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HARNESSING THE REAL ESTATE MARKET FOR EQUITABLE AFFORDABLE HOUSING PROVISION IN NAIROBI, KENYA: INSIGHTS FROM CALIFORNIA, USA.

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HARNESSING THE REAL ESTATE MARKET FOR EQUITABLE AFFORDABLE HOUSING PROVISION IN NAIROBI, KENYA: INSIGHTS FROM CALIFORNIA, USA.

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Declaration

I hereby affirm that this PhD thesis entitled "Harnessing the Real Estate Market for Equitable Affordable Housing Provision in Nairobi, Kenya: Insights from California, USA" was carried out by me under the University of Salford regulations and guidance for the degree of Doctor of Philosophy (PhD) and under the supervision of Dr. Claudia Trillo, School of Science, Engineering and Environment; University of Salford, United Kingdom. Parts of this thesis have been published in *Housing Studies* (Link to the article: https://doi.org/10.1080/02673037.2020.1746244) and *Sustainability* (Links to the articles: https://doi.org/10.3390/su11133649 and https://doi.org/10.3390/su12155975

Dedication

To my mother Petronilla Mwelu Nzau who instilled hope in the midst of adversity and inspired me in my pursuit of knowledge.

List of Abbreviations

AMI	Area Median Income
CBD	Central Business District
DFID	Department for International Development
FAR	Floor Area Ratio
GIS	Geographic Information System
HUD	Department of Housing and Urban Development
IH	Inclusionary Housing
IQSK	Institute of Quantity Surveyors of Kenya
KNCHR	Kenya National Commission on Human Rights
LVC	Land Value Capture
MDGs	Millennium Development Goals
MTP	Medium Term Plan
NIMBY	Not in my Back yard
SDGs	Sustainable Development Goals
SPSS	Statistical Package for the Social Sciences
UK	United Kingdom
UN DESA	United Nations Department of Economics and Social Affairs
UN	United Nations
UN-Habitat	United Nations Human Settlement Programme
USA	United States of America

ABSTRACT

Affordable housing remains a problem for both developed and developing countries. The Government of Kenya recently unveiled affordable housing as one of its main agenda. Housing provision approaches supported by the current planning and housing policies which have been used for many years are unlikely to bring much change in the provision of affordable housing given the financial constraints faced by the government. This leads to the question of whether alternative innovative and effective approaches for providing affordable housing exists. Such approaches could include tools such as Land Value Capture (LVC) and Inclusionary Housing (IH) which harness the real estate market as used mainly but not exclusively in some USA Cities. LVC and IH are considered as powerful tools for affordable and equitable housing provision and it is possible, they can provide theoretical and practical support for exploring new financing mode to solve urban housing problems in Kenya and other developing countries. LVC as a tool may enable the government to capture the market to support affordable inclusive housing (IH) provision. This research has reviewed literature and explored in case studies how these tools are being applied for affordable housing provision in some exemplar cases in California, USA with a focus on the cities of Santa Monica and San Francisco. Findings show that land use policies and planning can, through LVC and IH, help harness the strength of the real estate market to (1) increase affordable housing production, and (2) achieve effective social integration in neighbourhoods of opportunity. In demonstrating the potential application of LVC and IH in increasing affordable housing in Kenya, the study has adopted a proposed master plan and related housing policy, aimed at addressing housing needs in Kibera, the largest slum in Nairobi, Kenya. This simulated master plan has been complemented with residual land value analyses which demonstrate that by availing land to private developers for IH development, it is possible to meet slum residents' housing needs by including at least 27.9% affordable housing in new developments, entirely borne by the private sector. Findings suggest that under a robust public-led governance umbrella, market forces can (1) significantly contribute to fill the financial gap in order to achieve the end of slums by 2050 in coherence with the United Nations Agenda 2030 targets and principles, and (2) increase both affordable and market housing in upgraded neighbourhoods hence enhancing social inclusion in cities of developing countries.

1 Introduction

1.1 General Introduction and Background

As the urban population in the world's cities continue to grow, housing problems also continue to persist. Globally, more people live in urban areas than in rural areas, with 54 per cent of the world's population residing in urban areas in 2015 up from 43 percent in 1990 (UN Habitat, 2016). By 2050, 68 per cent of the world's population is projected to be urban (United Nations, 2019). This will no doubt present housing affordability challenges and governments must work towards tackling these challenges. With limited fiscal resources, cities in developing countries are already grappling with the provision of basic services and infrastructure to meet the increasing demand of their growing populations (Ingram and Hong, 2012). "In the vast majority of countries, access to affordable land and housing is a critical contemporary challenge. While in different countries and regions the specificities of the challenge vary, the universal truism is that it is becoming increasingly difficult for the vast majority of urban residents to obtain and retain adequate and affordable land and housing." (UN-Habitat, 2011: ii). Affordable land is critical to affordable housing provision because as Berto et al (2020) observes, the main obstacle to the supply of low-cost housing in accessible urban areas is the high cost of land.

According to UN-Habitat (2016), although the population living in slums in the developing countries decreased from 39.4 per cent in 2000 to 29.7 percent in 2014, the absolute number continues to increase and stood at 881 million in 2014, compared with 791 million in the year 2000. Poor and destitute people continue to move from their desolate rural situations to urban areas in the hope of finding a better living environment and finding none (K'Akumu, 2018). UN-Habitat further indicates that the gap between the rich and the poor in most countries has continued to increase and this urban divide has stigmatized and excluded large groups of the urban population from a socially and economically productive life. Arku (2006) observes that inadequate attention to housing in developing countries has exacerbated the poor and has severely compromised economic development programmes.

Since housing is a basic human need, efforts to alleviate the housing problem have preoccupied governments since time immemorial albeit with little success particularly in the developing

countries. This concern by governments is important because as Chirchir (2006) argues, housing has economic, social and political roles and is an indicator of development and welfare in a country. Chirchir observes that economically, investment in housing contributes towards reducing poverty, generating employment, raising incomes, improving health and increasing productivity of the labour force. Socially, housing promotes privacy, status, dignity, health safety, efficiency, positive social behaviour and general welfare of the populace. Politically, affordable housing reduces political unrest that may arise out of deprivation and frustration of people living in slums and informal settlements. Glossop (2008) observes that housing can enhance economic performance but can also lead to segregation and spatial concentrations of poverty. Glossop says that housing policy should be used to promote both economic growth and regeneration of under-performing areas. Housing is also important to the development of stable and sustainable communities (Maliene et al, 2008). In fact, Kissick et al (2006) argues that there is an interdependent relationship between decent housing, the social fabric, and public participation in governance. Kissick et al further observes that i) building or buying a home grows the worth of a family, contributes to increased consumer spending and helps build a more equitable distribution of wealth; ii) housing formation generates non-housing-related expenditures that are drivers for the economy; iii) housing is a location for business and provides other intangible emotional and cultural benefits and lastly iv) housing, through property taxes, is a significant contributor to local government finance and thereby to the provision of essential services, such as water, sanitation, transportation and education. In general, housing has many potential benefits from increasing employments and spin-off industry to simulating the informal economy and building formal micro-enterprises (Gunter & Manuel, 2016).

Faced with the reality of the critical importance of housing, many countries continue to implement policies to increase stock of affordable housing. However, according to World Bank (2017), housing remains largely inaccessible and unaffordable. That which is accessible to most households is mostly of poor conditions. "The reason for poor housing conditions in developing countries is a combination of poor policies and the limited resources available to meet the investment needs of rapid urban population growth. This has given rise to substantial gaps between housing supply and demand in most cities of the developing world leading to high house prices in these countries" (Kieti, 2015: 1). UN-Habitat (2016) argues that the housing policies put in place over the last 20 years through the enabling approach have failed to promote adequate

affordable housing. UN-Habitat further observes that governments have backed away from direct supply without giving sufficient consideration to the markets and regulatory framework to enable other actors in the process to step forward and provide adequate affordable housing. There is a need to create a strong regulatory enabling environment for the private sector developers. This could include changing land use regulations to allow for taller and dense developments (World Economic Forum, 2019). Regardless of the level of economic prosperity, lack of equitable affordable housing remains a big challenge, either because of gentrification mechanisms happening in affluent cities, particularly those whose local economy is innovation-driven (Walker, 2018), or because of lack of adequate financial resources. Housing availability and affordability remains a major pillar in pursuing the Sustainable Development Goals (SDGs) as identified by the United Nations in Habitat III (United Nations, 2017a). In fact, one of the objectives of SDGs (i.e. the SDG11) is to make cities and human settlements inclusive, safe, resilient and sustainable (United Nations, 2017a; Trillo, 2019a).

Therefore, improving housing conditions and the stock of affordable housing should be at the core of planning and policy making for developing countries such as Kenya. There is a need for governments in these countries to strongly intervene through innovative, strong and comprehensive policies (Arku, 2006). Policies in place currently are too narrow and the programmes they support have failed to accommodate all the needy urban residents. ''Housing policies have to be operated as part of economic development strategies, and the objectives of such strategies must look beyond welfare considerations'' but should be designed to meet the housing needs of the entire population (Arku, 2006: 391).

The notion of housing affordability is discussed in detail in Chapter 2. However, at this point it is important to clarify that affordable housing is that which is adequate in quality and location and does not cost so much that it prohibits its occupants from meeting other basic living costs or threatens their enjoyment of basic human rights (UN-Habitat, 2011). According to World Economic Forum (2019), affordability is not only about being able to afford to buy or rent a house, but also being able to afford to live in it. World Economic Forum further emphasizes that affordability goes beyond meeting expenses related to operations and maintenance; it also involves considerations of transport, infrastructure and services. ''If a house is cheap enough to buy and run, but located far from livelihood opportunities or amenities such as schools, it cannot

be said to be affordable'' (World Economic Forum, 2019: 1). It is also important at this point to clarify how affordable housing is understood in both California State and Kenya. California Department of Housing and Community Development (2020) defines affordable housing as housing which is affordable to and occupied by households of low and moderate-income paying rent not exceeding 30 percent of the corresponding Area Median Income (AMI). In Kenya, affordable housing is not well defined but is generally understood as housing that costs far less than the market rate and is affordable to low income households and particularly those at the base of the income pyramid (Noppen, 2013). This means it is housing that the low-income households are able to pay for and still meet the costs of other essential services. According to the State department of housing & urban development (2020a), the Kenyan Government intends to deliver affordable housing at prices not exceeding Kenya shillings 3,000,000 (approximately 30,000 US$)

Developed countries such the United States of America and the United Kingdom have not in any way eliminated housing shortage and housing affordability challenges in their cities. However, in these developed countries, planning authorities have put in place solid policies to reduce homelessness and increase stocks of affordable housing. "The past few decades have seen tremendous progress in the housing sector in developed countries, while many developing countries have encountered a bottleneck of development, stagnation and even worsening of housing conditions" (UN-Habitat, 2008a: 2). While efforts have been put to tackle this challenge in countries like Kenya, the affordability problem has persisted and there is a need to look at innovative approaches that have been used in developed countries and test their applicability to our cities. This could go a long way in alleviating housing problem in the developing countries.

1.2   Research Problem Statement and Research Objectives

1.2.1 Problem Statement and Research Questions

Affordable housing remains a problem, not only for developing countries like Kenya but also for many developed countries in the World. This problem has been compounded by the rapid increase in urban population and the escalating prices of urban land.

The government of Kenya recently unveiled affordable housing as part of its big four agenda with a proposal to provide housing to all Kenyans by targeting construction of half a million affordable houses by 2022. Shelter, like food and clothing is one of man's basic rights and making sure that all citizens are decently housed is a commendable goal. The right to housing is protected in the Country's Constitution. The Constitution in Chapter 4 under Article 43, sub-article 1 (a) states that "Every person has the right to accessible and adequate housing, and to reasonable standards of sanitation". This requirement for provision of adequate housing among other things has made our Constitution to be among the most progressive in the world today. However, the government continues to be constrained in adequate funds and financing for essential services including housing continue to dwindle.

The delivery model envisioned by the government is through collaborative efforts by both the public and private sector and incentives to facilitate private sector investment in affordable housing. Specific interventions include reduction of corporate tax and exemption from fees charged by different statutory bodies which are in charge of approving housing developments. Related legislations are proposed to be reviewed to address release of affordable funds for both the supply and demand sides for affordable housing. This will be through the formation of the Kenya Mortgage Re-finance Company (KMRC) which is expected to increase the liquidity of commercial banks to enable them to offer mortgage loans at lower interest rates. The National Housing Development Fund (NHDF) is to be established to avail funds at less cost to developers for affordable housing development. Counties are also encouraged to invest in social housing to cater for the influx of people moving to the county headquarters from the rural areas in search of employment and business opportunities. These policies alone are unlikely to bring much change in the provision of low-income housing and may result to similar outcomes as seen before. "The planning approaches employed throughout the past decades raise the question of effectiveness and practicalities in handling further expansion of informal settlements. Failure to address practical needs of the low-income population calls for a need to review the current planning practice and models or else, planning will continue to be viewed as partly inhibiting low-income housing and instead, precipitating informal housing. The challenge of informal settlements is complex as evidenced from their persistence after decades of planning. Tackling them therefore, requires new approaches and ideas" (Mwaniki et al, 2015: 16-17). If affordability in housing is to be properly and adequately addressed in cities of developing countries, there is a need for policy

initiatives and interventions that favour low-income earners (Aribigbola, 2008). Governments and their planning authorities have continued to support public financed models of affordable housing provision and failed to initiate regulations to provide an enabling environment for the market players to produce affordable housing. The housing market is majorly controlled by economic and political factors with total disregard of the interests of the urban poor. ''Urban planning must become more efficient and forward-looking, in order to enhance urban densities and reduce transportation needs, cut per-unit land costs, provide more efficient and affordable basic services as well as improved living environments for all citizens" (UN-Habitat, 2010:9). This leads us to the question whether alternative effective models for providing adequate equitable affordable housing exist. The housing problem and needs have heightened, the economy and the real estate market have become more robust and tools are required that captures this dynamism. "A system is often required to redefine itself and reinvent itself to meet new challenges and accommodate new needs" (UN-Habitat, 2008a: 2). However, housing policies in Kenya have failed to keep up with dynamic changes in housing needs. Therefore, alternative models such as land value capture and inclusionary housing as used in the USA need to be studied for possible adoption. These models have been praised as efficient since they are self-sustaining as they can finance affordable housing development without any public funding.

According to World Bank (2017), Kenya has an estimated accumulated housing deficit of over 2 million units, and nearly 61 percent of urban households live in slums and/or informal settlements. This is because 244,000 housing units in different market segments are needed annually to keep up with demand, while current production is less than 50,000 units. The City of Nairobi alone has a public target of developing 150,000 houses (across all income segments) per year but only manages to produce approximately ten percent of that target. The World Bank report further rightly points out that the government's goal of increasing the formal supply of affordable housing is not being met and gives examples of failed housing targets by the government. For example, Kenya's first medium term plan (MTP I, 2009-2012) of the Vision 2030 strategy had an initial target of providing 200,000 housing units annually for all income levels by 2012 but fell significantly short of this projection (only 3,000 units were provided between 2009 and 2012).

Nairobi's urban population continues to grow at a rate of over 4% annually and it is estimated that the city will continue on its upward trajectory in terms of population, reaching 5 million in 2025

(United Nations, 2014a). This will present serious developmental challenges as Busani (2016: 4) argues - "with an annual economic growth rate of about 5% over the last decade, driven mainly by the commodities boom, African cities have seen skyrocketing population growth, forcing governments to face a host of development challenges". The supply of housing particularly for the low-income households continues to remain behind demand and majority of these urban residents continue to live in informal settlements because they cannot afford housing in the formal market. To make it worse, housing delivery continues to favour the rich. World Bank (2017) indicates that more than 80 percent of housing supply in Nairobi is for upper middle income (48 percent) and high income (35 percent), and only 2 percent for the lower income segments of the population. This means that the market continues to work against the low-income households.

In the past, the government has made similar attempts aimed at increasing affordable housing for its citizens. In 1930's to early 1960's, the government invested in public housing. However, as Mwaniki et al. (2015) outlines, as from 1964, investment in public housing diminished owing to the dwindling state resources coupled with a fast-growing population that was favoured by the lift of the colonial ban of rural-urban migration. The private sector which came to fill this void was more motivated by profits and higher returns leaving low-income households without affordable housing, resulting in development of slums and informal settlements. The state viewed these slums as eye sore to the city's development prospects. As such, the 1970-90s witnessed mass evictions of squatters and clearance of slums which were adopted as strategies to clean the city. In fact, according to UN-Habitat (2014a), evictions and segregation are commonplace in Nairobi, among other African cities including Cape Town, Kinshasa and Harare. Other strategies implemented included site-and-service schemes in 1970s and 1980s with assistance from international financiers as well as slum upgrading programmes and lately the civil servants housing scheme fund. Even with all these strategies and with a constitution supporting adequate housing for all, the slum problem has refused to go and housing affordability remains a thorn in the flesh of the government. The housing market in Nairobi remains robust but continues to work against the poor. Therefore, as UN-Habitat (2014b) reports, Nairobi is dominated by pervasive slums and informal settlements, where living conditions are desperately challenging for the urban poor because of extremely high settlement densities.

UN-Habitat (2008b) indicates that Nairobi has a proportion of about 50 percent of its population experiencing one or more shelter deprivations. This UN-Habitat report further argues that in East Africa, urban poverty is not primarily a function of urban expansion or a sign of the failure of urban economies but rather relates to systemic institutional failures that perpetuate social exclusion and inequalities between the urban poor and rich. Urban agglomerations of scale have not been optimally utilized owing to both policy and institutional failures. That is why UN-Habitat (2010) emphasizes that the ongoing urbanization of poverty in Eastern Africa calls for strong and effective policies, including an end to exclusion of the poor by political and business elites. This is important because as Lincoln Institute of Land Policy (2015:10) argues "Equitable development benefits not only lower-income households; integrated, inclusive, and diverse communities enhance the lives and outcomes of all residents".

Innovative approaches will need to be devised to assist the government in financing the provision of affordable housing. These approaches will need to be well understood from a practical perspective and evaluated to test their applicability to the Kenyan situation. "While policies do need to be designed to fit the local environment, ample learning could occur from existing programmes in order to bolster the efficiency and impact of policy design and implementation" (Thaden & Wang, 2017: 1). Just like Nairobi, many cities in the USA are faced with continuing needs for affordable housing. With this increasing need for low-cost housing and declining federal subsidies, these cities have been forced to search for new policy tools to provide housing that is affordable to low and moderate-income households (Schuetz et al, 2009). Many of these cities have experimented with reversing the trend of housing unaffordability and exclusion by promoting Inclusionary Housing (Thaden & Wang 2017) and Land Value Capture (Calavita, 2014) among other tools.

This thesis focuses on tools which harness the strength of the real estate market to produce affordable housing. The study identifies and reviews these tools but focusses on what the researcher considers as the main ones - Land Value Capture (LVC) and Inclusionary Housing (IH). Land Value Capture (LVC) is a planning mechanism through which increases in land value resulting from public investments, land-use plan changes and up-zonings, are captured for public benefit. LVC requires using for public benefit part of any increment in land value that results from public policy and/or investment (and not by direct action by the landowner). Inclusionary Housing (IH)

embraces land use regulations that require developers of market-rate residential developments to set aside a small portion of their units, usually between 10 and 20 percent, for households unable to afford housing in the market. Setting aside a portion of the units as affordable is a land value capture mechanism for the benefit of the public. These innovative tools are expounded further in chapter 2.

