

Dissertation

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**Author** Karami, Khaleq

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**University of Central Lancashire**  
**School of Architecture, Construction and Environment**

**An investigation into explore issues preventing developers  
from creating sustainable new housing in urban areas in  
the UK.**



**BY**

**Khaleq Karami, G20615960, BSc (Hons)**

Submitted to the

**University of Central Lancashire**

Required for the degree of

**BSc (Hons) Building Surveying.**

**Date<sup>th</sup> 17 April 2015**

## **Declaration**

The work presented here in this dissertation is my own work of which all literature sources quoted and submitted have been referenced using the Harvard Referencing system.

Signature

Name: Khaleq Karami

Date: 16<sup>th</sup> April 2015

## ABSTRACT

*Abstract of dissertation entitled, An Appraisal of the investigation into explore issues preventing having developer from creating sustainable new housing in urban areas in the UK, submitted by Khaleq Karami for the BSc.(Hons.) in Building Surveying at the University of Central Lancashire in April 2015.*

This research focuses on investigation into explore issues preventing having developer from creating sustainable new housing in urban areas in the UK. Focus for the research will identify the effect of what prevents developers from creating sustainable new housing in the urban areas in the UK. Social conditions determine the quality of life and the challenge of providing sustainable new housing that sustain its inhabitant socially, economically and environmentally. The literature review findings clearly shows that there is a challenge of providing sustainable new housing in the urban areas in the UK and problem emerging such as unemployment, unhealthy, poverty, crime and rising population in urban areas.

The methodology was chosen to carry out the research as quantitative for empiric data collection analysis in order to be able to generalize more freely from the findings and achieve the aim objective in section 1.3. Quantitative research is objective research, with the aim to discover answers to questions and gather data which is quantifiable. The main reason for the chosen quantitative methodology is that many types of information will therefore not be described in this study, because the subjects will not have the opportunity to express them. The study was not qualitative description of the matter but instead finding general patterns.

The outcome of the research obtained from the descriptive analysis that prevent developers from creating sustainable new housing in the urban areas in the UK is costs issues. 69%, of respondents stated that costs to create sustainable new housing are not met in an effective manner. However, the implementation of creating sustainable new housing in the urban areas in the UK, the developers come out to be sufficiently effective as 24,68% of the respondents rate that implementation was effective while the remaining 8, 23% referred it as partially effective or ineffective. New sustainable housing in the UK have key issues, because of a lack of sustainable new housing in the urban areas in the UK it costs the (NHS) at least £600m every year. But environment bodies in the UK are playing their roles to help and encourage developers to create sustainable new housing in the urban areas in the UK.

**Keywords:** Investigation into explore issues preventing developers from creating sustainable new housing in urban areas in the UK, identify the impact of sustainable new housing that causes effects of unsustainable housing in the UK.

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# CONTENTS

<b>ABSTRACT .....</b>	<b>III</b>
<b>ACKNOWLEDGMENT .....</b>	<b>IV</b>
<b>CONTENTS.....</b>	<b>V</b>
<b>LIST OF FIGURES .....</b>	<b>VIII</b>
<b>CHAPTER 1 – INTRODUCTION .....</b>	<b>1</b>
1.1 INTRODUCTION .....	1
1.2 GENERAL BACKGROUND .....	1
1.3 AIM AND OBJECTIVE .....	2
1.4 RESEARCH METHODOLOGY .....	3
1.5 RESEARCH QUESTIONS .....	3
1.6 STRUCTURE OF THE DISSERTATION .....	4
<b>CHAPTER 2 – LITERATURE REVIEW .....</b>	<b>5</b>
2.1 INTRODUCTION .....	5
2.2 DEFINITION OF SUSTAINABLE DEVELOPMENT .....	5
2.3 GENERAL BACKGROUND OF SUSTAINABLE DEVELOPMENT NEW HOUSING IN URBAN AREAS IN THE UK. ....	7
2.3.1 Sustainable housing in the UK.....	7
2.4 WHAT IS PREVENTING DEVELOPERS FROM BEING BUILT NEW SUSTAINABLE HOUSING IN THE URBAN AREAS?.....	10
2.4.1 Social poverty .....	10
2.4.2 Crime preventing new housing sustainability .....	11
2.4.3 Homeownership creates problems to build sustainable housing.....	11
2.4.4 Why does waste matter for sustainable housing strategies?.....	12
2.4.5 Economic downturns .....	12
2.5 THE EXISTENCE OF UNSUSTAINABLE HOUSING IN URBAN AREAS IN THE UK.....	14
2.5.1 Poor housing and existing conditions.....	14
2.5.2 Energy in –use of existing buildings .....	15
2.5.3 Decent homes – the problem of liveability in the UK .....	16
2.5.4 Empty property in the UK.....	16
2.5.5 House existing U value in the UK.....	16
2.5.6 Improvement of thermal insulation in the UK .....	17
2.5.7 Poor neighbourhood .....	18
2.5.8 Problem estate in the UK.....	18
2.6 THE EFFECTS OF NOT BUILD’S SUSTAINABLE HOUSING IN URBAN AREAS IN THE UK.....	19
2.6.1 Poor housing costs the NHS in the UK.....	19

2.6.2 Cold homes in winter in the UK.....	19
2.6.3 Overcrowding .....	19
2.6.4 Damp housing in UK .....	20
2.6.5 Damp causing long term illness to childhood in the UK .....	20
2.6.6 Homelessness in the UK .....	20
2.6.7 Migrants and population rise in the UK .....	21
2.6.8 Public expressed their concern about Immigration in the UK .....	21
2.6.9 Beneficial picture of migrant in the UK .....	22
2.6.10 Population residing in urban areas in UK.....	22
2.7 LACK OF SUSTAINABLE AND AFFORDABLE HOUSING IN URBAN AREAS IN THE UK.....	24
2.7.1 Lack of affordable housing impact on all aspect of life in urban areas in the UK...	24
2.7.2 UK Government action needed.....	25
2.7.3 Affordable Homes Programme in urban areas in the UK.....	26
2.7.4 Housing shortage in the urban areas in the UK.....	27
2.8 PERFORMANCE OF UK GOVERNMENT TO PROMOTE SUSTAINABLE DEVELOPMENT NEW HOUSING AND PROTECTED EXISTING SUSTAINABLE DEVELOPMENT IN THE UK.....	28
2.8.1 Improved socials housing by UK Government .....	28
2.8.2 UK Government funding with house buildings 2014 .....	28
2.8.3 SD policies reflect in the urban areas in the UK .....	29
2.8.4 Increase new household in the UK.....	29
2.8.5 Green buildings in the UK.....	30
2.8.6 Improving energy efficient new housing in the UK.....	30
2.8.7 Standard of energy efficiency in the UK.....	31
2.8.8 Solar panels in the UK.....	31
2.9 SUMMARY.....	33
<b>CHAPTER 3- RESEARCH METHODOLOGY .....</b>	<b>35</b>
3.1 INTRODUCTION .....	35
3.2 RESEARCH METHODOLOGIES AVAILABLE.....	35
3.3 QUANTITATIVE RESEARCH .....	35
3.4 QUALITATIVE RESEARCH .....	36
3.5 MIXING RESEARCH METHODS .....	38
3.6 CHOICE OF RESEARCH METHODOLOGY .....	38
<b>CHAPTER 4- DATA ANALYSIS AND DISCUSSION .....</b>	<b>39</b>
4.1 GENERIC DETAIL OF THE PARTICIPANTS/PROJECT .....	39
4.1.1 Demographic characteristics .....	40
4.1.2 Position to the project.....	41
4.1.3 Level of experience.....	42
4.2 FINDINGS AND ANALYSES OF MAIN DATA.....	43
4.3 DISCUSSION AND ANALYSIS OF RESULTS .....	52
4.4 SUMMARY OF CHAPTER.....	53

<b>CHAPTER 5- CONCLUSIONS AND RECOMADATIONS .....</b>	<b>54</b>
5.1 CONCLUSIONS OF STUDY .....	54
5.2 RECOMMENDATIONS .....	55
5.3 FUTURE RESEARCH .....	55
<b>REFERENCES .....</b>	<b>56</b>
<b>APPENDIX 1.....</b>	<b>59</b>
<b>APPENDIX 2.....</b>	<b>64</b>
<b>APPENDIX 3.....</b>	<b>65</b>



## LIST OF FIGURES

Figure 1, Source John 2009, three pillars of sustainability .....	6
Figure 2, source Michaela 2010, sustainable development social culture.....	7
Figure 3 Source, Thomson-Fawcett 2008, social sustainability. ....	9
Figure 4 Source Golubchik/UN -Habitat. ....	12
Figure 5, Source ONS GDP, UK GDP growth economic sentiment, 2000-2013.....	13
Figure 6 (resource DENA, 2009) (resources DENA, 2009) .....	15
Figure 7 Source Ozbalta 2009, Impact of insulation on external walls on annual heating load	17
Figure 8 Source WHO, Urbanization level and urban growth rate by region 1970-2020 .....	22
Figure 9 Source Paul 2009, Future ethnic group population for UK local areas 2001-2051 ...	23
Figure 10, Source Computation, Projection result for the UK, 2001-2051, for all ethnic groups combined .....	23
Figure 11, Sources YouGov 2009: Proportion of household income spent on housing costs by tenure.....	25
Figure 12, Source YouGov, 2009, Thinking about current housing situation in urban areas in UK, which of the following factors would you say are affecting when to start a family?(% agreeing) .....	26
Figure 13, Sources Taylor 2007, Balance of sustainable development housing policy .....	29
Figure 14, Sources Michaela 2014, Solar panels .....	31
Figure 15, Age of respondents, 38 questionnaires fully responded.....	40
Figure 16, Position to the projects, 37 questionnaires fully responded .....	41
Figure 17 Level of experience to the industry, 36 questionnaires fully responded .....	42
Figure 18 prevent developer from creating sustainable new housing in the UK, 37 questionnaires fully responded .....	43
Figure 19 economic and social issues prevent developer from create sustainable new housing in the urban areas in the UK, 36 questionnaires fully responded. ....	44

Figure 20, Environment bodies are playing their roles in providing the solution for improving the sustainable new housing in the UK, 38 questionnaires fully responded. ....	45
Figure 21 Business management focused, 37 questionnaires fully responded. ....	46
Figure 22 Performance of UK government to promote sustainable new housing in the UK, 38 questionnaires fully responded. ....	47
Figure 23 Connection between health and the state of homes (from a sustainable point of view), 37 questionnaires fully responded.....	48
Figure 24 Main concerns to help improve new and existing sustainable housing in the UK, 35 questionnaires fully responded. ....	49
Figure 25 North West of England developer achieving of sustainability for new UK housing, 38 questionnaires fully responded. ....	50
Figure 26 UK Government subsidise developers to build sustainable new housing in the urban areas in the UK, 38 questionnaires fully responded. ....	51

# CHAPTER 1 – INTRODUCTION

## 1.1 Introduction

Aim of study is to scrutinize the explore issues of preventing developers from creating sustainable new housing in the urban areas in the UK. Present study plans are devised to look into the environmental issues of preventing developers from creating sustainable new housing in urban areas in a comprehensive manner by examining the sustainable new housing. It includes characteristics that are associated with each of the key aspects such as economic, poverty, unsustainable existing housing, crime and lack of sustainable and affordable housing, performance of UK government to promote new housing development and protected existing sustainable development in the UK.

The present chapter provided information about enquirer overview, background of research and significance of study, aims objectives and research question along with structure of research.

## 1.2 General background

Sustainable development has its origins in the environmental movement that started in the 1950 and 1960 and the new movement was concerned with the impact that mankind was having on the planet and proposed that current levels of development could not be sustained if they continued without any form of regulation. Throughout the 1980's, sustainable development has negative impact to human environment and development becomes increasingly difficult to ignore (Jalal 2008).

(SD 2008) said the sustainable development promotes the idea that social environment and economic progress are being connected through space, are all attainable within the limit of our natural resource. Sustainable development is based on balancing social, environment and economic costs and benefits ensure the best future. The International Institute (HED) said that sustainable development and new housing is based on the identification of three systems as basic to any process of development, biological resource system, the economic system, and the social system. Sustainable development have goals like economic and

environmental protection that express three pillars which serve as a common ground for numerous sustainability standards and certification systems in recent.

(UN Habitat 2004) said that within sustainable housing in the UK one of those basic social conditions and environment issues that determine the quality of life and welfare of people, places and where homes are located. In order to be sustainable, development in new housing in urban areas must combine three main elements, fairness protection of the environment and economic efficiency.

The present situation involves unchecked population expansion in location least suited to accommodate it. Lack of energy and resources use plans and national standard based on development. A sustainable development on the other hand requires stabilized population and energy and resources use the national standard which is moving away from growth and accepting quality in its place (Loran B 2003).

### **1.3 Aim and objective**

Aim of the study is to explore issues preventing developers from creating sustainable new housing in a comprehensive manner by examining sustainable new housing policies in urban areas in the UK.

Objectives of present study are as mentioned below.

- Identify the issues which prevent developers from creating sustainable new housing in the urban areas in the UK.
- Identify the impact of sustainable new housing in the urban areas of the UK as the primary data will be collected from the selected developers from the North West of England.
- Identify impact of environment bodies are playing their roles in providing solution for developers to improving sustainable new housing in the urban areas in the UK.
- Complete an investigation and analyse the findings of both the review and the investigation with draw conclusions and recommend further research.

## **1.4 Research Methodology**

A quantitative method is objective research, which was used within the study and information was collected through developers' survey, standardised questionnaires, and via e mail. This form of methodology was most suitable as I wanted to strongly associate with developers' survey techniques and discover answers to questions and gather data which is quantifiable.

Quantitative methodology allowed generalizing more freely from the findings and achieving the aim and objective of 1.3 and this has a sound ecological validity.

## **1.5 Research questions**

Research questions that will be focused in present research are as mentioned below.

- What are the restrictions of preventing developers from creating sustainable new housing in the urban areas in the UK?
- How the environment bodies are playing their roles in providing solution for developers to improving sustainable new housing in the urban areas in the UK?
- What are the main concern that should be addressed immediately to help improve (new and existing) sustainable housing in the in the UK?
- What type of factors in relation to the economic climate which would prevent developers from creates sustainable new housing in the urban areas in the UK?

## **1.6 Structure of the dissertation**

Present study plans to look at the explore issues of preventing developers from creating sustainable new housing in urban areas in the UK a comprehensive manner by examining the sustainable new housing. This is because sustainable new housing has become a key issue within urban areas in the UK which is largely unsuccessful because the main aspect of poverty is deprivation, disease, unhealthy environment and poor standard of housing which is costing the UK economy large amount of money every year.

Second chapter of the study is on the subject of reviewing of literature. In this part, the underpinning theoretical research will be explored, some objective will be met and few research questions will be answered. The main areas that will be focused on preventing developers from creating sustainable new housing in urban areas in the UK and identify the impact of sustainable development housing that causes effects of unsustainable housing in the UK.

Chapter three discusses the methodology adopted in detail for the dissertation research. This chapter will shed light on methodology, quantitative research, qualitative research, mixing research analysis technique. In all these heading, all option will be delineated and selected one will be justified. It will be selected quantitative research because it is objective research with the aim to discover answers to questions and gather data which is quantifiable.

In the fourth chapter findings analysis and discussions will be given. The findings are presented in graphs, mainly into three sections. The first section discusses the generic detail of the participants and the second section presents the findings according to each and every question asked during the questionnaires survey. The final section presented a synthesis of overall findings against the finding from the literature review with the summary.

