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**CENTRE FOR HUMAN SETTLEMENTS AND URBAN DEVELOPMENT,
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AN ASSESSMENT OF THE QUALITY AND SAFETY OF TALBA HOUSING ESTATE MINNA, NIGER STATE NIGERIA

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ABSTRACT

Shelter is one of the basic necessities of life and offers protection against inclement weather to the occupants. One of the problems in the provision of public housing in Nigeria and indeed other developing countries is that of the low quality of housing. Most governments have done well in public housing provision, but still, qualitative housing with attendant safety have continued to elude the populace. Qualitative housing facilitates and ensures housing safety. Attempt was made to examine the flaws in the provision of public housing in terms of quality and safety and explore the quality of construction and materials used in the Talba housing estate along Bida-Minna road, Minna Niger state. The methodology adopted in the study area empirical observation to ascertain the conditions of the housing units. The findings show that generally many of materials used are substandard and there is poor quality construction of the housing units in the study area. The paper opines that responses to the public housing problems (quality and safety wise) had failed in Nigeria largely due to the use of non-professionals or quacks likewise poor mechanisms of monitoring the implementation and construction process. The paper concludes that the use of standard materials and qualitative construction is a major antidote to quality and safe housing provision problems in Nigeria while recommending participatory process involving complex systems of interaction between institutions, professionals, artisans and residents.

Keywords: Public, Quality, Safety, Housing, Assessment

1.0 INTRODUCTION

Housing can be defined as the process of providing a large number of residential buildings on a permanent basis with adequate physical infrastructure and social amenities, (services) in planned, decent, safe, and sanitary neighbourhoods to meet the basic and special needs of the population especially the low and medium Housing quality is a matter of great concern, especially in Less Developed Countries (LDCs) and developing countries like Nigeria. The magnitude of the housing needs of the populace in these countries rises day by day. Generally, most third world cities possesses one or more slums as a reflection of the level and context of the urban housing crisis, the degree of urban social impoverishment and the

income earners (NHP: 2004). Adequate, safe and qualitative housing therefore should provide protection from the negative elements, minimize the risk of disease and injury, and contribute to the physical, mental and social wellbeing of the occupants.

contradictions in the overall content of the urbanization processes.

Talba housing estate which is yet to be occupied as at the time of survey has attracted a lot of comments on the ability of the contractors handling the project over the quality and safety (from inclement weather) of the eventual occupiers. On the first windstorm, most of the structures that had

reached an advanced stage started giving way.

The paper aims at assessing the quality of work done and materials used for the project and possibly suggest ways of improving the quality of such projects consequently ensuring the safety of the eventual occupants.

2.0 A REVIEW OF RELATED LITERATURE

Public housing for the fact that it is usually prototype for a particular social cadre, most times is targeted towards the low income earners and the poor as the wealthy can afford better accommodation elsewhere.

Omuojime, E. O (2000) & Babade, T, (2003) cited in Atser, J. et al (2007) agreed that Nigerian Housing Policy thrust had not often been favourable to the poor and the low income earners. Such houses are rarely qualitative as the poor barely have the voice to question its conformity to design requirements and construction.

Olatubara, C.O. et al, (2006) asserted that conformance-to-design requirement approach has often been used to define quality in construction and the evaluation of this commences immediately after occupation.

They are of the opinion that if the housing sector is to improve the quality of the residential buildings it produces in meeting these needs and expectations, it then must take a proactive approach to understanding consumers' views on the quality of the housing being produced.

Furthermore, they asserted that assessment of the performance of the housing sector should therefore be a matter of particular interest to the public and private sectors in seeking to increase the performance of dwelling houses and maximise value for their money. The achievement of the quality in any housing project is a key that contributes to the ultimate success of that project and that is facilitated by regulatory measures.

Quoting Precious, N. et al (2007), experience has shown that despite the

existence of regulatory measures by the government to manage housing development, unregulated housing has created negative impacts that adversely affect both the quality of buildings and the living environment. In most cases, the statutory procedures and standards specified in the relevant laws are not taken into consideration in the process of providing accommodation.

Michael K. et al (2010) observed that there are several issues that need to be resolved when considering the assessment of housing quality. Two of the most important to specify are the contextual level and outcome areas of housing quality. The contextual level recognises that the health, safety and sustainability outcomes observed are a product of dwelling (housing) related factors as well as contributions from individual and household characteristics and features of the community and neighbourhood within wider regional, national and global contexts.

