Available online at www.pelagiaresearchlibrary.com

Pelagia Research Library

Pelagia Research Library

Advances in Applied Science Research, 2013, 4(3):56-62

Pelagia Research Library

ISSN: 0976-8610
CODEN (USA): AASRFC

Checklist standard for appraisal of housing quality for urban renewal and upgrading programmes for developing nations

Ben. O. Uwadiegwu

Department of Environmental Management, Nnamdi Azikiwe University, Awka, Nigeria

---

ABSTRACT

A comprehensive standard for the appraisal of the quality of housing units which gives no room for the subjective bias of the operator and which is simple and easy to use has been non-existent at least in the form analysts would want it during urban renewal and upgrading programmes. The major aim of this study is to articulate a reliable checklist standard for housing quality appraisal. To achieve this, a team of environmental experts and practitioners which include 4 town planners, 2 architects, 2 estate valuers who are experienced in the development and management of the built environment as well as 12 Urban and Regional Planning students was constituted. The checklist covers construction, amenities and environmental dimensions of housing. The score rating system (SRS) designed is such that aggregate of 0-30 means poor house, 31-85 means fair house while 86-100 means good house. These aggregate scores enable urban renewal operators/analysts to take up grading decisions. This checklist is highly recommended for adoption in the developing countries during urban renewal and up grading projects.

Keywords; Quality, standard, checklist, urban renewal, upgrading.

INTRODUCTION

Urban renewal programmes are data dependent and its level of success in most cases depends on the quality of the data used which in turn depends on the objectivity of their acquisition. Data quality depends on the level of objectivity observed during their collection which is a reflection of the extent to which operator's bias and prejudices are eliminated during survey. Objectivity in housing assessment is quite necessary in order to permit replicability of survey strategy between and among cities or zones.

Measurement of housing quality is one of the inevitable surveys during urban renewal programmes and perhaps the most controversial particularly in developing nations where a variety of indicators are applied to determine housing quality. Although the debate on the exact nature of socio-physical indicators has not crystallized, the benefits of some indicators are no longer in doubt (Hampel and Tucker, 1979). Indicators that are often considered are those that assist health and safety of housing occupants. Indicators considered for dwellings include the usual services and amenities required for a healthful living which invariably account for the livability of a dwelling unit. Indicators are based on basic principles of healthful housing widely accepted by housing and public health workers as being reasonable conditions for essential housing needs (George, 1999). Housing attributes considered crucial for the determination of housing quality include construction quality, amenities adequacy and environmental status. These are the basic housing dimensions which were considered in the formulation of the present checklist for the measurement of the quality of housing particularly for the developing environments.

Conceptual framework and Literature Review

In relation to appraisal techniques for the purpose of determining housing quality during urban renewal or up-grading programmes, George (1999) outlined that certain objectives must guide appraisal method. The appraisal technique should as a matter of health requirements evaluate housing deficiencies which may adversely affect health, safety or essential liveability. To this end, factors to be considered include the usual service items such as toilet, bathing facilities and overcrowding. Consideration should also include conditions of repair, safety of dwelling, adequacy of lighting, sanitary condition of the premises and other items significant for health and safety. Secondly, housing appraisal should consider the neighborhood environment because it is an essential part of housing. Housing environment must be hazard free, neat, airy and appealing.

Similarly, the quality of housing must be measured by a system of numerical scores. Items to be considered must be objectively measurable capable of yielding the same results from different enumerators. This means assignment of standard scores to observed housing adequacies. The method must give a valid quantitative measurement of housing adequacies. The objectivity status of the appraisal method will make it possible for fairly literate personnel of local government department or municipal council to carry out housing appraisal without much difficulty. Results derived with appraisal method can be applied to a wide variety of housing and urban planning problems since they provide technical basis for variety of physical planning objectives.

According to Muoghalu (1984), housing appraisal not only constitute the mechanism whereby the fundamental roles of housing are made operative but they express the link between the physical environment and the degree to which social needs are being fulfilled and by so doing serve to highlight undesirable trends in the housing environment that demand urgent attention. In order to achieve the Nigerian Federal Government commitment to provide decent housing for all, including up grading of run-down and slum areas of cities, there is every need that government agencies and city technocrats are equipped with information system which determines what constitutes decent housing because as Webber (1969) argued, technical criteria of housing quality must be met to guarantee decent housing.

