Chapter 2
Housing Affordability as a Reflexivity of Quality of Life

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Abstract This chapter uses housing affordability as a means to understand the dynamic nature of quality of life as a concept. It explores the way in which people utilised housing affordability as a reflexivity of their expectation for quality of life over time and space. Based on the systematic review method, a total of 227 publications that focused on quality of life and housing affordability were reviewed rigorously to retrieve relevant information for the study. The findings of the chapter show that housing affordability is an integral part of the quality of life due to social, economic, and environmental interconnections that exist between them. However, the nature of their interconnections changes over time. Thus, quality of life is a multifaceted concept that varies across different cultures, time, and space as human beings are dynamic agents where the thoughts and needs change frequently. Thus, quality of life is a concept that is subject to construction, negotiation and alteration over time and space. Hence, initiatives or policies towards enhancing quality of life of individuals should take careful attention of such dynamics in order to be more effective.

Keywords Housing affordability · Quality of life · Sustainability

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B. R. K. Sinha (ed.), *Multidimensional Approach to Quality of Life Issues*,
https://doi.org/10.1007/978-981-13-6958-2_2

2.1 Introduction

Housing is one of the basic necessities of life that enhances the quality of life of individuals in diverse ways. In OECD[1] countries, housing affordability is generally understood as, housing cost that does not take more than 30% of the household expenditure thereby enabling a given household to have sufficient income left for non-housing expenditure (Yuen et al. 2006). Whilst these countries promote housing affordability via tax incentives for rental investment, public subsidies to leverage private investment, and reliance on land use planning system, all such efforts are geared towards improving the quality of life of individuals (Lindstrom 1994). In this regard, housing is recognised to play important role in improving quality of life of individuals because it provides shelter for people to lay their heads, develop their skills, socialise and be educated to engage in different activities of their choice.

Talking about housing affordability and quality of life, more goes into it than just providing residential space to accommodate individuals. This is because there are subjective dimensions of quality of life which vary among individuals and are influenced by time, space and circumstances one finds him or herself in. This makes it important to probe further on how the concept of quality of life has been changing over time as reflective through various housing affordability initiatives pursued in the world since the period of industrialisation to a more contemporary sustainable paradigm era, but available studies have failed to touch on this. It was, therefore, to bridge this knowledge gap that is why this chapter was written. The objective of the chapter is to explore how the understanding of housing affordability can be a reflexive medium of interpreting the changing focus of quality of life of households over the last five decades. This will help to provide a deeper understanding of the relationships between quality of life and housing affordability, and their underpinning variables that have been changing over time and space.

The chapter starts first by discussing the concept of quality of life and highlights its various elements or attributes. It continues by focusing on the concept of housing and housing affordability to trace the divergent views expressed on these concepts and their relationships with quality of life. The last section of this chapter treats housing affordability and its reflexivity on quality of life by discussing how the indicators and measurement of housing affordability have changed over space and time, and how such changes have reflected in the present thinking of quality of life.

2.2 Quality of Life

The concept of quality of life is broad and cut across three major branches of science: Economics, Medicine and the Social Sciences, with each branch offering different views on the conceptualisation of quality of life (Cummins 2005, p. 669). From the

[1]Member countries of Organisation for Economic Co-operation and Development (OECD), all having a democratic system of government and accept the principle of a free economy.

Social Science perspective, quality of life has particularly been conceptualised: (i) as multidimensional that is influenced by personal and environmental factors and their interactions; (ii) to have the same components for all people; (iii) to have both subjective and objective components and (iv) to be enhanced by self-determination, resources, purpose in life, and a sense of belongingness (Cummins 2005). Such conceptualisation has made the quality of life an elusive and diversified concept approached at varying levels of generality from the assessment of societal or community well-being to the specific evaluation of the situation of individuals and groups. This, therefore, makes the quality of life a multidimensional concept that needs to be carefully defined by using different attributes or indicators in which the inclusion and exclusion of indicators should be guided by a given context that quality of life is being used.