IH and LVC are considered some of the most effective tools for providing affordable housing, enhancing social and economic integration and hence building inclusive communities (Jacobus, 2015; Schwartz et al., 2012; Calavita & Mallach, 2010). In fact, IH is seen as a solution that may incorporate economic integration when on-site affordable housing is required, resulting in mixed-income developments (Trillo, 2019b). There are wide variations in the policy design and implementation of IH across the USA and Thaden & Wang (2017) have provided a taxonomy of these. Although according to some scholars IH has promised more that it has delivered (Powell & Stringham, 2004a, 2004b, 2005; Schuetz et al, 2011; Hollingshead, 2015; Metcalf, 2018), still a robust scholarship supports the contribution of IH in achieving higher level of housing affordability and social integration (Sturtevant, 2016; Basolo & Calavita, 2004; Kautz, 2002; Hickey, 2014). Hickey et al. (2014) add that there is a need for a better understanding of the characteristics associated with successful programmes, particularly in different legal, economic and political climates, and recommend that future research is conducted to rigorously evaluate which models work best. The Urban Institute (2012) also identified a research gap in the IH literature regarding the paucity of studies assessing the actual impacts of the IH programmes against the expected outcomes. Moreover, most studies have been done at higher levels of comparing programmes across cities and counties. Very few studies offer a systematic and comprehensive assessment of a particular IH programme in terms of its modifications and associated impacts over a significant timeframe at the local level. Through the USA case studies presented in chapter 5, this study fills these gaps.

There is basically a general consensus in literature that IH programmes have produced considerable number of affordable housing units in the market. Calavita & Grimes (1998) considers that IH in California and New Jersey has enjoyed a certain degree of success. However, although thousands of units of inclusionary housing have been built and occupied across the cities, it is still not clear exactly to what extent these developments have impacted on increased housing

affordability and increased integration. As Schuetz et al (2011) argues, despite the growing popularity of IH among policy-makers, there has been almost no empirical research on the effects of these programmes, either about how much affordable housing they actually produce, or about their broader impacts on the price and quantity of market-rate housing. Rohe (2012) argues that the literature that exists on IH programmes is largely descriptive and lacking in assessments of the actual programme impacts. However, Sturtevant (2016) argues that there have been numerous studies on IH but unfortunately, they do not provide conclusive evidence about the overall effectiveness of inclusionary housing programmes.

"The question of whether, and how, planning impacts on the housing market, continues to stir public debate in many countries'' (Nicole et al; 2017: 85). Planning tools such IH and LVC will impact on housing development, market prices, rents, affordability as well as social and economic integration. Less is known about IH than arguably any other affordable housing programme or policy and the consequence of this is that policymakers, city staff, and stakeholders are uncertain about what works and doesn't work as they design and implement inclusionary housing policies (Thaden & Wang. 2017). Hickey et al (2014) argues that even as inclusionary housing programmes have become more prevalent, there is a lack of information on successful strategies for facilitating lasting affordability. The authors rightfully explain that the ability to not only produce affordable homes, but also to ensure their long-term affordability, is critical for meeting the housing needs of the lower-income families and individuals that inclusionary housing programmes aim to serve. This can only be achieved by incorporating long affordability periods as part of programme characteristics when designing the programmes. That is why Hickey et al (2014) argues that there is a general need for better understanding of the programme characteristics that are associated with successful programmes, particularly in different legal, economic, and political climates. Hickey et al therefore recommend that future research is needed to rigorously evaluate which models work best for fostering lasting affordability of affordable homes produced through inclusionary housing programmes.

IH and LVC are being promoted as great tools for affordable and equitable housing provision. However, there are negative perceptions about the policies and research is needed to ascertain these perceptions. Hollingshead (2015) observes that while the aim of these policies is to promote housing affordability, some critics have raised concerns about their potential unintended market

consequences. Some Policy makers are understandably concerned that affordable housing requirements will stand in the way of development (Jacobus, 2015). But as Jacobus further observes, a review of the literature on the economics of inclusionary housing suggests that well-designed programmes can generate significant affordable housing resources without overburdening developers or landowners or negatively impacting the pace of development.

In some neighbourhoods, there is still some resistance to IH promoted by NIMBY (Not in My Backyard) lobbyists. Voith & Wachter (2012) observe that for many communities, the main efforts with respect to affordable housing have been and continue to be to oppose the provision of housing that low-income or even moderate-income households can afford. The authors claim that many communities with higher-income households are loath to risk added municipal costs for the residents of low-cost housing. Ziebarth (2013) in a review to Calavita and Mallach (2010) argues that it remains to be seen whether or not inclusive housing can overcome their negative perceptions and promote sufficient affordable housing units. "More research is still needed on whether or not various planning processes, such as including community stakeholders in creating inclusionary housing requirements, or in developing design standards for multifamily housing developments, can effectively shift public perceptions around affordable housing siting decisions" (Scally & Tighe, 2015: 765).

It is not clear in the literature to what extent utilizing LVC through increasing IH requirements produces more affordable housing and enhances social inclusion. The effectiveness of affordable housing delivery as a land value capture mechanism is not so well-documented (Wyatt, 2018). Bates (2013) identified rezoning combined with programmes of inclusionary housing and commercial linkage fees as best practice tools for mitigating the harms of gentrification but there is paucity of studies examining this topic. How such a programme affects access to housing for households at various income levels or whether a particular type of rezoning will benefit or burden local residents is not always clear (Armstrong et al, 2010). No research seems to exist offering a systematic and comprehensive assessment of how LVC implemented through increased inclusionary requirements affects IH goals at the neighbourhood level and particularly comparing the achievement of those goals in different plan areas within neighbourhoods in a city.

With respect to these research gaps identified above, this study offers an original contribution through an in-depth case study of two IH programmes in two cities in the USA, assessing their

actual outcomes over a significant timeframe. The study reviews literature on equitable planning tools including inclusionary housing and land value capture. The research explores and seeks to understand IH and LVC programmes in the USA Cities of San Francisco, Los Angeles, Santa Monica San Diego and Emeryville in California State but finally settles on programmes in the cities of Santa Monica and San Francisco for case study analyses. These cities have adopted IH and LVC for community benefits especially affordable housing. Core in the research is the nature of the programmes, how and why these cities are implementing these planning tools, their outcomes, reasons for their success or failure and lessons learnt. The study seeks to understand the programme characteristics and context under which they were developed and implemented. The study also answers questions regarding why and how the IH programmes in the cities have changed over time and the effect on programme goals of increasing the stock of affordable housing and enabling social integration. Of critical importance in the research is an evaluation of whether and how the models adopted in these cities are exportable and applicable to Nairobi, Kenya and by extension developing cities of the world.

This research contributes to help fill a gap in the existing scholarship, i.e. the paucity of studies on the outcomes' evaluation of extant IH programmes at the local scale and, in particular, the evaluation of the level of social integration achieved. Very few studies offer a systematic and comprehensive assessment of a particular IH programme in terms of its modifications and associated impacts over a significant timeframe at the local level. Jacobus (2015) observed that empirical research on the scale, scope, and structure of inclusionary programmes and their impacts is still limited. It is not clear in the literature how changing a monolithic affordable housing programme to include discretionary tier-based density incentives tied to affordable housing requirements motivates developers. Additionally, Schwartz et al. (2012) observe that little research has been conducted to determine whether inclusionary policies are having the intended inclusionary effect for IH recipients.

This research also explores the potential application of these planning tools (IH and LVC) to harness the strength of the real estate market and support the production of affordable housing outside the USA. There is potential for Kenya and other developing countries to benefit from these equitable planning tools. Land for housing in the Kenya has become limited in supply and costly. Investment in infrastructure and change of user have added value to the already expensive land.

The government continues to grapple with the problems of slums, housing unaffordability and social exclusion. So far, public driven attempts to provide decent housing to slums residents have failed, mainly because of the shortage of public funds. Hence, with constrained financial resources, the government of Kenya should look for innovative ways to regenerate slums and increase housing supply and affordability for the low- and middle-income earners. With the increased urban populations coupled with the rapid growth of slums in the country, it is clear that major cities in the country will have no institutional, infrastructural, and financial capacity to satisfactorily accommodate all urban dwellers if alternative innovative approaches are not devised.

Yepes & Lall (2008) argue that there is little clarity on approaches of slums regeneration in terms of (i) interventions that are most effective; (ii) the sustainability of alternate programmes and their relative cost effectiveness and (iii) the city-wide consequences of these interventions. Attempts of regenerating slums have mainly been based on government's and non-governmental organisation's (NGOs') efforts, with very little results. As World Bank (2010: ix) argues "narrowly-focused, neighbourhood-level slum upgrading interventions, while generally effective, have fallen short of addressing the magnitude and scope of expanding informality and slums". Many slum upgrading projects have been community led and have met the UN-Habitat best practices but the upgrading process has "remained outside mainstream urban planning and management'' (UN-Habitat, 2012: vii) and the output has been minimal when compared to the growing slum population. These challenges highlight the valuable contribution that integrated and participatory slum upgrading has to offer to the sustainable development of humankind, as it addresses the pressing needs of the growing numbers of urban poor (UN-Habitat, 2015). Therefore, as Baker & McClain (2008) observe, when policy makers and planners make consideration for the scaling up of slums upgrading projects, there is a need to look beyond the public sector. Existing approaches for the provision of affordable housing are inadequate to the challenge faced in cities and there is a need to test new innovative approaches for funding especially in slum upgrading (UN-Habitat, 2019). Furthermore, as Rigon (2014) observes, research has shown that state-driven regeneration programmes have resulted in displacement and gentrification.

Although there is a lot of literature on slums and informal settlements in Kenya, most of it has entirely focused on the problems of the slums and evaluation of the slum upgrading projects

undertaken by the government. Mutisya & Yarime (2011) gave a conceptual analysis of the dynamics of urban sustainability and slums development and reviewed the historical perspectives and realities of Kibera slum in Nairobi. They found that the government and other partnering organizations have devised no new applicable ideas to tame the development and growth of slums in the city. Mutisya & Yarime therefore concluded that ''the problem of unsustainable urban growth in Kenya is not just about poverty but the poverty of ideas'' (Mutisya & Yarime: 210). Cronin & Guthrie (2011) focused on the improvement of water and sanitation infrastructure and services in Kibera slum and found that slum improvements through multi-stakeholder involvement is more successful than the 'top-down' government approach. Other recent studies have concentrated on evaluating the Kibera Kenya slum upgrading project (KENSUP) (Stenton, 2015; Mukeku, 2018; Michael, 2015). There is no research that tries to offer alternative and sustainable means of slum and informal settlement upgrading in Kibera and other slums in the country.

Internationally, very little has been explored so far on public-private based approaches to develop a market-driven slum regeneration process, possibly due to the limitations of the social construct underpinned in the concept of "slum" or "informal settlement" (Mahabir et al, 2016). To the researcher's knowledge, only Santoro (2013) discusses the connection between social housing, land value capture and slums regeneration in Sao Paulo but without suggesting and demonstrating an extensive application of the former to the latter as this research does. Even the Committee on Housing and Land Management of the Economic Commission for Europe at the United Nations recently (Geneva, 2-4 October 2019) recognized that "while there are many studies which include information and examples on how national and local governments implement value capture policies, there are still few studies which would demonstrate the connection between land value capture and housing affordability" (UNECE, 2019 item 7:3). Therefore, what is needed is a strategy to control land supply, increase its value through appropriate land use policy, make it available for development and capture part of the land value increase for public benefit. It is possible that IH and LVC can provide theoretical and practical support for exploring new financing mode to regenerate slums and solve urban housing problems as per the requirements of the Sustainable Development Goals (SDGs). The public-private partnership envisioned in the model proposed in this research is that in which the private developer undertakes the development of affordable housing and the government takes the role of the 'regulator', 'enabler', 'moderator' and 'facilitator'. The private sector provides the finances while public sector facilitates a feasible

housing development through an enabling environment including favourable land use regulations. The government also balances market incentives with community interests and facilitates project completion by reducing the developer's risks (AL shareem et al, 2014; Leung and Hui, 2005; Sengupta, 2006).

Sustainable Development Goal (SDG) 11 (target 11.1) requires that "by 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums", this target being measured by monitoring the "proportion of urban population living in slums, informal settlements or inadequate housing"- indicator 11.1.1 (United Nations, 2015). The connection between SDGs, slum regeneration and sustainability is grasping growing interest in the literature (Teferi and Newman, 2017). This research aims at contributing to the pursuing of the SDG11, Target 11.1, by shedding light on an innovative hypothesis to achieve slums regeneration by harnessing the real estate market. At this aim, it approaches the slums regeneration issue from an integrated land economics and spatial planning perspective and demonstrates that slums regeneration could be successfully managed by applying Land Value Capture (LVC) and Inclusionary Housing (IH) instruments. In so doing, it fills a gap in the current knowledge, since the connection between land value capture and housing affordability and its potential applicability to slums regeneration hasn't been thoroughly explored so far.

The associated research questions are as follows:

1. What approaches are used to provide affordable housing in Kenya?

2. To what extent have these approaches used in Kenya succeeded in enhancing production of affordable housing?

3. What challenges are faced in producing affordable housing using current approaches?

4. What models and approaches are currently at the forefront of the planning practice in the USA to enable the increase of equitable and affordable housing stock by harnessing the real estate market?

5. How far have these models and approaches used in the USA succeeded in achieving the desired goals (Increasing levels of housing affordability and socio-economic integration of the communities)?

6. What lessons have been learned by planning authorities and other stakeholders in the USA during the implementation of these innovative models and approaches for equitable affordable housing?

7. Why and how can the USA models be made to work for Nairobi, Kenya to harness the real estate market, facilitate slums regeneration, increase affordable housing and enhance social inclusion?

1.2.2   Research Aim and Objectives

Main aim of this Research is:

To examine the approaches used to provide affordable housing in Nairobi, Kenya; and explore the nature and examine the potential of innovative models and approaches used in the USA to enable the increase of equitable affordable housing stock in Nairobi, Kenya by harnessing the real estate market.

The specific objectives of this research are:

1. To evaluate the success and challenges faced in providing affordable housing using the current approaches used in Kenya.

2. To examine how innovative models used in the USA harness the real estate market to ensure delivery of affordable housing.

3. To evaluate the success of these models and approaches in i) increasing housing affordability and ii) fostering socio-economic integration in some cities in the USA.

4. To test the applicability of these models and approaches in harnessing the real estate market to increase the stock of affordable housing in Nairobi, Kenya.

1.2.3 Rationale of the Research

There is a critical need for urgent measures that will provide affordable housing in order to accommodate the ever-increasing urban population in Kenya's capital city, Nairobi. In a time when Kenya is grappling with this challenge of housing affordability, new tools and models need to be devised to help the government in meeting this challenge. The country has a very vibrant land and housing market (Cytonn, 2018) but has failed to deliver affordable housing particularly for the low-income households. The government has invested heavily in infrastructure; there is continued approval of higher densities and change of user which have tremendously increased land values and hence property values. These are positive developments and work to strengthen the real estate market but they seem to work against low income housing and housing affordability. There is therefore a need for research on innovative approaches that will help the government to tap on the strength of the market to increase the stock of affordable housing.

This research is motivated by the desire to seek for innovative tools and models that would work to provide equitable affordable housing without depending on public funding but harnessing the real estate market in Nairobi and also which could be applied in other cities. This motivation and desire drove the researcher to first seek to understand the nature and the effectiveness of different models and approaches used in the United States of America (USA) for enabling the increase of equitable affordable housing stock using the real estate market. There are several tools provided in the literature which can be used to increase stock of affordable housing by capturing the strength of the market. These include Land Value Capture instruments including Inclusionary Housing, Commercial Linkage fees, Community Land Trusts, Town Planning schemes, Public land Leasing, Community Benefits Agreements, Property taxes and Special Assessments (Calavita & Mallach, 2010; Mallach A, 2009; Hickey et al, 2014; Schuetz et al, 2009; Fainstein 2012; Loh et al, 2016; Meehan, 2013; Anderson, 2012; Kaipanen, 2017; Ballaney, 2008; and Sanyal & Deuskar, 2012; Walters, 2012; Booth, 2012; Misczynski, 2012). The rationale of the research is to find out which of these models have worked well in the developed cities in the USA and can be adopted to enhance and/or finance equitable affordable housing in Nairobi and how this can be done. There is good economic, political and social sense for the government to use any feasible tool that will increase the stock of affordable housing for the low-income households. Since these tools have not been used before in the country, this study seeks to identify those which have been used in the USA and to bring experience on how and why they were

implemented, the challenges faced, successes achieved and lessons learnt which could help Kenya in meeting its affordable housing needs.

Before recommending any policy tool, it is imperative to understand its nature and operations as well as their influence and effectiveness. Therefore, the researcher undertakes analyses of the influence of these models/approaches on housing affordability and social integration in the study areas in the USA. It is important to gauge these dynamics as they are the main aims of these policy tools/models. Policy on housing affordability can only be formulated effectively in a context where the driving forces on affordable housing production are well understood. For housing policymakers who would want to devise new low-income housing programmes during today's trying economic circumstances, it is helpful to study strategies that have succeeded elsewhere in the past (Hoffman, 2012).

Therefore, in doing the above analyses in the case study cities in relation to these policy tools, it was envisaged that the original contribution to knowledge likely to emerge was i) better understanding of the nature and influence of the Land Value Capture and Inclusionary housing programmes ii) drawing key lessons learned in implementing the policies and ii) practical benefits to aid in policy formulation for harnessing the real estate market to increase equitable affordable housing in Kenya.

Some of these tools such as inclusionary housing become more effective in strong market environments which, by pushing up housing production costs and demand for land, impose the greatest constraints on more traditional public-subsidy driven methods of creating affordable housing (Calavita & Mallach, 2010). The study shows through literature and analyses how these tools harness strong real estate markets for affordable housing provision and demonstrates their applicability in the city of Nairobi through a simulated master plan complemented with residual land value analyses.

1.3 Contribution of the Study

By exploring the nature and examining the potential of models and approaches used in the USA for enabling the increase of equitable affordable housing stock by harnessing the real estate market, this study proposes a practical tool that can be used to alleviate the housing problem in Nairobi. Using best practise case studies and by evaluating the effectiveness of various tools in

the chosen cities, this study brings practical solutions and recommendations to Nairobi. The empirical analyses of the case studies in the USA regarding the influence of these tools on housing affordability and social integration can guide policy makers in Nairobi as they consider implementing these planning tools. It will help them understand the principles behind various tools for harnessing the real estate market to enhance production of affordable housing and it is hoped that this understanding will lead to the creation of effective affordable housing policies and programmes and to the fostering of a climate that is more supportive of the development of affordable housing. By evaluating whether the tools have helped increase the stock of affordable housing in the USA cities and whether the cities are now more integrated socially, this research will provide new knowledge for policy makers in the USA as well to improve on policy formulation for affordable housing.

In Kenya, the findings from this research can be of great interest to the government as it embarks on meeting its goal of providing at least half a million affordable houses as part of its big four agenda. Academics, researchers, housing experts and real estate professionals will also find this study valuable as they strive to understand the working of the proposed models that could alleviate housing shortage and improve housing affordability in Nairobi. This study constitutes an important pioneering work and contributes towards filling the existing literature gap in this area of housing provision research in Kenya and other countries as the model is applicable to other similar cities. At the moment, no similar studies exist not only in the Kenyan context, but also in the developing countries, hence, the United Nations could be interested in the potential application of the model beyond the geographical limitations of this study.

