm	Odoakpu (old market road)	Floor: ceramic tiles Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete	Good	2 bedroom flats converted to offices	Medium density mixed uses	30,000	Feb. 2014
5	2bedroom Bungalow 186.55 sqm	Odoakpu	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on both surfaces and painted	Fair	Residential	High density residential	30,000	Feb. 2014

			Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete			Neighbour hood		
6	3 bedroom flat 235.55 sqm	Fegge	Floor: ceramic tile Wall: Sandcrete blocks rendered smooth on but surfaces and pained Door: Combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete	Good	Residential	Medium density residential Neighbour hood	30,000	Feb. 2014
7	3 bedroom flat 320.65 sqm	Awada	Floor: PVC tiles Wall: Sandcrete blocks rendered smooth on both surfaces and painted Door: wooden panel types. Windows: Glazed aluminum sliding types Ceiling: flat asbestos Roof: CIS Paved area: mass concrete	Good	Residential	Medium density residential Neighbour hood	28,500	Feb. 2014
8	2 bedroom flat 430.88 sqm	Inland Town	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on but surfaces and pained Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete	Good	Residential	Medium density residential neighbour hood	30,000	Feb. 2014
9	3 Bedroom flat 194.55 sqm	Federal Housing	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on but surfaces and pained Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: POP/ asbestos Roof: long span aluminum Paved area: mass concrete finished with interlocking stones	Good	Residential	Medium density residential Neighbour hood	35,000	
12	Bedroom flat 356.25 sqm	Federal Housing	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on both surfaces and painted/ tiled Door: combination of metal panel and wooden panel types.	Good	Residential	Low density residential neighbour hood	40,000	Feb. 2014

			Windows: Glazed projected aluminum types. Ceiling: combination of POP and flat asbestos Roof: long span aluminum Paved area: mass concrete/interlocking stones					
13	2 bedroom bungalow 156.38sq m	Omaba I	Floor: ceramic tiles Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding and projected types. Ceiling: flat asbestos/POP Roof: long span aluminum Paved area: Interlocking stones	Good	Residential	Low density residential neighbour hood	35,000	Feb. 2010
14	3 bedroom flat 196.85 sqm	Woliwo	Floor: cement screed Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: CIS Paved area: unpaved	Good	Residential	Medium density, mixed uses	30,000	Feb. 2014
B	**Awka**							
16	Purpose Built office complex on 4 floors 1675.85 sqm	Zik's Ave.	Floor: ceramic tile/cement screed Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete	Good	commercial	Medium density	35,000	Feb. 2014
17	2 bedroom bungalow 185.45 sqm	Umudio ka	Floor: cement screed Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: CIS Paved area: mass concrete	Good			28,500	Feb. 2014
18	2-storey building 942.20 sqm	Ifite, Govt. House neighbo urhood	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types.	Good	Residential	Medium density	40,000	Feb. 2014

			Windows: Glazed aluminum sliding types. Ceiling: flat asbestos/slab Roof: long span aluminum Paved area: mass concrete					
19	2-storey, Self contained all through 1550.80 sqm	Ifite Awka Near UNIZIK	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete	Good	Residential	Medium density	40,000	Feb. 2014
20	Duplex 330.84 sqm	Commissioners' Quarters	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum Paved area: Interlocking stones	Good	Residential	Low density	30,000	Feb. 2014
22	4 bedroom Duplex 485.64 sqm	Ngozika Housing Estate	Floor: ceramic tile Wall: sandcrete blocks rendered smooth on both surfaces and painted Door: combination of metal panel and wooden panel types. Windows: Glazed aluminum sliding types. Ceiling: flat asbestos Roof: long span aluminum Paved area: mass concrete	Good	Residential	Low density	35,000	Feb. 2014

Source: Researcher's Field Survey, 2014

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

Summary of Findings

It was discovered that the majority challenges are lack of database of costs and depreciation. It was also noticed that assumption and phone contacts carried that day as solutions but the fact remains that issues that can lead to undervaluation or overvaluation should not be base on the premise of assumptions and mere phone contacts. They must be systematic and scientific involving careful research and measurement. Section four at 4.4 provide valuers in practice with the quantity surveyors data on re[placement cost of construction (new) chapter three provide the straight line method of determining depreciation which can be easily determined if the effective age = Total Economic life

Remaining economic life: When this is done the annual depreciation rate (100% eco. life) is multiplied with the effect age to arrive at (accrued) depreciation. If the property is affected by economic depreciation the best thing to do will be to study the economic factors outlined in chapter three which act on the property. This should increase the depreciation rate derived depending on the nature economic factors affecting the property.

CONCLUSION

The study of the challenges involved in using the DRC method in valuation of is a charm call on valuers in practice to be more professional and scientific in using the method. Two major areas that can undermine the suitability of the method are the determination of the unit rate construction in N terms and the calculation or measurement of depreciation. The first requires the contribution of the quantity surveyors while the other requires a good knowledge of methods of economic factors which could affect it.

Most importantly, Valuers or Surveyors must insist on being professional in their determination of value by the DRC method.

They should take their time and not be in a haste to *produce* a value for a fee.

Recommendations

The following are hereby recommended:

i. The Professional Practice Committee (PPC) of the NIESV should work out modalities towards creating a synergy between it and the Nigerian Institution of Quantity surveyors since research is multidisciplinary. For example, a joint website or bulletin displaying current and previous construction details such as costs of construction (development costs, floor area, etc.)

ii. Alternatively, NIESV can, through its news bulletin, create a corner for unit rates of construction and depreciation schedules

iii. The Estate Surveyors and Valuers Registration Board of Nigeria (ESVARBON) should prevail on firms to document valuation processes including calculations for record purposed. The board can also create a model template for use of the DRC method. This will include studies for measurement of economic depreciation.

Suggested area for further research

This analysis dwelt on the challenges of using the cost method of valuation in the valuation of residential and commercial properties. It could be broadened to cover specialized properties and also plant, machinery and equipment.

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