There have been the developments of several taxonomies of quality of life. For instance, Ferrans (1996), Felce and Perry (1995, 1996) were in favour of searching suitable indicators to conceptualise the concept. Felce (1997) stressed that quality of life is influenced by six main elements which are material, physical, emotional, social, productive and rights/civic well-being. The World Health Organisation (WHO) on the other hand categorised quality of life into six components: physical well-being, environmental well-being, psychological well-being, social relations, level of independence, and spiritual well-being. In this context, well-being is defined as the state of being happy, healthy and comfortable with life (WHO 1997; Galloway 2006). However, from Social Science point of view, quality of life generally implies the overall satisfaction of one's living. This satisfaction may arise from economic attributes that connect more with material goods, social attributes that are linked to psychological satisfaction and environmental attributes that deal with accessibility to desired natural and physical conditions.

These attributes do possess different dimensions which are either objective or subjective in nature. According to Cummins (2005), the objective dimensions of quality of life are usually the physical attributes that may be in a form of quantities and frequencies of an entity, for example, access to good housing, infrastructure and services, healthy food, etc. On the other hand, the subjective domain of quality of life is within the private consciousness of each individual and it can be verified only through repeated responses provided by the person concerned. These objective and subjective dimensions have further been widely discussed by different scholars such as Felce (1997), Haas (1999), Moons et al. (2006) and Testa and Simonson (1996), Sirgy (1998).

According to Sirgy (1998), the subjective dimension of one's quality of life can arise from either a need-based-expectations (materialist) or cognitive-based-expectations (non-materialist) or both. The need-based-expectation tends to be influenced by social comparisons, like wealth and material possession of family and friends where the cognitive-based-expectations arise via predictive-, past- and ability-based comparisons. With the emergence of postmodernism (the way twenty-first-century people live in; Clapham 2005) thought there has been also a growing concern that quality of life is purely a subjective experience (Haas et al. 2006; Haas 1999) thus it is socially constructed. The other typical view is that quality of life should not

be defined 'primarily' in terms of either its objective or subjective components but should rather include both aspects (Cummins 2005) as they both affect the quality of life of an individual. This is particularly true when the quality of life is identified as a measure of collectivises. An example would be assessing the quality of life at a community level, local level or at a regional or national level. For instance, McMahon (2002) in his study of assessing sustainable quality of life in Bristol used five levels of indicators; European common indicators, national and regional headline indicators, stakeholder indicators in Bristol, local-ward and citywide indicators and community group indicators that ranged from waste management, energy, transport, environmental protection, biodiversity, housing and shelter, economy, health and well-being, community safety, social economy, culture, tourism, land use and development, to education and poverty. This implies two things; one is that quality of life should be conceptualised to focus on specific dimensions for a particular purpose such as housing affordability in this case. Second, it needs to be understood that as for many other concepts, quality of life too needs to be assessed relative to the context of time and space.

2.3 Housing

Housing is a term that we are all familiar with. It is a basic need in our lives. However, the meaning associated with housing is not limited to its construction with bricks and mortar or merely a physical element that people choose to live in. It is the engine room of societies as opined by Saunders and Williams (1988, p. 82). Thus, in order to understand the wider meanings given to housing, many social theorists prefer the term home to housing. Saunders and Williams (1988) focusing on Giddens' (1984) structuration theory stressed that home is the routine reproduction of the social world through interaction is accomplished within settings or *locale* which help make such interaction meaningful and to some extent predictable. In this sense, 'home' is a crucial locale which sets the basic form of social relations, interaction and social institutions that are constituted and reproduced. According to Giddens (1984), home is typically a small-scale locale, but can be strongly regionalised internally by modes of activity. Rooms within homes are usually categorised in respect to their characteristic usage in time-space as living rooms, kitchens, bedrooms, etc. Accordingly, a household is the mode of social organisation which is distinctive to home (Saunders and Williams 1988, p. 82). Thus, home, like the nation-state itself may act as an essential constitutive and reproductive element where its meaning can span over a wider scope than the mere dwelling.