1.4   Scope of the Research

This study focuses on equitable affordable housing provision but with a bias on models which harness the strength of the land and housing markets. These models which rely more on the market were chosen because of two reasons. First, other models which rely on public financing have failed due to dwindling public resources. Secondly these models if properly implemented have the potential to be self-sustaining and finance housing development without additional public funding. The study is limited to housing provision in urban areas where markets are more robust and where housing problems and housing affordability crisis are more acute. Severity of housing problem in urban areas as opposed to rural areas is brought about by rural urban

migration leading to high urban population. This high population in turn exerts pressure on urban land making it scarce and in turn increasing land and housing prices.

Nairobi was chosen as a case study area because it is the largest city in the country and has the highest population among all the cities and towns. According to UN-Habitat (2014b), Nairobi accommodates more than one-third of Kenya's total number of urban dwellers. Nairobi is 3.7 times the size of Mombasa, the second largest city (UN-Habitat, 2008b). The city has the highest number of informal settlements. It is host to more than 200 informal settlements, where living conditions are among the worst in Africa due to extremely high population densities reaching 26,000 people per km² in inner-city slums like Pumwani and Maringo (UN-Habitat, 2010). The city has the worst housing crisis and serious housing affordability issues. It is the city with the highest population growth in Kenya at a rate of 4% per annum and it is also where the government intends to provide more affordable housing units.

Best practise case studies were chosen in the USA because some cities in the country have experienced housing crisis similar to what Nairobi is currently experiencing and have experimented with tools which the researcher wanted to understand more and learn from them. Data especially on zoning approvals and housing development is rich and is easily available in these cities. In the USA, case studies were identified in the cities of San Francisco and Santa Monica after studying and considering various programmes across five cities in California State. The other cities whose programmes were studied and considered before selection of the case studies were San Diego, Los Angeles and Emeryville.

1.5   Structure of the Thesis

This **first chapter** provides the general context of the study including the general introduction and background. Research problem statement, research aims and objectives, research questions, rationale, contribution and context of the study is expounded. Reasons for choosing Nairobi as the application case study are explained.

Chapter two presents the urban affordable housing challenge in developing countries. The challenge of slums and housing unaffordability is discussed. Affordable housing and slum

regeneration policies and practice in Kenya, the challenges faced in slums upgrading and the participatory slum upgrading approach are also presented in this chapter.

Chapter three provides a comprehensive and critical review of literature on equitable planning and housing tools for affordable housing provision. The literature clarifies the link between Land value Capture and inclusionary housing and puts more emphasis on the growth and impact of inclusionary housing policies in the USA. Other forms of land value Capture used in the USA and other countries are also reviewed.

Chapter four is dedicated to the research methodology adopted in this study. The choice of research philosophy, research approach, research design, research strategy, case selection, techniques and procedures for data collection and analysis are explained here.

Chapter five provides insights from California, USA. A general overview of the main affordable housing programmes in five cities in California – San Diego, Los Angeles, Santa Monica, San Francisco and Emeryville is presented. Detailed analyses of the case studies undertaken in the cities of Santa Monica and San Francisco are presented.

Chapter six presents an evaluation of the current approaches and programmes for affordable housing provision in Kenya and demonstrates the application of Land Value Capture and Inclusionary Housing tools for affordable housing provision in Kibera slum, Nairobi, Kenya.

Chapter seven draws up the conclusions and recommendations. It provides a summary of the study and the main findings. Research contributions, research limitations and areas for further research are outlined.

1.6   Chapter Summary

This chapter has presented the general context of the study including the general introduction, background, research problem statement, research aims and objectives, research questions, rationale and contribution of the study. The study's scope as well as reasons for choosing Nairobi as the application case study are explained.

This research is motivated by the desire to seek for innovative tools and models that would work to provide equitable affordable housing without depending on state funding but by harnessing the robust real estate market in Nairobi and also which could be applied in other cities. This motivation and desire drove the researcher to first seek to understand the nature and the potential of different models and approaches used in the USA for enabling the increase of equitable affordable housing stock using the real estate market. There are several tools provided in the literature which can be used to increase stock of affordable housing by capturing the strength of the market. The rationale of the research is to find out which of these models can be adopted to enhance and/or finance equitable affordable housing in Nairobi and how this can be done. There is good economic, political and social sense for the government to use any feasible tool that will increase the stock of affordable housing for the low income

Affordable housing remains a problem for Kenya as manifested in the uncontrolled growth of slums and informal settlements. The government has been trying to tackle this challenge and has recently identified 'affordable housing' as part of its big four agenda. However, the approaches used by the state in the past have failed because they have relied more on public funding. The study seeks to identify tools for affordable housing provision which some cities in the USA turned to when faced with increasing need for low-cost housing and declining federal subsidies. The study seeks to identify these tools and bring experience on how and why they were implemented, the challenges faced, successes achieved and lessons learnt which could help Kenya in meeting its affordable housing needs. In order to successfully do this, the study reviews literature on equitable planning tools including inclusionary housing and land value capture; identifies research gaps in the literature and offers an original contribution through i) in-depth case studies of IH programmes in two cities in the USA, assessing their actual outcomes over a significant timeframe and ii) demonstration of the application of land value capture and inclusionary housing for slum regeneration aimed at addressing housing needs in Kibera, the largest slum in Nairobi, Kenya.

2 The Urban Housing Challenge in Developing Countries: Slums and Housing Unaffordability

2.1 Introduction

One of the objectives of Sustainable Development Goals is to make cities and human settlements inclusive, safe, resilient and sustainable (United Nations, 2015). Urban planning decisions through public participation are seen as key in creating good affordable housing essential in making cities sustainable. The Sustainable Development Goal number 11 includes, among its target to be achieved by 2030, to ensure "access for all to adequate, safe and affordable housing and basic services", to be measured by the proportion of urban population living in slums, informal settlements or inadequate housing (United Nations, 2015). United Nations further observes that inequality in the housing market and exclusionary land use policies seriously challenge the achievement of the Sustainable Development Goals, i.e. the United Nation international agenda adopted in 2015 to achieve sustainable future for all.

According to UN News (2017), the 2017 theme of the United Nations on commemorating the World Habitat day was 'Housing Policies: Affordable Homes.' With over 1.6 billion people living in inadequate housing, one billion of whom reside in slums and informal settlements, the United Nations chose to spotlight on this important theme. Executive Director of the UN Human Settlements Programme (UN-Habitat) in a message commemorating the day stressed the following:

a)   Ensuring housing affordability is a complex issue of strategic importance for development, social peace and equality.

b)   An analysis of housing affordability over the last 20 years reveals that despite increasing demand, housing – including rentals – has been largely unaffordable for the majority of the world population.

c)   Handing over housing to the market without government intervention has proved a failure in providing affordable and adequate housing for all.

d)   Addressing the housing needs of the poorest and most vulnerable, especially women, youth and those who live in slums, must be a priority in the development agendas.

e)   Promoting sound housing policies is also crucial for climate change, resilience, mobility and energy consumption.

f)   It is important to locate housing at the physical – and holistic – centre of our cities.

g)   For housing to contribute to national socio-economic development and achievement of the Sustainable Development Goals (SDGs), the New Urban Agenda calls for placing housing policies at the centre of national urban policies along with strategies to fight poverty, improve health and employment.

h)   An urgent action for achieving affordable homes requires a global commitment to effective and inclusive housing policies.

From the above, it is clear that the United Nations recognises housing and access to it as a critical human right as part of the right to an adequate standard of living. "Adequate housing was recognized as part of the right to an adequate standard of living in the 1948 Universal Declaration of Human Rights and in the 1966 International Covenant on Economic, Social and Cultural Rights. Other international human rights treaties have since recognized or referred to the right to adequate housing or some elements of it'' (United Nations, 2014b). In Kenya, the right to housing is embedded in the Constitution, Article 43 (1b) which provides that every person has the right to accessible and adequate housing, and to reasonable standards of sanitation. As Sheppard (1997) argues, housing and residential construction are of central importance for determination of both the level of welfare in society and the level of aggregate economic activity. In many economies, a residence represents the most valuable single asset owned by most individuals, and a very large share of total household wealth.

2.2 The Housing Problem

The past few decades have seen tremendous progress in the housing sector in developed countries, while many developing countries have encountered a bottleneck of development, stagnation and even worsening of housing conditions (UN-Habitat, 2008a). According to United Nations (2017a), the pace of urban growth has been unprecedented and more than half of the world's population, or nearly 4 billion people, lived in cities in 2015. This rapid urbanization has brought with it enormous challenges including inadequate housing. In sub-Saharan Africa, more than half (56 per cent) of urban dwellers live in slum conditions.

The World Bank (2017) points out that housing and housing finance in Kenya is unaffordable and unavailable. The World Bank report indicates that in Kenya, there's an estimated accumulated housing deficit of over 2 million units, and nearly 61 percent of urban households live in slums. This is because 244,000 housing units in different market segments are needed annually to keep up with demand, while current production is less than 50,000 units. The report further observes that as the supply of housing falls more and more behind the demand for housing, there has been an upward push against affordability. Many Kenyans are unnecessarily living in slum dwellings, because of limited supply and lack of affordability. Therefore, there is a critical need to deliver housing at the lower end of the income spectrum. It is envisioned in this report that given Kenya's growth and urbanization rates, the problem will only become more acute over the next decades without a serious focus on housing and the finance of housing for the average Kenyan.

World Bank (2017: 27) provides a snapshot of the housing problem in Kenya. The report indicates that while government's investments in housing are falling short, so are those of the private sector. Nairobi, for example, has a public target of developing 150,000 - 200,000 housing units per year, but planning applications in 2013 were only 15,000 units. Furthermore, more than 80 percent of supply is for upper middle income (48 percent) and high income (35 percent), and only 2 percent for the lower income segments of the population. The report further indicates that property prices in the formal market have been increasing, with Nairobi ranked as the highest priced city in Africa, creating an even greater affordability gap. Prices in 2013 were nearly three times those in 2000, creating fewer opportunities for low and middle-income families. The lowest price house formally built by a developer cost Ksh 1,342,106 ($15,300) in December 2012. But there was almost no supply on the market for less than Ksh 4 million ($43,956), especially in Nairobi.

The housing problem continues to defy all government efforts including the Vision 2030 and the medium-term plans. The government's goal of increasing the formal supply of affordable housing is not being met. For example, Kenya's first medium term plan (MTP I, 2009-2012) of the Vision 2030 strategy had an initial target of providing 200,000 housing units annually for all income levels by 2012, but fell significantly short of this projection (only 3,000 units were provided between 2009 and 2012.

Metcalf (2018: 60) argues that there is fundamentally a need to rethink the broader set of exclusionary land use policies that are the primary reason that housing in many cities has become so expensive because the problem cannot be fixed unless the housing market itself is fixed. These exclusionary policies which are products of planning support market mechanisms which work against the low-income households. Voith & Wachter (2012) further indicate that the provision of durably affordable housing is difficult and requires significant intervention in the housing market. When private investment in housing is left on its own, values frequently rise beyond levels that are affordable for many residents. The authors also observe that consideration of perceived disamenities associated with affordable housing leads many higher-income communities to adopt low-density fiscal zoning that effectively prohibits the construction of housing suitable for low and moderate-income households.

Failure of appropriate planning and housing policies is mainly blamed in the literature for the continued growth of slums and informal settlements. According to UN-Habitat (2008b), the growth, proliferation and persistence of urban slums in East Africa are caused and sustained by: (a) outdated urban land and planning policies; (b) unrealistic construction standards and regulations; (c) private sector housing mostly catering for high- and middle-income groups; (d) lack of strategic positioning by governments and local authorities which has led to unfortunate policy decisions and subsequent systemic policy failure, inadequate institutional capacities of local authorities and a severe lack of social policies and urban social housing delivery; (e) lack of public infrastructure; and (f) the politicizing of informal settlements and social housing in party lines, current in election years and forgotten as soon as the ballot count is completed. Although, this report identifies many reasons it can rightfully be argued that lack of appropriate planning policy and political interference are the biggest hindrances to elimination slums and informal settlements. Metcalf (2018: 60) considers the effects of the formal affordable housing policies of expensive cities as quite small in their impact when compared to the size of the problem—like sand castles before the tide. He argues that more needs to be done to create subsidized affordable housing in high-cost cities.

For a long time, governments have initiated programmes to deal with housing problem particularly targeting elimination of slums. But slum interventions have had mixed results due to what UN-Habitat (2008b) identifies as the persistent exclusion of target groups; failure to

recognize low-income households' ability and willingness to pay; untargeted subsidies; housing down-raiding and gentrification; frequent persistence of non-participatory approaches; lack of focus on the well-being of target households; inadequate partnerships, networking and coordination; upgrading non replicability; and top-down and unsustainable approaches. Effective strategies aimed at improving shelter conditions, especially for lower-income groups, cannot be divorced from overall poverty alleviation and social and political inclusion

There is a need to change tactic and seek for better approaches because unequal access to housing has serious ramifications for the development of countries and the society as a whole. As Ewing et al (2003) argue, it drives sprawling development patterns; worsens traffic congestion; pollutes air quality; increases taxpayer dollars spent on basic infrastructure; and decreases racial, cultural, and economic diversity.

2.3 The Housing Market and Housing Market Dynamics

Land value capture through inclusionary housing depends on market-rate development and works only when new development is occurring. Land value is captured by requiring affordable housing in new market developments. For this reason, as Williams et al. (2016) argues, understanding how markets are formed or development occurs is an optimal starting place for understanding how IH policies can be structured to work with the market to increase the supply of low-income housing. In order to understand market development, understanding the housing market and its dynamics would be critical. As Ebohon et al (2002) argues, an efficiently functioning housing market will not only be effective in satisfying demand for housing, but is also to be more responsive in meeting the basic needs of the poor and the disadvantaged.

Voith & Wachter (2012) points out that economists have argued that the affordable-housing problem is a consequence of supply-side regulations (zoning, building codes, regulatory processes, impact fees, prevailing wage rules) and natural constraints on the number of buildable sites that have increased the costs of housing production and human capital deficiencies, whereby some households do not have sufficient marketable skills to generate wages high enough to afford housing. According to the authors, economic policy response to this diagnosis is to reduce those regulatory constraints on housing supply that raise the cost of housing and to enhance the marketable skills of low-income households over the long run with the basic assumption behind

the policy recommendations being that if all supply constraints were eliminated, the market would efficiently deliver housing at the lowest possible cost, and that distributional issues are best addressed through direct income transfers and human capital investment. But Voith & Wachter argue that such recommendations with respect to affordable housing have not carried the day, either economically or politically because of three fundamental realities of housing: (1) housing is immobile and durable, but households are mobile; (2) Tie-bout competition among communities for mobile households creates a tendency toward homogeneous communities and free rider problems that result in the under-provision of public goods; and (3) land prices in well-located, desirable communities often increase faster than wages in low and moderate-wage occupations, creating a need for hedging against future housing price increases. Since housing prices are a reflection of land prices, it means the cost of housing increases faster than income of the moderate and low-income households hence they cannot afford housing in those desirable communities. Voith & Wachter conclude that these three aspects of housing create a web of incentives that frequently make it impossible to create a workable political consensus at the local level to effectively address the production and preservation of affordable housing. The mechanisms communities use to create the competition stated above is through exclusionary planning and housing policies and 'Not in My Backyard' lobbying to create homogeneous high-income communities devoid of low-income housing. The only way local authorities can eliminate this unfair competition in order to deliver low-income housing is to embrace inclusionary housing policies and encourage progressive politics at the local level. Incentives such as densification and zone changes can encourage developers in these desirable communities but must be accompanied with a well-designed value capture mechanism to deliver low-income housing.

Housing price is a measure of the monetary worth of the asset (house) to consumers. The price of housing like any economic good is determined by the market forces of demand and supply. Housing price is determined by the interaction of demand and supply and is determined at the point where the demand and supply are in equilibrium (Syagga, 1994). Participants (buyers and sellers) in the housing market include occupiers and investors. Occupiers demand housing for use, as a consumer good. As a consumer good, property is wanted for the satisfaction it yields directly, and demand varies with tastes, income, and so on. Investors regard property primarily as a store of wealth, an alternative to other types of investment asset. It is important to note that investment demand cannot be completely separated from occupation demand. Not only is

investment in real property possible because some occupiers prefer to rent rather than to buy their premises, but the amount of rent paid will affect the capital value of the interest. As Harvey & Jowsey (2004) observe, the function of the real property market is to establish a pattern of prices and rents so that, given sufficient time (the long period), land resources are allocated according to their most profitable ('highest and best') use relative to other land resources. This occurs because competition in the market induces owners to switch resources to that use which yields the highest net return. This explains why it is difficult for private investors to produce affordable housing without appropriate government policy intervention.

Goodman & Rhoda (2005) have shown that housing demand is a function of demographic factors, income, the price of housing itself, financing costs and price of competing good, that is, rent. Housing demand is also affected by "speculative demand" and future expectation of price changes. The performance of alternative investment markets, for example, the securities market, impacts on housing demand and prices. In particular, how investors judge expected returns in the housing market as opposed to the stock and bond markets critically impacts current demand and house prices (Sabal, 2005). This is the case because there is an inverse relationship between interest rates and bond prices, affecting property yields.

On the supply side, housing price is influenced by factors such as construction costs, availability and price of land and regulatory constraints. Supply side factors also include the influence of interest rates, inflation and taxes which affect the prices of the factor inputs in the housing production process such as land, labour and building materials. The price of housing is a function of its physical, locational and neighbourhood characteristics. Physical attributes which contribute to housing price include the size, age, quality of design, type of building materials and finishes used as well as presence of such amenity features as gardens, garage and views (Kieti, 2015).

Other factors which affect housing price dynamics include the nature and variation in neighbourhood level (Case & Mayer, 1996), the quality of the bundle of residential services like neighbourhood schools and infrastructure (Kain & Quigley, 1970), economic factors such as initial prices and speculative investment (Monkkonen et al, 2011), urban growth and demographic transformation (Chen, 2012) and neighbourhood quality and physical characteristics of the area surrounding the house (Wilkinson,1973; Richardson et al, 1974; Seiler, et al, 2001; Muth (1969); Dubin & Sung, 1990)

Government policy and intervention is one of the key factors that drive the housing market (Laskowska and Torgomyan, 2016). Laskowska and Torgomyan observe that lack or inappropriate government intervention and regulation in the housing market has in the past led to problems in the housing markets triggering banking crises in Sweden, Spain, Finland and Japan (in the early 1990s) and the 2007 USA mortgage market problem which led to a four-year financial and economic crisis. As Whitehead (2007) argue, governments have intervened in housing markets because housing in general has become too expensive and unaffordable for poorer households. Whitehead adds that minimum standards may be higher than certain groups can achieve, implying that prices of housing should be set below market prices in order to increase consumption, at least up to this standard or that there be allocation mechanisms for ensuring consumption. ''In terms of house prices, and therefore affordability, the options are to reduce market prices overall or to provide for some groups at below market, and therefore subsidised prices'' (Whitehead, 2007:30). Therefore, the prohibitive and high costs of housing units produced by the private developers in the market suggest that the market on its own cannot produce affordable housing. High costs of land, lack of serviced land in accessible locations, high construction costs and high housing demand compared to low supply coupled with the desire for high profits by developers are some of the inherent reasons why without interventions the market cannot produce affordable housing. Government intervention, be it direct or indirect, has always been inevitable if low-income families are to be provided with affordable housing (Chiu, 2006). An effective enabling government strategy addresses market failures directly and deals with the causes rather than the symptoms of housing problems and serves the interests of the national and local governments as well as consumers and producers of housing (Ebohon et al, 2002).