In the last chapter the main conclusion and recommendation for developers in construction industry for further research will be presented. In addition, a description of the extent to which research objectives are fulfilled and research questions are countered will also set at the end of the chapter.

# CHAPTER 2 – LITERATURE REVIEW

## 2.1 Introduction

In this part, the underpinning theoretical research will be explored; namely the general background of sustainable development, new housing in urban areas in the UK, the existence of unsustainable housing in urban areas in the UK and research questions will be answered. The main areas that will be focused entail what is preventing sustainable development in new housing systems in urban areas in the UK, and identify the impact of sustainable development housing that causes effects of unsustainable housing in the UK.

## 2.2 Definition of sustainable development

Sustainable development for new housing showed us that sustainable development is development that meets the needs of the present without compromising the ability of future generation to meet their own needs and sustainable development is seen as a multidimensional process that links environment protection with economically, socially and culturally sound development (WCED 1987).

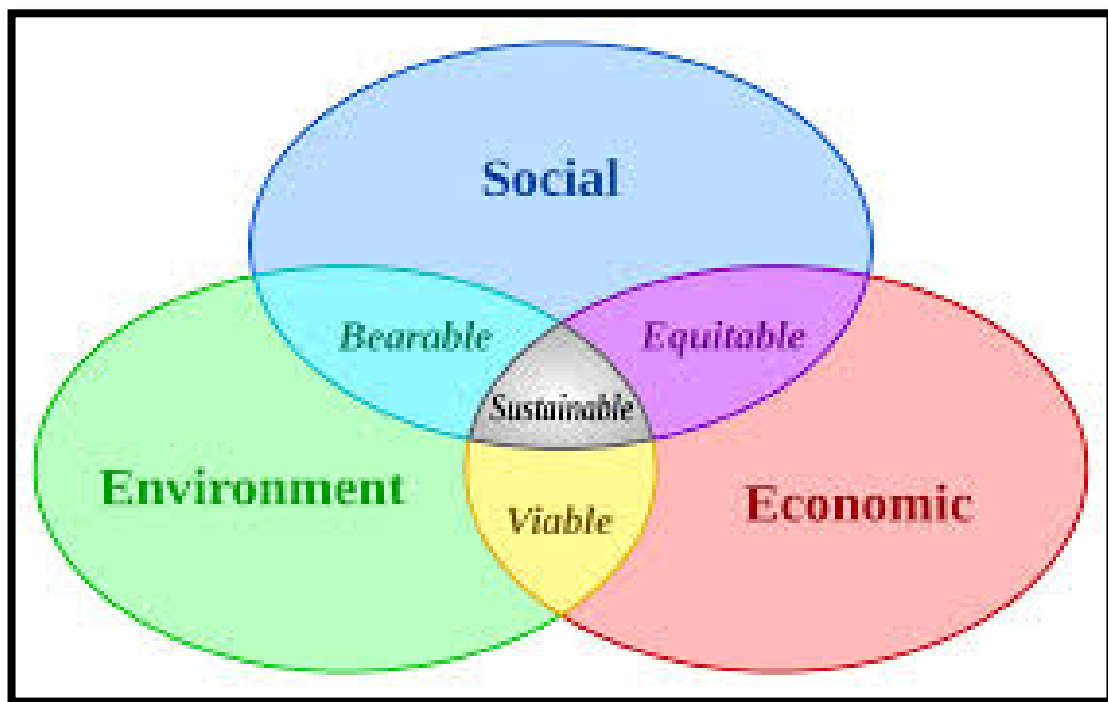
The International Institute (HED) states that sustainable development and new housing is based on the identification of three systems as basic to any process of development, biological resource system, the economic system, and the social system. (Holmberg 1994) Human society applies a set of goal to each system, each with its own hierarchy of sub goals and targets.

Sustainable development promotes the idea that social environment and economic progress are being connected through space, are all attainable within the limit of our natural resource (SD 2008). Sustainable development is based on balancing social, environment and economic costs and benefits ensure the best future. It is about looking at term as well as short term costs and consequences and about looking at global as well as local aspect of any decision (Graciela Chichilnisky 1999).

(Miller 2013) said that sustainable development” one could argue that sustainable housing needs a clear vocabulary to enable multi- party participation as well as a mean to evaluate sustainability outcomes(Brandon and Lombardi,2011)

The (WCED 2005) said that sustainable development goals such as economic development, social development and environment protection has been expressed in the illustration below, using three overlapping ellipses which indicate that the three pillars of sustainability are not mutually exclusive and can be mutually reinforcing. The three pillars have served as a common ground for numerous sustainability standards and certification systems in recent years.

Figure 1, Source John 2009, three pillars of sustainability



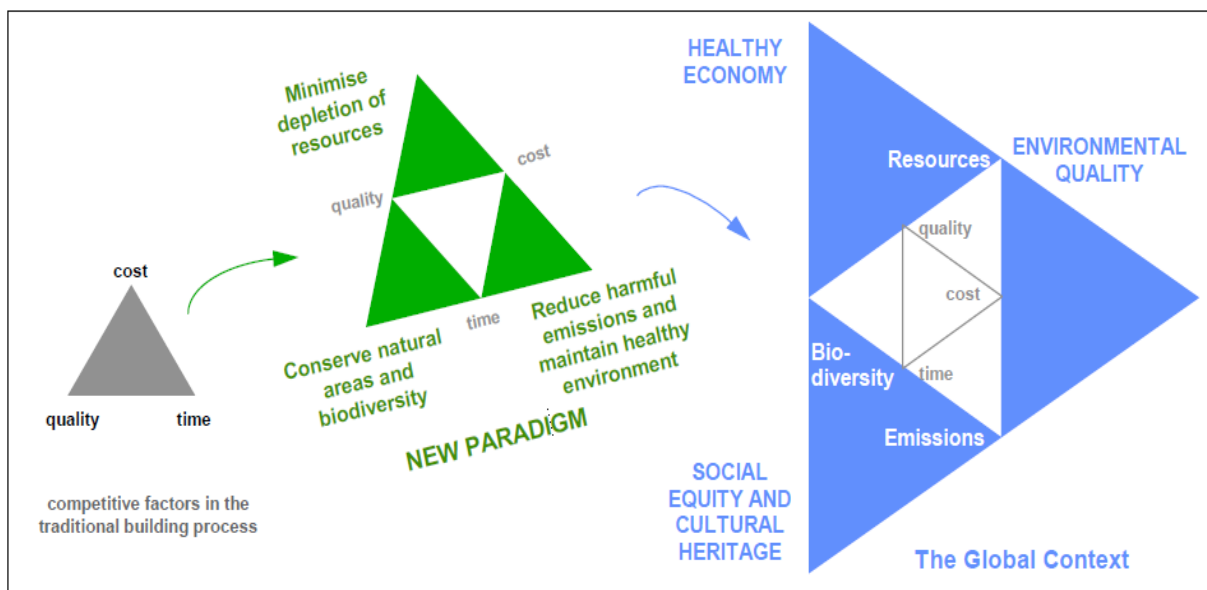


## 2.3 General background of sustainable development new housing in urban areas in the UK.

### 2.3.1 Sustainable housing in the UK

(UN Habitat 2004) state that within sustainable housing, one of those basic “social conditions” that determine the quality of life and welfare of people, places and where homes are located. Also how well designed and built they are and how well they are weaved into the environments, social cultural and “economic” fabric of communities. These factors in a very real way, influence the daily lives of people, their health, security and give the long life of the dwelling a physical structure. These affect both the present and future “generations” and housing is therefore central to sustainable development.

Figure 2, source Michaela 2010, sustainable development social culture



(Jalal 2008 ) said that the sustainable development has its origins in the environmental movement that started in the 1950 and 1960 and the new movement was concerned with the impact that mankind was having on the planet and proposed that current levels of development could not be sustained if they continued without any form of regulation. (UN Conference 1972) state that the Human Environment was seen for the first time within an international agreement and had been sought to reach agreement on environmental matters and also predicted amongst other things that the Earth would reach its natural limits within 100 years if growth continued at the existing rate of the time.

Sustainable development is presented as a more or less clean break from other modes of development, which have led and are still leading to worrying social ecological damage on both a worldwide and local scale. (CSR 2009) In order to be sustainable, development in new housing in urban areas must combine three main elements, fairness protection of the environment and economic efficiency.

Throughout the 1980's sustainable development has negative impact to human environment and development becomes increasingly difficult to ignore, (Gilbert 1985) said that scientists discovered that a hole in the Earth's ozone layer had appeared over the Antarctic this was linked to the emissions of manmade chlorofluorocarbons (CFC's) in to the Earth's atmosphere. He also said that in 1985, The World Meteorological Society reported on a build up of so called "greenhouse gases" in the atmosphere which, it was felt, would lead to "global warming.

(Cozens, 2007) *Said sustainable development is now at the top of the "political" agenda in many countries.* (Batey, 2004) said there is a widespread consensus that progress towards sustainable development is essential. However there is considerable debate as to what this term means. One particular part of this debate concerns the role of cities as major consumer of energy and generation of pollution.

Sustainable development in "urban" areas will be defining trend over the next several decades especially in east and south Asia and Africa where the extreme "poverty" is concentrated. Cities in these and other regions will play a central role in the ability of nations to achieve sustainable development. Today half the world's seven billion people live in cities. By 2030 there will be over one "billion more urban residents and for the first time ever in many parts of the world the number of rural residents will start to "shrink" between 2010 and 2050 the urban "population" will grow significantly by 2.5 to 3 billion people, increasing the urban share to two- thirds of the world's population (UCLG 2013).

We are already seeing the damage this kind of approach can cause from large scale financial crises such as housing market collapse, many people have lost their "jobs, caused by irresponsible banking to changes in global climate resulting from our dependence on "fuel based energy sources (Richard, 2009). (Winston, 2009) Said that action" is needed now rather than later and the longer we pursue unsustainable development, the more frequent

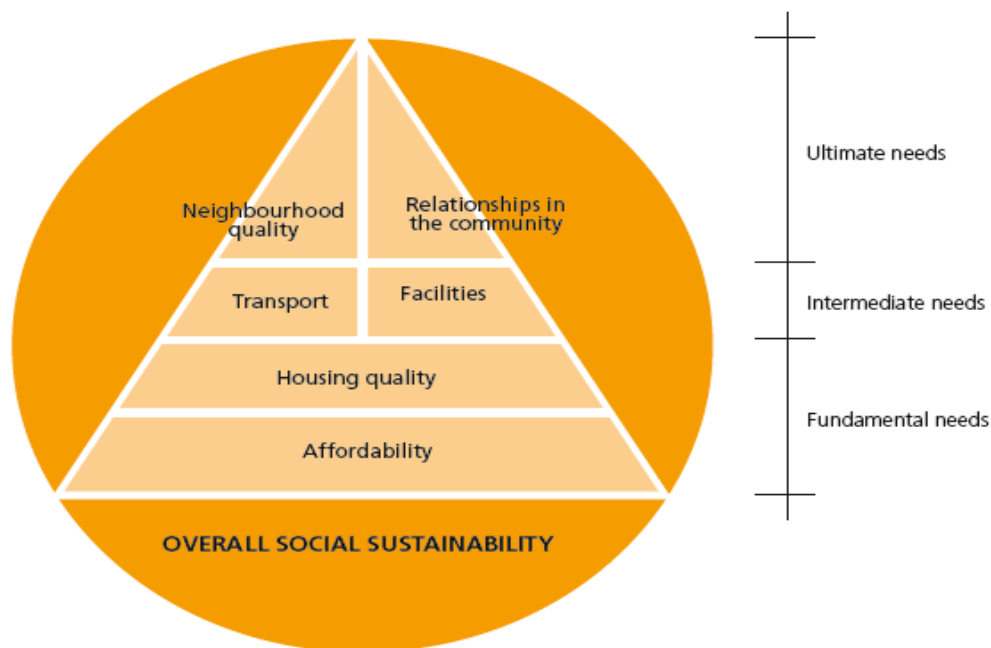
and severe its consequences are likely to become. If action is not taken, rising energy and fuel costs could bring large numbers of families into “poverty” with more and more vulnerable people unable to afford to keep their houses warm in winter.

The low carbon refurbishment of over 20 million existing homes by 2050 in the UK may cost £500 billion at the rate of £250 million each week with one house needing to be refurbished every single minute(SAB SE 2008).

This is the most cost effective way to ensure our cities and towns are fit for the future and create the condition for people to thrive. Through empowering community groups, to come together and tackle issues of local priority, and to work in partnership with local authorities, multiple benefits can be delivered. Such upgrades to our physical infrastructure not only tackle climate change, they can also deliver reliable and improving long term housing supply, maximise employment opportunities and make our communities safer (Cooper & Vargas, C,M 2004).

Figure 3 shows that conceptual representation of the social sustainable development of housing.

Figure 3 Source, Thomson-Fawcett 2008, socials sustainability.



## **2.4 What is preventing developers from being built new sustainable housing in the urban areas?**

(Miller 2013) said that the challenge of providing housing that sustain its inhabitant socially, economically and environmentally , and is inherently sustainable for the planet as a whole, may best be achieved by focusing on the process of achieving sustainability rather than looking at the multiple issues in isolation(Salama,2006)

(Larsson 2004a) said that if sustainable development goals are to be truly reached, we could argue that buildings should consume no energy, materials and should produce no emission, noise or waste, over their life spans (Wendy 2013).

### **2.4.1 Social poverty**

(UNDP,n,d) said that the “poverty” is the most significant socioeconomic dimension of sustainable development and the most main aspect of poverty is deprivation, hungry, disease, unhealthy work environments and standard housing. (UNDP) also said that poor people cannot afford to pay for their mortgage to buy new sustainable houses because of low income, though it is crucial, and their escape from the cycle of poverty. The poor see themselves as “voiceless and not a part of the society making decisions and this is a negative factor preventing from building sustainable new houses because of poverty.

(GDP) state that in Asia and South Asia which is the “poorest” part of the region, however, despite a health growth rate in GDP, one in every five persons in this world including significant majority of women and girl is living below the poverty line (income of less than \$1 per day) and one of every two lives on less live on less than \$2 per day and this has a negative impact to social environment and “preventing” new housing being built sustainable especially in urban areas because of poverty.

(DEAS 2013) said that the world reached the poverty target five years ahead of the 2015 deadline and the development region the preparation of people living on less than \$1.25 a day fell from 47 per cent in 1990 to 22 per cent in 2010. (DEAS 2013) state that approximately 700 million fewer people lived in conditions of extreme poverty in 2010

compare with 1990 and this has significant impact to sustainable environment especially in sustainable development, new housing for future because of social poverty and low income.

(Brown 2014) state that lack of poor social “integration is costing the UK economy £6bn a year because of problem are emerging in urban areas from employment to health, casting the UK equivalent of 0.5 0er cent of GDP and it is impact along on the long term jobless is estimated to be £1.5bn.

#### 2.4.2 Crime preventing new housing sustainability

The environment movement has played a role in influencing the “new housing” development of sustainability and it is increasing urban sustainability. *It is seen as a new large scale vision to guide the planning agenda for the twenty first century* (Paul,2007). However a review of the literature clearly indicated that crime and fear of crime can “seriously undermine the broader aims of urban sustainability. Environment design (CPTED) state that analysts tend to focus on levels of recorded crime, largely “ignoring the crucial and arguably more important dimension of citizen fear of crime and their perceptions of their local environment and this paper provides “recommendation” for integrating crime and fear of crime within assisting in the new housing development of urban sustainability.