Gilman (2002, p. 3) in her book; *The Home; its work and influence* defined home as a human institution which offers rest, peace, quiet, comfort, health and personal expression. It is the place where households accumulate their wealth, assets and social life. Therefore, a home is a locale and the centre in which one's personal satisfaction of life depends on. She further emphasised that home is a governing factor in the formation of character and the direction of life. In the estimation of

Giddens (1984, p. 18), 'a house is grasped as such only if the observer recognises that it is a dwelling with a range of other properties specified by the modes of its utilisation in human activity'. In a study on housing for the hard (homeless sector), Kraus (2001) and Gurstein and Small (2005) explained what home meant to those vulnerable sectors of the society as where one feels safe or one's heaven. To them, housing has been a cornerstone of care. Therefore, creating a home is a wider process of personal self-healing.

All in all, based on the various views discussed above, the housing can be said to be a social establishment where the satisfaction of life mainly depends upon. Furthermore, it inextricably has both social and spatial dimensions. Kemeny (1992, pp. 8–18.) echoed this by indicating that just focusing on home unnecessarily limits the scope of housing research as it does not allow much attention to be given to the various dimensions of housing which are broadly, social and spatial in nature. Thus, a broader overview of housing embraces locational factors and ties housing studies to macro-issues of the nature of the social structure. Therefore, housing needs to be seen as the nuclei of social production and reproduction. It should also be viewed within the integral dimension of markets, environment and society. Therefore, housing is a social institution where quality of life depends on to a great extent.

2.4 Housing Affordability

Whilst housing tends to be the largest investment outlay in a householder's lifetime income, housing affordability is a common way of summarising the nature of difficulty in accessing housing resource (Hulchanski 1995, p. 471). It is the central issue in any housing policy. Many scholarly works often interpret that housing affordability is a phenomenon that is vexed because it means different things to different people (Miles et al. 2000). This makes housing affordability to appear as a term that is ambiguously defined (Linneman and Megbolugbe 1992). This, therefore, raises a number of questions that need to be addressed which are as follows. Why housing affordability seemed to be ambiguous? Why is it being described differently at different times? Similar to the social meaning of housing described earlier, in an economic sense the meaning of housing is different from other commodities. It is considered to be an investment irrespective of whether it is used for personal consumption or as an income generating asset. This is mainly due to its very nature of being highly durable (long life), immovable and the hefty cost that it involves. It is considered as the largest investment (outlay) in a households' lifetime income (Mullins et al. 2006). Thus, home ownership is not only about use value but involves many strands including an appreciation of capital values, and a place of accumulation of wealth by households.

In practice, these social and economic meanings of housing do not operate in a mutually exclusive manner. Michael Stone, a well-known scholar in the field of housing affordability mentions that housing is a principal locus of personal and family life (Stone 1993, p. 10) which means that it is a judgement of socio-economic status

of a family. Hence, reflecting on the social meaning of housing mentioned earlier housing can play a role as a catalyst for the accumulation of sociocultural wealth of human societies which could turn it away from economic rationale models. On the other hand, it is also a physical asset base that is build up by a family or a household based on their future expectations and expected circumstances. Mullins et al. (2006, p. 1) state that the housing situation today reflects the patterns of family life need and its investment 60–100 years earlier. Hence, a house is a reflection of private space created or chosen by families based on their perceptual needs and wants which would also fundamentally lead to external changes over the period of time such as economic growth and modernisation of societies.

Clapham (2005, p. 152.) rightly mentioned 'housing' as a means to an end and not an end in itself. Therefore, housing and its affordability are not all about the physical space to prices you pay for that as it appears, but a reflexivity of a rummage around the quality of life within space and time context. Thus, the ultimatum of home ownership or the utility of housing is not merely the consumption of it but it is also the achievement of the overall quality of life in economic, social and physical terms.