Since the market left on its own cannot produce affordable housing, governments have used different tools to affect or regulate the housing market. Metcalf (2018) identifies social housing, vouchers and rent controls as the three principal tools cities have used to affect housing prices. Similarly, Ebohon et al (2002) identifies demand-side instruments such as subsidy programmes (similar to vouchers and rent controls) as well as supply-side instruments (similar to social housing) and land use regulations. Social housing is basically housing provided outside the market and is subsidised and price restricted. Metcalf views the policy of "inclusionary housing" which has been put in place in more recent years in some USA cities (including New York, Washington, DC, Boston,

Portland, Los Angeles, and San Francisco) as a form of social housing. Quoting Housing Europe (2015), Metcalf presents statistics of social housing in European countries as follows: the Netherlands (33 percent), France (17 percent), Denmark (20 percent), and the United Kingdom (18 percent).

Vouchers is a system used in the US where people use rental vouchers to secure housing in the private market. A programme called "Section 8," which was created in 1974 allows households pay 30 percent of their income in rent, and the local Housing Authority covers the rest of the monthly rent to the landlord. The federal Government does not fund vouchers for everyone who needs them, and there are long waiting lists in most cities and as reported by Scally et al (2018) only 20 percent of the households that are income eligible according to the standards of the US Department of Housing and Urban Development receive federal assistance. As Turner (2003) observes, vouchers have not been as effective in promoting residential mobility and choice among minority recipients as they have been for whites. However, as Turner further observes, even for the minorities (African Americans and Hispanics), vouchers perform better than public and assisted housing projects in giving families access to low-poverty and racially mixed neighbourhoods. Varady (2010) found that although housing vouchers have been successful in providing decent and affordable housing, the system has not led to either poverty or minority de-concentration as voucher recipients cluster spatially promoting social decline in neighbourhoods already vulnerable to change. Further, a critical problem is that receiving a voucher does not guarantee the holder a house or apartment where they can use them. This is because of shortages of moderately priced rental housing, tight market conditions, ineffective local administration, racial and ethnic discrimination, and landlords who are unwilling to accept voucher payments (Turner, 2003).

According Metcalf (2018), rent control is relatively rare in American cities and occurs mainly in the states of New York, New Jersey, and California. Using rent control regulations, landlords are allowed to raise the rent a certain percent each year for existing tenants, and there are rules to prevent landlords from evicting tenants without just cause. But landlords can usually raise the rents up to market rate, with no restrictions, upon unit vacancy. In a sense, rent control works as a delay mechanism that slows the rate of price increases on incumbent tenants for part of the housing stock. Scholars have presented mixed results in relation to the effectiveness of rent

control. As Rajasekaran et al (2019) observes, economists have argued that rent control policies are ineffective and counterproductive because they reduce incentives to maintain existing housing or build new housing, leading to a growing mismatch between housing supply and demand and an increase in prices overall. Rajasekaran et al further argue that although economic analyses often ignore other social benefits associated with neighbourhood stability, displacement prevention, and inclusivity, there is limited evidence that rent control contributes to broader socioeconomic goals, such as limiting gentrification, creating mixed-income neighbourhoods, or decreasing racial disparities. Diamond et al (2018) found that although rent control brought stability for residents living in controlled units, the policy caused rent increase for uncontrolled units in San Francisco. This could be explained by the fact that rent control decreased units available for rent in the market. Since residential conversions of rent-controlled units are strongly discouraged, this hampers redevelopment of properties by developers to provide more units in the market. ''Thus, while rent control prevents displacement of incumbent renters in the short run, the lost rental housing supply likely drove up market rents in the long run, ultimately undermining the goals of the law'' (Diamond et al, 2018:1).

2.4 Affordable Housing

2.4.1   What is Affordable Housing?

Affordable housing has generally assumed the meaning of housing charged below market price or market rent for the low income and/or middle-income households who cannot afford market housing. Generally, as Stone (2006) explains, housing affordability expresses the challenge each household faces in balancing the cost of its actual or potential housing, on the one hand, and its non-housing expenditures, on the other, within the constraints of its income. Stone argues that affordability is not a characteristic of housing—it is a relationship between housing and people. This is true only if houses are built to standards and regulations. For some people, all housing is affordable, no matter how expensive it is; for others, no housing is affordable unless it is free. Accordingly, affordable housing can have meaning (and utility) only if three essential questions are answered: 1. Affordable to whom? 2. on what standard of affordability? and 3. for how long?

Affordable housing is broadly defined as that which is adequate in quality (built to standards and regulations) and location and does not cost so much that it prohibits its occupants from meeting other basic living costs or threatens their enjoyment of basic human rights (UN-Habitat, 2011). Housing affordability involves more than the often-used simplified conception of house purchase price to household income. It has also to be viewed in terms of rent payable by a household. This aspect is well captured by Maclennan & Williams (1990) who describe 'affordability' as being concerned with securing some given standard of housing (or different standards) at a price or rent which does not impose, in the eyes of some third party (usually government), an unreasonable burden on household incomes. Malpass (1993) defines housing affordability as a function of decisions that households choose to make between housing expenditures and expenditures for non-housing goods. That is, households make decisions reflecting trade-offs between different forms of expenditures that reflect their relative cost and attractiveness. The US Department of Housing and Urban Development (HUD) defines housing as affordable if a family's housing costs do not exceed 30% of their net income. Households paying over 30% of their income are considered cost burdened. Households paying over 50% of their income are considered severely cost burdened.

2.4.2 Measures of Affordability

According to UN-Habitat (2011), although there is no universally agreed measure of what constitutes 'affordable housing', there are three common measures of affordability, which are all associated with two components: housing costs and household income.

The first is house price-to-income ratio. The ratio is calculated by dividing the median house price by the median household income. It shows the number of annual median salaries it takes to buy a median priced house. This ratio is a key measure of housing affordability and is generally regarded as the single indicator that gives the greatest amount of information about housing markets (UN-Habitat (2011).

The second measure is house rent-to income ratio. This ratio is calculated by dividing the median annual rent by the median annual renter household income. High values imply that supply is not keeping up with demand and affordability is poor (UN-Habitat (2011). Other factors held constant, households with higher ratios are likely to experience affordability problems compared to those

with lower ratios because such households will have little income remaining for other basic needs after paying for their housing (Kieti, 2015). House rent-to income ratio is a key measure of housing affordability especially for low-income households who may be unable to purchase housing (UN-Habitat, 2011).

The third measure of affordability is the residual income assessment. It is represented as a percentage of household income spent on housing-related expenses and demonstrates a household's ability to financially service housing without compromising on necessary non-housing expenditure. Although there is no universally agreed percentage, housing is generally deemed affordable when a household spends less than 30 per cent of their income on housing related expenses, such as mortgage repayments (for owner-occupiers), rent payments (for tenants), and direct operational expenses such as taxes, insurance and service payments. A high percentage indicates housing is negatively impacting on meeting non-housing basic needs and the housing market is not functioning properly (UN-Habitat (2011). A household has a housing affordability problem if it cannot meet its non-housing needs at some basic level of adequacy after paying for housing. The appropriate indicator of the relationship between housing costs and incomes is thus the difference between them—the residual income left after paying for housing—rather than the ratio (Stone, 2006). Residual measures thus entail establishing the minimum residual income that will enable households to sustain an acceptable standard of living (Burke, 2003 cited in Kieti, 2015). The acceptable residual income to guarantee minimum standard of living after paying for housing is determined using either the poverty line approach or the budget standards approach. Under the poverty line approach, residual incomes are linked to the official poverty line thresholds as defined by countries for specific localities or regions. Budget standards are also prepared for countries and can also be used to define the minimum residual income for households. Budget standards determine the acceptable minimum standard of expenditure consistent with a modest budget (Burke, 2003 cited in Kieti, 2015).

2.4.3   Role of Affordable Housing

Affordable housing plays an important role in stabilising households and neighbourhoods. This in turn increases spending in the economy. As Wardrip et al (2011) argues, households with modest means need safe, suitable housing that they can afford. When the low and moderate-income families access affordable housing, then they are able to use the spared income to buy food and

provide quality health and education to their children. This brings increased spending in the neighbourhood creating more employment which in turn translates into increased revenue for local governments. In addition, the initial development of affordable housing creates both immediate and long-term employment opportunities and spending in the local economy. The state as well as the local governments benefit in form of corporate taxes on builders' profits, income taxes on construction workers, and fees for zoning, inspections, and the like.

Affordable housing provides a pool of labour for commercial business either in the neighbourhood or in nearby industrial zones. The availability of affordable housing near jobs is beneficial to workers and employers as well. "Without a sufficient supply of affordable housing, employers— and entire regional economies— can be at a competitive disadvantage given the subsequent difficulty to attract and retain qualified workers" (Wardrip et al, 2011:1).

Research also suggests that the development of affordable housing can positively influence conditions in the surrounding neighbourhood in terms of stimulating both retail and property market (Walker et al, 2002; Zielenbach, 2003; Higgins, 2001). Other research has found that affordable housing revitalizes low-income neighbourhoods, increases house prices, significantly lowers crime rates, and attracts racially and income diverse populations (Diamond & McQuade, 2016); Freedman & Owens, 2011).

2.4.4   Affordable housing Challenge in Africa

Low income households in cities of Africa and other developing countries are faced with an acute housing affordability challenge. In these cities, housing has become unavailable and unaffordable (World Bank, 2017; UN-Habitat, 2005) partly because housing markets have become distorted and dysfunctional (Bah et al, 2018) working against the interests of the urban poor. There is an urgent need for Africa to build the necessary institutions to support the real estate sector, to facilitate infrastructure delivery and promote sustainable growth and development because this is necessary to facilitate and sustain functional property markets (Ebohon et al, 2002). Where property markets are not fully developed, Ebohon et al further argue that it is imperative that they are developed, operationalised and supported by the financial sector to foster growth and ensure sustainability. The rate of urbanization in most of these countries has increased rapidly (Bah et al, 2018) and this coupled with poor urban governance (Cities Alliance, 2020; Mahabir et al., 2016)

has worsened the housing affordability challenge. The problem is more acute in Sub-Saharan Africa as data from UN-Habitat shows (UN-Habitat, 2015). According to UN-Habitat, the urban slum population in all developing countries increased from 689 Million in mid-1990 to 881 Million in mid-2014, an increase of 27.8 percent. Within the same period the urban population living in slums in Sub-Saharan dramatically increased from 93 million to 200 Million, an increase of 115 percent. About 1 billion people currently live in slum settlements – almost a third of the world's urban population – and this is projected to double by 2030 (Millington & Cleland, 2017) and could increase to 3 billion by 2050 (UN DESA, 2013). This calls for urgent measures to increase the supply of affordable housing for the low-income households (Yepes & Lall, 2008).

Although there has been progress in improving the living conditions of many slum dwellers over the years, this has negatively been offset by overwhelming slum growth (Perry et al, 2014). Millington & Cleland (2017) observes that during the last 50 years, governments have implemented a wide range of slum upgrading projects and programmes of varying scale and scope which have improved the lives of many slum dwellers. However, despite this, Millington & Cleland further observes that the growth of slums and informal settlements is only getting worse particularly in developing countries and the total number of slum dwellers has increased. This scenario is greatly undermining the ability of cities in developing countries to economically grow, prosper and generate wealth (UN-Habitat, 2012).

2.5 The challenge of Slums and Urban Poverty

According to UN-Habitat (2015), a slum refers to a variety of settlements that display a combination of poor housing conditions, lack of basic infrastructure, insecurity of tenure and various kinds of environmental risks and include a variety of settlements such as shanty towns, squatter settlements, informal illegal subdivisions, dilapidated inner city housing, overcrowded tenements, villages within cities and deteriorating public housing. A slum household is defined by UN-Habitat (2006: 17) as consisting of one or a group of individuals living under the same roof in an urban area, lacking one or more of the following five amenities: i) durable housing (a permanent structure providing protection from extreme climatic conditions); ii) sufficient living area (no more than three people sharing a room); iii) access to improved water (water that is sufficient, affordable and can be obtained without extreme effort); iv) access to improved sanitation facilities (a private toilet, or a public one shared with a reasonable number of people);

and v) secure tenure (de facto or de jure secure tenure status and protection against forced eviction).

Slums are an important part of the urban economy (Sjoberg, 1960), fulfil important political, social, and economic functions in the city (Meier, 2000), form part of the informal economy, and house many of the informal economy's actors (Baker & McClain, 2008). In the absence of alternative affordable housing that is available in the slums, the urban economy would be affected. Therefore, slums cannot be ignored and effective sustainable public policies need to be put in place to guide and accelerate their improvement. Improving housing for slum dwellers and transforming their lives, particularly through participatory partnership programmes lie at the heart of the 2030 Agenda for Sustainable Urban Development Goals (SDGs), targets and indicators, as this "directly contribute to the five areas of critical importance for humanity identified in the agenda: People, Prosperity, Planet, Peace and Partnership'' (UN-Habitat, 2015: 83). Of critical importance is the contribution to SDG 11 which requires cities and human settlements to be made inclusive, safe, resilient and sustainable (United Nations, 2015). Slums improvement will also contribute to reducing global poverty particularly urban poverty represented by the many slum dwellers (UN-Habitat, 2003). The participatory partnership programmes should be bottom-up based and should give communities (slum dwellers) an opportunity to identify their housing needs and to work for pay in the upgrading programmes. It should involve local non-governmental organisations (NGOs) working in the slums, local universities, local and national government departments, and the private sector. Matters regarding choice of sites, planning and design; alternative accommodation during construction and housing allocation should discussed and agreed by all partners.

Causes of slums have widely been researched. In general, there are two main reasons why slums develop: population growth and governance (Cities Alliance, 2020). Slums are a product of urban growth and rural urban migration (Mahabir, 2016). As Bah et al (2018) argue, the failure of the housing market in African cities is also a main reason for the existence and growth of slums. Such market failure means the poor and the low-income households cannot access affordable housing in the formal market and hence slums provide the only reasonable and affordable housing option for them. Slums thrive because of the inadequacy of both public and market responses to the plight of the urban poor (UN-Habitat, 2003). According to Baker & McClain (2008), slums are essentially a private phenomenon, which responds to market incentives and distortions without

extensive government interference. Baker & McClain further indicate that slums thrive and grow because a significant amount of economic activity contributes to the provision of basic shelter, water, food, energy, and other goods to slum dwellers. Factors often cited as causes of slums include poor government policies, the failure of the market and government to meet the enormous demand for decent and affordable housing, low state investment in infrastructure, an ineffective urban planning system, resource deficiencies and a misdirected regulatory system (UN-Habitat, 2014a). Other factors supporting growth of slums include "a combination of rapid urbanization and demographic growth, bad policies, and inappropriate incentive systems including poor governance, inappropriate regulatory frameworks, dysfunctional housing markets, and a lack of political will" (Bah et al, 2018: 216). Above all, poverty pushes urban dwellers to slums due to inability to afford high rents charged in the formal housing market (Amoako, 2011; World Bank, 2002). Actually, slums represent the worst of urban poverty and inequality (UN-Habitat, 2003). Poor urban governance by city authorities reflected in poor enforcement of urban development and use of rigid and often outdated urban planning regulations, which are often bypassed by slum dwellers to meet their housing needs have also accelerated slum formation (Mahabir et. al, 2016; Chiodelli & Moroni, 2014; Amoako & Cobbinah, 2011). Teferi & Newman (2017) point out that the increased inequality and exclusion exhibited by slums is a consequence of the failure of public and private investment in pro-poor urban and housing development. World Bank (2010) notes that many cities today face expanding informality at the urban fringe because of failure to adjust urban planning regulations to allow for greater density in tandem with urbanization.

As Bah et al (2018) argues, lack of a land-use incentive system has supported the persistence and proliferation of slums. There is a need for appropriate public policy and legislation to support affordable housing because as Bah et al further argues, political and economic opportunists in slum areas continue to thrive because of ineffective legislative and regulatory control. Powerful and well-connected influential groups and individuals continue to benefit from the status quo (UN-Habitat, 2014a) as the poor continue to live in desperate conditions. In Africa, this is particularly true for highly populated slums located in prime public land. This ''inefficiency of the governance and spatial planning systems'' (Bah et al, 2018: 41) coupled with the political and economic capitalization of slums in cities creates a situation which leaves slum dwellers at the mercy of the slumlords who claim the land and the structures thereon. Some of the slumlords are influential people in society who don't live in the slum; For example, a survey by Bah et al (2018) found that

some of the people who claim the land where Kibera slum in Nairobi sits are wealthy individuals including civil servants, politicians and medical doctors. They live and own land elsewhere in the city and use the land and structures they have developed in Kibera as rental investment.

Failure of implemented slum policies, and poor urban governance in general are interrelated factors that have facilitated the propagation of slums (Mahabir et al., 2016) and this is due to the inability of governments to understand fully the needs of slum dwellers and incorporate their needs when developing appropriate policies (Fekade, 2000). Governments in many less developed countries have failed i) to incorporate slum dwellers in the overall planning process (Cities Alliance, 2020) and ii) to understand the locational decisions of slum dwellers and insisted in resettlement in less desirable areas where the former slum dwellers leave as soon as they are settled. As Cities Alliance (2020) argue, relocating slum residents far from their original homes and job opportunities is not usually viable. In designing more appropriate slum policies, all these issues need to be taken holistically because, they are all important and as Mahabir et al. (2016) argues, failure to do so will only lead to the continued growth and persistence of slums.

Narrowing down to Kenya the location of our case study, UN-Habitat (2008b) indicates that 50 percent of Nairobi residents experience some form of shelter deprivation. UN-Habitat further argues that the urban poverty experienced by majority of city residents is a result of institutional failures that perpetuate inequalities and social exclusion of the urban poor. That is why UN-Habitat (2010) emphasizes that there is a need for strong and effective housing policies that promote an end to these injustices faced by the poor. This is important because as Jacobus (2015: 10) argues "equitable development benefits not only lower-income households; integrated, inclusive, and diverse communities enhance the lives and outcomes of all residents ".

2.6   General housing policy in Kenya

The evolution of housing policy in Kenya can be classified into three stages: i) Pre-independence ii) Post-independence to 2010 and iii) Post-new Constitution 2010. Housing policy and provision during the pre-independence period was highly segregated. This resulted in distinct urban zones with marked disparities ranging from the wealthy white suburbs to the impoverished black quarters. Access to land, infrastructure, housing and other social services followed a strict hierarchic order – Europeans first, secondly Asians and lastly Africans (Government of Kenya, 2016).

Under the Post-independence to 2010 period, three milestones in housing policy can be identified. These are the sessional paper No. 5 of 1966/67, the national shelter strategy to the Year 2000 and the sessional paper No.3 of 2004 on housing policy for Kenya. Sessional Paper No. 5 of 1966/67 promoted provision of adequate housing directly by the government while advocating for slum clearance in cities. The policy encouraged increased research in locally available building materials and construction techniques, mobilization of resources for housing development through aided self-help and co-operative efforts and housing for civil servants (Government of Kenya, 2016). The National Shelter Strategy to the Year 2000 advocated for an enabling approach by the government. It encouraged the government to facilitate other actors rather than provide housing directly. The Sessional Paper No.3 of 2004 on National Housing Policy for Kenya promoted the identification of key stakeholders and outlining of their role towards the housing delivery process. Over and above the enabling role, the policy encouraged the government to provide a catalyst role through partnerships to facilitate rental social housing for low-income households. The policy also encouraged employers to take responsibility in housing their own employees especially those with low income.