Aim and Objectives of the Study

The main aim of this study is to articulate an appraisal framework that will provide adequate checklist for the measurement of housing quality for the purpose of urban renewal or housing upgrading. The objectives will be pursed in line with the following questions.

(1) What are the constituent members of housing construction dimension?
(2) What constitutes the amenities dimension of housing and what condition influence their quality?
(3) What constitutes the housing environmental dimensions and how can they be devalued?

MATERIALS AND METHODS

Four town planners, 2 architects, two estate valuers and 12 fourth year Urban and Regional Planning students were involved in the articulation of this appraisal checklist standard. Their first task was to assist in the identification of what constitutes the construction dimension of housing. They are listed as follows; roof, walls, ceiling, doors, windows, floor, facia, painting and foundation. The amenities dimension is bathroom, toilet, kitchen, power, room illumination, ventilation, water and sewer. Housing environmental dimension consists of set-back (air spaces), storm water drainage, refuse disposal system, accessibility, landscape, nuisance, sanitation, pollution, physical hazard and occupancy ratio.

Score Rating System (SRS)

Generally, the rating system was based on the interaction between the quality and durability of the materials used in the construction dimension. Therefore what determines the grade or score of construction dimension is the quality and durability of the construction materials. When guided by this principle, it means that the higher the quality and durability of construction materials, the higher will be their score rating. In developing economics, it will be appreciated that variety of materials are utilized for the attainment of a construction type. For instance, roofing construction can be achieved by the use of the following materials – grass/mat, concrete decking, corrugated iron sheet, asbestos and aluminum sheets. These materials are arranged in accordance with their socio-economic value. Similarly, housing walls can take any of the following qualities – wood/mats, mud wall, mud wall plastered with cement, cement block/brick unplastered, cement block plastered with cement and cement block with tile finishing.

This SRS consideration was adopted in the determination and assignment of scores to all aspects of housing construction dimensions.

In the case of housing amenities dimension it was identified that its quality is influenced by perceived value of users. In accordance with user's perception, the value of any housing amenity falls progressively as the number of households that participate in its use increases. Thus a kitchen or toilet exclusively used by a household is higher in quality than that shared by several households. In the same vain, location and position of a kitchen or toilet vis-à-vis the house is a reflection of their quality. In-built kitchen and toilet possess higher qualities than out-built ones. These rating considerations was premised on the postulation by Onokerhoraye (1982) that the convenience for accessing housing amenities is an important index in assessment of housing liveability. Therefore, in built kitchens, bath rooms and water supply, rate higher than out-built ones. Different ratings for different environmental dimensions were also established.

RESULTS

Appendix 1 shows the standard checklist for the appraisal of the quality of housing stock particularly during urban renewal or up grading programmes. Note that these ratings relate only to the appraisal of a housing unit for the purpose of determining its quality. Determination of housing qualities helps in taking up-grading decisions during urban renewal exercise.

Decision Rule

The highest score possible with this standard checklist is 95 while the least score is 19. This is based on the fact that 3 points in the scoring system signifies a condition of perfection in which the element of the housing unit being assessed is termed to be very sound and of high quality, and that 0-0.5 indicates a very poor quality where replacement is inevitable. With this, it is possible to categorize housing stock in a neighborhood or housing estate into three quality grades, namely, good quality fair quality and poor quality. Based on empirical studies and field experiences, the following quality grades usually emerge.

0 – 30	poor house
31 – 85	fair house
86 – 100	good house

Application

The main purpose of classifying housing units into three quality grades is to enable urban renewal operators to assign up-grading decisions on each housing unit. Summary of the decision assignment is presented in Table 2.