The term 'reflexivity' is an ongoing examination of the underlying assumptions and narratives that drive a practice. Generally, it relates to actions and consequences where the cause and effect of such actions can be explained. Harries-Jones (1991, p. 156) explains reflexivity as the 'capacity to act by linking the possibilities of present social action to an alternative epistemology'. Accordingly, this paper uses the term 'reflexivity' to mean the cause and effect relationship between housing affordability and quality of life. Hence, the above-mentioned ambiguity of housing affordability has some relations with the subjective meanings attached to the quality of life that are produced, reproduced, altered and transformed which makes housing affordability ambiguous or vexed. Housing policymakers should explicitly see and accept this intersection between housing affordability and quality of life. Furthermore, the nature of the social order in the society will depend on the ability of people to be able to sustain a particular version of reality as being the objective truth (Clapham 2005, p. 20). As explained in the time and space geography by Hägerstrand (1976), these truths are constantly constructed, negotiated and altered by individuals. Thus, as it is vital to understand the reflexivity of housing affordability and quality of life, it is also important to understand that these subjectivities of quality of life are changing across time and space and do have a reflexive form on housing affordability. Accordingly, the following section throws more light on housing affordability interconnections with quality of life.

2.5 Materials and Methods

The systematic review approach was utilised and this focuses on explicitly searching, appraising and synthesising available literature to satisfy the aim of a topic under study (Victor 2008; Akobeng 2005). The broad nature of the study necessitated this approach which enabled a wider search of the available literature on quality of life and

housing affordability to support the study. The systematic review approach helped to avoid bias in the results of the study and also assisted in providing more accurate and reliable conclusions since the approach uses data that have already been tested in other studies. Secondary materials such as books, journals, conference papers and reports related to the topic under study were also taken into consideration. In order to follow a well-organised process or steps to retrieve the required data and provide necessary discussions for the current study different works on systematic review were looked at (Mensah et al. 2016; Uman 2011; Victor 2008; Coren and Fisher 2006; Khan et al. 2003). Below are the processes that were followed to undertake a systematic review of the study.

2.5.1 Formulating a Question to Guide the Review

This was the first process and very important as it provided a scope within which relevant literature was searched. It centred on framing a question to capture the main problem and purpose of the study. It was done to make the review well focused. The broad question posed to guide the review was as follows: *How is housing affordability reflexive of the quality of life of individuals?* Whilst the context of the investigation focused on OECD countries, all publications that were not directly or indirectly related to the above question fell outside the scope of the study.

2.5.2 Identifying Relevant Publications on the Topic Under Study

Necessary efforts were made to assemble relevant publications for the study. Among the major databases that were searched to get publications for the study were Google Scholar, Thomson Reuters, Science Direct, Social Science Research Network, Directory of Open Access Journals (DOAJ), Scopus, JSTOR, Ingenta Connect and Web of Science. In addition to this, Internet engines such as Google, Yahoo, Bing and Ask.com were also searched for further materials. A total of 521 relevant literatures were found at this stage.

2.5.3 Assessing the Quality of Selected Publications

At second stage, total relevant literature arrived were further reduced to 227 publications for final inclusion in the study. This was done in the line with the recommendation of Bowler et al. (2010) who considered six quality assessment criteria for published scholarly works. These criteria were the theoretical basis of the publica-

tion, data collection techniques employed, suitability of the target population or unit of analysis, sampling technique adopted, the tools or approach used for analysis and contribution of the publication to the knowledge in the field of study. To enhance the quality of findings of the study, publications which satisfied all or five of the above criteria were included in the study.

2.5.4 Analysis and Synthesis of Evidence

The finally selected publications were subjected to rigorous content analysis to get their main purposes, methods they applied and their major findings and conclusions. These information were collated and analysed to support the discussions of the chapter.