Under the Post-new Constitution 2010 period, the sessional paper No.3 of 2016 on National Housing Policy for Kenya reviewed the sessional paper No.3 of 2004. The review was necessary in order to align the housing policy to the new constitution which was passed in 2010. The new constitution provides that ''every person has a right to accessible and adequate housing and to reasonable standards of sanitation" (Constitution of Kenya 2010 Chapter 4 Article 43, sub-article 1a). It further requires the State to take legislative, policy and other measures, to achieve the progressive realization of the housing rights guaranteed under the constitution. The policy prioritizes development of low-income rental housing and social housing and encourages National and County Governments to facilitate the private sector through incentives to develop rental housing for all income groups. The policy envisions slum prevention through appropriate planning interventions and provides that rental social housing units will be developed in appropriate locations with regard to access to working areas. Under the policy, government-backed or approved private–run schemes are to be encouraged to develop tenant purchase schemes to help people who cannot afford to purchase their own home in the market. The policy says the National Government shall introduce a contributory fund (the National Housing Development Fund - NHDF) for all employees that will assist members to purchase homes. The fund will hold contributions

from employees, budgetary allocations, and corporate and individual's ex-gratia contributions. Under the policy, the government is supposed to deposit a percentage of the capital gains tax collected into NHDF to support social housing. Lastly, the policy envisions urban renewal and optimum land use in cities through the re-development of old or dilapidated urban housing estates.

2.7 Affordable housing and Slum regeneration policies and practice in Kenya so far

Policy response to the urban slum problem in Kenya and other developing countries has evolved over the years. According to UN-Habitat (2014a), governments have historically responded to the problem of slums in seven main ways: ignoring them; using slums for political purposes; eradication, eviction, and displacement; relocation; public housing; sites and services schemes and upgrading. In the past, the Kenyan government has made attempts aimed at increasing affordable housing for its citizens. In 1930's to early 1960's, the government invested in public housing. However, as Mwaniki et al. (2015) outlines, as from 1964, the government reduced its allocation to public housing provision due to low financial resources. This action accelerated development of slums and informal settlements in the country's cities especially Nairobi. Mwaniki et al further observes that in the early years of independence, the state viewed slums as eye sore to the city's image and development prospects. The government responded with harsh strategies to clean the cities including mass evictions of squatters and clearance of slums. In fact, according to UN-Habitat (2014a), evictions and segregation became common in Nairobi, among other African cities including Cape Town, Kinshasa and Harare. Because of prevalent slum clearance, governments were destroying more low-income housing annually than they were building (Werlin, 1999) worsening the housing problem.

Scholars such as Turner & Fichter (1972) cautioned governments against total clearance of slums and emphasized on the need to put strategies for protecting and conserving the environment even in the presence of slums. Turner & Fichter argued that if governments could improve the sanitary conditions and environmental quality of slum areas, then residents would progressively improve their houses, especially when assured of security of land tenure. In the 1970's, governments began to recognise slums as urban realities that required adequate solutions (Teferi & Newman, 2017). There has been shifts in policy doctrine since the 1970s from emphasizing evictions and resettlement; to an approach of integrating slums into housing policies in the 1980s; to providing

for land tenure regularization and housing finance in the 1990s; and to combined approaches of housing development and infrastructure improvements (Teferi & Newman, 2017).

In Kenya, other strategies implemented in the 1970's and 1980's included site-and-service schemes, slum upgrading programmes and tenant purchase schemes. Mitullah (1993) has provided the distinction between the three programmes. With site-and-service schemes, the government serviced land with donor support and allocated land to private individuals for housing development. Under slum upgrading, the government often with donor support attempted progressive improvement of informal settlements by improving housing, tenure security and providing services such as water, street lighting, health, and schools. Tenant purchase schemes are the same as the above two in relation to servicing land but in it, units were developed to completion, allocated on loan terms and the allottees are never given title deeds of their property until the repayment period was over. There is almost unanimity in the literature that these schemes did not and have not achieved much in providing affordable housing to the low-income households. From the onset, site and service schemes suffered a myriad of problems which made them ineffective. These problems include lack of funds for house construction, very high construction standards required, a high percentage of absentee landlords, lack of administrative procedure, slow development of the plots, inappropriate housing design and delay in cadastral survey (Straaten, 1977). Huchzermeyer (2008) observes that instead of improving the lives of slum dwellers by enabling access to adequate housing, poorly targeted slum upgrading programmes have improved the lives of the better-off and displaced the original residents into expanding or newly forming slums. Using Umoja tenant purchase scheme as a case study, Mitullah (1993) found that the State policy objective of housing the low-income groups using such schemes had failed and a policy redirection was needed. Mitullah found that the Umoja scheme neither fulfilled its initial objective of housing the low-income households nor satisfied the real beneficiaries who hardly fell within the target group. She identified several causes of this sad scenario which largely remain unresolved to date. These are i) lack of proper conceptualisation of the housing problem ii) lack of clarity on how to best solve the housing problem iii) inappropriate policy instrument of housing the low-income households through a single umbrella of home ownership iv) lack of and inability to identify clear targets at policy level, and v) lack of political will manifested in the lack of consensus among the political and the administrative officials, mostly at the output stage of policy.

In the early 2000's, the civil servants housing scheme fund was established to facilitate affordable housing provision to civil servants. In 2017, the government unveiled the Affordable Housing Programme (AHP) as one of its big four agenda with a target to deliver 500,000 affordable houses by 2022 (State department of housing & urban development (2020a). The State department of housing & urban development presents an AHP framework which encourages the participation of private sector and proposes incentives such tax breaks, provision of serviced land, standardized housing designs and legal reviews to facilitate affordable housing provision. However, AHP progress has been slow and according to an analysis by Shah (2019), the few units already produced are being sold at prices higher than what was promised under the government's original AHP framework thus making them unaffordable to the low-income households. Even with all the above strategies tried over the years and a constitution supporting adequate housing for all, the slum problem has refused to go and housing affordability remains a thorn in the flesh of the government. The housing market in Nairobi and other cities remains robust but continues to work against the poor.

Nowadays, policies on slum improvement are formulated with recognition of the slum dwellers' right to the city (Bah et al, 2018). Bah et al further explains that the "Right to the city" as included in the United Nations Rights to Housing (United Nations, 2017b) seeks to promote equal access to the potential benefits of the city for all urban dwellers and encourages their democratic participation in decision-making processes in their cities. Lately, there has been a strong commitment in most countries to a better and modern approach of replacing slums with high-rise complexes. However, there has been a problem - most projects have involved slum relocation with the high-rise complexes been developed in the outskirts of cities, where basic social and economic services are unavailable (Teferi & Newman, 2017). Even where they are undertaken in-situ (where the slums exist), the output has been minimal and almost insignificant compared to the magnitude of the housing problem. This has been the case for Nairobi and as UN-Habitat (2014b) reports, the city continues to be dominated by slums and informal settlements, characterized by poor living conditions and extremely high population densities

2.8 Challenges in Slum Upgrading

Slum upgrading involves many actors and interrelated factors (Mwangi, 2012) and can therefore be challenging in terms of planning and decision making. Most of the challenges facing slum upgrading are related to a) the land the slums sit on and b) the slum dwellers residing on the land. Slum dwellers don't have a legal claim to the land they occupy. In addition, in some cases the land they occupy may be unsuitable for development. For instance, approximately 5% of land occupied by the slum settlements in Nairobi is unsuitable for human settlement (Matende, n.d) because it is either sloppy, swampy or on river beds. Where alternative land for resettlement need to be sought, it becomes almost impossible for both national and local governments to find the same in prime accessible locations because most cities face dysfunctional and/or distorted land markets which are supported by inappropriate building standards and land regulations (Cities Alliance, 2020). Matende also identifies external interest in land occupied by Nairobi slums such as Kibera and Majengo because they occupy prime land. This slows the upgrading process and even where such slums are upgraded, they end up benefitting the middle-income households rather than the slum dwellers. Due to high settlement densities in slums, land available in most cases cannot accommodate the existing slum population. For this reason, slum upgrading may involve relocations of slum dwellers. This goes against best practise of in situ slum upgrading as advocated by the UN-Habitat. In-situ upgrading ensures continued and un-interrupted social fabric and interdependence for the benefit of households and local urban economy. Relocating slum dwellers can lead to serious socio-economic effects such as: interruption of the residents' daily activities, long distances to work places or even unemployment (Michael, 2015).

In some instances, slum residents refuse to surrender the land they occupy and demand compensation before doing so and this impacts on progress and success of the upgrading programme. For example, in one upgrading project in Soweto East area of Kibera slum in Nairobi slum, there was demand for compensation from structure owners whereas in another project in Silanga area within the same slum residents voluntarily and freely gave out their land (Cronin & Guthrie, 2011). There was more success in project implementation in the latter compared with the former.

There is a major challenge in organizing all stakeholders in the community to achieve coherence and find lasting solutions to all the different needs and demands that arise (Cities Alliance, 2020).

Different actors and stakeholders including the local administration(chiefs), politicians, religious and cultural leaders, and non-governmental organizations operating in the slum have had varying and conflicting inclinations and competing interests and this has contributed in creating suspicion, mistrust and conflict thus slowing down decision making and the upgrading progress (Muraguri, 2011). In such cases and most of the time, it is the interests of politicians which carry the day irrespective of whether they are in tandem with the interests of the majority poor living in the slums. This could be why Elmhirst (1999) argues that slum improvement programmes and projects form part of political survival strategies and avenues meant to manipulate the poor for selfish interests of the political class. Amis and Kumar (2000: 196) summarise it well — ''the task is to implement; the problem is to overcome the political and economic constraints''. Therefore, as Amis and Kumar emphasize, to succeed slum upgrading need good political will for effective project facilitation and implementation. A city's political context has the ability to affect even the upgrading financing mechanisms (UN-Habitat, 2019).

While some governments have displayed some level of political will to deal with the slum problem, many others completely lack the same (Rashid, 2009). Overall, many governments have paid little attention to both i) the challenges which have enabled continuous growth and spread of slums and ii) the plight of slum dwellers themselves (Mahabir et. al, 2016). Moreover, competing interests among stakeholders slows down upgrading initiatives (Muraguri, 2011) and some NGO's may promote social activism thus constraining progress (De Zoysa et al, 1998). Conflicts between tenants and slumlords also abound in slum upgrading projects. In Kenyan slums, nearly 85% of slum dwellers are tenants (Muraguri, 2011) and their interests are different from those of the slumlords. While slumlords are interested in securing their structures and the land they sit on, tenants are concerned about accessing affordable housing. Some slum upgrading projects have failed because of resistance from some community members and groups who believe or fear that they won't qualify to be allocated housing units under the upgrading programme (Cities Alliance, 2020).

The UN-Habitat (2003) has also identified social segregation as a major challenge to slum upgrading programmes. Segregation, social disparity and marginalization are sometimes manifested through exclusion of the slum dwellers in the planning, the upgrading process and jobs allocation in the upgrading projects further hurting the local economy (Beall, 2002). As Godhart &

Vaughan (2008) point out, most slum upgrading programmes concentrate mostly on housing improvements and ignore other slum livelihoods which are equally important. There is a need for comprehensive and integrated slum upgrading intervention covering affordable housing provision, micro and small enterprise support and local employment to enhance acceptability and impact of the programmes (UN-Habitat, 2019).

Implementing slum upgrading requires huge financial resources for infrastructural and housing development. These costs are mostly borne by governments and donors (Bahl et al, 2013) and lack of adequate finance remains a big challenge in eliminating slums in developing countries. Many governments lack the resources to prevent formation of slums and upgrade existing ones (Fekade, 2000; Tsenkova et al., 2009; Mahabir 2016). Most donors have scaled down their support in the recent years (Stenton, 2015) and governments are facing critical challenges in mobilising financial resources (UN-Habitat, 2019). Cytonn (2018) identified the key challenges hindering provision of affordable housing in Kenya to be the high land costs, high construction and infrastructural costs, and inadequate access to financing.

2.9 Participatory Slum Upgrading

Participatory slum upgrading has been proposed in literature as a good way of mitigating some of the challenges earlier identified such as resistance from slum residents, conflicts between tenants and slumlords, social activism, competing interests among stakeholders, and segregation and marginalization of slum dwellers (Das & Takahashi, 2009; Archer, 2012; UN-Habitat, 2013; Soliman, 2017). The United Nations Millennium Project Task Force on Improving the Lives of Slum Dwellers asserted in 2015 that successful slum upgrading can best be carried out by local authorities, national governments and communities working in close partnership through open and participatory processes (UN Millennium Project, 2005). The UN Millennium Project also emphasized that community organizations should be allowed and supported to play an active role in developing and executing plans for slum upgrading while the urban poor should be given a voice in decisions about infrastructure and public services that affect their lives.

Since the UN-Habitat launched the Participatory Slum Upgrading Programme (PSUP) in 2008, slum upgrading policies have transformed and shifted towards more decentralization, reduced state control, and greater civil society and community participation in local governance (Das &

Takahashi, 2009). Participatory slum upgrading is a concept that promotes the supply of urban slum land and the subsequent upgrading through a proactive negotiated multi-stakeholder involvement. UN-Habitat has promoted Participatory and Inclusive Land Readjustment (PILaR) which is based on the land value capture theoretical rationale and incorporates in-situ upgrading, improved governance and participatory planning. It upholds a mind-set change in policy that recognises the slum dwellers 'right to the city' for a sustainable and inclusive urbanization (UN-Habitat, 2013). As Soliman (2017) argues, the gap between the government policy and the capacity of the community should be narrowed to identify what is of critical Importance and what is needed by the people by involving them.

Participatory Slum Upgrading has provided better results. Das & Takahashi (2009) observe that the Slum Networking Project (SNP) in Ahmedabad, India which enlarged multi-stakeholder participation by deeper non-governmental participation showed that although the approach can limit the programme's potential and scaling up, it expedited, expanded and made the project more sustainable. Archer (2012) found out that the scaling up of a largely community-driven participatory slum upgrading in Thailand's Baan Mankong slum upgrading programme led to more acceptability and also strengthened the community's cohesiveness. Because it creates social networks among individuals and stakeholders in a community, inclusive participatory slum upgrading scales up the affordable housing development process at a faster rate than can be achieved by a top-down government approach (Soliman, 2017).

2.10   Chapter Summary

This chapter has presented the housing problem as depicted in urban poverty, slums and housing unaffordability in Africa and other developing regions. Housing Markets and their dynamics are discussed in order to understand how they impact on housing affordability. Affordable housing is defined and its measures presented. The role of affordable housing is discussed as well as affordable housing and slum regeneration policies and practice in Kenya. Challenges which have impacted on slum upgrading projects are presented. Lastly, the chapter discusses the 'Participatory Slum Upgrading' approach which is promoted by the UN-Habitat and which has shown better results and achieved sustainability in slums regeneration.

Even as the developed countries continue to make tremendous progress in the housing sector, many developing countries have encountered a bottleneck of development, stagnation and even worsening of housing conditions. In Africa and other developing regions, inequality in the housing market and exclusionary land use policies seriously challenge the achievement of the United Nations' Sustainable Development Goal number 11 - ensuring access to adequate, safe and affordable housing and basic services for all by 2030. Cities in these regions continue to grapple with the problems of urban poverty, slums and housing unaffordability. The Failure of appropriate planning and housing policies is mainly blamed in the literature for the continued rise in housing prices in many cities and growth of slums and informal settlements. Kenya has implemented policies and programmes for affordable housing provision and slum eradication but faces serious challenges which negatively impact on her efforts.

3 Equity Planning and Equitable Affordable Housing Tools

3.1 The concept of Equity Planning & Equitable affordable housing

The idea of using the market to provide affordable housing is a concept of equity planning. As Ponce (2010) explains, national inclusionary housing techniques have in common a broad strategy: using the private housing market to generate non-market housing and to mix the two together.

The concept of equity planning is most closely associated with Norm Krumholz's work in Cleveland, Ohio, USA epitomized by the Cleveland Policy Plan (Krumholz 1982; Krumholz and Forester 1990). Krumholz was primarily concerned with how planners for cities should operate with respect to growing urban inequality. The equity planning model describes both a policy goal and a role for planners to be advocates for equity. Krumholz envisioned equity being fully institutionalized as a decision metric for resource allocations and programmes (Zapata & Bates, 2017). The principal document establishing equity planning, the *Cleveland Policy Planning Report* (1975), states, "Equity requires that Government institutions give priority attention to the goal of promoting a wider range of choices for those Cleveland residents who have few, if any, choices" (Krumholz, Cogger & Linner 1975: 299).

Encouraging development so that land is brought to its 'highest and best use' may force displacement of the low-income households from the centrally located or easily accessible spaces and reinforces uneven development (Fainstein, 2012). Smith (1987) argues that a rent gap develops when the potential value of a property exceeds the amount realised through current use and exploitation of this gap produces gentrification and displacement. What follows is that the wealthy displace the low-income households who are forced to move to the city periphery where there are no services or are forced into the slums and informal settlements. Fainstein (2012) continues to argue that although highest and best use is desirable, promoting this outcome is based on an assumption of triple down economics. If the aim is to enhance right to the city, the author says then equity in the possession of space, rather than its maximum development, becomes the aim. However, this study takes the position that that equity and 'highest and best use' can be achieved together if proper planning tools are applied that encourages maximum

development of both market and non-market housing. Without encouraging highest and best use of land, then we will be missing the highest returns and benefits that land can provide.

Equity planning encourages inclusion – social and economic integration of communities. This is supported by UN-Habitat (2016) which argues that cities are socially produced, and active planning interventions play a key role in creating varying degrees of urban inclusion and exclusion. UN Habitat insists that there is an urgent need for new planning visions, strategies, policies and tools that can transform our planet of cities into a planet of inclusive cities. The report further argues that the challenge of exclusion from urban civic spaces can be tackled head-on through 'the right to the city' and a rights-based approach.