(SCP 2013) said that use of crime prevention technology continues to expand within the urban environment such as alarms, shutter, gates, bars, walls and CCTV are increasingly being used to protect retail and residential properties. (SPC 2013) said that this article investigation crime and security shutter in a residential setting and in turn reported on the perception of 653 respondents (residents in a England) and the survey explores perception of crime on the street and contrast perception of crime associated with shuttered and non-shuttered properties.

#### 2.4.3 Homeownership creates problems to build sustainable housing.

(UN Habitat 2011b) state that there are problems with policies, excessively private housing in urban market and homeownership and too much focus on homeownership contributions to market volatilities. Under the condition of economic growth, there is rapid expansion in mortgage activities that may result in the credit binge and surge in property prices and housing price drops and many are left with negative, equity of their remaining mortgage. As

many low income people also find themselves unable to pay back their credit obligation during this period, their home is repossessed and they lose their already accumulated capital in property investment and majority incomes are locked in paying back mortgage. Household disposable incomes available for other goods and services shrink, with negative consequences on the aggregate demand in the economy, further reinforcing general economic problems.

#### 2.4.4 Why does waste matter for sustainable housing strategies?

(BRE) state that there are many reasons, such as irresponsible waste disposal which create various risks for both the health of the residents and the natural environments including air and water pollution. Waste places a heavy load on urban infrastructure, it involves land use change. Waste in landfill contributors to the emission of methane and waste is also responsible for carbon emissions if burned, waste can also amplify negative local climate impact like dumping of solid waste can clog drainage channels and cause local flooding.

Figure 4 Source Golubchik/UN -Habitat.



#### 2. 4.5 Economic downturns

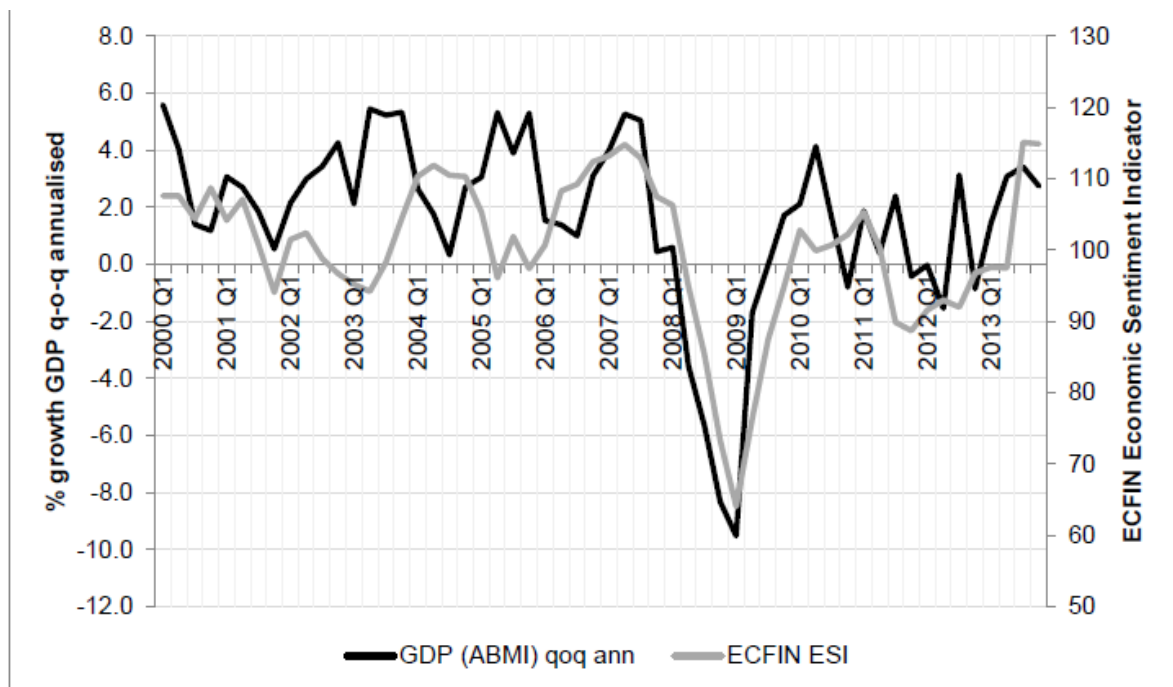
(GDP) said that building sustainable housing in urban areas “ have pushed buyers of existing product out of the market with no debt products that make underwriting sense available and new development housing has slowed as job losses and “recession” fears have put the capital markets on hold until a clear bottom to this cycle can be called. (GDP) said that in the

face of increasing “vacancy and falling rent the cost “inflation is back again, driven by world demand for energy and energy supply. Uncertainty and construction cost increase have returned and are expected to continue in labour. Fuel, copper which is a derived component as well as concrete for the foreseeable future is also at risk.

(Gary 2014) said that this is a global issue and 29 to 59 million unemployed people have been added between 2007 and 2009 and within the same period, absolute number of people newly rendered to “poverty living with less than 1.25 USD per person per day and this has significant impact to the local economy “preventing new sustainable houses from being built.

(UK Labour Market 2014) said that the arrival of global financial crisis in 2007-08 contributed to falling business and consumer confidence and an extremely sharp recession during 2008 and 2009(Figure 5)

Figure 5, Source ONS GDP, UK GDP growth economic sentiment, 2000-2013.



## 2.5 The existence of unsustainable housing in urban areas in the UK

(Croome 2004) said that most studies on new design, encourage more “efficient use and property value but unfortunately there is very little discussion on the contribution of maintenance of existing building to sustainable development and those exceptions focused on environment issues only. (Jones and Clements 2004) said that refurbishment of derelict properties could “reduce demolition and construction waste while contended that repairing existing structure would save a lot of materials and resources”.

(DCLG,2007a) said that *around 80% of the UK population “lives in urban areas and over 99% of all existence” in which homes are more than a year old.* The 24 million existence homes in the UK contribute almost a third of all carbon emissions (Duncan 2009) and at least 87% of these homes (22 million) will still be standing in 2050.

### 2.5.1 Poor housing and existing conditions

(Power 2009) state that “about 7 million existing homes fall below the minimum standard” and to bring all homes up to a decent minimum standard will need, thermal warmth, basic repair and to make all neighbourhoods attractive, secure, sociable places to live in with a well maintained well-spaced and supervised. (Power 2009) also states that two third of the population would not consider buying a new home and prefer existing, older housing, reinforcing the potential for recycling and upgrading existing homes.

(EAC 2010) said that one – third all existing housing fall below standards this includes 1.5 million social housing and 40 per cent of all homes in the most deprived wards and 40 per cent of homes occupied by ethnic minorities. The large majority think that “recent housing development are not well designed” and only 36 per cent of the population will consider new housing as an option and two thirds prefer a refurbished “existing” home.



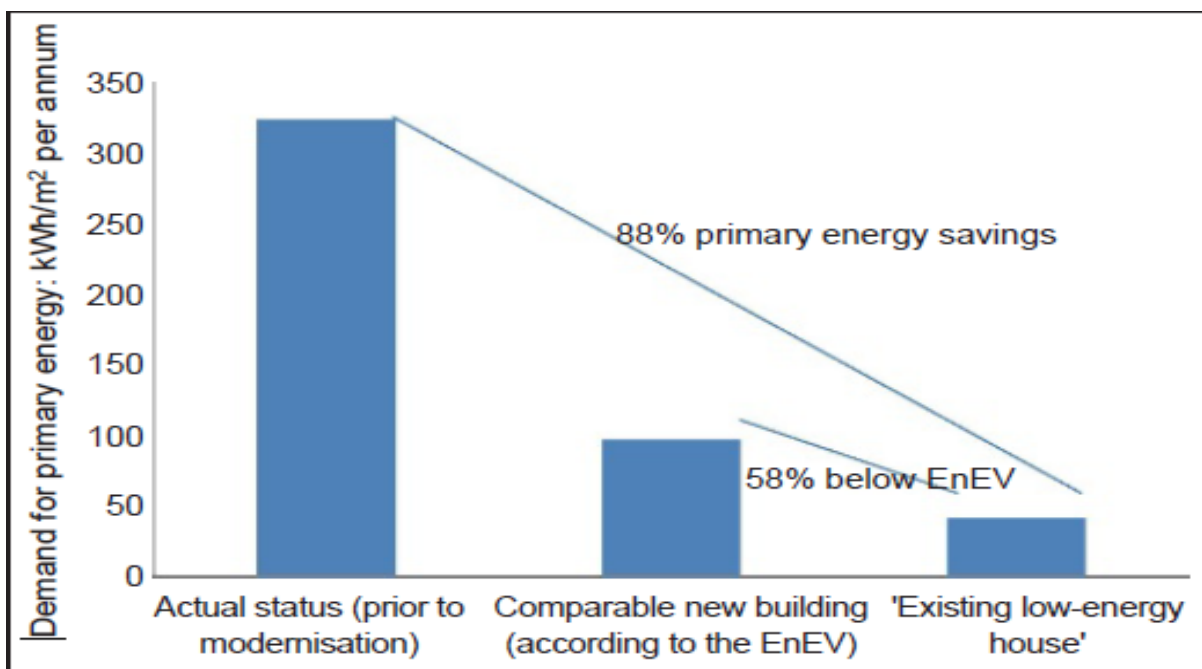
## 2.5.2 Energy in –use of existing buildings

(UK 2008, Yates 2006) said that buildings are newly produced and processed, so new homes use up to 8 times more resources than an equivalent refurbishment and this is because most of the building mass and structural element in an existing property are already there and only rarely need replacing. This constant requirement for new materials, regardless of the long term energy efficiency of the building, has a major environment impact.

The (EHA) state that embodied energy and energy in use of existing and new buildings use three recent new builds and three renovation exemplars and the existing building were renovated to varied energy efficiency standards and the new ones were developed by higher building standard. (UK 2008, Yates 2006) said that research compared the two types of property over 50 years, and include measure of the embodied energy and infrastructure costs for new builds which were an additional input compared with refurbishment.

Evidence of energy reduction programme attached below:

Figure 6 (resource DENA, 2009) (resources DENA, 2009)



### 2.5.3 Decent homes – the problem of liveability in the UK

(Power 2010) said that new housing had extreme low density of new buildings, particularly in the South East UK and the Government need to respond to much smaller household size, particularly the growth in young and elderly single person household.

(Power 2010) also said a better use of existing empty buildings and homes, higher density and better design will all play a part in increasing the flow and affordability of housing supply and the Government need to take steps to curb the right to buy and its misuse in high demand areas, particularly in London.

### 2.5.4 Empty property in the UK

(SD 2013) said that there are 730,000 “empty properties in England 3.4 per cent of the total stock and 1.8 per cent of “private housing is empty, but this make up 80 per cent of all empty property, and 300,000 homes have been empty over 6 months. More than 40 per cent, of 40,000 empty properties in London and further 30,000 outside London in the South East are long term vacant.

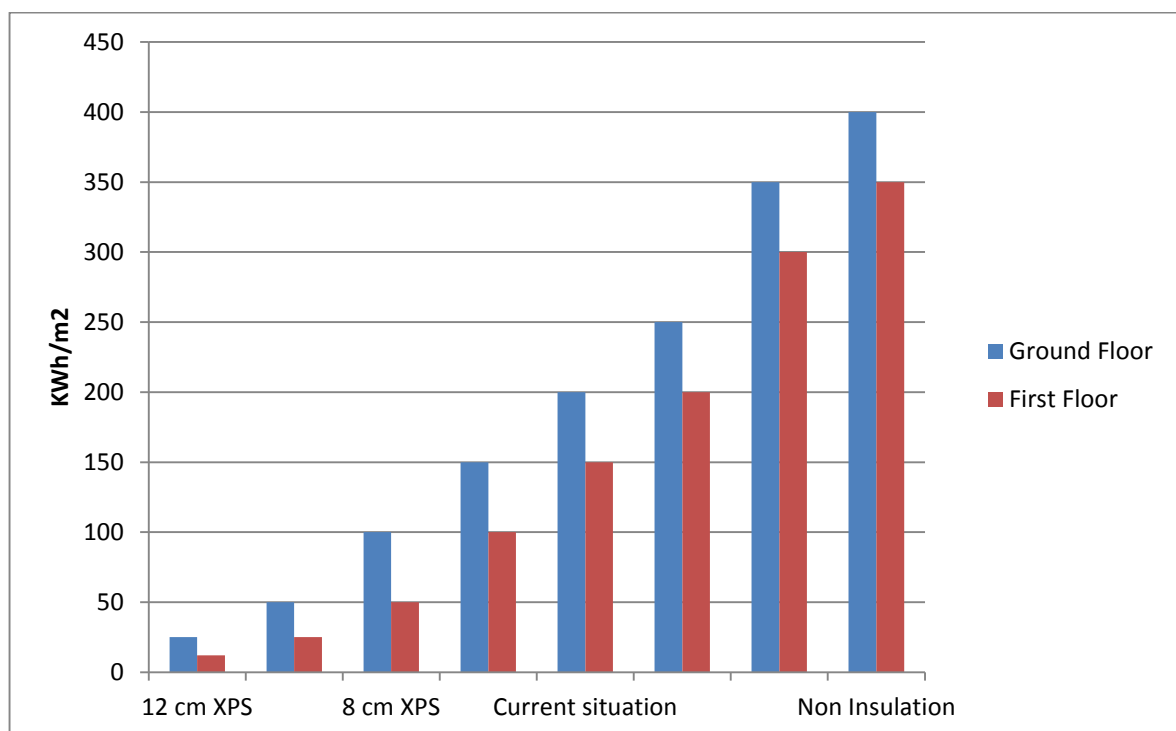
### 2.5 .5House existing U value in the UK

(Yildiz 2014) said that the buildings were constructed during 1980 and had no thermal insulation and external wall with the U value of 2.015W/Mk. The ground floor has a U value with 1.737 W/m K, the roof has U value with 4.129 W/m K, the windows are made of a wooden frame and single glazing 6.121 W/m K. All of the U values for the building components are not within the limits defined in TS-825, as it was built before it became compulsory and it has a significant negative impact to people because of costs housing and the maximum U values shown. In TS- 825 buildings are 0.5 W/m K for external wall, 0.3W/m/ K for roof, 0.45 W/Mk for ground floor 2.4 W/m K.

### 2.5.6 Improvement of thermal insulation in the UK

(Yusuf 2014) said that between non-insulated and the current situation of housing in terms of urban areas of annual heating energy loads is less than 50% compared to non- insulated condition. At the same time there are different annual heating loads consumed in ground and first floors and about 10% more heating is needed on the ground floor and heating load can be reduced to 8% in current houses with added in external walls insulation. See (Fig 7)

Figure 7 Source Ozbalta 2009, Impact of insulation on external walls on annual heating load



### 2.5.7 Poor neighbourhood

(Kearns 2003) said that homes in poorer neighbourhoods in England and particularly east London sell for half the London average and in low demand areas of the country. Many neighbourhoods are unattractive, even though the housing itself may be in a reasonable condition and are also very cheap, creating a different kind of problem. (Ade 2003) said that the poorest neighbourhoods have tended to become more run down, more prone to crime and more cut off from the labour market.

### 2.5.8 Problem estate in the UK

(BRE 2005) said that the problems with “worst estates” are poverty and people who are poor live differently and they cannot afford enough heat to avoid damp. Rich people on the other hand, without young children would not have the same problems. Examples of problems in poor areas are:

- *Rubbish*; large waste items cost money to remove. Home maintenance and garden; costs money for equipment which many poor people do not have.
- Empty housing because the area is unattractive and a bad house in a good area would still be taken.
- Lack of community facilities like shops and facilities are not economically viable.