2.6 Housing Affordability and its Reflexivity on Quality of Life

2.6.1 Era of Industrialisation

The preconditions that raised the need to ensure an *affordable decent home* was the nineteenth-century industrial revolution and the accompanying urbanisation in the UK which later extended to the rest of Europe and North America. It generated market responses that packed the newly rural migrant workforce into unsanitary accommodation with inadequate facilities. The pre-industrialised families who were rural, large and self-sustaining were completely changed by modernisation (Mullins et al. 2001) which made families to become urban than rural. During that time when housing was supplied by private landlords and the rents were driven up, the working class could not afford a decent home but to live in a slum while many others sublet their accommodation in order to pay their rents resulting in overcrowded multifamily housing units (Merrett 1979). Urban morphology studies, for example, of Ernest Burgess in 1924, Homer Hoyt in 1939 and Ullman in 1945 (Harvey and Jowsey 2000) clearly reflected this pattern of residential production in the industrial cities, mainly in the West. Such residential production clearly reflected the way households sought their expected quality of life by attempting to gain housing units that they could afford. During that time, the affluent who could afford high earned housing and lived in better environments of inner cities away from industries but had access to many of the services such as schools, hospitals, shopping and clubs. The middle class who too was looking for a better pollution-free environment but could not afford the inner city residential areas settled at downtown residential units. The quality of life of the lower income working class who could not afford and survive with bare minimum needs such as food and shelter was the matter of concern. They could not afford the

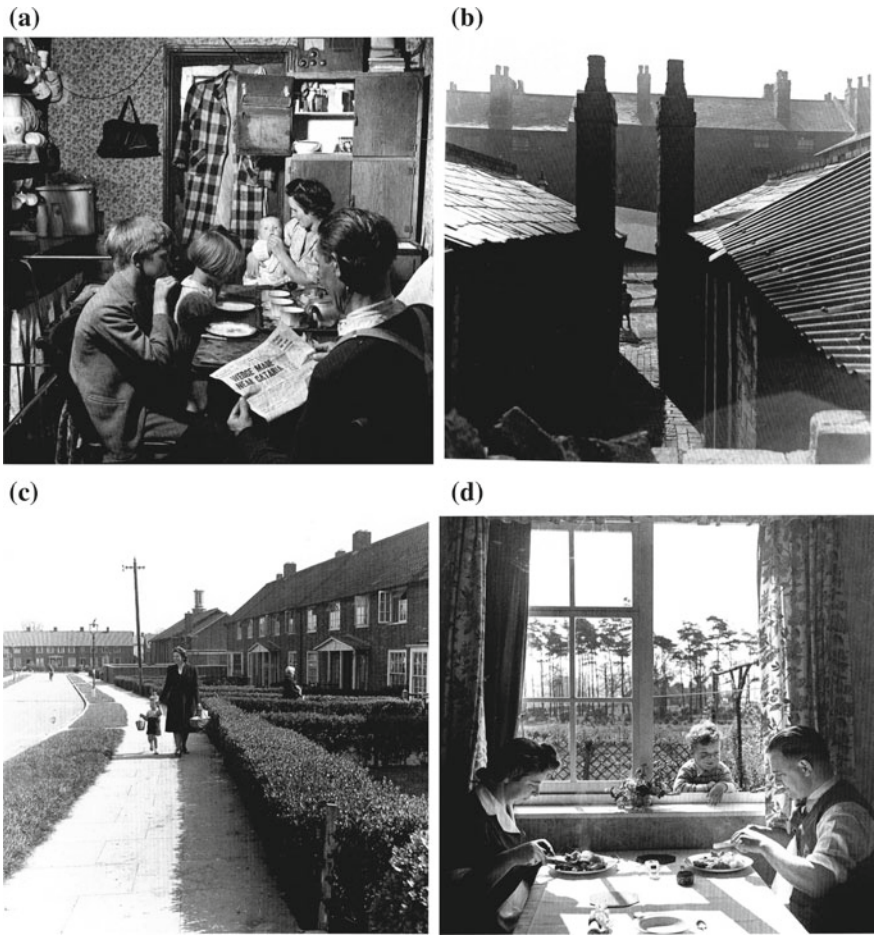

Fig. 2.1 Housing affordability and Quality of Life of working class and middle class in UK during industrialisation. *Source* Brandt et al. (2004, pp. 22, 32, 69, 79)

higher housing prices in the inner city and also the high transportation cost for moving to downtown areas. They had to jeopardise their quality of life by choosing to live in housing units in close proximity to their working places (industries) regardless of exposure to unsanitary conditions and increasing pollutants (see Fig. 2.1).