Table 2: Up-grading decision based on housing unit score

Score	Class	Up grading decision
0 – 30	Poor house	Redevelopment
31 – 85	Fair houses	Rehabilitation and or Renovation
86 – 100	Good house	Conservation measures

CONCLUSION

Articulation of this housing quality appraisal standard was borne out of the necessity to provide an objective instrument with which to grade various housing stock into quality grades that are relevant during urban renewal projects. The use of appraisal standard such as this is open to criticism and this is quite welcome. This is only a partial contribution to urban renewal process. The search for standards that will meet universal acceptability particularly in urban renewal and other aspects of physical planning is still ongoing. Search for acceptable approaches to problem solving is not unique to physical planning. It is currently being discussed in many of the social sciences (Harvey, 1979). At the heart of urban renewal is an attempt to provide acceptable living environment in recognition of the fact that improvement in housing is an important starting point for overcoming visible crises in human settlement (Ettinger, 1977).

The beauty and utility of this checklist is that it can be used by all categories of urban renewal operators at different places and time in the developing nations to achieve comparable results. This is considered a major breakthrough

and good solution package to the often vexing problem of how to categorize housing units into different quality grades for the purpose of taking up grading decisions.

A major contribution of this appraisal method is that it can be adopted by both semi and highly skilled technocrats, in small, medium and mega cities as well as in most third world countries. It has been applied in empirical studies with very huge success which recommends its adoption in urban renewal programmes.

Appendix 1: Scoring Standard for Housing Quality Appraisal

	Score	House No….. Score	House No….. Score
Roof			
Aluminum sheet/stone tiles	3.0		
Corrugated iron sheets	2.0		
Absbestors sheets	1.5		
Grass	0.5		
Walls			
Cement block with cement plastered/tiles	3.0		
Cement block/brick unplastered	2.0		
Mud wall plastered with cement	1.0		
Mud wall unplastered with cement	0.5		
Wood/mats	0.0		
Ceiling			
Ceko flex/PVC	3.0		
Perforated/Asbestors ceiling board	2.5		
Wood	1.5		
Mat/grass	1.0		
None	0.0		
Doors			
Iron door	3.0		
Wood	2.0		
Glass	1.5		
Zinc	1.0		
Mat/cloth	0.0		
Window			
Alumaco glass	3.0		
Glass louver	2.5		
Wood	2.0		
Zinc	1.0		
Mat/cloth	0.0		
Floor			
Floor tiles	3.0		
Terrazzo	2.0		
Cement plaster	1.0		
Mud	0.0		
Facia			
Aluminum	3.0		
Zinc	2.0		
Wood	1.0		
Loose and hanging	0.0		
Foundation Condition			
Firm and not exposed	3.0		
Firm but exposed	2.0		
Hanging	0.0		
Wall Condition			
No crack	3.0		
Signs of crack	2.0		
Open cracks	1.0		
Needs support or on support	0.5		
Painting			
Painted and shining	3.0		
Painted but fading	2.0		
Painting peeling	1.0		
Not painted	0.5		
Roof Condition			
Firm and solid	3.0		

Rustic	2.0		
Ridges and overlaps opened up	1.0		
Loose and flapping	1.5		
Rafters are termite eaten	0.0		
Window Condition			
Firm and solid	3.0		
Twisted and unlockable	1.0		
Dismembered	0.5		
No shutters	0.0		
Door Condition			
Firm and solid	3.0		
Twisted and unlockable	1.0		
Dismembered	0.5		
No shutters	0.0		
B. AMENITIES DIMENSION			
Bathroom			
Shower in separate bedrooms	3.0		
Shower exclusive to household	2.5		
Shower shared by several households	2.0		
No shower in separate bedrooms	1.5		
No shower shared by households	0.5		
None	0.0		
Bathroom Location			
In-built	3.0		
Out-built	2.0		
Bathroom Condition			
Permanent	1.0		
Make shift	0.0		
Toilet			
Flush toilet in separate bedrooms	3.0		
Flush toilet exclusive to household	2.5		
Flush toilet shared by households	2.0		
Pit toilet exclusive	1.5		
Pit toilet shared	0.5		
None	0.0		
Toilet Location			
In-built	3.0		
Out-built	2.0		
Toilet Condition			
Permanent	1.0		
Make shift	0.0		
Kitchen			
Exclusive to household	3.0		
Shared by households	2.0		
Kitchen Location			
In-built	3.0		
Out-built	2.0		
Kitchen Condition			
Permanent	1.0		
Make shift	0.0		
Power Supply			
Electricity (National grid)	3.0		
Electricity (private generator set)	2,0		
Kerosene lamp	1.0		
Candle	0.5		
Day lighting/Room Illumination			
Can read newspaper during the day only when moved closer to window/door	3.0		
Cannot read newspaper any where in the house during the day	2.0		
Ventilation			
Feels comfortable in the living/sleeping rooms without fan/Ac on	3.0		
Feels hot in the living/sleeping rooms without fan/Ac on	2.0		
Feels hot in the living/sleeping rooms even with fan/Ac on	1.0		
Water Supply			
Tap exclusive to household	3.0		
Tap in compound and shared by households	2.5		
From public tap outside	2.0		
Hand dug well (private)	1.5		