(BRE 2005) also said that there are clear connections between bad design and problems like rubbish, graffiti, and high-rise blocks, play space, isolation, disposal of rubbish, noise insulation, reliance on lifts which are often dirty and insecure because of fears of fire and crime. Changes in the use of high- risk blocks have shown a much higher level of satisfaction with them by the new tenants.

## 2.6 The effects of not build's sustainable housing in urban areas in the UK

### 2.6.1 Poor housing costs the NHS in the UK

(BRE) states that, *avoidable disease and injuries caused by poor housing in urban areas costs the NHS at least "£600m" a year.* (HEAL) said that the result of not builds sustainable homes have long term impact on physical and mental health. The health effects of poor housing disproportionately affect vulnerable people like old people living isolated lives, the young, those without a support network and adults with disabilities.

### 2.6.2 Cold homes in winter in the UK

(Beveridge 2009) said that the effect of not build sustainable housing has increased the risk of respiratory and rheumatoid disease and mental health and poor housing or cold homes are significant contributors to the level of excess winter deaths in the UK every year and in 2009-10. There were an estimated 25,400 excess winter deaths, over 21% are attributable to the coldest quarter of homes.

(Steele 2004) agreed that older people who suffer from heart attack or strokes as a result of winter cold homes can face permanent disability and they may need care at home or event full time residential care as result, so there are likely to be substantially increased demands and costs on care services.

Age UK has calculated that the estimated cost to the NHS in England arising just from cold homes is around £1.36 billion per year and this incorporates costs of both primary care and hospital treatment.

### 2.6.3 Overcrowding

(UK National Statistics) said that the overcrowding impact of the housing crisis on households across the country, especially in urban areas shows that homes with six residents are the fastest growing category of household. Three million people in the UK now in a home have at least five other individuals and now also 1 million children live in overcrowded homes in the UK.

(Kearns) said that overcrowded homes have been slow growth in children which correlates with an increased risk of heart disease as an adult.

#### 2.6.4 Damp housing in UK

(English housing survey 2012-13) said that about 1m homes in the UK have damp problem stand are most common in privately rented homes, where 9% of private rented houses had damp, compared with 5% of social housing properties.(Matthias 2010) agree, said that damp housing are at increased risk of experiencing health problems such as respiratory symptoms, infection, allergic rhinitis and asthma. On the other hand, people living in well-insulated and adequately ventilated accommodation are less likely to visit their doctor or hospital due to respiratory condition than those living in damp houses.

#### 2.6.5 Damp causing long term illness to childhood in the UK

(GIG,2010) said that *tackling childhood asthma is particular importance as there is the strongest evidence base of associated with dampness and mould and the impact on health through people's lives.*

(GIG,2010) also said that respiratory disease is the third most commonly reported long term illness in the UK and by far the most commonly reported long- term condition in childhood and the UK has one of the highest childhood asthma prevalence rate in the "World.

#### 2.6.6 Homelessness in the UK

(Fitzpatrick 2005) said that after the US, the UK has the largest body of research on homelessness in the developed World (Christian, in press) with most of it rooted in the urban housing and social policy research.

(Fitzpatrick 2006) said that homelessness is a complex problem and the reasons housing shortages, poverty, unemployment, and personal difficulties have an impact on mental health, drug, and alcohol problems are sometime said to be the causes of rough sleeping.

(John 2011) said that the number of people in England who have slept rough or lived in the hostel system at any time over the past year is estimated at 10,5500 (DH,2010) and a report by (Palmer 2003) aiming to encompass those who do not show up in official figures such as

those with friends and family members estimated at the time, range between 310,000 and 380,000 single homeless people in UK.

(Anderson 2001) disagree, said that not homelessness is a complex problem, the stress can often lead to ill health when expressed as health damaging behaviour. (Elstade 1998) agree that several research studies from the UK demonstrate a high prevalence of illicit drug use and heavy drinking among the homeless.

### 2.6.7 Migrants and population rise in the UK

(LEDCs n,d) said that many migrants to the urban areas in UK cause housing issues as they cannot afford housing to live in and the settlements are usually very overcrowded.

(Dwyer 2009) said that arrival of significant numbers of people seeking stay and work in the UK is increasing and the majority are forced migrants living in the urban areas and the subsequent decision to disperse them to different locations across the UK, presented, significant challenges for housing providers (Phillips 2006).

(John D 2014) said that in 1950 the population living in UK cities was 79% already a large figure but one which is set to rise to 92.2% by 2030 because of significant rising migrants from Europe and around the World especially in the urban areas.

### 2.6.8 Public expressed their concern about Immigration in the UK

(Migration watch 2014 UK) said the public expressed their concern about levels of immigration and impact that this had on housing, public services and labour market and 79% of people in England think that England is overcrowded and 76% believing that immigration has placed too much pressure on health, transport and education. A further 69% believing that immigration has had a negative impact on the availability of housing and the current government policy, 78% of the public support the aim to reduce net migration.

(ONS, UK 2011) said that the major impact of immigration on the population stood at 59.1 million and ten years later the population had grown by over 4 million, the largest increase since 1911 and stood at 63.1 million. (ONS) also said that UK population will reach 70 million by 2027 an increase of 5.9 million on the most recent population, which estimate 64.1 million

in 2013 and this is based on the principal projection under which net migration if it continues at a rate of 165,000 per year.

### 2.6.9 Beneficial picture of migrant in the UK

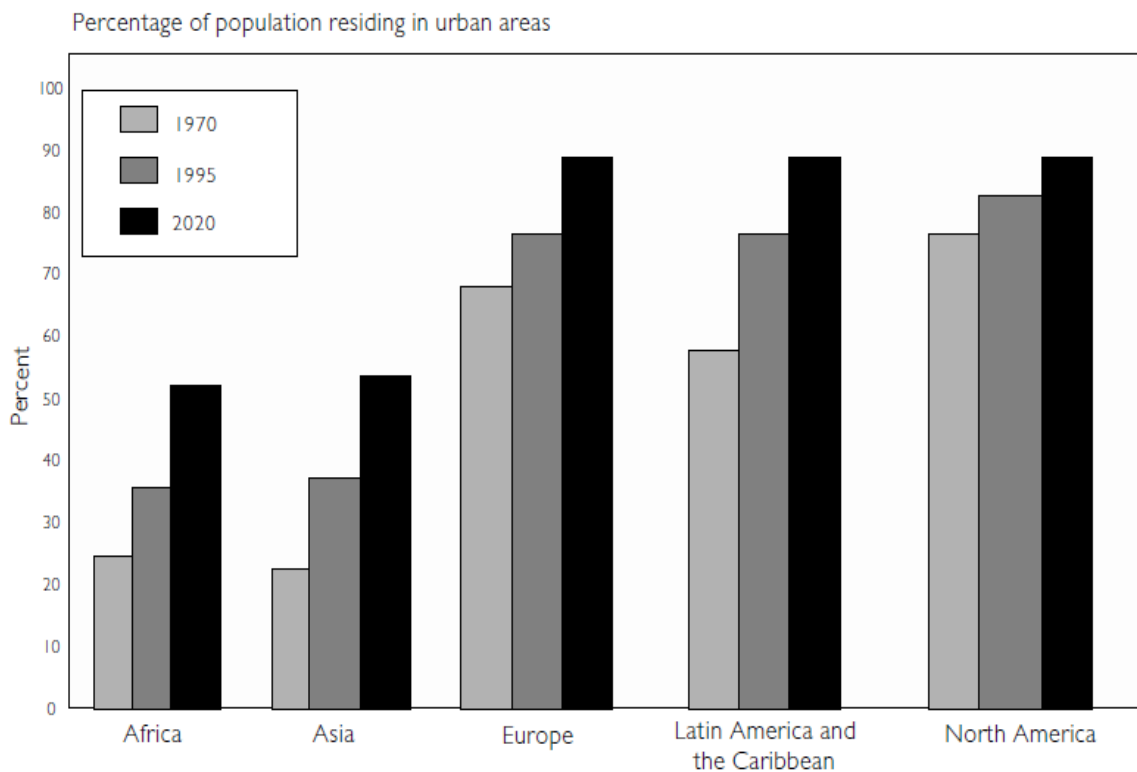
(Robert Chote the chairman of the Office for Budget) said that letting more immigration into the UK “does tend to produce a more beneficial picture for the public purse”.

(BBC News November 2014) said that 10 countries that joined the EU in 2004 contributed more to the UK than they took out in benefits and they added £4.96bn more in taxes in the years to 2011 than they took out in public services, the report produced by University College London (UCL) found.

### 2.6.10 Population residing in urban areas in UK

(Philip 2013) said that during 1950-2010 a net 1.3 billion people were added in small cities, more than double the number of people added in medium cities (632 million) or large cities (570 million) see figure below.

Figure 8 Source Who7, Urbanization level and urban growth rate by region 1970-2020





(Rees & Paul 2013) said that we should consider the impact of component on the future population of the Whole UK where the sum is 5680 of local ethnic subpopulation, 355 local areas, 16 ethnic group and figure below shows five projected population and UK population growth to 75.8 million people in 2051.

Figure 9 Source Paul 2009, Future ethnic group population for UK local areas 2001-2051

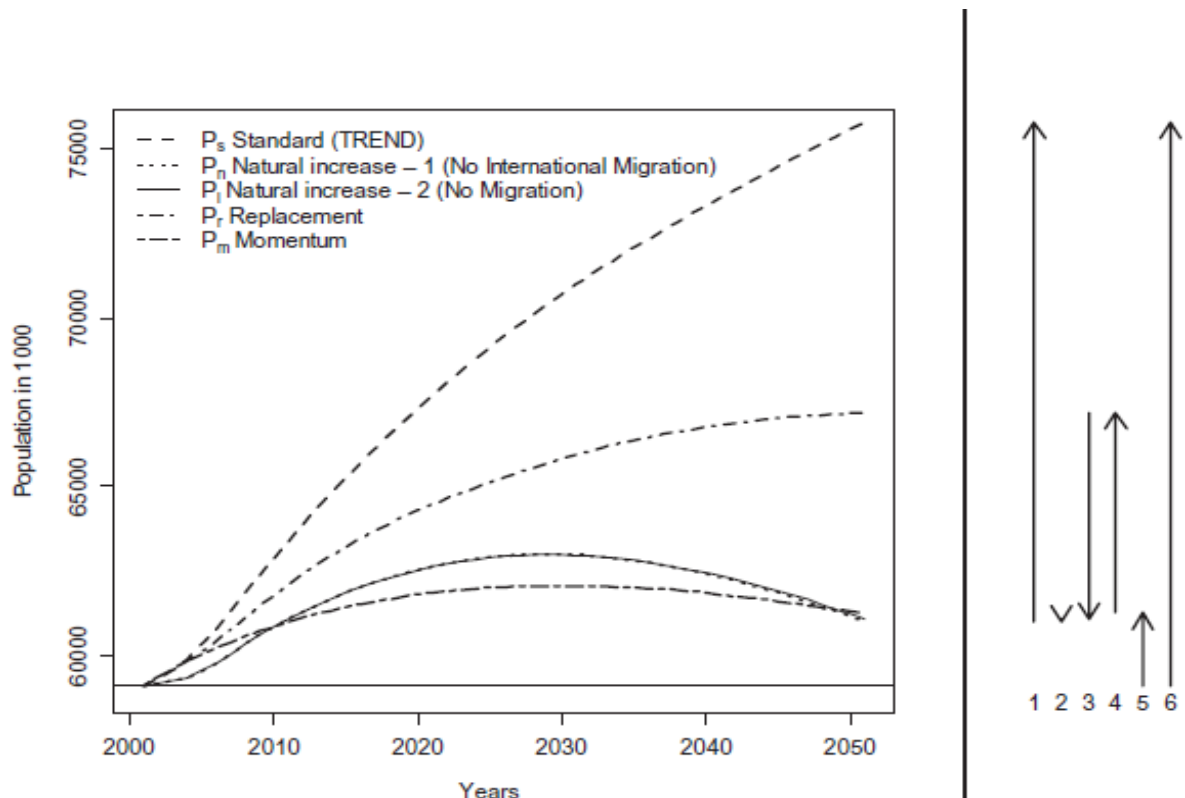


Figure 10, Source Computation, Projection result for the UK, 2001-2051, for all ethnic groups combined

Effect	Formula	Population differences (millions)	Population multipliers
1 International migration	$P_s^{2051} - P_n^{2051}$	$75.8 - 61.0 = 14.8$	$75.8/61.0 = 1.24$
2 Internal migration	$P_n^{2051} - P_i^{2051}$	$61.0 - 61.1 = -0.1$	$61.0/61.1 = 0.99$
3 Fertility below replacement	$P_i^{2051} - P_r^{2051}$	$61.1 - 67.2 = -6.1$	$61.1/67.2 = 0.91$
4 Declining mortality	$P_r^{2051} - P_m^{2051}$	$67.2 - 61.3 = 5.9$	$67.2/61.3 = 1.10$
5 Momentum	$P_m^{2051} - P_0^{2001}$	$61.3 - 59.1 = 2.2$	$61.3/59.1 = 1.04$
6 Total change	$P_s^{2051} - P_0^{2001}$	$75.8 - 59.1 = 16.7$	$75.8/59.1 = 1.28$

## **2.7 Lack of sustainable and affordable housing in urban areas in the UK**

(Hall 2006) said that a recent survey by De Montfort University suggested that many housing development organisations were not managing to comply with basic environment legislation and over 98% of sites failed to meet the (SAP) energy regulations. (NES, 2003) said that new housing that were failing to comply with the (SAP) regulation did not necessarily mean that new housing were energy inefficient.

### **2.7.1 Lack of affordable housing impact on all aspect of life in urban areas in the UK**

(Belinda 2010) said that the problem of affordability is not limited to buying a home, it is also a significant issue for those living in the private rented and housing association sector and average monthly rent in England is £564 per months, equivalent to around 32% of gross average pay £21,685.

(Belinda 2010) also said that in urban areas young adults say that their housing costs were affected when they had children and the group of 18- to 34 years old who already have children were further affected. Another 22% of couples had delayed starting a family until they could afford to rent or buy their own home, while 35% confirmed that they are waiting until they can afford a large home before they could extend their family.