During that period, the initial knowledge for housing affordability was mainly concerned with the issues of health and amenity that the poor working-class people were facing. Looking into such condition, the Tudor Walters Committee of 1918 (in the context of UK) was appointed to counsel on a decent home for the working class (Swenarton 1981). This attempt was perceived as an idea of reflexivity towards quality of life. The industrial revolution through the post-war period till 1950s and early 1960s played a great role in moving forward the ideas of housing affordability

and quality of life; however, such ideas were limited to the context of *basic living standard of the household*.

A and B: *Quality of life of the working class.*
C and D: *Quality of life of the middle class.*

That perception no wonder related to the situation at that time to address extremely poor health and amenity conditions during industrialisation and immediate recovery expectations during the post-war era. The early scientific studies that generally touched on housing affordability by Ernst Engel and Schwabe Herman during 1857 began to probe on how the household budgets of working-class families could be split between the housing and non-housing items to achieve a better standard of life (Reid 1962; Stigler 1954; Winnick 1955). The criteria commonly used was the rule of thumb of 30% (initial guide was 25%). It meant that a working-class household ought to spend 30% of their monthly income on housing and the rest for non-housing consumption for a better living standard, which in essence was to enhance their quality of life. See, for example, works of Feins and Lane (1982), and Lerman and Reeder (1987).

2.6.2 Neo-liberalism and Change of Quality of Life

The social construction of quality of life paradigmatically started changing during 1960s and 1970s. This was largely based on account of the demise of the Keynesian welfare state of the economy and the prominence of neo-liberalism. There was government disinvestment in public housing and the dominance of the production and delivery of housing with the market-driven systems at that time made housing affordability more provoking (Whitehead 1991). For instance, Nelson (1994, p. 401) on the US Congress on housing (1992, p. 8) remarked:

> Since the 1970s there has been a substantial reduction in the number of low rent units in the housing stock and a sharp increase in the number of poor families which resulted in a classic mismatch between supply and demand, leading to higher rents, higher rent burdens, increased overcrowding, increased evictions and increased homelessness.

In Australia, during 1980 and 1990, the profound neo-liberalised housing policies changed the social policy to economic policy which was too apparent in many dimensions of the society (Beer et al. 2007, p. 13). Besides, with the increase of materialism of life the pressure on household budgets started becoming agonising. For instance, a study by Bunting et al. (2004) in Canada showed that a household consumes almost twice as much as housing space during 2003, compared to what they had in 1950, despite the fact that households were much smaller in 2003.

This new economic change led to a collapse of the family supportive wage[2] and brought up a new form of poverty that departs quantitatively and qualitatively

[2]The wage earned by the head of the household that supports all other dependents.

from traditional forms of poverty (Grabb 1996; Bunting et al. 2004). According to Bramley (1994), the reduction of public expenditure on housing in UK coupled with the promotion of home ownership, privatisation, deregulation and the end of approach to housing had typified the post-war period after 1979, and moved the housing market in a different direction. These economic changes and growth patterns resulted in an increase of materialism; and drastic changes in demographic formation centring on nuclei families, lifestyle choices, economic growth patterns and immigration redefined the quality of life beyond the mere standard of living so as the housing affordability.