In their assessment tools developed for England and New Zealand, they are of the opinion that a housing quality-assessment tool should only measure features of the dwelling itself. This requirement immediately creates boundary issues that need to be resolved. Many health and safety hazards associated with housing can be seen as an interaction between the features of the house and the behaviour of the occupants.

The overall goal of developing a housing quality-assessment tool is to improve housing, but this goal is often achieved indirectly. One example according to Ormandy 2002, is the English Housing Health and Safety Rating System (HH&SRS), which is the statutory prescribed method for improving rental housing conditions via (the threat of) enforcement action by local councils. He further opined that there are few other examples of housing quality assessment that explicitly focus on the improvement of housing conditions which have resulted in health, safety, and sustainability outcomes.

The utility of housing quality-assessment tools is currently limited by their lack of widespread use and inconsistency across jurisdictions. Internationally, the approach to assessing housing quality could be described as fragmented, reflecting a lack of national agreement about what is important in housing quality. The USA, for example has several different housing hazard assessment protocols; (Jacobs, 2006). This situation can be contrasted to international agreed standards regarding sustainability; (Jacobs 2008).

Ezenagu, (2000) subsumed all by asserting that housing is an evolutionary and participatory process involving complex systems of interaction between institutions, professionals, artisans and residents.

2.1 TRENDS IN THE PROVISION OF PUBLIC HOUSING

The housing programmes of successive Nigerian governments covering six major development periods are summarised. The periods include – the pre-independence period; First National Development Plan period (1962-68); Second National Development Plan Period (1970-74); Third National Development Plan Period (1975-80); Fourth National Development Plan Period (1980-85); Post Fourth Plan Period (1985-1990); and the current democratic dispensation.

2.1.1 Pre-Independence (Colonial Era)

Public Housing in Nigeria evolved during the colonial regime when the colonial administration embarked on the provision of staff Quarters for its staff who could not build their own houses. In most Regional and Provincial capitals, both Junior and Senior Staff Quarters were built. However, no effort was made by Governments to build houses either for sale or rent to the general public; Olayiwola et al (2010). State intervention in the form of direct housing construction evolved during this period.

2.1.2 First National Development Plan (1962-68)

The post- independent period saw the development and extension of the GRAs and the introduction of special public housing programme exclusively for the senior public servants at federal and state levels.

2.1.3 Second National Development Plan (1970-74)

This is the first post civil war plan. This plan witnessed the period of reconciliation, reconstruction and rehabilitation. It was unique because government accepted housing as part of its social and political responsibilities. It emphasizes housing provision for all social groups whether displaced or not from the competitive housing market.

To fulfil the aim and objectives of the housing policy during the second development plan period, the military administration made the following pronouncements:

- (1) "Immediate construction of housing units by the Federal Military and state Military Governments for rent at affordable prices".
- (2) "Increase in the construction of houses for government workers".
- (3) "Development and expansion of loan for private housing (This case favoured the most privileged social group who already had access to the banks through collateral security and employment stability)".
- (4) "Increase in investment in local production of cement and other necessary building material. Increase in the importation of cement to supplement the needs created in the housing construction sectors".

At the completion of the plan period government was only able to produce

- (a). Ninety Staff Quarters of various sizes in Lagos area.

(b). Four Blocks of Flats as transit residence for officials of the Ministry of External Affairs.

2.1.4 Third National Development Plan (1975-80)

This period is associated with real emergence of public housing. The federal government produced the first National Housing Policy for the country. During this plan period, government made policy statement on the need to bring relief especially to the low-income groups, by obtaining a situation where no urban worker paid more than 20% of his/her income on house rent.

The rise in the oil economy and local political pressures influenced the reappraisal of the National Housing Policy in 1976. Similarly, the installation of the Shagari civilian regime saw another reappraisal of the housing programme. The Federal Government involved itself in direct housing construction through the Federal Housing Authority, which was established in 1973.

2.1.5 Fourth National Development Plan (1981-85)

The Plan emphasised, among others, the need to balance development of the different sectors of the economy and of the various geographic areas of the country. To this effect, housing received more commitment on the part of the Federal and State Governments through massive investment in the housing sector during this plan period.

2.1.6 Fifth Plan Period (1986-1990)

At the end of the Fourth Plan period, the foundation for sustainable growth and development was yet to be laid. The productive base of the economy and sources of government revenue were yet to be diversified. The economy did not have its own driving force and was therefore highly susceptible to external shocks (Okojie 2002: 362).