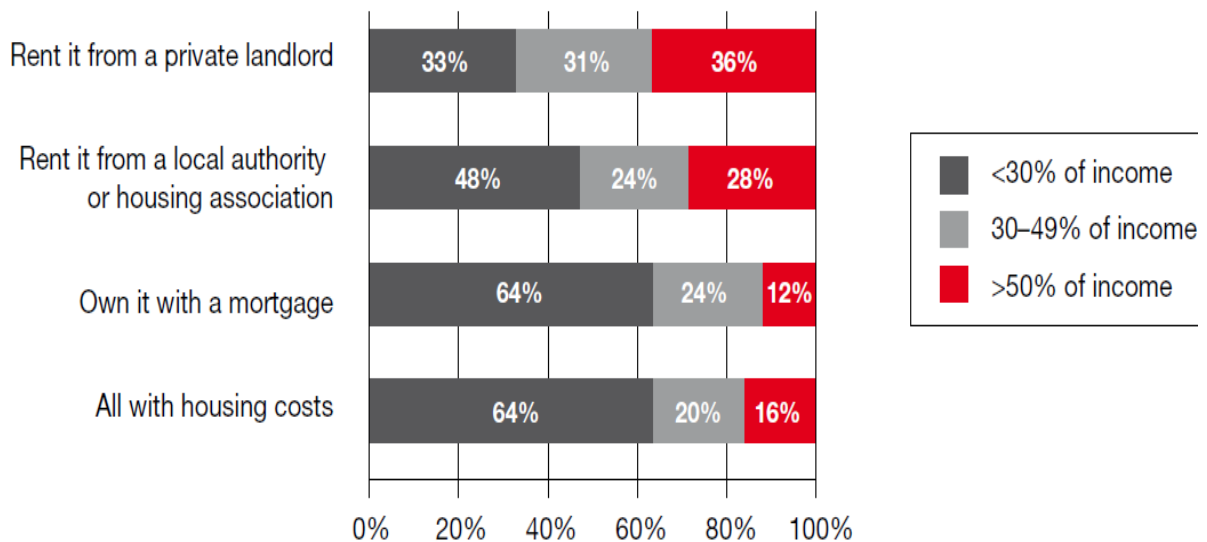
(Shelter England 2014) said that a growing number of adults are being forced to move back in with their parents, 22% of 18- to 34 years old still live with their parents and of these 45% confirm that the reason for this is because they can't afford to rent or buy their own home. A further 41%, 17.8 million (38%) believe that their future children will not be able to afford a decent home and nearly half of the population (44%/20.6 million) believe that in relation to housing especially in urban areas this is more the case. The next Government should prioritise the supply of affordable homes within this context.

(Mattias 2010) said that good housing is in short supply and this makes it expensive because housing schemes in a market where people are most likely to be left out will be those who have the least resources and people have to live where they can, so they have to live in unfit accommodation and they may have to accept overcrowding and the shortage of housing this

also leads to increasing prices, creating problems in the supply of affordable housing in urban areas.

(E,J Mueller 2007) said that *the housing costs cause people stress and depression, while 35% confirm that the stress of paying for their housing costs has kept them awake at night.*

Figure 11, Sources YouGov 2009: Proportion of household income spent on housing costs by tenure



### 2.7.2 UK Government action needed

(David 2003) said that the Government should increase the supply of affordable housing while 20.6 million believe there should be more help for first time buyers and in addition, over a third of people think increasing affordability was the best way of both improving a long term and financially secure option.

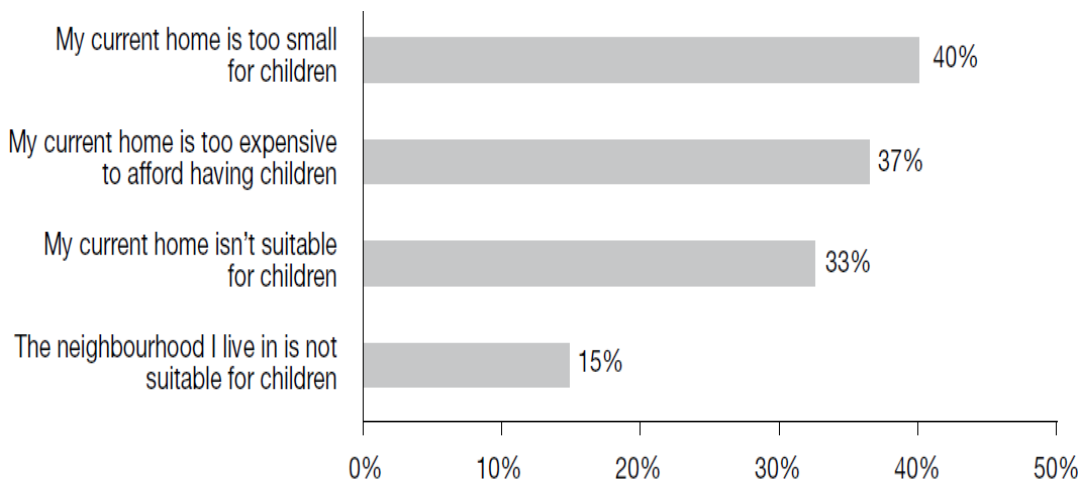
(Shelter England 2014) said that it is useful to look in more detail at people’s attitudes to house building in urban areas in the UK and the role that Government can play in other housing areas and these are shown below.

- In relation to their local area over two third (68%/ 31.9 million) of people agreed that more affordable houses are needed.
- (30.5 million) of people said that it would be more likely to support a home building programme if they knew the new homes would be affordable.

- (8.4 million) of people said that the government priority should be to take measures to stabilise property prices especially in large urban areas like London, Birmingham, Manchester and Newcastle.

(Shelter England 2014) said that the figure below shows the people’s current housing situation in urban areas and the affect it has when starting a family.

Figure 12, Source YouGov, 2009, Thinking about current housing situation in urban areas in UK, which of the following factors would you say are affecting when to start a family?(% agreeing)



### 2.7.3 Affordable Homes Programme in urban areas in the UK

(HCA 2014) said that the lack of affordable housing in urban areas in UK can be a brake on economic growth and Under the Affordable Homes Programme is £1.8 billion to delivery up to 80,000 new homes for Affordable rent and Affordable Ownership by 2015. In 2015 some £3.3 billion will be available for the construction of a further 165,000 houses. Successful bidders under the programme are required to re-let a proportion of their existing stock at an affordable rent, set at up to 80% of local market rent and use of additional revenue from this higher rent to supplement the grant they have received from the (HCA).

(UK National Audit Office) said that affordable homes Programme model requires the Government to pay less grant per home than under previous schemes £20,000 compared with £60,000 under the previous (NAHP) while housing providers borrow more and can charge higher rents.

#### 2.7.4 Housing shortage in the urban areas in the UK

(Best 2002) said that UK is heading for property shortage of 1.1 million homes especially in urban areas by 2022 unless the Minister's press for a dramatic increase in the house building programme and 70% of the demand for homes is found in London and South east UK but only half of all new homes are being built there. Society should be honest and accept that significant numbers of home must be built on Greenfield land and without action housing "shortage will become "one of the most significant social issues of the next 20 years.

(NWDA Board member Felicity Goody) said that housing shortages and costs are significant factors in the recruitment and retention of key public sector workers in the North West with resultant major impact on health, education, transport and social services. (NWDA) also said that the UK Government needs action housing shortage in North West, because the North West is home to two of the UK's biggest urban areas such as Manchester and Liverpool and the areas have an economy the size of Portugal.

## **2.8 Performance of UK government to promote sustainable development new housing and protected existing sustainable development in the UK.**

### **2.8.1 Improved social housing by UK Government**

(Carter 2006 ) said that the UK government has significantly invested, to improve the quality of its rented social housing over the next five years and in England £38 billion is to be invested through the sustainable communities plan by 2010 which includes constructing 84,000 new homes by 2008 (Housing Corporation 2006).

(Taylor 2007) said that housing in urban areas is considered to be central to the successful delivery of sustainability and it affects quality of life which has implications beyond housing, affecting transport health employment and community (William, 2000). Social housing construction represents a relatively large proportion of public procurement and has been recognized for its ability to address innovation (Goodchild and Chamberlain 1999).

(Joe 2013) said that the UK housing association sector has increasingly becoming the main provider of social housing and a major force in area regeneration activities and it is estimated that £2000 million is spent annually by the housing association sector on regeneration schemes and furthermore, that for every £100 million spent on housing investment, around 1000 jobs are created in the construction industry and a further 540 jobs elsewhere in the economy (Duncan and Halsell 1999).

### **2.8.2 UK Government funding with house buildings 2014**

(Housing Minister Brandon Lewis 2014) said that from 23 December I giving extra borrowing powers to 21 councils who over the next 2 years will use that to build more than 1300 new affordable homes for their communities. This will take the total amount of Government funding to almost “£222” million helping to build more than “3000” homes. It is encouraging to see councils seizing this opportunity to make use of the very power they had asked for.

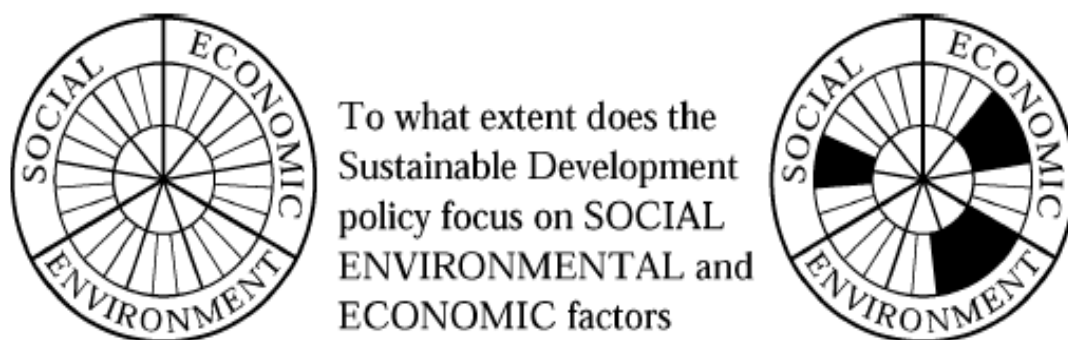
(Lewis 2014) also said that its one of the many things we have done that has got Britain’s buildings with new house building levels now at their since 2007 and climbing.

### 2.8.3 SD policies reflect in the urban areas in the UK

(Carter 2008) said that the extent to which SD policies reflect environmental economical and societal aspects of sustainable development in urban areas is a measure of how these factors are prioritized for typical new housing schemes. The respondents were asked to indicate the balance of their policy by marking the proportion of segments on the questionnaire, from that it was relevant to each aspect of sustainability within their policy documents figure 13.

The results indicated that there was a predominance of SD policies with significance being given to one or more of the economic, social and environmental aspects of sustainability and only 37% of respondents allocated three segments to each category giving equal emphasis for their sustainable development policy. The histogram for environment is skewed to the right and represents a tendency for respondents to score environment more highly in their SD policies.

Figure 13, Sources Taylor 2007, Balance of sustainable development housing policy



### 2.8.4 Increase new household in the UK

(P.F.G. Banfill 2010) said that due to trends in the formation of new household and the reduction in their average size, combined with inward migration and longer life expectancy of the population as a whole, it has been estimated that an increase of 120,000 private sector and 26000 social homes per year over present supply is needed(Barker 2004). (P.F.G. Banfill 2010) also said that the UK Government response in 2005 was to express an ambition to increase the supply of new housing in England especially in urban areas to 200,000 units per year by 2016 and this mean that in 2050 about 30% of housing will have been built since 2006, with the balance already existing now.

(Joy 2013) said that the research has suggested that the current growth trends of households means the UK will need an extra 290,500 houses each year to keep the population satisfied and the UK has not reached this level of completions as of yet.

#### 2.8.5 Green buildings in the UK

(Huntingdonshire council 2013) said that whilst new homes are being built to a higher environmental standard, we need to address existing homes to achieve high carbon reduction targets by reducing emissions, saving energy and saving money.

(BREEAM 2013) agree said that *almost half of the UK carbon emission is caused by buildings and to reduce CO<sub>2</sub> emission by 80 per cent by 2050*. That means creating buildings with minimal environments. Current building regulation part L require property developers to reduce the amount of carbon emitted from new buildings as part of the UK Government wider objective of achieving zero carbon emission from new buildings by the end of the decade.

#### 2.8.6 Improving energy efficient new housing in the UK

(UK Housing Corporation 2008) said that the UK Government require new housing to become progressively more energy efficient leading to net zero – carbon emission from 2016 and action to reduce total emission needs to address both new build and existing housing, but the UK Government has decided to enforce and improve standards for new buildings and positively reduce emission by that route.

(UK Housing Corporation 2008) also said that the Government justifies this focus on new build by asserting that making every possible cost effective energy improvement to existing homes would reduce the annual CO<sub>2</sub> emissions in 2050 by only 25% of what is necessary and the rest must be achieved in new homes (DCLG,2006). Given that, this will require all the new homes built between now and 2050 to meet zero carbon standards. There is a case for examining this implicit rejection of a policy of energy improvements to existing buildings.



### 2.8.7 Standard of energy efficiency in the UK

(Walls 2014) said that developer and builder want a clear message on standards of energy efficiency and they expect higher demand of on energy efficiency but these directly impact on costs and this would push up the prices of new buildings and make the restoration and reuse of existing homes more attractive as it is generally cheaper to insulate an existing house than build a new one, allowing for infrastructure and energy costs.

### 2.8.8 Solar panels in the UK

(Energy experts Gambhir, Imperials College London) said that ten million homes in the UK should have their roofs covered with solar panel in the next six years and third of households generating energy from the sun would allow the UK to produce about 6% of its annual electricity needs from solar power [Figure 14, Sources Michaela 2014, Solar panels](#)

with as much as 40% coming from the panels on sunny days in summer, 2020. These figures are comparable to those of Germany which has made a major push on solar power in the last decade.

(James 2011) said that the price of solar panels has dropped considerably over the last couple of years; in fact, prices are typically 70% cheaper now than they were in 2010, due to market competition.



(James 2011) also said that solar panels have many benefits such as not to cause pollution and can be in remote areas where it is too expensive to extend the electricity power grid and it is estimated that the World oil reserves will last for 30 to 40 years but also has some disadvantage such as, it can only be harnessed when in the daytime and sunny and large areas of land is required.

(Solar guide 2014) said that the total profit of £17,074.10\* over 20 years for a 4kWp system costing £6,278.69 and that includes £480.83 income from FiTs (Generation Tariff) and £79.75 (Export Tariff) as well as an electricity saving of £240.75 and the payback time on this size system will be 6 years and 11 months.

## 2.9 Summary

Sustainable new housing has become a key issue within in urban areas in the UK is largely unsuccessful because the main aspect of poverty is deprivation, disease, unhealthy environment and poor standard of housing. This is costing the UK economy £6bn a year because of the problems which are emerging in urban areas such as employment and health (Brown 2014). This is a global issue, 29 to 59 million unemployed people have been added between 2007 and 2009 and this impact to the local economy, preventing new sustainable houses from being built.

There is definite absence of any specific policies from UK Government regarding population control in urban areas and according to the literature review findings that around 80% of the UK population lives in urban areas. This is already a large figure but one which is set to rise to 92.2% by 2030 because of significant rising migrants from Europe and around the World. The UK population grows to 75.8 million people in 2051 and this is a significant challenge for housing provider and 79% of people in England already live in overcrowded conditions and property shortage are on the increase with 1.1 million homes needing to be built by 2022. But according BBC News 2014 report said that the UK Government took benefits from migrant workers which were £4.96bn more in taxes in the years to 2011.

According to the literature review findings, there is lack of control on poor housing conditions in the UK especially in private housing sector and this has caused disease and injuries and costs the NHS at least “£600m” a year. The evidence shows that there is less improvement about cold homes in the UK and this costs the NHS in England more expenses just from cold homes alone amounting to around £1.36 billion per year.

There is a demonstrable lack of specific policies regarding empty properties in the UK and 730,000 empty properties in England and 300,000 homes have been empty over 6 months and 40,000 empty properties in London and a further 30,000 outside London in the South East are long term vacant.

The UK Government response in 2005 was expressing an ambition to increase new housing in England to 200,000 units per year by 2016. There is evidence that there has been action

taken in 2014 to build more than 1300 new affordable homes at a total cost of almost “£222” million.

UK housing association sector has become a key issue within urban areas providing social housing and these are largely successful. It is estimated that £2000 million is spent on regeneration schemes and housing investment and created jobs opportunities the construction industry, housing Market and renewal programme.