3.2 Land Value Capture and Affordable Housing

As defined in chapter 1, Land Value Capture is a planning mechanism through which increases in land value resulting from public investments, land-use plan changes and upzonings, are captured for public benefit. This approach is based on the fact that most of these increases in value are the result of a public action, not from landowners' actions. Land Value Capture (LVC) means using for public benefit part of any increment in land value that results from public policy and/or investment (and not by direct action by the landowner). According to Calavita & Wolfe (2014), it is the process of requiring community benefits from land owners whose land has increased in value due to Government actions. In the USA, Land value capture is also referred to as Public Benefit Zoning (PBZ), Community Benefits Strategy (CBS) or Public Benefit Bonus (PBB). In Britain, this increment due to public policy is called 'Betterment value'. One of the classical economists, John Stuart Mill (1848), referred to these increases as the "unearned increment." When understood in this light, is only fair and equitable for the public to appropriate – capture - a reasonable share of the increased land value in the form of community benefits, including affordable housing. Land Value Capture (LVC) is one tool utilized in some European and South-American countries (Calavita and Mallach, 2010), and is now starting to be used in the USA as well (Calavita, 2015). The concept of LVC is illustrated in Figure 3.1 below. As the figure demonstrates, a public policy such as rezoning to allow for change of land use from industrial to residential will increase land value because residential use is more intensive than industrial use. Residential use allows for more density and hence higher returns. In the figure, industrial land value is represented by the blue colour while the value increment after rezoning is represented by the green colour. Only a portion

of the land value increase is captured for public good (such as affordable housing) as clearly demonstrated in figure 3. 1 below.
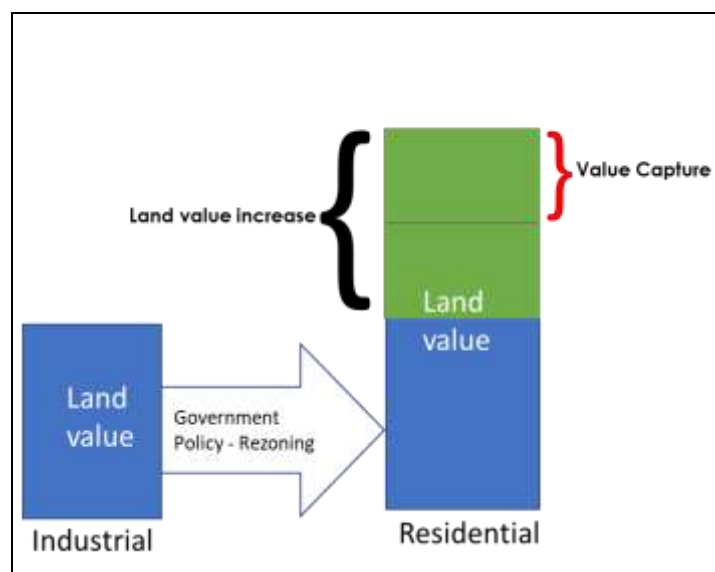
Figure 3.1. Illustration of Land Value Capture (LVC). Source: Author's Construction.

Interest in LVC has gained momentum because of increased urban population and housing needs coupled with decreasing public resources directed to housing (Ingram & Hong, 2012). Value increases resulting from land use changes can be captured through IH in two ways: (1) when a locality mandates IH the cost of development increases and it is likely that, "in the long run" (Mallach, 1984), land values will decrease to reflect the additional costs for the developer; i.e., developers will negotiate for lower land prices, or (2) when through upzonings or plan changes possible densities are increased, the value of land increases as well and, through additional IH requirements, a portion of that land value increase is recaptured for public benefit. As we shall see in chapter 5, it is through this second mechanism that the Cities of Santa Monica and San Francisco were able to generate more inclusionary units. With this approach then, IH relies on LVC to capture some of the increase in land value (through increased affordable housing requirements) brought by increased density. With LVC affordable housing is generated "through the planning system" (Monk, 2010).

LVC should be distinguished from density bonus approaches in that, at least theoretically, with density bonuses the value of the amenities (such as affordable housing or open space) required from the developer is equivalent to the value of the additional units to be gained from the density increases. Such an exchange, generally voluntary, should leave the value of the land unchanged. If

the value of the additional requirements is higher than the value of the density bonus, the project will be made infeasible. If the value of the incentives is higher, the value of the land is likely to increase. Usually, the density bonus is applied to individual projects and not on the basis of a plan. With LVC the locality will capture some of the "enhanced value" resulting from any plan changes with the landowner gaining the rest. Such decisions are based on economic studies, usually referred to as "Residual Land Value Analyses". How this scenario "plays in real life will depend on the market and circumstances in a given locale" (Calavita, 2015: 4). This research will show in chapter 5 how this dynamic unfolded over a period of seven years in the context of Santa Monica city.

Hong & Brubaker (2010: 167-170) explain the components of land value which in my opinion are important in order to understand the concept of LVC. Although the authors explained these components in relation to the land ownership structure in China, they are relevant for other countries too.

i. The first is the intrinsic land value, which reflects the productivity or economic use value of the land determined by its development potential, location, soil type, and other factors. Under a freehold title, a landowner should possess this portion of the land value. Under a leasehold title, annual ground rent paid by the leaseholder to the government is for the use and enjoyment of this component of land value. Hong & Brubaker argue that the amount of land rent that lessees pay to a government lessor should be determined by the supply and demand of land use rights. However, practically in many countries, this is based on the value of undeveloped land.

ii. Secondly, land value can also rise due to increases in local infrastructure investment and social services. Improvements in amenities, such as schools, roads, water and sewage, and public parks, can increase housing demand in a neighbourhood, thus inflating the value of a property. Because this land value increment is caused by public spending, public service providers should retain this benefit to cover the costs of infrastructure investment and local services. Property owners whether freeholders or leaseholders should pay annual rates for the provision of these services. Hong & Brubaker argue that the amount of a property tax (rates) should be based on the quality and quantity of local services received. Again, practically in many countries, this is based on the value of unimproved site.

iii. Thirdly, private land improvements undertaken by owners or users can also enhance land value. Undoubtedly, the party who invests in the land and assumes the risk should benefit from the land value increment.

iv. Fourthly, land value can be generated by external factors, such as population growth, economic development, and changes in land use regulations. These factors are not related to the investment or labour of the landowners or users. Hence, this portion of the land value (sometimes referred to as surplus land value) should be captured by the government for the purposes of income redistribution or other public investment. This is the component of land value which is targeted under Land Value Capture.

From the above explanation of components of Land value by Hong & Brubaker (2010), it is clear that Land Value is the result of both public and private investment and actions. Therefore, as Ingram & Hong (2012) argue, each participant in value creation is entitled to some portion of this value. Ingram & Hong add that Land Value Capture does not involve the value related to the original productivity of the land paid for by the owner and the increment in value generated by private land improvements. These should remain in private hands as any value capture mechanism that that tried to confiscate all increments from private landowners would eliminate private incentives to invest in land and real estate. Also, the allocation of land value increments resulting from long-term trend in population growth and economic development is controversial and, in most cases, it is difficult to determine what share of increased land value stems from these. According to the authors, LVC policies focus on the change in value that can be attributed to a particular time-bound action such as rezoning particularly upzoning. When land becomes more desirable for a user of higher density development than currently zoned, it requires a change in zoning regulations. When upzoning—or an increase in density - occurs, land becomes more valuable because more development can occur on the same parcel of land (Calavita & Wolfe, 2014).

The LVC contemplated in this research is for the value created by land use regulations. The question that comes to mind is "How then can this be effectively done?'' As Ingram & Hong (2012) argue, when it comes to capturing land value created by changes in land use regulations, there is no clear consensus. The authors clearly point out that the distribution of regulation related

changes in land value is more the result of political manoeuvring and bargaining than of straightforward economic and technical arguments. Booth (2012) saw LVC as a straightforward matter and argues that all that needs concern us is the mechanics of the process of the capture as this has remained troublesome. Booth further observes that ensuring that value is directed to serve the public interest has often been elusive and identifies confusion about the nature and purpose of land value capture and the way 'property in land' is understood as well as how property is constructed in law as matters that need to be dealt with in implementation of LVC. Calavita & Mallach (2009) proposes that apart from imposing moderate inclusionary requirements within an existing zoning framework, an additional approach is to link IH and LVC to the ongoing process of land use changes or rezoning. In this case, increased IH explicitly becomes a vehicle for capturing for public benefit some part of the gain in land value resulting from the public action of rezoning or land use changes. There are two conditions identified by Calavita & Wolfe (2014) for successful implementation of land use based LVC. First, LVC policy only works well in a strong, or at least stable, real estate market. Secondly, implementation of LVC policy should be done before land is upzoned because it is at the time of plan change or upzoning that those values are solidified.

The idea of LVC was first proposed by John Stuart Mill in 1848 who argued that its practise was merely applying an accession of wealth, created by circumstances, to the benefit of the society, instead of allowing it to become an unearned appendage to the riches of a particular class (Mill, 1848, 1909). This argument for use of LVC was further amplified by Henry George who argued that increases in the value of land should accrue to society as a whole and not to individual owners (George, 1879). As Ingram & Hong (2012) observe, LVC has been practiced in many countries particularly Latin America. But as the authors argue, interest in LVC has gained momentum because of increased urban population and housing needs coupled with decreasing public resources directed to housing. The authors identify two reasons why the USA and many other countries have increased their attention to LVC. First is current economic environment, where local governments have seen declines in revenue from traditional sources and secondly is the rapid urban population growth which requires large investment in public infrastructure especially affordable housing. Kenya is facing the same scenario and therefore, there is so much for her to learn from international experiences.

Fainstein (2012) argues that the public sector could take part of the gains in land value through the exercise of its land use regulatory powers. The author reasons that LVC should be used for redistributive purpose as the benefits of urban land ownership should flow to all city users and should be used to redress disadvantage. Many other authors have supported this thinking (Calavita & Wolfe, 2014; Ingram & Hong, 2012; Kitchen, 2013; Mathur, 2013; Walters, 2012). The notion of value capture is to mobilize for the benefit of the community at large some of the land value increments generated by actions other than the landowner's, such as changes in land use norms and regulations (Smolka, 2013). Increased land values benefit land owners and can have unintended consequences harmful to low- and moderate-income people as they can result in displacement, which in turn can mean higher housing and transportation costs, and longer commutes for those families who are forced to move (Calavita & Wolfe, 2014). Ingram & Hong (2012) argue that LVC is an efficient and equitable tool because those who did not contribute to the increased land value do not retain all the financial benefits.

Land value capture (LVC) has been proposed as an innovative way to generate affordable housing (Lincoln Institute of Land Policy, 2017; Voith et al, 2012; Germán, 2018; Rosen et al, 2017; Calavita & wolf, 2014; Hickey et al, 2014). The question of how LVC as a planning tool impacts on the housing development and the housing market continues to stir public debate in many countries (Gurran et al, 2017; Finch et al, 2019). Scally & Tighe (2015) argue that there still seems to be a disconnect between traditional planning and development processes and the most effective and efficient mechanisms for working with communities to promote affordable housing. However, according to Jacobus (2015), more and more communities are consciously seeking to develop local policies that promote mixed-income development and tapping increased land values through affordable housing. There is therefore a need to focus on the market and rethink the broader set of exclusionary land use policies. These latter are the primary reasons that make housing in many cities so expensive and the problem cannot be fixed unless the housing market itself is fixed (Metcalf, 2018: 60). Voith et al (2012) further indicate that the provision of durably affordable housing is difficult and requires significant intervention in the housing market.

The benefits of increased land value accrue to the land owners and do not benefit the rest of the community. Increased land values can have unintended consequences harmful to low- and moderate-income people as they can result in displacement, which in turn can mean higher

housing and transportation costs, and longer commutes for those families who are forced to move (Calavita & Wolfe, 2014: 1). Ingram & Hong (2012) argue that LVC is an efficient and equitable tool because those who did not contribute to the increased land value do not retain the financial benefits, which can then be used to fund programmes to serve the community at large.

As Calavita (2014) points out, LVC has not been, in fact, part of the USA planning culture. However, recently a few cities have begun to engage in LVC, albeit surreptitiously. An increasing number of local governments are relaxing zoning and height restrictions, allowing dense development which are linked to affordability expectations through IH policies that condition upzoning on the provision of affordable housing (Hickey et al, 2014). Although according to some scholars upzoning may create more problems than it solves (Angotti, 2017; Goldberg, 2015; Fainstein, 2012; Shelton, 2018), a robust scholarship indicates that a well-designed LVC system can result into higher numbers of affordable housing thus easing affordability crisis and enhancing social integration (Hickey et al, 2014; Calavita & Mallach, 2009; Calavita, 2014).

As Calavita & Mallach (2010) observe, housing provision and land use planning are inextricably linked, since plans designate the amount of land to be dedicated to housing development and lay out the ground rules for that development. Wyatt (2018) adds that land use regulations limits the supply, and therefore increases the price of land for regulated uses, including housing. Land owners thus receive an unearned increase in their wealth while at the same time, the cost of housing becomes unaffordable for marginal buyers. Glaeser & Ward (2008) found that land use regulations decrease new construction, increase housing prices and disallow communities from maximizing their land values because of density levels that are far too low. Glaeser & Gyourko (2002) observed that measures of zoning strictness are highly correlated with high prices. There is therefore need to rethink about the rigidity of plans in a context of changing circumstances because as Calavita & Mallach (2010: 9) argues "when plans create shortages in the supply of land needed to accommodate growth—by reducing or keeping artificially low the quantity or densities of residentially designated land uses— they increase the cost of that land and hence of housing".

3.3 Inclusionary Housing as an Instrument of Land Value Capture for Affordable Housing Provision

One issue that is rarely discussed in literature is the link between IH and LVC. IH and LVC are intertwined and actually, IH is a form of LVC. IH relies on LVC to capture the increase in land value (through increased affordable housing) brought by increased density. The ability to capture the value generated by a flexible zoning scheme is a precondition for the successful implementation of IH (Ingram & Hong, 2012). IH taps the economic gains from rising real estate values to create affordable housing (Jacobus, 2015) without stifling development. Calavita & Mallach (2009), have defined inclusionary housing (IH) as land use regulations that require developers of market-rate residential development to set aside a small portion of their units, usually between 10 to and 20 percent, for households unable to afford housing in the market. Alternatively, they can choose to pay a fee or donate land to a municipal land bank or a community development corporation in lieu of providing units. In return, a developer may be granted incentives such as density bonuses (Mallach, 2009).

According to Dr. George "Mac" McCarthy who is the President and CEO of the Lincoln Institute of Land Policy, many jurisdictions practise LVC in many forms without knowing they are doing it. One such way is through inclusionary housing also known as inclusionary zoning. During a lecture on 14th February 2017 at the institute in Massachusetts, George clarified that Inclusionary zoning is a form of LVC (https://www.lincolninst.edu/es/courses-events/courses/how-value-capture-can-create-ffordable-housing). Inclusionary housing is an LVC tool because the level of housing affordability required under it is based on the change in Land value. As Ingram & Hong (2012) argue, the ability to capture the value generated by a flexible zoning scheme is a precondition for the successful implementation of IH requirements. When property prices in the market increase exponentially, and local authorities require provision of inclusive affordable units, it is a way of capturing the land value increment. As Calavita & Mallach (2010) argue, IH is a means of using the planning system to create affordable housing by capturing resources created by the marketplace.

The architects of IH were stirred by high housing prices and thought of capturing part of it for public benefit. Calavita & Mallach (2010) observe that the extent to which the cost of housing throughout the US and particularly California was rising was beyond the reach of the low-income and middle class. This became a rallying call for change and as the authors observe, the precipitous increase in both the volume of market driven construction and the cost of housing also gave

increased visibility to the opportunities to leverage the market to create affordable housing, particularly through capture of land value increments that were created by grants of planning permissions. Explaining the growth of IH in California which experienced high property prices and high demand for affordable housing in the 1990's, Calavita & Mallach (2010: 72) state thus ''In this climate of increased demand for affordable housing, growing number of policy makers realized that the extraordinary runup in housing prices meant that the new profitability of private market developments created the opportunity to recapture some part of this windfall for affordable housing'' The authors argue that unprecedented price appreciation with no parallel increase in public sector support for affordable housing was particularly conducive to the growth of IH. They further argue that such windfall of high returns because of increased prices lead to reduced developer opposition to IH. Hickey et al (2014) adds that the often-voluntary nature of these policies may be a way to introduce inclusionary housing policies in places where political, legal, and/or market barriers have historically impeded the policy's broader adoption. Tying affordability to upzoning can be an effective means for cities and urban suburbs to harness the energy of the housing market to help address growing affordability challenges (Hickey et al, 2014). IH may be understood as a new pragmatic approach by governments in their efforts to provide affordable housing, a reaction to diminished public financing for housing due to neo-liberalism policies (Ponce, 2010).

Critics have argued that IH is a tool that tries to solve housing problems generated by the market conditions by employing more market conditions. To a certain extent, IH means using the market to correct market failures by means of public regulations (Ponce, 2010). IH also works well in hot markets conditions (Hickey et al., 2014) and is largely ineffective in poor market environments (Ponce, 2010). Even in hot markets, they must be carefully designed to avoid negative impacts on the price and supply of housing in the overall market [Hickey et al., 2014; Schuetz et al., 2009).

IH is particularly important as a potential mechanism for LVC. If the relationship between IH and land value was better appreciated, it is possible that political opposition for IH in the US would diminish (Calavita & Mallach 2010). IH has emerged as an instrument that equity planners can use to ensure a place for low-income residents in gentrifying neighbourhoods. Optional IH policies that only apply when a neighbourhood or property is upzoned can enable places to work around legal restrictions that prohibit certain mandatory IH requirements (Hickey et al, 2014).

3.3.1   Inclusionary Housing: an overview

As defined in Chapter 1, Inclusionary Housing (IH) embraces land use regulations that require developers of market-rate residential developments to set aside a small portion of their units, usually between 10 and 20 percent, for households unable to afford housing in the market. Alternatively, they can choose to pay a fee or donate land in-lieu of providing units (Calavita & Mallach, 2009). IH requirements are sometimes in exchange for development rights or zoning variances (Schwartz et al., 2012). IH programmes vary and, therefore, other narrower or broader definitions of IH can be found in the literature. For this thesis, the researcher adopts the above definition by Calavita and Mallach and the further elaboration by Schwartz.

There is almost complete consensus in the literature that the main role of IH is to increase housing affordability and increase social and economic integration (Calavita & Mallach, 2010; Davison et al., 2013; Williams et al., 2016; The Urban Institute, 2012; Hickey et al., 2014; Schwartz et al., 2012). In fact, the reason why these policies are considered "inclusionary" is because they are intended to allow lower- and moderate-income households to buy or rent property in middle- and upper-income communities (Schwartz et al., 2012). According to The Urban Institute (2012), IH is seen as attractive to policymakers because it is cost effective since the public sector mainly only bears the administrative costs with construction and financing costs being borne mainly by the private sector. However, this is not always the case, since in some programmes, the public sector also bears the cost of tax abatement and the fee waivers granted to developers (Non-Profit Housing Association of Northern California, 2007).

3.3.2   IH genesis and Spread

Many cities in the USA, Canada, Europe, Australia, and even China, have experimented with reversing the trend of housing unaffordability and exclusion by promoting inclusionary housing. Mallach (2009 p. 285) gives the genesis of inclusionary housing. The author explains that in the earliest days before the 1960's in the USA, affordable housing development projects for lower income households were seen as a thing apart from the housing market. They were first developed by philanthropists, and then by Government agencies and they occupied a separate physically distinct space, driven by different impulses than those driving developers of private-

market housing.   Affordable housing for the low income and market housing for middle- and upper-income earners were therefore not meant to be in the same spatial area.

''In the 1970s this began to change, as two ideas about affordable housing began to capture the attention of planners, housing developers, and local officials. The first was that, contrary to the conventional wisdom, there was not only no good reason why lower income families could not live in the same development as more affluent ones, but that there were good reasons why they *should*. The second was that more affordable housing could be created if it was made part of the process of building housing for the market, taking advantage of the considerable energy and resources possessed by builders and developers in the private market as well as the power of the market itself." (Mallach A, 2009 p. 285). This is what gave birth to what is popularly known as "Inclusionary housing" which is a term deliberately used to contrast the exclusionary policies of the past. Indeed, as Calavita & Mallach indicate in many respects, the initial intellectual impetus for inclusionary zoning came from the civil rights movement of the 1960s and from the recognition of the close relationship between the pervasive racial segregation in American society and the land use regulation system that perpetuated it through what came to be known as exclusionary zoning.