Thus, the normative frameworks limited housing affordability analysis to housing cost and non-housing cost element needed to be extended in order to accommodate the new changes in lifestyles and quality of life. The residual income approach introduced by Stone (2006a) to measure housing affordability was considered to be a major contribution in the field. The notion of the residual approach suggested that a household could have an affordability problem, if that respective household does not have enough income to meet the minimum standard (essential) of non-housing expenses incurring the housing expenses, regardless of its ratio between housing cost/rent to income ratio. Therefore, a household that spends more than 30%[3] of his or her monthly income but do not have any difficulty in meeting the minimum non-housing cost standard was said to be away from housing affordability issue. This approach rectified the way of liberalism's materialistic lifestyles that brought the quality of life to a different platform and thereby housing affordability. Stone (2006b, p. 151) opined that 'most fundamentally housing affordability is an expression of the social and material experiences of people, constituted as households in relation to their individual housing situations' along with the collapse of the family supportive wage, the middle-class women were expected to demonstrate competence at several tasks. With the changing of family hygiene, dietary habits, the working women and childcare altogether changed the architectural elements of a house which needed more than one attached bathroom, en-suite kitchens compatible with modern energy, servant's rooms and many others.

Furthermore, the quality of life of people started to depend not only on the *quantity* of goods but also on the quality of those goods. In view of this, the privatisation and deregulation of the housing markets led to people appreciating the quality of the housing units they live in. Households were no longer satisfied with houses that were just affordable but they started insisting on their quality. This change of thinking pattern was reflected in works of scholars such as Lerman and Reeder (1987), Thalmann (1999), and Quigley and Raphael (2004) developing indicators of housing affordability by combining the conventional rent income ratio with a quality-based rent income ratio. They started presenting ideas that housing affordability should be viewed beyond the mere housing costs by taking into account the impact of the long-term nature of housing, its quality and other elements.

These new dimensions of quality of life under open market economies, finally influenced the cost and space elements of housing units, thus on housing affordability.

[3]The normative standards given by the ratio approaches.

2.6.3 *Sustainability Paradigm*

The sustainability concerns emerged in the late 1960s and 70s as a reaction to the degradation of the environment and societies well-being in the post-war. A new economy was intensified during the turn of the twentieth century, as a reaction to the neo-liberalism led consumerism. This informed notable changes in people's lifestyle.

It largely renewed the interest of the ways in which quality of life should be defined. With the eco-centric view of the world, people started realising that quality of life does not merely depend on the material well-being that one would personally acquire but rather started to propel on its longevity and what it acquires as a community at large. People were informed that the unnecessary consumption of resources at present would jeopardise their quality of life in future. Therefore, the conventional presumption that the 'affordable housing should focus on meeting housing needs of the people and not preserving the environment' was challenged (Chiu 2004). There was a growing apprehension that '*environment* has to be safeguarded from deteriorating because such deterioration will diminish the ability of future generations to meet their housing needs' (Chiu 2004, p. 65). Here, the word '*environment'* had a broader perspective beyond the meaning of immediate surroundings. As Saegert et al. (2003, pp. 1472, 1473) mentioned it is the behaviour, the physical and social environment and health that dynamically connect individuals, households, buildings and communities for the liveability of the internal and external living environments. This paradigm shift in the housing need and affordability definitions away from the quality of life concept form pure economic perspective to incorporate environmental and social concerns (Fig. 2.2).

Many of the pre-existing literature that defined and measured housing affordability by merely focusing on 'four walls of the house' based on *house price* (without consideration of liveability, the condition, location and neighbourhood character that a housing unit is associated with) seemed out fashioned (Haas et al. 2006). As a result of this, Salama and Alshuwaikhat (2006) opined that for the purpose of finding a

Fig. 2.2 Housing estates designs to incorporate environmental and social-friendly elements such as cycling, roof tops with solar panels. *Source* Falk and Carley (2012), and author

sustainable way to measure housing affordability three dimensions should be looked at. They are the economic dimension which is associated with the financial costs of housing development, the social dimension which includes the sense of belonging and the feeling of togetherness among the inhabitants, and the environmental dimension that encourages water and energy conservation within a building. In the views of Maliene et al. (2008), sustainable housing affordability encompasses 'sufficient in offer, quality (from the technical and provision point of view), economic (greater number of households have opportunities to purchase it and cover the exploitation expenses), ecological (energy saving etc. and comfortless (from the social–psychological point of view)'.