The UK Government has responded by new housing to become more energy efficient leading to net zero carbon emission from 2016 by adding more insulation and encouraging the use of solar panels over their homes. Current building regulation part (L) enforces the property developer to reduce the amount of carbon emitted from new buildings to achieving zero carbon emission.

According to the literature review findings that preventing the developer from being built sustainable new housing in the urban areas in the UK includes economic, poverty, crime, population, housing shortage and absence of any policies regarding empty properties in the UK. Therefore it is need further investigation into explore issues with social environment to creating unsustainable environment that effected sustainable new housing in urban areas in the UK, such as government subsidise developers enough to build sustainable new housing, economic, poor social environment and environment bodies playing their roles which will find in the following chapter research to discover answers to questions and gather data with quantitative research.

# CHAPTER 3- RESEARCH METHODOLOGY

## 3.1 Introduction

The following chapter discusses the research methodology and methods used of the study for empiric data collection analysis. The chapter contains five main sections are:

- The first section discusses the research methodology available.
- The second section discusses the quantitative research method and advantage and disadvantage.
- The third section discusses the qualitative research method and advantage and disadvantage.
- Fourth section discusses mixing research method advantages and disadvantages and the reason behind.
- These final sections discuss the research methodology used for the study and reason for the choice of this method.

## 3.2 Research methodologies available

There are two types of method used, broadly classified as quantitative research, and qualitative, research and a third one using a combination of these two methods mixed. The most important difference between methods are the ways in which each tradition treats data and data collection in terms of the use of words rather than numbers (Miles, 1984).

## 3.3 Quantitative research

Quantitative research is objective research with the aim to discover answers to questions and gather data which is quantifiable. Quantitative research is strongly associated with social survey techniques, i.e. structured interviewing, self-administered questionnaires, and easily measured data gathered from structure observation and statistical analysis. But the aim of quantitative data is to deal with number of the subject rather than the words (Newman, 1998).

The advantage of quantitative research is getting to the structural features of social life and data collected with standardised questionnaires showed very positive and satisfactory image from people and they also pay more attention to the quantitative. The participants also large an the quantitative, and offer more information so the findings have a more positive result. This makes it possible for conclusions to be drawn to a specifiable level of probability. Quantitative research is identifying trends, and enables us to evaluate the large collected data with numbers which are typically easy to plan and easier to analyse (normally with software) and can be characterized by higher data volume and faster and is more easy than qualitative/mixed research, (Liudmila, 2005).

The disadvantage of quantitative data is that there are no guarantees that any given research undertaken actually will produce relevant and reliable information and not maybe a deeper analysis and often not answered by the proponents of the competing task. There are also a lack of first hand involvement with the social world (Kelle 2006 and Filstead, 1970(Connelly, 2009).

### **3.4 Qualitative research**

The qualitative researcher looks with a wider perceptive, searching for patterns of inter relationships between a previously unspecified set of concepts. Qualitative research is concerned with the human experience of the social world and own cultural assumption as well as to the data.(Cracken,1988). It is associated with observation of respondents' opinions and unstructured interviewing, focus groups, examination of texts, and various language-based techniques like conversation and discourse analysis. Qualitative research has been influenced by an epistemological position that rejects the appropriateness of a natural science approach to the study of humans; this position finds its expression in such theoretical strands as phenomenology and symbolic interactionism (Brannen, 1992).

The advantage of qualitative research is that investigation is confidential, depth interview, direct and indirect. The researcher gets answers to particular questions and this method is relevant to disclosing the in-depth problems. The respondent is known and information exchange between the interviewer and respondent is free and easy, and finding are normally more valid that those born of quantitative research (Liudmil, 2005 and Malhotra, 2000).

The disadvantage of qualitative data; findings are often non-transferable and gathered data can be expensive and difficult to analyse, and with a small number of respondents the results are not applied to the population. The quality of collected data strongly depends on the interviewer competence and difficult to analyze collected data, there is also a large financial expenditure. Qualitative research is not as common as quantitative, because it is difficult in the generalization of collected data (Liudmil, 2005 and Malhotra 2000).

### **3.5 Mixing research methods**

The mixing research method is a mix of both qualitative and quantitative researching with both a narrow and wide view to gather data. thus findings will consist of both subjective and objective data pertaining to measures and the counting of things with in a subject along with the human aspects i.e. Mixed research is concerned with both the number of a subject and the words, (Brannen, 1992).

The advantages of mixed research may be weighted stronger than the other method and the integration may be comprehensive or restricted. Mixed research allows to answer a broader, more complete range of research question because they are not limited to one approach (Clark, 2011,, Lund, 2012). The other advantage of mixed research is providing more valid inferences, relevant for exploring and be more able to answer certain complex research questions than qualitative or quantities research in isolation. Also, mixed research allows for creativity and diversity of a project (Lund, 2012).

The disadvantage of mixed research is that it is difficult to conduct both quantitative and qualitative research, especially if both types of data are collected at the same time. It is also more expensive and time consuming to conduct and researchers are often not clear on how the findings from qualitative and quantitative data were integrated or linked to provide a fuller understanding of the phenomenon (Creswell&Tashakkori,2007)( Connelly, 2009).

### **3.6 Choice of research methodology**

Given the three research methods discussed above the quantitative approach was chosen in order to be able to generalize more freely from the findings and achieve the aim objective in section 1.3. The main reason for the chosen quantitative methodology is that many types of information behaviour will therefore not be described in this study, because the subjects will not have the opportunity to express them. The study was not qualitative description of the matter but instead finding general patterns. This method also allows for a greater degree of objectivity through structural features of social life and data collected with standardised questionnaires showing very positive and satisfactory images from people and has a sound validity.



## **CHAPTER 4- DATA ANALYSIS AND DISCUSSION**

In this chapter the results of questionnaires, analysis and discussion will be given. The results will be presented in graph format. The findings are presented mainly into three sections. The first discusses the generic detail of the participants. The second section presents the findings according to each and every question asked during the questionnaires survey. The final section presented a synthesis of overall findings against the finding from the literature review.

### **4.1 Generic detail of the participants/project**

To assess the impact of preventing the developer from creating sustainable new housing systems in urban areas in the UK. Data has been amassed via self-designed questionnaire. A total of 10 items were included in the questionnaire. To evaluate the influence of preventing developers to create sustainable new housing systems in urban areas in the UK. For this purpose a total of 106 questionnaires were circulated among the small and medium buildings contractors of North West England on the basis of convenient sampling technique. 38 questionnaires were returned fully responded making the response rate at 38%.

#### 4.1.1 Demographic characteristics

Question 1: Age of the respondent

- (1.1) 18-30 years    (1.2) 30-40 years    (1.3) 40- 50 years    (1.4) Above 50 years

The demographic attributes about which information was gained via questionnaire include age and gender respondents.

Figure 15, Age of respondents, 38 questionnaires fully responded

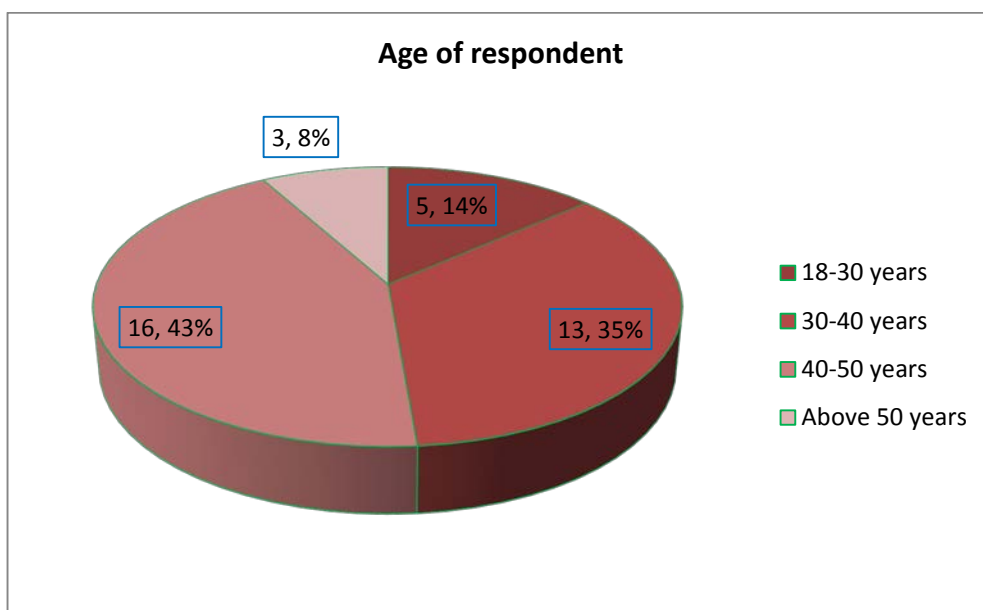


Figure 15 given graphical presentation of respondents age showing that 16,43% of respondent were above 40-50 years, 13,35% were of age between 30-40 years, 5,14% were of age between 18-30 years and remaining 3,8% were of age above 50 years.

#### 4.1.2 Position to the project

Question 1 (a): What is your position in the project?

- (3.1) Client (3.2) Main contractor (3.3) Sub-contractor (3.4) Staff (general) (3.5) Project Manager (3.6) Supervisor (3.7) other (please specify) .....

According to the graph below, the participants from the contractor category are professional group and overall almost all participants have the knowledge in the relevant field of study, asserting validity of data gathered.

Figure 16, Position to the projects, 37 questionnaires fully responded

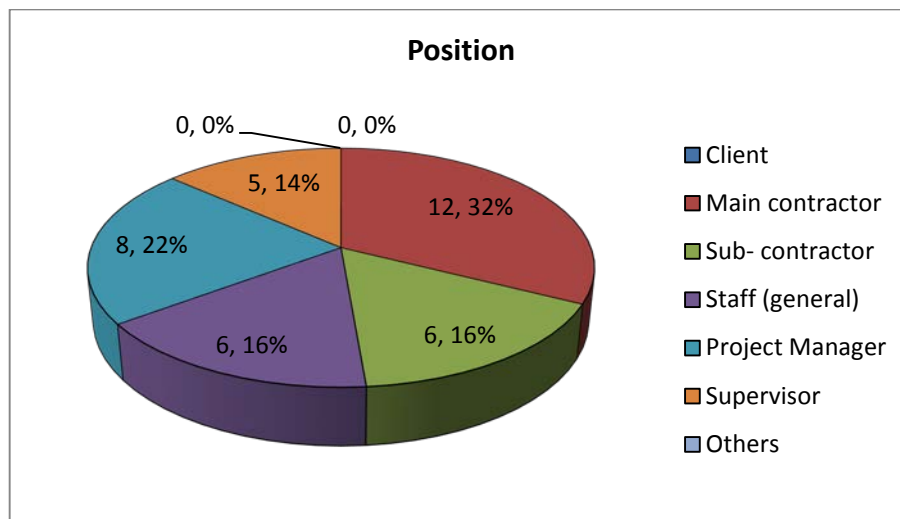


Figure 16 given graphical presentation of respondents professional position to the project showing that 12,32% of respondent were main contractor, 8,22% were project manager, 6,16% were sub-contractor,6,16% were general staff involved to the project and remaining were supervisor.

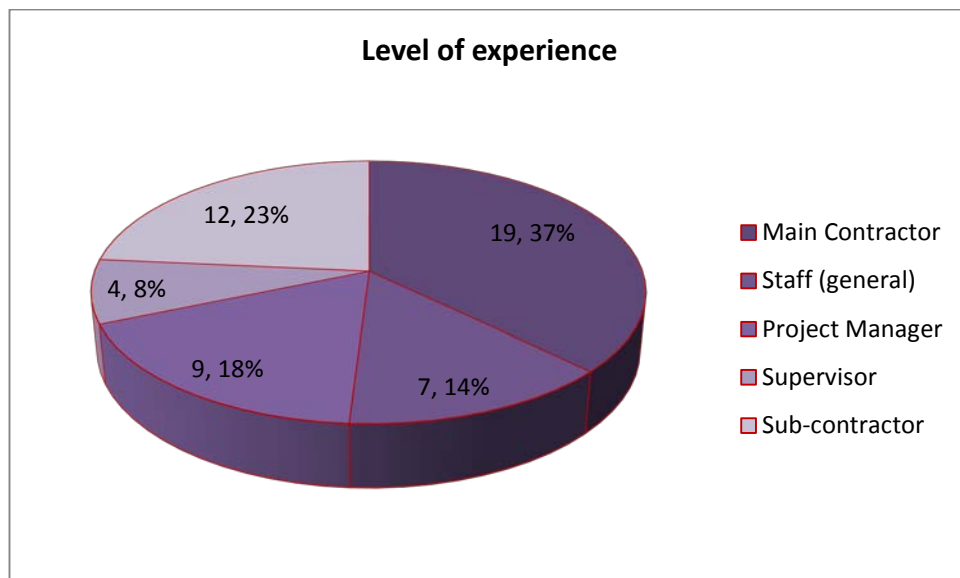
### 4.1.3 Level of experience

Question 1 (b): What is your level of experience in contracting /or property development?

(2.1) 1-15 years (2.2) 15-30 years (2.3) 30- 45 years (2.4) above 45 years

According to the graph below, the participant from the contactor category had more than 10 years of experience and the least experience group was the consultant. However, given that they also have more than 7 years of experience (on average). It can be assumed that overall, almost all participant have the knowledge and experience in the relevant field of study, asserting validity and reliability of data gathered.

Figure 17 Level of experience to the industry, 36 questionnaires fully responded



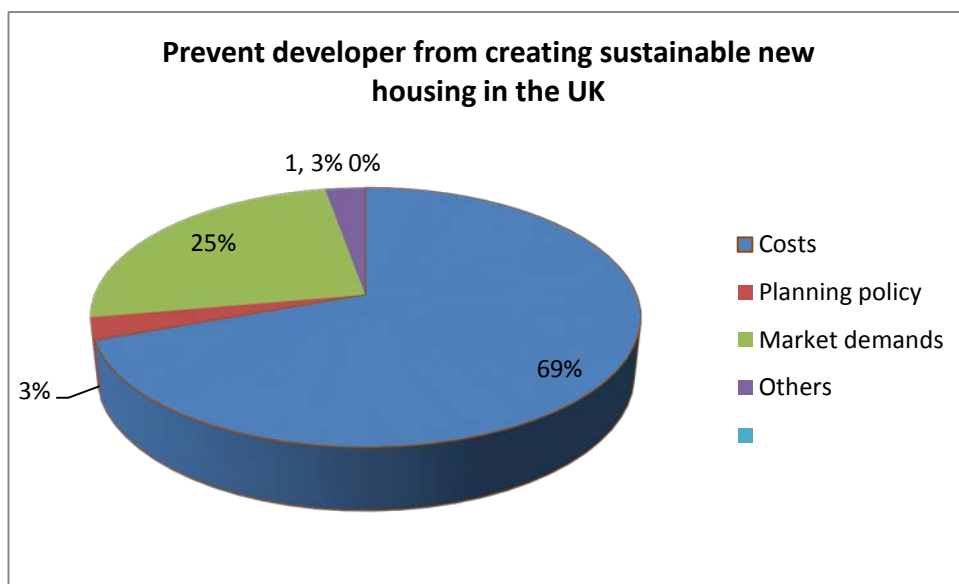
As shown figure 17, 19,37% of the respondents have experience in the construction industry are Main Contractor, 12,23% of respondents have experience are general professional , 9,18% of the respondents has experience are Project Manager 7,14% of the respondents has experience are Supervisor and remaining 4,8% of respondents has experience are Sub-Contractor.