With the enormity and perpetual nature of housing problems facing the country, the Government nonetheless, took another look at housing and thus launched the National Housing Policy in February 1991. This was a comprehensive document aimed at "ensuring that all Nigerians own or have access to quality and safe housing accommodation at affordable cost by the year 2000 A.D." This goal is consistent with the United Nations resolution of Housing for all by the year 2000A.D. The Policy also suffered major setbacks in its implementation.

It is however important to note that 1994 marked a rethink of the Military Government to addressing housing provision. Hence in an Address on January 20, 1994 by the Minister of Works and Housing titled "The Beginning of a New Dawn" unveil a National Housing Programme for 1994-1995 to be executed under the Ministry. To ensure proper execution of this programme, the Government formed a 16-man committee to study the National Housing Policy in terms of its provision, compliance and implementation.

2.1.7 The Democratic Era (1999 to Date)

Federal Government set up a new Ministry of Housing and Urban Development to deal with housing and urban development which demonstrates government's commitment to continue to assume a paternalistic approach to housing. Federal Government also embarked on the construction of prototype housing scheme in order to increase the nation's housing stock and to set a minimum standard of construction. The scheme was on a revolving fund basis and ensures that proceeds from sale of completed units are ploughed back into the scheme.

2.2 PROBLEMS OF PUBLIC HOUSING PROVISION UNDER THE PLAN PERIODS

The review of government activities in housing provision was made to highlight the nature of responses to the nation's housing problems. However, in terms of physical manifestation, the entire programme fell short of the targets set in each Plan Period. The quality of housing produced is as important as the number produced in solving the housing problem. Our past and current housing programmes have not paid adequate attention to quality and other aspect of housing need. The reasons were because of the following flaws in the implementation of the earlier stated programmes. These include the following:

2.2.1 Poor quality construction

The poor performance of contractors posed a serious problem to housing delivery as is the case of this study area (Talba Estate). This is usually aggravated by minimal, inconsistent or at worst nonexistent monitoring and supervision. Houses were often poorly constructed hence endangering the intending users' safety.

2.2.2 High monetary value

Houses built by the Federal Government and the State Housing Corporation that are meant for the low-income group (i.e. low cost housing) are very expensive and far from the financial reach of the low income earners. e.g. The 2 bedroom and 3 bedroom flats in a sister housing estate (M.I. Wushishi Housing Estate) also in Minna goes for #1.9 million and #2.9 million respectively as at the time of survey.

2.2.3 Location

According to Atser, J. et al (2007), some of the housing units in Uyo were not occupied because the concepts, design and locations of those housing are at variance with the cultural needs and developmental aspirations of the target population. Many

of the housing units especially the Federal Units were located at the urban fringes or outside the functional and active boundaries of the cities. This could be attributed to the availability of vast land for such projects. Ibadan, Ondo, Akure, Ife and Osun are striking examples.

2.2.4 Diversified strategy of housing construction

There are other means of encouraging home construction, e.g. site and service scheme, core housing scheme etc, apart from direct housing construction. Attention in this regard was less during the National Development Plan periods; Olayiwola et al, (2010).

2.2.5 Ineffective Programme of Action and machinery

Many government measures introduced in the past were not accompanied by effective programme of action and appropriate institutional arrangement for their execution. Examples of recommendations that were not implemented include the affordable land, especially for the poor, the provision of locally produced building materials like burnt bricks at affordable prices and supervision of construction. These recommendations will lessen the total cost of owning a house for the poor.

2.2.6 Narrow Conception of Housing Need

Olayiwola et al, (2010) were of the opinion that adequate attention was not placed on housing quality, safety and other aspects of housing need in the periods before the 1990s. Housing need in Nigeria is reflected in the socio-cultural group in the country and therefore varies with each ethnic group. The focus of housing programmes in the past particularly the low-income housing has not adopted the broad interdependence of housing need.

2.2.7 Inadequate Data Base

Housing need is the extent to which the supply of adequate housing falls short of

the demand of household in terms of their psychological and physiological needs. Data needed to establish housing need in the country is inadequate. In general the Country lacks reliable comprehensive up-to-date data base on housing.

2.2.8 Politics

Politics plays a major role in hindering housing delivery in the country as politicians at Federal and States level manipulate or influence housing programmes to suit their selfish interests (Olayiwola et al, 2010). Housing programmes were apparently executed. Evidence is the location of many housing estates around the country claiming completion but on a closer look is grossly uncompleted as evidenced in the study area where the approach of some units had already been painted where as plastering and other stages were yet to be completed either at the rear or even inside; see plate 2. In some cases, contracts for housing projects were and are awarded on political basis not minding the capability of the contractors.