From the Unites states, Inclusionary housing spread to other parts of the world though in different forms and reflected in different social housing policies. It has now become a major element in the housing policies of many European nations. Calavita & Mallach (2010) argues that it is no exaggeration to state that social inclusion is a significant consideration in the planning and housing policies of every western European country, although the extent to which it drives policy and the manner in which it is addressed varies widely. The authors explain that these policies take two distinct forms. One is the search for ways of integrating isolated public housing projects into the urban and social fabric of the larger regional community and the second being fostering social inclusion in new development, by ensuring that such new projects contain economically diverse populations, as well as mixes of tenure types. The authors further observe that as European countries seek to ensure both that new development furthers goals for social inclusion and that new social housing is meaningfully integrated into the larger population, inclusionary housing has emerged as a logical vehicle for such a policy. They point out that this is most notable in England, where more than half of the recently built social and affordable housing has been created through

agreements between for-profit builders and local authorities that were made possible under Section 106 of the 1990 Town and Country Planning Act.

3.3.3 IH programmes in the USA: characteristics and output

3.3.3.1 IH programme characteristics: an overview

IH programmes exhibit varying characteristics in policy and design. They are relatively complex and tailored to local conditions (Hickey et al., 2014; Thaden & Wang, 2017). Thaden & Wang (2017) argue that very little is known about IH and its characteristics unlike other affordable housing programmes. One consequence is that policymakers, city staff, and stakeholders are uncertain about adopting the tool. Just as housing markets across the US vary largely, so do the policies and laws governing IH (Rusk et al., 2010). The ways in which IH programmes are structured and implemented also vary systematically across states, in response to the amount and type of authority over land use policies granted to local governments by the states, as well as to the differences in the states' land use programmes and initiatives to produce affordable housing (Schuetz et al., 2009). As the housing market has changed, IH policies and laws have been enacted, amended and in some cases ended (Rusk et al., 2010). Some existing programmes have been modified, suspended, or repealed (Wiener & Barton, 2014).

IH policies in the USA vary greatly in detail, but share common characteristics (Wiener & Barton, 2014). Inclusionary housing as practised in the US is either voluntary or non-voluntary. When IH is voluntary, developers are motivated through incentives (mostly higher densities) in order to provide affordable housing. Under non-voluntary IH, it is mandatory for developers to provide affordable housing as they provide market rate housing. The laws require between 5 and 25 percent of the units in a market-rate building to be provided at below-market rents. Many IH programmes permit onsite or offsite affordable housing production. Wiener & Barton (2014) list alternatives that IH programmes offer to private developers in lieu of building below market-rate homes on the same site as the market-rate homes. These alternatives include options to: (1) partner with a non-profit organization that agrees to build the units; (2) build the units offsite or convert existing units under certain conditions; (3) dedicate land to the local government that will accommodate a comparable number of units; (4) pay an 'in lieu' fee to the local government to be used for affordable housing; or (5) build more than the required units in exchange for reducing the

requirement in another development. Most programmes also include incentives that reduce the developer costs of building the below market-rate units. These incentives include density bonuses; flexible design and development standards, such as a reduction in unit square design; parking concessions; fee waivers, reductions, or deferrals; tax abatements; expedited permit processing; financial offsets, such as such as direct subsidies; assistance in application for public funds, such as rent subsidies, bond financing, community development block grants (Mukhija et al, 2010; Wiener & Barton, 2014; Schuetz et al., 2009; Calavita & Mallach, 2010; Jacobus, 2015). As Wiener & Barton (2014: 405) indicate, ''these incentives not only mitigate costs, but often make the adoption of IH programmes more politically palatable''.

IH ordinances differ in the portion of a development's units that are required to be affordable, in the income level of the target population, and in the length of time the affordability requirements must be met. Most ordinances on IH also provide a specific breakdown of the share of units reserved for each income group. Rental units are more likely to be targeted at low income households, with ownership units reserved for those of moderate income (Schuetz, et al 2009). There are requirements that affordability remains in place longer for rental units than for ownership units and jurisdictions frequently increase these durations over time (Schuetz et al., 2009).

Opinions expressed within the academic and professional literature regarding the IH programme characteristics vary. For example, Thaden & Wang (2017) and Calavita & Mallach (2010) support prioritizing on-site affordable housing development, hence placing affordable housing in neighbourhoods of opportunity. Rusk et al. (2010) emphasize the importance of not only producing affordable homes, but also of ensuring their long-term affordability. Additionally, Brat (2012) observes that policy makers have begun to recognize the importance of the affordability restriction period. The author gives an example of Montgomery County, Maryland, where the original statute required only a 10-year affordability restriction. That restriction has now been changed to 99 years for rental units and 30 years for owner-occupied units. If an owner-occupied unit is sold within the restriction period, the subsequent owner must keep it for another 30 years before he/she can sell it in the private market. Hickey et al. (2014) argue that, even as IH programmes have become more prevalent, there is a lack of information on the successful strategies for facilitating lasting affordability.

3.3.3.2   IH programmes in the USA: spread and output

IH has spread across many states in the USA. Thaden & Wang (2017) identified 1,379 IH programmes within 791 jurisdictions located in 24 states and in the District of Columbia, with the vast majority of the jurisdictions being located in New Jersey (55.11 percent), Massachusetts (26.11 percent), and California (10.44 percent). However, it is important to note that these numbers are influenced by a state mandate requiring affordable housing production in each locality in New Jersey and Massachusetts. In contrast, in California there is no state mandate but instead a number of cities have adopted either voluntary or involuntary IH in their housing elements in attempts to boost affordable housing production (Cotter, 2014; Calavita & Grimes, 1998). This spread in adoption of IH in the USA and even in other countries can be described as successful. This success may be understood on many fronts. Ponce (2010) argues that IH may be understood as a new pragmatic approach by governments in their efforts to provide affordable housing after many countries diminished their direct involvement in the provision of affordable housing after neo-liberalism arose. Ponce argues that, from a governmental perspective, IH can also be viewed as an outcome that can be achieved by public-private partnerships. Ponce (2006) observes that, in connection with its goal of achieving social inclusion, IH can also be understood to be a reaction against past social housing practices and urban segregation. According to Calavita (2004), the primary reason behind the spread of inclusionary housing programmes in California was high housing costs.

IH programmes have produced a considerable number of affordable housing units in the market in the USA although statistics on the overall production are inconclusive and incomplete, with Calavita & Mallach (2010) estimating 129,000 to 160,000 units with half of that number being produced in California. Thaden & Wang (2017) reported a total of 173,707 units of affordable housing and $1.7 billion in impact and in lieu fees produced by some of the 1,379 IH programmes identified. However, although their report is the most recent survey, as Thadon & Wang agree, these numbers are substantially underestimated since only a proportion of the programmes are represented and some jurisdictions in the survey did not report their production and fees for their programmes.

3.3.3.3 IH programmes in the USA: success, effectiveness and impacts on the housing market

The debate on the success and effectiveness of IH has been alive for a while. Calavita & Grime (1998) considers that IH in California and New Jersey has enjoyed a certain degree of success. Calavita & Mallach (2010) argue that IH, as one of the tools for addressing affordable housing, promotes social and economic integration when on-site affordable housing is provided. The Urban Institute (2012) examined IH programmes in Montgomery County, Maryland, and Fairfax County, Virginia and found that the revision of programme requirements, which both counties execute every few years or so, may be a disincentive for a builder to pursue IH units because of the ordinance complexity. They also found that incentives, such as density bonuses, were relatively ineffective in the two cities in motivating developers to produce more affordable units than the minimum percent required by each ordinance. The Urban Institute found that developers in Montgomery (which had the highest output of IH units in the country) had got accustomed to the programme's requirements, viewed it as part of the cost of doing business and believed that the benefits outweighed the costs.

Although their intended goal is to promote housing affordability and socio-economic integration, IH policies have received their fair share of criticism regarding their potential unintended market consequences. As Jacobus (2015) says, their adoption has almost always been controversial. Hollingshead (2015) argues that to the extent that IH policies create opportunity costs for developers and function like a tax on housing supply, they may stifle housing production and increase the price of market-rate units, reducing overall affordability. Hollingshead adds that IH may also increase the supply of affordable housing, which would place downward pressure on prices. This argument awakens a consistent concern in the literature on who should bear, or who actually bears, the cost of IH. The argument seems to ignore the potential of the market to absorb IH costs when developers are compensated through increased density and other incentives. Jacobus (2015) debunks the suggestion that developers pass on the costs of IH to tenants and homebuyers by explaining that local real estate market sets the prices of the market-rate units, and that the developers of one project cannot change the overall market price or rent. Although Jacobus suggests that the costs associated with construction of IH are either absorbed by modest declines in land prices or by reductions in developer profits, or some combination of the two, we find that there is no empirical analysis to find out if the market can adequately be harnessed to ensure that no one bears the cost apart from the market itself.

The effectiveness of an IH programme depends critically on how it is designed and on the nature of the local housing market (Sturtevant, 2016). Using data on IH in the San Francisco metropolitan area and suburban Boston, Schuetz et al. (2009) analysed how much affordable housing the programmes produced and how IH affects the prices and production of market-rate housing. They found that the amount of affordable housing produced under IH was modest and depended primarily on how long IH was in place. They reported that the results from suburban Boston suggested that IH contributed to increased housing prices and lower rates of production during periods of regional house price appreciation although the estimated effect was relatively small. The results suggested that a 1 per cent increase in the time since IH was adopted was associated with a 0.06 per cent decrease in annual single-family permits, and a 0.014 per cent increase in prices, although weakly statistically significant. In the San Francisco area, IH also appeared to marginally increase housing prices by 0.013 percent in times of regional price appreciation, but to decrease prices during cooler regional markets. However, a more recent study by Hollingshead (2015) which examined the impact of IH using the 2009 *Palmer/Sixth Street Properties LP v. City of Los Angeles* ruling did not find any evidence that weakening an inclusionary policy is associated with a decrease in the rental price of high-cost housing units. The results also suggested that IH policies, before the *Palmer* ruling in general, did promote housing affordability in the low-cost market. The *Palmer* ruling had weakened IH particularly for rental housing as the appellate court ruled that California municipalities could not have mandatory IH ordinances for rental housing development, which was deemed an illegal form of rent control. Further, Schuetz et al. (2009) found no evidence of a statistically significant effect of IH on new housing development in the Bay area. Mukhija et al. (2010) also compared data for communities with and without IH in Southern California and concluded that the adoption of IH policies had no impact on the overall rate of production. Therefore, if IH does not decrease the supply of housing, it cannot lead to price increase particularly when it is accompanied with density bonuses and zoning variances which enable developers to produce more units.

Knaap et al. (2008) found that IH programmes had significant effects on housing markets in California from 1988 to 2005. Although cities with existing or new programmes during the study period did not experience a significant reduction in the rate of single-family housing starts, they did experience a marginally significant increase in multi-family housing starts. More specifically,

they found that, in municipalities with IH programmes, the share of multi-family housing starts increased seven (7) percent. The magnitude of this shift varied with the stringency of the inclusionary requirements. They found that housing prices in cities that adopted IH increased about 2-3 percent faster than cities that did not adopt such policies. In addition, they found that housing price effects were greater in higher priced housing markets than in lower priced markets. These findings suggest that housing producers did not in general respond to inclusionary requirements by slowing the rate of single-family housing construction but did pass the increase in production costs on to housing consumers. Further, housing producers were better able to pass on the increase in costs in higher priced housing markets than in lower priced housing markets. Finally, Knap et al. found that the size of market-rate houses in cities that adopted IH increased more slowly than in cities without such programmes. Their findings suggested that IH programmes caused housing producers to increase the price of more expensive homes in markets where residents were less sensitive to price, and to decrease the size of less expensive homes in markets where residents were more sensitive to price. However, the above study did not specify which IH programmes had extended incentives such as density bonuses and seems to ignore the contribution of such incentives in the housing price mechanism. Powell & Stringham, (2004a, 2004b, 2005) argue that IH is still a price control that leads to a decrease in the amount of housing. Powell & Stringham (2004a) found that in cities with IH policies, permits declined 10 to 30 percent in the seven years after the policies were adopted. However, Basolo & Calavita (2004) criticized these findings and argued that the study could be interpreted only as descriptive, not as proof of a causal relationship between inclusionary housing policies and housing market outcomes as it relied on questionable assumptions and had several technical limitations. In fact, what Powel and Stringham seem to miss in their argument is that where IH requirements are accompanied with increased density or change of zoning, the net effect will be increased overall housing production.

There seems to be persistent criticism that IH could theoretically diminish the supply of housing and therefore increase prices, but there is no agreement about how often this happens or how significant the impact is (Jacobus, 2015). Based on the mixed results from scholarship, it is easy to agree with Sturtevant (2016) that IH policy should be considered as one component of a comprehensive affordable housing strategy. As Ziebarth (2013: 369) states, "It remains to be seen whether or not inclusive housing can overcome that negative perception and promote sufficient

affordable housing units to meet what seems to be an ever-increasing need as the gap in income widens between the haves and the have-nots".

3.3.3.4 IH programmes in the USA: intervening factors and opportunities

In addition to criticism, IH advocates have had to deal with many intervening factors that can, and have, influenced IH outcomes, including NIMBY (Not in My Back Yard) opposition (Calavita & Mallach, 2010; Davison et al., 2013). Some wealthy communities have mounted extended resistance to allowing any affordable housing in their borders with years of lawsuits, appeals, and countersuits imposing high costs on both local governments and developers (Massey et al., 2013). ''Organized neighbourhood opposition adds additional, costly delays and can kill projects'' (Wiener & Barton, 2014: 408). However, Wiener & Barton argue that simultaneity can pre-empt local resistance. When the affordable units are built generally at the same time as the market-rate units, concurrent development can mitigate opposition from existing neighbours. After the 2009 *Palmer* ruling, many jurisdictions in California rolled back mandatory policies that apply to rental development (Thaden & Wang, 2017). But the passage in 2017 of Assembly Bill 1505 (popularly known as "Palmer fix" Bill) gives counties and cities in California power to implement IH on rental projects again. "The success of enabling legislation in California adds major momentum to the fight for IH in the state and beyond" (Murray, Shelterforce - November 29, 2017).

IH has been shifting towards promoting higher density with increased bonuses, floor area ratios, and height and there is strong support in the literature for increasing density in our cities. Lynch (1981) argues that no city can physically reach a point where they cannot (or should not) add population. He observes that a great range of settlement and urban density patterns across the world, and in USA cities, are not especially dense. Metcalf (2018) sees limits to growth in a metropolitan area as political and aesthetic, not physical. Metcalf says that planning decisions make housing for most people vastly more expensive than it has to be by restricting the supply of new units even in the face of growing demand. Furthermore, more and more communities have been consciously seeking to promote mixed-income development (Jacobus, 2015).

As stated earlier, the LVC contemplated by this research is that which arises from land use changes which lead to increased land value. Such capture is through increased IH requirements. Most IH programmes provide cost offsets including density bonuses, fee waivers, modification of

development standards, parking reductions and expedited permitting to incentivise developers. This is necessary because as Calavita & Mallach (2010) observe, where the inclusionary requirement is being imposed on a pre-existing zoning, the effect is to diminish the value of the land rather than enhance it. It would appear therefore, as the authors rightly argue, it is better to further affordable housing through capture of land value increments in the course of rezoning processes whereby the provision of affordable housing is driven by planning considerations rather than by site-specific offsets.

3.4 Other forms of Land Value Capture

3.4.1 Commercial Linkage Fees

To mitigate the increased need for affordable housing that is created by new commercial development, some cities charge all non-residential projects or portions of a project affordable Housing Commercial Linkage Fee to help finance affordable housing for worker households. This fee is based on the gross square footage of the proposed project and are levied in many cities including San Francisco, Santa Monica and San Diego in California and Boston in Massachusetts.

Fainstein (2012) argues that linkage fees constitute a means by which the public captures increase in land value generated by development. They have some of the same equity effects as land value taxes, in that they represent payments by a developer in return for the increase in value resulting from development.

In practise Commercial uses attract the highest land value increase upon land use regulation changes in their favour. Commercial linkage fees therefore provide an excellent avenue to capture this land value increment for affordable housing provision. This works to create sustainable neighbourhoods as jobs created in the commercial developments are matched with affordable housing for the workers.

3.4.2 Community Land Trusts (CLTs)

A Community Land Trust (CLT) is a democratically governed non-profit, community-based organisation that owns land in perpetuity for public benefit. It develops housing and other

community amenities at permanently affordable levels and is therefore one mechanism used to increase the stock of affordable housing. It does this by keeping community ownership of land but issues long term renewable (99 year) leases with affordability requirements to private homeowners. These requirements include placing limits on resale prices (Loh et al, 2016; Meehan, 2013). In the United States, CLTs are intended as a mechanism to provide for the long-term stewardship of affordably priced owner-occupied housing, although the model is also being widely applied to the provision of rental housing and the development of commercial buildings and community facilities (Voith & Wachter, 2012). The primary focus of CLTs is affordable housing (Krinsky & Hovde, 1996 cited in Gray, 2008). The basic notion of CLTs is that land should not be a private commodity, instead community owned and operated. They have been touted as an innovative means to provide and preserve affordable housing (Gray, 2008).

In a community land trust (CLT), a community organization owns and manages the land, while residents sign long-term lease agreements giving them ownership rights, either as individuals or as cooperatives, over their housing units (DeFilippis, 2004 cited in Fainstein, 2012). As Ingram & Hong (2012) elaborate, CLTs can provide affordable housing into perpetuity. In principle, a CLT should be able to capture future land value increments by leasing to its members the land on which their homes are built. CLTs thus attain the same objectives as public land ownership in that they restrict speculation and help ensure the availability of affordable housing (Fainstein, 2012).

CLTs own land permanently and members either buy a house or lease land from the CLT. The CLT must balance the need of the homeowner's real estate investment with the need of the CLT to provide affordable homes for future residents (Abromowitz, 2000; Greenstein & Sungu-Eryilmaz, 2005 in Gray, 2008). CLTs consider themselves stewards of land (Gray, 2008). Gray (2008, p. 69) observes that 'the primary responsibility of the CLT membership organization is the community, not the individual homeowner'. Moore & McKee (2012) add that the CLT's distinct approach to citizen governance, where ownership is for the common good and the CLT's mission is to develop the local area, must be achieved through democratic governance structures and communal decision making over local community development.

CLT presents an interesting case of how land tenure can be used to ensure housing affordability and social cohesion. Meehan (1996) cited in Meehan (2013) argues that CLT represents an attempt to apply social market principles to the fundamental factor of land. Meehan (2013) adds that this

conjunction of community ownership of land and private ownership of the economic improvements on the land represents an innovative combination of tenure forms. The author sees advocating and creating this new form of property as a way of accomplishing social purposes. Apart from stabilising the housing markets, CLTs bring community acceptance because the public feels they own a stake. Through collective ownership of land but private ownership of improvements, CLT takes the form of a private organization but with quasi-public aims and operations. This why authors like Meehan (2013) rightly think it is a social invention designed to address social problems that its originators did not feel were being adequately addressed by either private or public forms of tenure.

CLTs are able to maintain housing affordability because the community is able to keep the value generated by public and collective investments since the value of land is effectively separated from that of the homes. This protects against speculation and rapid rise in land prices. As Loh et al (2016) argues, CLTs are a flexible and adaptable tool with a proven record of sustaining permanently affordable housing.