## 4.2 Findings and analyses of main data

Question 2: How would you rate the restrictions that prevent you from creating sustainable new housing in the UK?

The graphical below shows environment issues that preventing developer from creating sustainable new housing in the urban areas in the UK.

Figure 18 prevent developer from creating sustainable new housing in the UK, 37 questionnaires fully responded



According to figure 18 the graphical presentation of respondents to the buildings developer prevent from creating sustainable new housing in the urban areas in the UK showing that 69%, of respondents were costs driven, 25% of respondent were based on market demands, 3% of respondents were planning policy and remaining 1,3% were others issues.

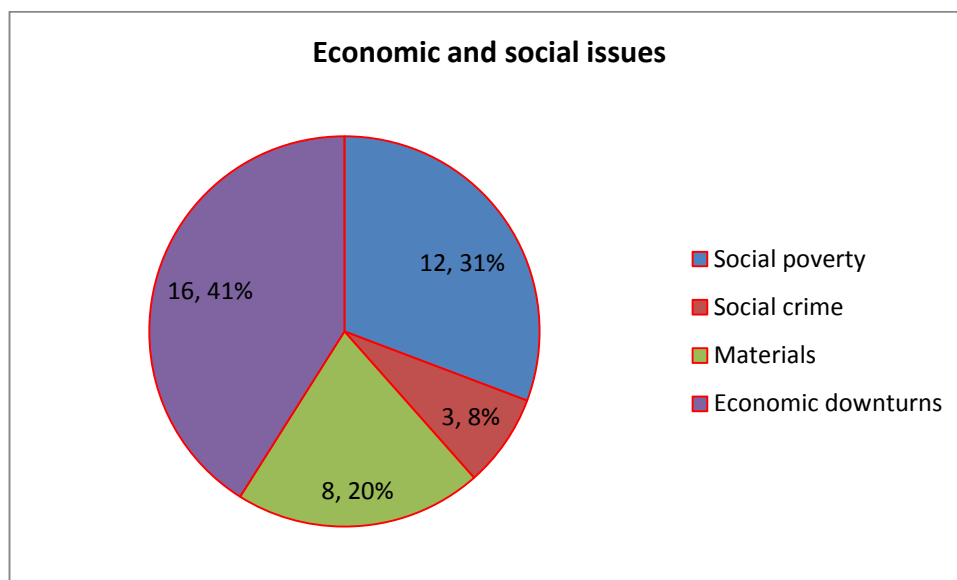
Question 3: Rate the following type of factors in relation to the economic climate which would prevent you from building any sustainable new housing in the UK?

Please indicate only one most important restriction.

	(0-20%	20-40%	40-60%	60-80%	80-100%)
2.1 Social poverty					
2.2 Social crime					
2.3 Materials					
2.4 Economic downturns					

Designation of the respondents is presented in figure 19 that indicated that 16, 41% of the respondents were indicated that preventing developer from creating sustainable new housing in the urban areas in the UK is an economic downturn, 12,31% of the respondents were part of social poverty, 8,20% of the respondent were in construction materials and remaining 3,8% of the respondents were involved in social crime.

Figure 19 economic and social issues prevent developer from create sustainable new housing in the urban areas in the UK, 36 questionnaires fully responded.



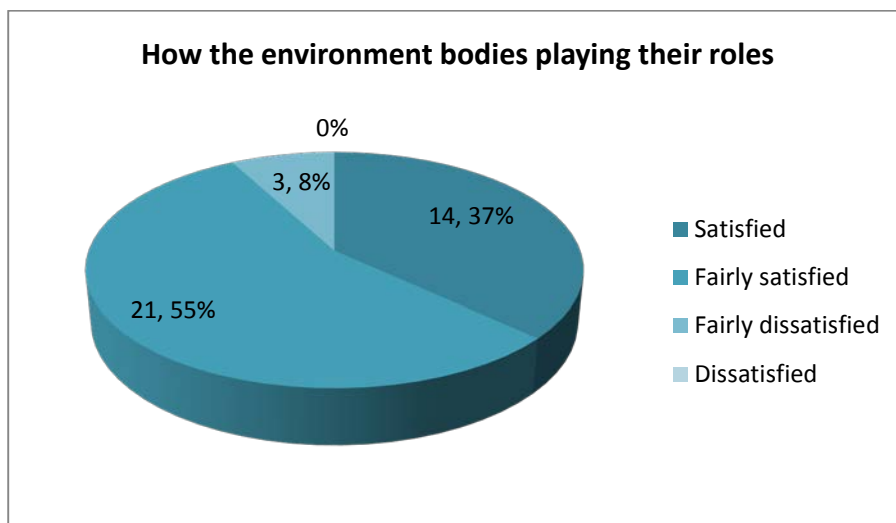
The next question was based on the subject of environmental bodies playing their roles in providing the solution for improving the sustainable new housing in urban areas in the UK.

Question 4: Please rate how you feel the environment bodies (i.e. Association of Environmental Conscious Building (AECB), Environment Agency and Town and Country Planning Association (TCPA) are playing their roles in providing the solution for improving the sustainable new housing in the UK?

Figure 20 gives graphical presentation of how the developer feels the environmental bodies (i.e. Association of environmental conscious building (AECB), Environment Agency and Town and Country Planning Associated (TCPA) are playing their roles showing that 21, 55% of the respondents were fairly satisfied, 14, 37% of respondents were satisfied, 3, 8% of respondents were fairly dissatisfied and remaining 0% of respondents were dissatisfied.

In the literature part, (David 2003) agreed that the environmental bodies and Governments are playing their roles in relation to create sustainable housing in the urban areas in the UK.

Figure 20, Environment bodies are playing their roles in providing the solution for improving the sustainable new housing in the UK, 38 questionnaires fully responded.



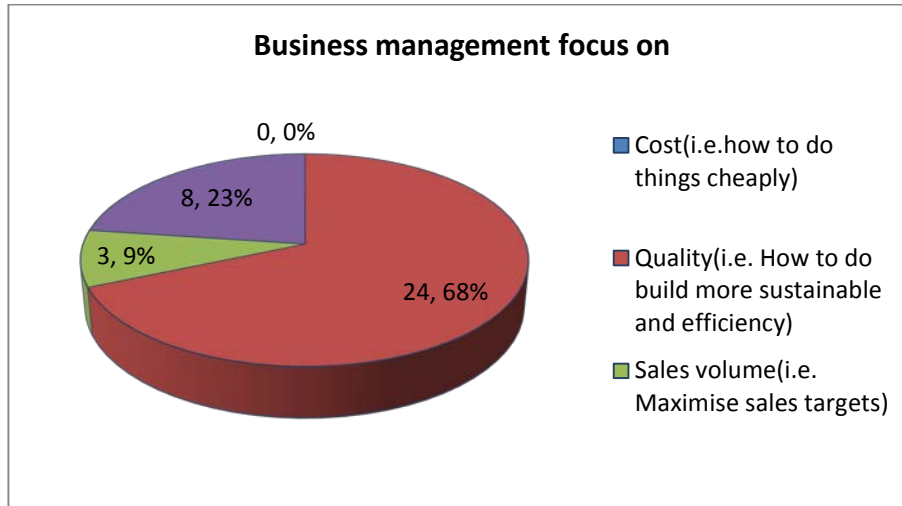
Question 5: What is your business management focus on?

Please indicate only one most important restriction.

- 4.1 Cost (i.e. how to do things cheaply)
- 4.2 Quality (i.e. how to do build more sustainable and efficiency)
- 4.3 Sales volume (i.e. maximise sales targets)
- 4.4 Profit (i.e. maximise profits)

In response to the questions that were asked, to rate figure 21, in relation to developer business management focus on. 24, 68% of the respondents mentioned quality (i.e. how to carry out the build in a more sustainable and efficient way, 8,23% of the respondents mentioned profit (i.e. maximise profits), 3, 9% of the respondents mentioned sales volume and remaining 0% of the respondent mentioned cost (i.e. how to do things cheaply).

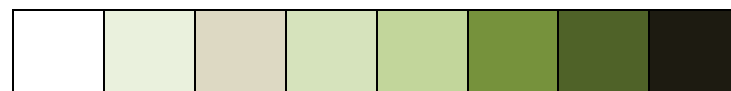
Figure 21 Business management focused, 37 questionnaires fully responded.





Question 6: What is your opinion about performance of UK government to promote sustainable development new housing in the UK?

Please indicate only one most important restriction.

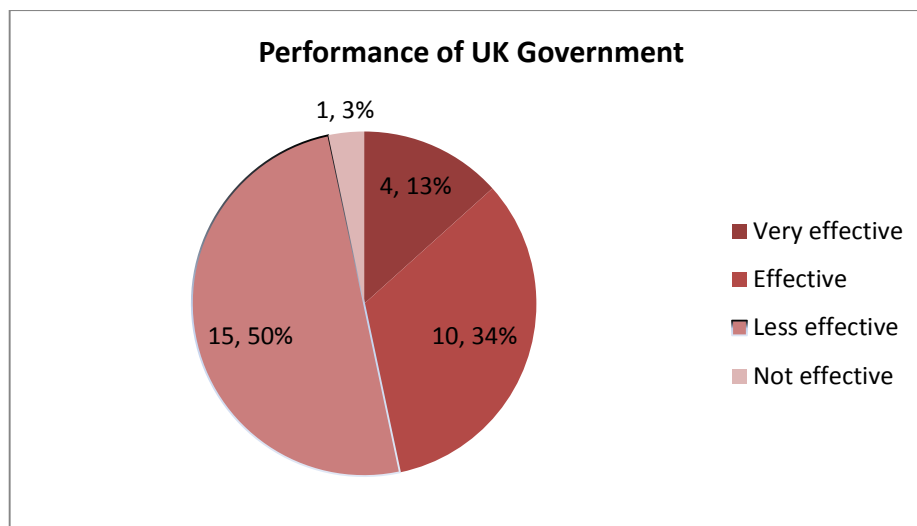


(0 1) (2 3) (4 5) (6 7)

(Very effective) (Effective) (Less effective) (Not effective)

In response to the questions that asked to rate figure 22, in relation to developer opinion about performance of UK government to promote sustainable new housing in the urban areas, 15, 50% of the respondents mentioned less effective, 10, 34% of the respondents mentioned effectiveness, 4,13% of the respondents mentioned very effective and remaining of the respondents 1,30% not effective.

Figure 22 Performance of UK government to promote sustainable new housing in the UK, 38 questionnaires fully responded.



Question 7: Do you believe there is a connection between your health and the state of your home (from a sustainability point of view)?

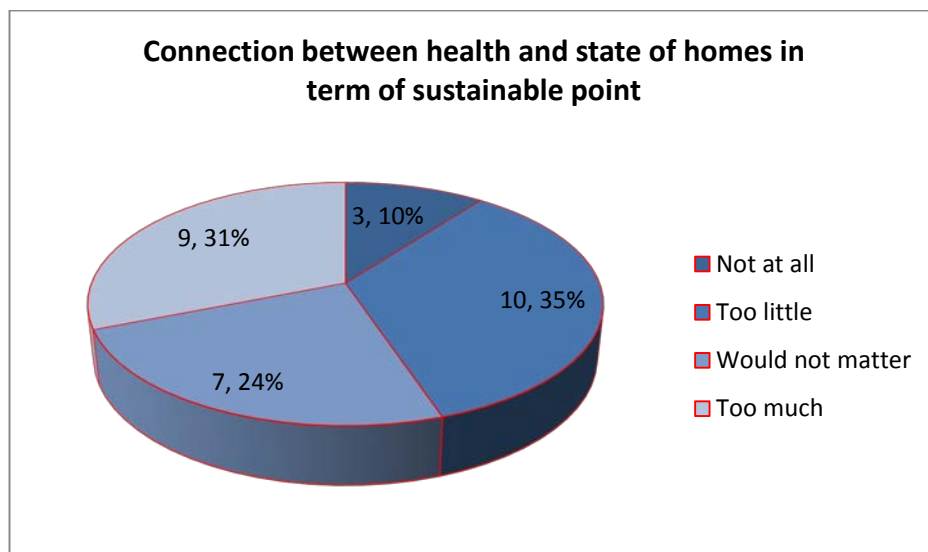
Please indicate only one most important restriction.

(6.1) Not at all      (6.2) Too little      (6.3) would not matter      (6.4) Too much

According to figure 23 the developer believes that the connection between health and the state of homes from a sustainable point of view are in relation to each other, 10,35% of the respondents mentioned too little, 9,31% of the respondents believe too much 7, 24% of the respondents believe would not matter and remaining 3, 10% of the respondents believe not at all.

(BRE) in the literature part, disagreed and said there is a connection between health and the state of developer homes because of this it caused unsustainable housing in the urban areas. In the UK it costs NHS at least £600m a year. The health effects of poor or unsustainable housing disproportionately affect vulnerable people like old people living in isolated lives, the young, those without a support network and adults with disabilities.

Figure 23 Connection between health and the state of homes (from a sustainable point of view), 37 questionnaires fully responded.



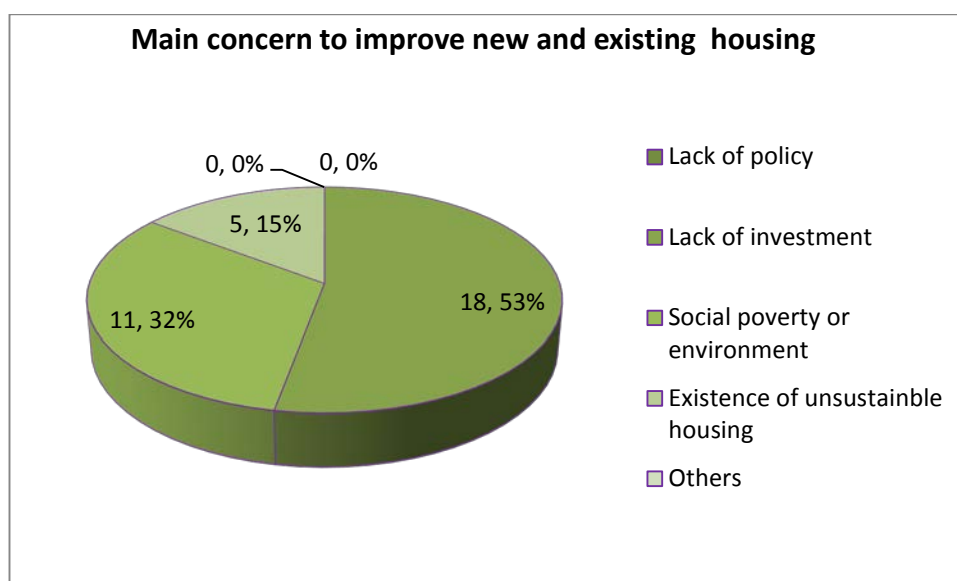
Question 8: What are the main concerns that should be addressed immediately to help improve (new and existing) sustainable housing in the UK?

Please indicate only one most important restriction.

- 4.1 Lack of policy
- 4.2 Lack of investment
- 4.3 Social poverty or environment
- 4.4 Existence of unsustainable housing
- 4.5 Others (please specify) .....

According to figure 24, 18,53% of the respondents mentioned lack of investment and that the main concern to help improve new and existing sustainable housing, 11,32% of the respondents believe social poverty was a main factor, 5,15% of the respondents believe existence of unsustainable housing and remaining 0% of the respondents believe it was a lack of policy.