2.3 THE IMPORTANCE OF HOUSING QUALITY AND SAFETY

Housing is an important determinant of health (Michael K. et al, 2010). He described how information on housing quality can support individuals, agencies and the private sector to make worthwhile improvements to the health, safety and sustainability of housing.

Direct effects of poor quality housing have been identified on: injuries in the home, deaths from house fires, respiratory symptoms, coronary events and mental health problems. The importance of housing for health and safety is partly driven by the prolonged exposure people have to the home environment, an average

of close to 16 h daily, and a figure that is quite similar across different developed countries (WHO, 1995). Features of substandard housing that have been identified as major concerns include structural defects, that ranges from inadequate insulation leading to dampness and mould to inadequate facilities for food storage and preparation, etc. (Wilkinson, 1999).

2.4 STUDY AREA

Minna is located at latitude 9 37' and Longitude 6 33' E. It is about 150 Kilometres away from the Federal Capital City (FCC) Abuja and North-West of Suleja which is about 100Kms away. Minna and in fact the whole of Niger State, lies in the South Guinea vegetation There is a continuous steep outcrop of granite in the north-eastern part of the town and this limits any urban development in that direction.

The town rests on a geological base of undifferentiated basement complex of mainly genesis and magmatite (Minna Master Plan, 1979) Minna lies on a relatively high land having a site height of between 240m-270m above sea level. The town is surrounded by a range of hills which stretch from Bosso and Tudun Fulani to North -East Westwards. The Paida hill lies at this sector having a peak of 443m representing the highest point in the town (map required). River Suka and its tributaries dissect the town at the lower part while River Chanchaga lies in the far southeast of the town. The flow of the river is westward from the southeast part of the town. The supply of water to the community is mainly from River Chanchaga. Within the developable part of the town, there are pockets of hills formed by outcrops.

Fig. 1: Site plan of the proposed Talba Estate



Source: Puzzles Construction and Engineering Company, 2010.

3.0 METHODOLOGY

This paper deals with features of the dwelling units. Data was generated empirically through physical observation, assessment and site survey of the features which were conducted on already constructed 350 units out of the supposed 500 housing units. The site plan of the study area shows 300 units of 2 bedroom flats and 200 of 3 bedroom flats as shown in fig. 1 above. These identified numbers of units as at the time of survey serve as the adopted sample size and treatment based on the quality of construction and material used is generalised.

On individual units, defects ranging from poor quality materials to cracks and breakages resulting from poor construction were identified. Observations after the first rainy period showed that the rain/wind removed some roofs, pulled down some walls and other menaces on the structures as shown in plate 1. This drew the attention of the researcher to critically look into what is happening. Photographs were equally taken to buttress and reflect the true situation of the units.

Thereafter, the 350 units that were substantially completed were objectively examined.

Plate 1: Poorly constructed unit



Source: Authors field work 2010

4.0 FINDINGS

The survey revealed that 350 units were at some substantial stages of construction at the time of survey. This adopted sample size of 350 units had all been roofed. The remaining units 150 were yet to be erected or at their earliest construction stage.

Of the sample size, 165 of the units representing 47.1% were completed regarding the building components waiting for habitation. About 52.9% i.e. 185 units were in their finishing stages that ranged from fittings (electrical, mechanical, etc.) to fixing of doors and windows.

Equally, it was observed that construction was going on in about 32 units of the sample size.

On building components, the following were noticed regarding functional and structural defects. The lounge, master bedroom, lobby, entrance door, kitchen sizes from mere observation were relatively small in very many of the units. The implication is that free flow of

occupants will be reduced and also the space for respective in-house activities will be limited. The percentage of those that were not affected was as a result of varied builders comprising professionals and quacks used.

The state of about 12% of the sampled units i.e. 42 units does not have window while about 25 units had their windows not aligned thus reducing the functional quality of the units. It was also noticed that the wash hand basin location in about 127 units representing 36.3% was wrong as it does not allow full swinging of the adjacent doors.

4.1 Structural defects

Building depression and cracking of floors could occur as a result of the continued uneven settling of the laterite fillings of the substructure among others. 44 units were noticed not to be horizontally aligned i.e. slanting (depressed) and floor cracking is

prevalent in 61 units. A total of 5 units had some of their parts collapsed as a result of either the reason above or windstorm. The major implication of these is that the health and safety of the eventual users would be put on risk. 47 units were noticed to have their doors fallen and dismembered while 70 units representing (20%) have dismembered windows.