These ideas on housing affordability have now started reflecting in both theory and practice. Many of the contemporary scholarly works on housing affordability highlighted the need for inclusion of ecology as well as the sociocultural sustainability dimensions within the definition and measurement of housing affordability. As such, Chiu (2004) mentioned five elements that the current housing affordability should cover; (a) the social preconditions conducive to the production and consumption of environmentally sustainable housing, (b) equitable distribution and consumption of housing resources and assets, (c) harmonious social relations within the housing system, (d) an acceptable quality of housing conditions and (e) preservation of housing heritage.

Hence, the prior measures of housing affordability were assumed to be in the quantifiable attributes of dwellings and their related cost were viewed within the relationships between the process, the product and the sociocultural aspects of the target population (Salama 2006). In practice, various projects have been built on the broad concept of housing affordability with various aspects of housing affordability such as economic, social and ecology dimensions being key parts of those projects. The end results of those projects have been successes in improving quality of life since they touched on the basic necessities that quality of life depends on. Some notable examples are Sustainable Neighbourhoods in the Netherlands such as Vathorst, Houten and Almere Poort, Affordable Green Neighbourhoods in USA like Essex Crossing—New York, West Grand and Brush—Oakland, Calif and The Sustainable Urban Extensions and New Settlements in UK at areas such as Milton Keynes, Orchard Park, Cambridge, Telford and Dickens Heath in West Midlands, Grand Union Village, London. Furthermore, in establishing the first ever 'quality of life' barometer in the UK, the housing indicator was chosen because housing was a key component of a decent quality of life.

These projects and their reflexivity of quality of life revisited housing affordability as a concept. The examples worthy of attention include the views of the Centre for Neighbourhood Technology (CNT) in the United States. Their suggestion of measuring locational affordability is Housing plus Transport Affordability Index which

takes into consideration six neighbourhood variables[4] and three household variables[5] (Haas et al. 2006). The range of the CNTs' method varies from building houses to their connection with jobs and neighbourhoods. Mulliner et al. (2013) proposed the Complex Proportional Assessment (COPRAS) method of Multi-Criteria Decision-making (MCDM) to assess the sustainability of housing affordability, which is capable of taking into consideration numerous decision criteria. They applied this method with a total of 20 weighted criteria[6] including a wider range of economic, environmental and social criteria. Broadening the concept of housing affordability with social and environmental considerations, on the other hand, is reflexive of the shift away of the quality of life concept; from single- or unit-based view (satisfaction of one's personal life or household's life) towards the more pluralist view. It is no longer a thing an individual can attain alone but requires collective efforts and responsibility.

2.7 Conclusions

In sum, quality of life is a multifaceted concept with its scope cutting across many disciplines. This chapter highlighted how it is linked to housing affordability. Housing affordability provides a means to reflect how the quality of life was understood and has changed over different periods of time from industrialisation to the sustainability paradigm. Over the years, its' focus has shifted from mere material gains to encompass broader aspects of human well-being. Through this, the chapter argues, what is perceived to constitute quality of life today may not be necessarily the same in future. Quality of life is conceptually subjected to be constructed, negotiated and altered over time-space.

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[4]Residential density, job density, average block size in acres, transit connectivity index, job density, average time journey to work, household income, household size, commuters per household.

[5]House price in relation to income, rental costs in relation to incomes, interest rates and mortgage availability, availability of social and private rented accommodation, availability of affordable home ownership products, safety (crime level), access to employment.

[6]Opportunities, access to public transport services, access to good quality schools, access to shops, access to health services, access to child care, access to leisure facilities, access to open green public space, quality of housing, energy efficiency of housing, availability of waste management facilities, desirability of neighbourhood area, deprivation in area, presence of environment problems (e.g. litter, traffic).

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