Figure 24 Main concerns to help improve new and existing sustainable housing in the UK, 35 questionnaires fully responded.



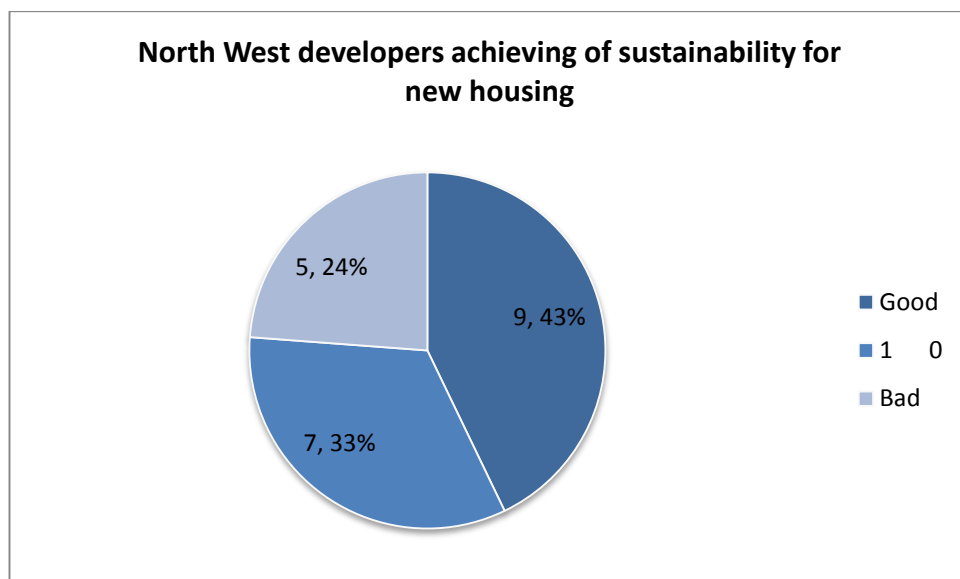
Question 9: Are North West Contractors achieving a high level of sustainability for new North West housing?

Please indicate only one most important restriction.



According to figure 25 given the graphical presentation in terms of the developers achieving a high level of sustainability for new housing in the North West of England, 9,43% of the respondents believe good achievement was a minimum factor, 7,33% of the respondents believe medium achievement and 5, 24% of the respondents believe low achievement.

Figure 25 North West of England developer achieving of sustainability for new UK housing, 38 questionnaires fully responded.



Question 10: Does the UK government subsidise you enough to build sustainable new housing?

Please indicate only one most important restriction.

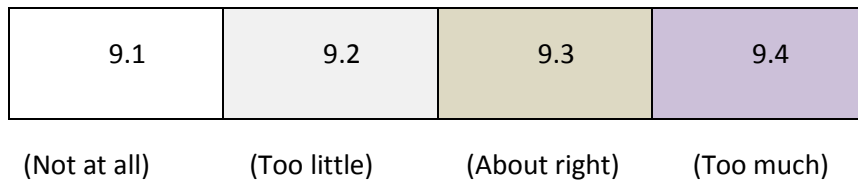
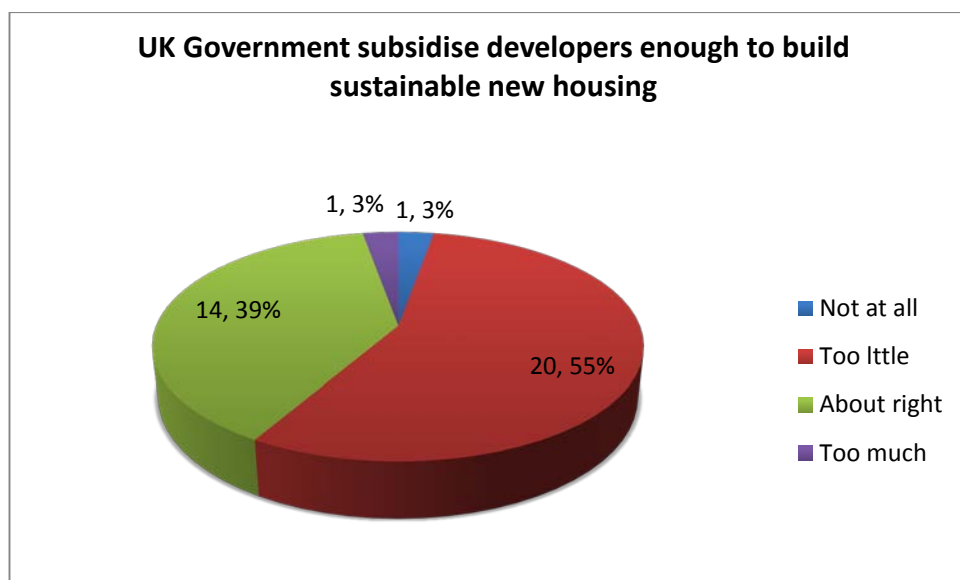


Figure 26 gives the graphical opinion of developers in the North West of England in terms of the UK Government subsidise which are enough to build sustainable new housing in the urban areas. 20,55% of the respondents mentioned too little was given, 14,39% of the respondents mentioned it was about right, 1,3% of the respondents mentioned not at all and remaining 1,3% of the respondents mentioned too much.

Figure 26 UK Government subsidise developers to build sustainable new housing in the urban areas in the UK, 38 questionnaires fully responded.



### 4.3 Discussion and analysis of results

This section presents the findings of methodology and literature review. In correspondence with the findings in figure 18 shows that 69% of respondents believe that the “costs” prevent developer from creating sustainable new housing in the urban areas in the UK. As mentioned in Chapter 2.4.5, Gary (2014) agrees with this as well.

In correspondence with finding of the present study, it indicates that the most impact to developers from creating sustainable house in the urban areas in the UK is economic downturns. Developers are suffering with funding and affordability issues, thus, sustainable new housing may not be high in their agenda. As mentioned Chapter 2.4, (Miller 2013) agreed that the challenge to create sustainable new housing is an economic downturns.

The finding in this study shows that social poverty is an issue as it prevents the developer from create sustainable new housing. As mentioned Chapter 2.4.1 (UNDP,n,d) disagreed that the poverty is a significant issue and preventing the developer from creating sustainable new housing and poor people cannot afford to pay for their mortgage to buy new sustainable houses because of low income. The poor people see themselves as voiceless and not a part of the society making decisions and this is a negative factor preventing from creating new sustainable houses in the UK because of poverty.

The analysis of descriptive statistics results shows that most developers are fairly satisfied that the environmental bodies (i.e.), Environment Agency and Town and Country Planning Associated (TCPA) are playing their roles in relation to creating sustainable housing in the urban areas in the UK. In the literature mentioned 2.7.3 and 2.8.1(Joe 2013) agreed that the environment bodies are playing their roles and it is estimated that £2000 million is spent annually by the housing association sector on regeneration schemes and furthermore, that for every £100 million spent on housing investment. As mentioned Chapter 2.7.3 (HCA 2014) disagreed that the environment bodies and Government of UK are not playing their roles in relation to creating new sustainable housing sectors in the urban areas because of lack of affordable housing. This may be due to the affordable homes Programme model which requires economic recessions are suffering with funding and affordability issues.

The finding of the present study shows that developers indicated the main concerns should be addressed immediately to help improve new and existing sustainable housing in the UK which has a lack of investment. As mentioned in Chapter 2.7.3, agreed that the lack of investment in relation to building sustainable new housing in the urban areas in the UK. This could be due to the fact that to create sustainable new housing projects, especially after the economic downturn, developers are suffering with funding and affordability issues, thus, sustainable new housing may not be high in their agenda.

The finding of statistics results shows that the developers believe connections between health and creating sustainable new housing in the urban areas in the UK is too little. As mentioned Chapter 2.6.1 (BRE), disagreed that there is a connection between health and the state of developer homes which caused unsustainable housing in the urban areas in the UK this costs NHS at least £600m a year. The health effects of poor or unsustainable housing disproportionately affect vulnerable people like old people living isolated lives, the young, those without a support network and adults with disabilities.

#### **4.4 Summary of chapter**

Sustainable new housing in urban areas in the UK in recent years has been unsuccessful because the main aspect of costs, economic downturns and social poverty have played a major part. This is also due to lack of investment to create sustainable new and existing housing especially after the economic downturn, are suffering with funding and affordability issues.

The analysis of descriptive statistics results and in the part of literature, agreed that the environment bodies are playing their roles in relation to creating sustainable housing in the urban areas in the UK. But in the Chapter 2.7.3 (HCA 2014) disagreed that the environment bodies are not playing their roles because of lack of affordable housing. This is costing the UK economy £6bn a year because of the problems which are emerging in urban areas such as employment and health issues (Brown 2014).

## **CHAPTER 5- CONCLUSIONS AND RECOMADATIONS**

This chapter provided conclusion and recommendation of current research that is given. In addition a description of the extent to which research objective are fulfilled and research questions are countered will also be set at the end of the chapter.

### **5.1 Conclusions of study**

To scrutinize the issue of sustainable development and new housing in the urban areas in the UK along with the effect of explore issues on preventing developers from creating sustainable new housing in the urban areas in the UK was a key objective of the present study. The UK Government has responded and expressed an ambition to increase and help developers to create sustainable new housing in the urban areas by 2016. Currently the UK Government has responded by new and existing housing to become more energy efficient leading to net zero carbon emission from 2016.

The fulfil of the present study, quantitative research methods technique used a deductive approach of research, convenient sampling technique and questionnaire analysis was chosen as foremost methodological instruments for this research.

The outcomes of the research was obtained from the descriptive analysis where the restrictions that prevent developers from creating sustainable new housing in the urban areas in the UK it is costs issues. 69%, of respondents stated that costs to create sustainable new housing are not met in an effective manner. 25% of respondents mentioned that market demands, while 3% of the respondents mentioned that costs are either not achieved or achieved to some extent. However the implementation of creating sustainable new housing in the urban areas in the UK, the developers come out to be sufficiently effective as 24,68% of the respondents rate that implementation was effective while the remaining 8, 23% referred it as partially effective or ineffective.



The analysis of descriptive statistics as well statistical results depicts that preventing developers from creating sustainable new housing has a significant impact on creating sustainable housing in the urban areas in the UK. New sustainable housing in the UK is a key issue because of lack of sustainable new housing in the urban areas in the UK costs (NHS) at least £600m every year. But environmental bodies in the UK are playing their roles to help and encourage developers to create sustainable new housing in the urban areas in the UK. Recently the UK housing association has become very successful in the urban areas by investing large amounts of money to create sustainable new housing and also created job opportunities within construction industry, housing Market and renewal programme.

## **5.2 Recommendations**

In the current study, a major focus remained on explore issues preventing developers from creating sustainable new housing in the urban areas in the UK only. The research aimed to look into the issues which prevented developers from creating sustainable new housing in the urban areas in the UK in the past as well in the future.

## **5.3 Future research**

It is suggested that for future research it can also expand their research pertinent to present topics by focusing to create new sustainable housing development in construction industry. The UK Government and main contractors within the construction industry also should take more steps to increase the levels of awareness of sustainable new housing policies available for the developers to create sustainable new housing in the urban areas in the UK.

Another main issue that needs to be investigated in the future is how the UK construction industries can eliminate inefficiencies of their housing sector system to get maximum advantage from these systems. Upcoming researcher can also propose a joint environment issue that prevents developers from creating sustainable new housing in the urban areas in the UK industries in their researches as its importance is extensively stressed in the literature.

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# APPENDIX 1

Dear respondent

## Re: Dissertation BSc Building Surveying

I am a student of University of Central Lancashire, studying BSc Building Survey degree. The topic I have chosen is investigation into environment issues preventing developers from creating sustainable new housing in the urban areas in the UK. This questionnaire is designed to investigate into environment issues preventing developers from creating sustainable new housing in the urban areas in the UK. It is important to investigate sustainable new housing in urban areas because sustainable new housing has become a key issue within urban areas in the UK. This is costing the UK economy large amount of money.

This questionnaire is for academic purposes only; kindly fill it honestly and confidentially will be kept. Thank you a lot for your time.

Your sincerely            Mr K Karami

## Personal information

1. Age of the respondent

(1.2) 18-30 years    (1.2) 30-40 years    (1.3) 40- 50 years    (1.4) Above 50 years

2. Level of experience in contracting /or property development.

(2.1) 1-15 years    (2.2) 15-30 years    (2.3) 30- 45 years    (2.4) Above 45 years

3. Position

(3.2) Client    (3.2) Main contractor    (3.3) Sub-contractor    (3.4) Staff (general)    (3.5) Project Manager    (3.6) Supervisor

(3.7) other (please specify) .....

Use the scale below and circle what you feel is appropriate in relation to your development.

## Questions

1. How would you rate the restrictions that prevent you from creating sustainable new housing in the UK?

Please indicate only one most important restriction.

1.1 Costs

1.2 Planning policy

1.3 Market demands

1.4 Others (please specify).....

2. Rate the following type of factors in relation to the economic climate which would prevent you from creating any sustainable new housing in the UK? Please indicate only one most important restriction.

2.4 Social poverty	(0-20%	20-40%	40-60%	60-80%	80-100%)
2.5 Social crime	(0-20%	20-40%	40-60%	60-80%	80-100%)
2.6 Materials	(0-20%	20-40%	40-60%	60-80%	80-100%)
2.4 Economic downturns	(0-20%	20-40%	40-60%	60-80%	80-100%)

3. Please rate how you feel the environment bodies (i.e. Association of Environmental Conscious Building (AECB), Environment Agency and Town and Country Planning Association (TCPA) are playing their roles in providing the solution for improving the sustainable new housing in the UK?

Please indicate only one most important restriction.

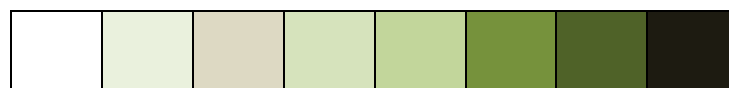
- 3.1 Satisfied
- 3.2 Fairly satisfied
- 3.3 Fairly dissatisfied
- 3.4 Dissatisfied

4. What is your business management focus on?

Please indicate only one most important restriction.

- 4.1 Cost (i.e. how to do things cheaply)
  - 4.2 Quality (i.e. how to do build more sustainable and efficiency)
  - 4.3 Sales volume (i.e. maximise sales targets)
  - 4.4 Profit (i.e. maximise profits)
5. What is your opinion about performance of UK government to promote sustainable development new housing in the UK?

Please indicate only one most important restriction.



(0 1) (2 3) (4 5) (6 7)

(Very effective) (Effective)<sup>61</sup> (Less effective) (Not effective)

6. Do you believe there is a connection between your health and the state of your home (from sustainability view)? Please indicate only one most important restriction.

(6.1) Not at all (6.2) Too little (6.3) would not matter (6.4) Too much

7. What are the main concerns that should be addressed immediately to help improve (new and existing) sustainable housing in the UK?

Please indicate only one most important restriction.

- 7.1 Lack of policy
- 7.2 Lack of investment
- 7.3 Social poverty or environment
- 7.4 Existence of unsustainable housing
- 7.5 Others (please specify) .....

8. Are UK Contractors achieving a high level of sustainability for new UK housing?

Please indicate only one most important restriction.





**9. Does the UK government subsidise you enough to build sustainable new housing?**

Please indicate only one most important restriction.

9.1	9.2	9.3	9.4
(Not at all)	(Too little)	(About right)	(Too much)

## **APPENDIX 2**

## **APPENDIX 3**