10.8% of the sampled units i.e. 37 units were partly plastered, not plastered or wrongly plastered as shown in plate 2 below. This could be attributed probably to the greedy nature of the contractors who paint pictures of a completed work to collect their money.



Plate 2: Partly plastered unit
Source: Authors field work, 2010

Plate 3: Cracked wall
Source: Authors field work, 2010

Plate 3 above shows cracks on one of the units. It was observed that 207 units had varying degrees of cracks in their walls. This is a clear manifestation of a hurried, substandard and very unsafe work as cracks could occur as a result of poor mixture.

On a closer observation, the survey revealed that dampness was seriously noticed in about 119 units (34%) implying that Damp Proof Course (DPC) membrane was not used. About 72 units (20.6%) had their entrance high suggesting that the aged or some physically challenged were not put into consideration. Probably as a result of the incompetence of the builders, 11 units were found to have crooked

columns reducing the aesthetic quality of the units.

The survey equally revealed that 114 of the sampled units representing 32.6% had problems with their roofs either as a result of the use of substandard roofing materials or poor construction work allowing them to be blown off during the wind storm. (See plate 4). 90 units (25.7%) of the sample units had either their ceiling sagging or completely dropped. This could be attributed to the substandard wood members used or as a result of below average construction. Out of the 350 sampled units in the study area, 35.7% of painted units had the problem of their paints peeling or flaking off implying the use of low quality paints. (See plate 4)

Plate 4: Roof and Paints giving way



Source: Authors field work, 2010

5.0 RECOMMENDATIONS AND CONCLUSION

5.1 RECOMMENDATIONS

This study is not aimed at faulting the nation's responses to the housing needs of its people, but an attempt to highlight the flaws made in meeting the quality and safe housing needs of the Nigerian people. Housing provision involves large sums of money to attain its aim and objectives. Such financial commitment could go down the drain if the quality of construction falls below standard.

Solution to the problems of quality and safe housing, especially public housing estates that are still under construction or are yet to be occupied cannot be achieved without complete involvement of the stakeholders in the building industry. Therefore the paper recommends participatory process involving complex systems of interaction between institutions, professionals, artisans and residents. Also the indispensability of state intervention regarding supervision must be greatly emphasised. This is so imperative

because the private developers will stand the risk of not being paid or contract cancelled when their jobs are not properly and/not completely done.

There should be a round the clock supervision and monitoring of contractors to forestall the use of substandard building materials and construction proper. This will make such housing units not to be seen as death traps.

5.2 CONCLUSION

Having observed and noted the shortcomings on the study area, it can be inferred that the contractors were either incompetent or corrupt and the project was not closely monitored. The windstorm that ravaged the study area revealed the dangers that the eventual occupiers would have faced after they must have moved and further revealed the poor quality of materials used in the construction. Qualitative construction is a major antidote to quality and safe housing provision problems in Nigeria.

REFERENCES:

- Abiodun, J.A (1985) *Housing Problems in Nigeria* Cited in Onibokun *Housing in Nigeria: A book of Reading* NISER, Ibadan Pg 49-63.
- Atser J. & Beulah, O. (2007) *A study of the demand and supply of Housing in Uyo, Akwa Ibom State Nigeria*. An article in *Journal of the Nigerian Institute of Town Planners: Vol. XX, No. 1* November 2007.
- Ezenagu, V. C. (2000) *Fundamentals of Housing in Awka* in Atser J. & Beulah, O (2007) *A study of the demand and supply of Housing in Uyo, Akwa Ibom State Nigeria*. An article in *Journal of the Nigerian Institute of Town Planners: Vol. XX, No. 1* November 2007.
- Ikeanyibe, O. M. (2009) *Development Planning in Nigeria: Reflections on the National Economic Empowerment and Development Strategy (NEEDS) 2003-2007* Department of Public Administration and Local Government Studies, University of Nigeria, Nsukka, Nigeria.
<http://www.krepublishers.com/02-Journals/JSS> accessed on 15th February 2011
- Jacobs D.E, (2006). *A qualitative review of housing hazard assessment protocols in the United States*. *Environ Res* 2006;102:13e21. In Michael K. et al (2010) *Assessing housing quality and its impact on health, safety and sustainability*.
<http://jech.bmj.com/content/64/9/765.full.pdf> accessed on 24/06/2011
- Jacobs D.E, (2008) *Healthy housing standards: fragmentation or harmonization*. 5th Warwick Healthy Housing Conference, Warwick: 2008. In Michael K. et al (2010) *Assessing housing quality and its impact on health, safety and sustainability*
<http://jech.bmj.com/content/64/9/765.full.pdf> accessed on 24/06/2011
- Kuroshi, P. A. and Bala, K. (2005) *Development of Housing Finance in Nigeria: Nigerian Journal of Construction Technology and Management* 6(1):7-18 Faculty of Environmental Sciences, University of Jos.
- Max Lock (1980), Master Plan of Minna, 1980-2000, max Lock, Minna.
- Michael K. et al (2010) *Assessing housing quality and its impact on health, safety and sustainability*. *J Epidemiol Community Health* 2010; 64:765e771. doi:10.1136/jech.2009.100701
<http://jech.bmj.com/content/64/9/765.full.pdf> accessed on 24/06/2011
- National Housing Policy (NHP) (Draft) (2004)
- Ogunsakin, L (1988) *Urbanisation and Urban Housing in the Third World*. In Olayiwola et al (2010) *Urban Housing Crisis and Responses in Nigeria: The Planners' View Point*, *European Journal of Social Sciences – Volume 13, Number 2* (2010)
<http://www.up.ac.za/dspace/bitstream/2263/10452/1/Urban%20Housing%20Crisis%20and%20Responses%20in%20Nigeria%20The%20Planners.pdf> accessed on 15th February 2011
- Okojie C.E (2002); *Development Planning in Nigeria since Independence*. In: Ikeanyibe, O. M. (2009) *Development Planning in Nigeria: Reflections on the National Economic Empowerment and Development Strategy (NEEDS) 2003-2007*
<http://www.krepublishers.com/02-Journals/JSS>

Journals/ISS accessed on 15th
February 2011

- Okpala, D.C.I (2005) *Housing Tenure in Nigerian Housing Policy. - a need for Rethinking of current emphasis*. Publication of Nigerian Association of Housing Corporation Vol. 2 No.1 1985 XXXIII LAHS, September 27 -30 2005, Pretoria South Africa 10
- Olatubara, C.O. & Fatoye, E.O (2006) *Residential Satisfaction in Public Housing Estates in Lagos State Nigeria. An article in Journal of the Nigerian Institute of Town Planners*:Vol. XX, No. 1 (40th Anniversary Issue) November 2006.
- Olayiwola et al (2010) *Urban Housing Crisis and Responses in Nigeria: The Planners' View Point*, European Journal of Social Sciences - Volume 13, Number 2 (2010)
<http://www.up.ac.za/depwce/bitstream/2263/10452/13/urban%20housing%20Crisis%20and%20responses%20in%20Nigeria%2011e%20planners.pdf>
accessed on 15th February 2011
- Ononugbo, V. I. et al (2010) *An Empirical Analysis and Assessment of Housing Needs for the Low-Income People of Enugu Metropolitan Areas of Nigeria: Evidence from Statistical Housing Model Approach*. European Journal of Social Sciences - Volume 13, Number 2 (2010)
- Ormandy DA, (2002). *Health based approach to the assessment of unsatisfactory housing: the UK's Housing Health & Safety Rating System*. Forli, Italy: WHO Housing & Health Symposium, 2002 In Michael K. et al (2010) *Assessing housing quality and its impact on health, safety and sustainability*.
<http://jech.bmj.com/content/64/9/765.full.pdf> accessed on 24/06/2011
- Precious, N.E., Andrew, F.E. & Elekin, C.C. (2007) *Determination of Housing and Neighbourhood Quality for Yenagoa, Bayelsa State Nigeria. An article in Journal of the Nigerian Institute of Town Planners*:Vol. XX, No. 1 November 2007.
- WHO, (1995) *Health and environment briefing pamphlet series 1*. Copenhagen: WHO, 1995. In Michael K. et al (2010) *Assessing housing quality and its impact on health, safety and sustainability*.
<http://jech.bmj.com/content/64/9/765.full.pdf> accessed on 24/06/2011
- Wilkinson D (1999). *Poor housing and ill health: a summary of research evidence*. The Scottish Office: Central Research Unit, 1999. In Michael K. et al (2010) *Assessing housing quality and its impact on health, safety and sustainability*.
<http://jech.bmj.com/content/64/9/765.full.pdf> accessed on 24/06/2011