Stream/rivers/vendor	0.5		
Disposal of used Water Into soak-away pit covered	3.0		
Into soak-away pit uncovered	2.0		
Into back-yard/road	1.0		
C. ENVIRONMENTAL DIMENSION **Setback (Air Space)** Standard and intact	2.0		
Standard but partly converted	1.5		
Completely blocked	1.0		
Below standard	0.0		
Storm Water Drainage Concrete closed	2.0		
Concrete open	1.5		
Earth	1.0		
None	0.0		
Refuse Disposal Regular door to door collection	2.0		
Irregular door to door collection	1.5		
Dump site	0.5		
Burning/stream/vacant space	0.0		
Access Collector/access paved	2.0		
Collector/access unpaved	1.5		
Collector/access unmotorabe	0.5		
Footpath	0.0		
Landscape Frontal landscaped parking space	2.0		
Frontal unlandscaped parking spaces	1.5		
No parking spaces	0.0		
Drainage Well drained	2.0		
Flooded or liable to flooding	1.0		
Nuisance Quite and calm	2.0		
Noisy	1.0		
Sanitation Clean	2.0		
Littered and filthy	1.0		
Pollution No odour/smoke	2.0		
Odour/smoke	1.0		
Hazards Absence of hazard	2.0		
Hazards exist	1.0		
Room Occupancy 1-2 persons per room	3.0		
3 persons per room	2.0		
4 persons per room	1.0		
5 persons per room	0.5		
5 and above persons per room	0.0		

Source: Field Work 2008

Acknowledgement

The enormous role played by Professor L. N. Muoghalu, an astute environmentalist and social analyst, of the Department of Geography and Meteorology, Nnamdi Azikiwe University, Awka, who painstakingly and meticulously supervised the dissertation from where this paper emanated is here highly appreciated. The contributions of Professor H. C. Mba an accomplished Town Planner, of the Department of Urban and Regional Planning, University of Nigeria, Enugu Campus, who co-supervised the dissertation, is here acknowledged. A hearty appreciation also goes to Professor Femi Olokesusi, a celebrated Town Planner, of the Nigerian Institute for Social and Economic Research, (NISER), Ibadan for enhancing the comprehensiveness of the checklist as an external examiner. Acknowledgment also extends to the 2006/2007 4th year students of the Department of Urban and Regional Planning, Enugu State University of Science and Technology (ESUT), Enugu, led by Mr. Chinedu Nnaji, who served as enumerators during the pre-test of the checklist.

REFERENCES

[1] Ettinger, J. V. G. (**1971**), *Existics 44, No. 261,* pp 109-112.
[2] George, C. K. (**1999**), *Basic Principles and Methods of Urban and Regional Planning*, Libro-Gen Books, Lagos, Nigeria.
[3] Hampel, D. J. and Tucker, I. R. (**1979**), *Environment and Behaviour, No. 11,* pp 389-428.
[4] Harvey, D. (**1979**), *Social Justice and the City,* Edward Arnold, London.
[5] Muoghalu, L. N. (**1984**), *Social Indicators Research, No. 15,* pp 145-164.
[6] Wbber, M. M. (**1969**), *Town Planning Review*, No. 39, pp 179-195.