The CLT reserves the option to buy any buildings located on the land. If the same is offered for sale. The selling is set through a resale formula (Reese, 2008). Home sellers are given a fair return on their investments while giving new homeowners access to affordable housing. This allows owning a home via a CLT perpetually affordable. Like all homeowners, CLT homeowners' profit from financial benefits like mortgage and property tax deductions, equity (although limited), and eventually mortgage payments are often less than rental payments (Gray, 2008)

Early reasons for developing CLTs in many communities in the US were almost the same: to remove land from absentee landowners and speculators who were holding onto the land simply to make a future profit (e.g mining and other corporations) and who prevented local people from community development and other economic opportunities (Gray, 2008)

Loh et al (2016) outlines four challenges facing CLTs and what some cities have done in tackling these challenges to build successful CLTs that help preserve housing affordability.

1) The first challenge is lack of knowledge and awareness of the model. CLTs presents a model of ownership that is still not widely understood. However, they are little known nor are they extensively used probably because their concept of community land ownership is so unusual in

the United States. They hold promise for low-income families and communities to expand physical capital and thereby exit poverty (Loh et al, 2016, Greenstein & Sungu-Eryilmaz, 2005; Gray, 2008). CLTs are a hybrid between private and public ownership and are a form of public private partnership between a private community non-profit and government. IN this ownership arrangement therefore, communities need to understand the obligations and commitment necessary to form and sustain CLTs. Government and private sector partners must understand the model in order to develop appropriate policy and financing mechanisms. The authors point out that In Portland, OR, Burlington, VT, and Chicago, government agencies organized local forums and issued reports to introduce CLTs to local officials and non-profit organizations.

2) Secondly, start-up costs and building capacity to scale can be headache for CLTs. They require an organized community with enough capacity to sustain a non-profit organization over the long term. There must be an investment in startup costs and support to build capacity. Loh et al (2016) give examples of Cities including Burlington VT, Truckee CA, Sarasota FL, and Chicago have provided planning and startup grants from $25,000 to $250,000. Chicago and Delray Beach, FL have gone further and allocated city employees to help CLTs staff These CLTs received staffing, funding, and political support from their host cities

3) Thirdly, Land acquisition can be a big challenge for CLTs. They acquire land (either through donation or purchase with funds from government agencies or foundations), with or without buildings on that land (Gray, 2008). They can acquire land from public land disposition processes at nominal or below market cost. Loh et al (2016) give examples of Delray Beach CA, Irvine CA, Syracuse NY, Albuquerque NM, and Washington DC, where surplus and foreclosed properties were transferred into CLT portfolios. In order to do this, Loh et al (2016) observe that Washington DC committed $10 million to subsidize 1,000 units developed by City First Homes, a districtwide CLT while Highland Park, IL and Burlington, VT both used housing trust funds to channel money to CLTs. Rhode Island's SHARP programme supports stewardship of land trust homes. Some governments have devoted funds specifically for land acquisition by CLTs Atlanta has used Tax Increment Financing and Affordable Housing Trust Fund dollars to support CLT development. Sawmill CLT (Albuquerque, NM). This CLT took over a former brownfield site, working with the city to obtain 34 acres. The city also provides the CLT with

$200,000 from Community Development Block Grant funds each year for their operations (Loh et al, 2016). Land banking is also an option of availing land to CLTs. This has happened in Nantucket, Massachusetts (Loh et al, 2016).

4) Fourthly and lastly, is the challenge of sustaining long term stewardship: This is in terms ensuring that once permanently affordable homes are developed, affordability restrictions are complied with over the long term. Key component of the mission of CLTs is to perpetuate affordability, but the potential to achieve this goal may be limited due to the conflicting interests of members and potential members. As members of a CLT, participants agree to provide current and future affordable housing for fellow participants; thus, they agree to the formula set in the ground lease, which is designed to give a "fair return on investment" (Reese 2008, 260 cited in Voith & Wachter, 2012). However, as homeowners, they want to be able to sell their property for the maximum price. In order to make the most of their investment. From this arises a source of tension between the overall mission and the interests of participants. CLTs overcome barriers to affordable home ownership by removing the cost of land from the purchase price and by limiting the future price for which the home can be resold if the homeowner decides to leave the trust. CLTs extend affordability indefinitely in a way that most inclusionary housing programmes do not. Typically, CLTs calculate resale prices based on some index, such as changes in the area median income (AMI) or the consumer price index (CPI), or on some percentage of the difference between the appraised value of the home at initial purchase and the appraised value at the time of resale (in both cases, not including gland value). This practice allows them to retain all public subsidies and most capital gains, thus lowering the price for subsequent home buyers of modest means. At the same time, resale formulas are designed to provide a fair return for the seller, allowing her to walk away with more wealth than she had when she bought into the CLT. One successful CLT as reported by Loh et al (2016) is Champlain Housing Trust in Vermont, US. This is the largest CLT in the country with more than 2000 units of housing. They have achieved a scale that can sustain long-term stewardship and services for their housing. They have a several decade track record of families coming in and out of their homes, showing how CLTs can help families build wealth. Of the more than 233 families who have left the CLT, the median tenure was over 5 years and the median sale generated $17,000 in equity. Almost 70% went on to market rate homes.

Municipaliites Chicago CLT (Illinois) and Irvine CLT (California) created CLTs to steward the permanent affordability of housing built through their inclusionary development policies.

Critics of CLTs pointed out that they target low-income, and in some cases middle-income people who need affordable housing. However, "affordable housing" doesn't necessarily mean affordable for people with very low incomes (Krinsky & Hovde, 1996 cited in Gray, 2008). Some CLTs try to offer rental housing for people who cannot afford a home, but even some of these rentals are prohibitive for very poor people. Although it's beyond the scope of their purpose, CLTs have been criticized for focusing on small solutions to affordable housing rather than structural changes such as federal housing policies. Bratt (1989) argues that whenever a non-profit meets a community need, it runs the risk of allowing federal officials to ignore their responsibilities and that private-sector models cannot become the only providers of affordable housing. There is also criticism regarding the fact that there are only few empirical studies to support the alleged benefits of CLTs (Scanlon, 1998; Gray, 2008).

Although not widely used, the CLT model is increasingly popular and will probably continue to be so (Stone, 2006 in Gray, 2008). Affordable housing planners and policy makers in developing countries have a lot to learn from CLTs as implemented in the US and Europe. CLT is a mode that challenges the traditional mode of land proprietorship. Through community ownership of land, CLTs give power to communities and bring communities together to democratically plan their neighbourhoods. They deter land speculation which in most cities has kept land prices high and comprised on housing affordability. If well implemented, they can put the pressure of housing the low-income households off the state's shoulders. In essence, CLTs keeps the value generated by public and collective investments in the hands of the community and enhance community members to enjoy affordable housing in perpetuity. Linked with IH, CLT can further capture more value to achieve more affordable housing.

3.4.3 Public Land Leasing

The idea of land rents was introduced by Adam Smith in the 18th century but its most famous advocate was Henry George, an American political economist who argued that the economic value derived from land should belong to every member of the society. George presented a well-known proposal to fund all government functions with a variant of the property tax: a single tax on land.

His proposal was to leave private ownership in place, but to tax away the rent earned on the land, which would essentially capture all its value, in order to finance the public sector. According to him, Value should belong to the community which has affected the value (George 1879; Anderson, 2012; Kaipanen, 2017). Motivated by Henry George arguments, economists in the 1970s developed what is referred to as Henry George Theorem. This theorem argues that in a local public goods economy, if the level of public expenditure is fixed and the population is variable, the optimal population that will maximize consumption per capita is that population where total land rents equal total expenditures on public goods (Stiglitz, 1977 cited in Anderson, 2012). Therefore, according to the theorem, if a city has an optimal number of residents, the aggregate differentiate land rents can cover the cost of public goods.

In land leasing, the government possesses the right to own, and private developers lease from the government the right to develop, use, transfer, inherit, and benefit from land (Hong & Lam, 1998). Ground leases typically have long terms (usually 50 years or more). In theory, when the lease ends, the land and any improvements to it revert to the government, unless the lease is renewed. In practice, however, most public leasehold systems permit lessees to renew their leases (Anderson, 2012)

Using example of Hong Kong, Hong & Lam (1998) have presented how the land Value capture is done through public land leasing. The first is through payment of the premium after the auction and at the point of signing the lease. Premium is a lump sum of money paid at the beginning of the lease. In Hong Kong, the premium is determined through auctions and competition among bidders determines the premium paid to the government for leasing the land. Money collected as premium from the initial land auctions is a major source of government revenues Secondly, the government also collects an annual land rent from lessees with adjustment in the level of rent upon reassessment of the value of the properties capture happens when leaseholders wish to modify the lease conditions; Thirdly, in the life of the leasehold, the lessees may need to remove certain restrictions imposed on the development of the leased land. These land-use restrictions are specified as lease conditions in the land contracts. Upon approval of the applications, example, the user or site coverage, the lessee pays additional premium. This modification premium is based upon the potential increases in land values after the development restrictions are changed. The rationale is to capture any increase in land value as resultant of the change of the conditions of the

grant. Finally, the government captures the increase in land values during lease renewals. In Hong Kong there are two categories of leases, renewable and non-renewable. However, the Non-renewable leases can be re-granted at the end of the lease if the government does not require the land for public purpose. During this re-grant, the government imposes new conditions, including the updated building covenants, requirements for public infrastructure, and the additional premium for re-granting the land rights to the lessees. The premium for lease re-grant represents the full market value of the land either at the date of expiration or the date of application for the extension. For renewable leases, the government renews the leases for another 50 years with no additional premium but at an enhanced rent.

In an earlier research, Hong (1996) found that the Hong Kong Government captured about 39 percent of the land-value increments occurring between 1970 and 1991 from land leased in the 1970s. More importantly, the author adds this captured value accounted for a large proportion (69 percent) of the total land revenues for the same period that the captured value financed 55 percent of the average annual infrastructure investment between 1970 and 1991. "Combined with the money collected from the property tax and rates, the Hong Kong government was capable of funding 80 percent its annual public-works expenditures by land revenues" (Hong, 1996: 16)

Most countries of the world practise public land leasing in manner almost similar to what is described above for Hong Kong. However, the success in capturing adequate land value for public purpose varies from country to country. Hong Kong's success is widely attributed to its large public land stock given that a high percentage of the land belongs to the state but its model gives a good international practise worth emulating. However, as Wen (2012) has observed affordable housing should be one of the public goods funded by the revenues. Wen notes that it is true that urban infrastructure has been financed to a significant extent by public land leasing but is important for affordable housing for workers to be given attention.

3.4.4   Town Planning Schemes (TPS) (India)

As described by Ballaney (2008) and Sanyal & Deuskar (2012), TPS is a two-way approach of managing new urban growth used in India. The first approach is "compulsory land acquisition" where the public planning authorities and development agencies acquire large portions of land and compensate the farmers based on prevailing agricultural land prices. The land then re-planned

in a desirable or appropriate manner. A master plan of the area is prepared, laying out the roads, land for social amenities, and plots for sale. Roads and infrastructure are then built, using government funds or loans. Serviced plots are then sold for urban uses at market rates, which are most often much higher than the rate at which land is acquired. The second approach is the "land readjustment and pooling" method where the public planning agencies and development authorities, instead of acquiring land, bring together or "pool together" a group of owners and then re-plan the area by readjusting or reshaping every land parcel in a manner such that it is given a regular shape and access and in the process a portion of land parcel is appropriated to provide for roads, infrastructure, and public amenities. The remaining land is reconstituted into new, serviced plots, which are returned to the original landowners. The landowners can choose to sell these plots at a higher price or they can develop them. However, they have pay half of the increase in the value of their land to the government as a betterment charge.

TPS is an innovative tool which has tremendous potential in harnessing the market for public benefit. In both methods of TPS, land value created by the land use change and infrastructure is captured when the land is released to the market. In the first method, the government capturers all the increment to reimburse itself the cost of infrastructure and use the rest (because its captures 100 percent) for other public benefits programmes. In the second method, the government captures 50 percent of the value increase and other 50 percent is enjoyed by the land owners.

Marshall (2010) clarifies that TPS mechanism seeks to deliver serviced land to the urban land market and contains a provision to reserve some of this land for housing for low income households and argues that there has been considerable success in converting agricultural land to serviced urban land and in appropriated land for housing for the urban poor. Sanyal & Deuskar (2012) reports that between 2004 and 2009, Ahmedabad Urban Development Authority (AUDA) built more than 11,000 houses for the poor on land obtained through TPS. Marshall (2010) observes that while these 11,000 housing units may not be sufficient when compared to the estimated 884,000 people living in slums in Ahmedabad, TPS has done better in this regard than previous efforts to provide or upgrade low-income housing, such as the Slum Networking Project, which served around 8,400 households between 1996 and 2005. However, as Sanyal & Deuskar

(2012) conclude, it must be acknowledged that TPS has not delivered on its full potential to house the poor.

TPS has been practiced in India for a long time in fact since 1915 when it was introduced by legislation (Ballaney, 2008)). In other countries, what come close to TPS is what Ingram & Hong (2012: 16) call "the broadest and most comprehensive application of value capture" in China, where "municipalities buy adjacent agricultural land from farmers at agricultural use prices, service it with infrastructure, and sell it to developers as urban land with permits for urban development. The difference in price between the land's urban value and its agricultural value accrues to the municipality, provides a large share of local revenues, and pays for the installed infrastructure"

3.4.5   Property Taxes

In Most countries, property taxes as used as the primary and general means of land value capture. Walters (2012) acknowledges that there a several ways of capturing land value through property taxes including one-time taxes or fees and annual property tax. However, the author argues that for LVC to have practical policy relevance through the property tax, the following conditions must hold:

i.   Population growth, public investment in infrastructure, and/or improved services must result in increased private land values.

ii.   The increased values must be identified by the property tax valuation process and incorporated into taxable property values.

iii.   Entities levying a property tax must maintain an effective tax rate sufficient to result in a higher tax bill on the affected land.

iv.   The resulting increase in revenue must be adequate to pay for the required share of the infrastructure investment.

Walters (2012) further provides a wide range of techniques that have been used over the centuries in an attempt to capture the unearned increment in land value that results from public and community actions. The table No.1 below gives a good overview of the principal taxes and fees on land improvements and their distinguishing characteristics.

Table 3.1: principal taxes and fees on land improvements in various countries across the world and their distinguishing characteristics;

Taxes and Fees on Land and Improvements

	What Is Taxable?	What Is the Basis for Determining the Tax or Fee?	When Is the Tax or Fee Collected?
Development fees	Market value of new private investment in development	Cost of overseeing new development or mitigating impact of development on public infrastructure	Once, when permission to proceed with development is granted
Estate tax	Generally all land and property included in estates above a defined threshold of total value	Value of land and property transferred as part of an inheritance	Once, following death of estate owner
Capital gains tax	Sale of real property	Value of real property sold minus original purchase price and any subsequent improvement costs	Once, as part of income tax system
Transfer tax and stamp tax	Transfer of registered land title or other land rights to another party	Market value of real property transferred	Once, when registered land title or rights are formally transferred
Betterment tax	Increment in real property value due to public investment or approved change in land use	Land and improvement value after change minus land and improvement value before change	Once, at time of investment or when permission to change land use is granted
Land rent or lease (see chapter 6 in this volume)	Right to occupy and use publicly owned land	Varies widely	Annually, but can be more frequent
Annual property tax	Privately owned or controlled land and immovable improvements	(1) Market value of land and property; or (2) physical characteristics of land and property	Due annually; payable either annually, monthly, or quarterly

Source: Walters (2012)

As Franzsen and McCluskey (2017) observes, efforts on property taxation in developing countries have not been very successful mainly because tax administration is characterized by inadequate valuation practices. A major difficulty that impairs the practical potential of property taxes as a mechanism of LVC is the time between revaluations. For LVC to be effective, values must be identified and incorporated into the property tax system in a timely manner. In many jurisdictions, however, revaluations do not happen regularly. If properties are not revalued regularly, and if

market value increases either cannot be incorporated into taxable values or cannot be taxed at levels sufficient to raise additional revenue, then property tax system cannot serve effectively serve as an LVC mechanism (Walters, 2012). Other challenges of implementing property tax in developing countries such as those in sub-Saharan Africa and Kenya in particular include poor property coverage, low rates of compliance, poor institutional networks, inadequate databases and logistics, limited capacity, poorly motivated staff, outdated technology, and political interference (Franzsen and McCluskey, 2017).

3.4.6   Community Benefits Agreements (CBAs)

These are agreements done between developers and communities to ensure that the community gains from developments mostly in form of housing and jobs. These agreements are as a result of negotiations between the developer and the community sometimes facilitated by the Government. According to Fainstein (2012) for Community benefits agreements (CBAs), there is no requirement that the beneficiaries be low-income, but CBAs typically involve low-income neighbourhoods. Wolf-Powers (2010) cited in Fainstein (2012) stipulates conditions that can CBAs successful in bringing about major benefits. First as with other models of land value capture, the real estate market must be robust; secondly, the developer must get a large public subsidy, and thirdly the community must have sufficient potential to block the project for the developer to comply. But again, the community leaders must learn how to manage what Wolf-Powers (2012: 219) calls "interest group politics and democratic participation" so that the agreements capture the interests of everyone and are done in an open participatory manner. This is critical in order to avoid a situation where even if land value is captured, it is inadequate compared to the cost to the public.

In Britain, agreements have been used since 1914 but this unlike the CBA model of US, usually take the form of contractual agreements between the developer and local Government. As Booth (2012) explains, contractual agreements were initially used as a vehicle for expediting developments, that is, using contracts to secure the necessary conditions for developments to take place. This could for example take the form of a developer extending a sewer system or improving a feeder road. The government supported this and viewed these agreements as pragmatic useful tools which were easily understood by the developers and could be used to get developers contribute to infrastructure without which development could not take place (UK

Ministry of housing & local government (1967) cited in Booth (2012). However, in 1992, government policy was amended to secure affordable housing from private residential development through these agreements. The planning and compensation Act of 1991 had also introduced another tool called 'planning obligation' which required the developer to undertake a specified further work or obligation. This was to boost affordable housing provision through the contractual planning agreements (Booth, 2012).

By developers contributing to infrastructure and affordable housing, the government could capture land value as result of planning permissions for public benefit. The agreements model of land value capture gives the community a guarantee (and even a say on the form of community benefits as with the US CBA model) of the benefits in the form of an agreement. This is why Wolf-Powers (2012) points out that advocates of community benefits agreements (CBAs) aim to bring local stakeholders, typically low-wealth households in the vicinity of a development project, directly into the process of recovering value. However, Wolf-Powers (2012) is quick to point out that of all land value capture tools, the CBA is perhaps the most controversial and observes that while it has received resounding affirmation in some quarters as a model of civic participation, it has been questioned in others as potentially contrary to the principles of economics, civics, and good planning practice.

In France, the *Zone d'Aménagement Concerté* (Coordinated development zone; ZAC) is a tool that has allowed public authorities to recover the costs of road and the provision of public space as part of development process. It is a regulatory document that sets out in detail the form of the proposed development and specifies how the development will be supported by services and infrastructure. It might lead to a contract between the developer and the local authority regarding the exact manner in which site development will take place and how infrastructure will be provided and financed (Booth, 2012).

3.4.7   Special Assessments

Special assessment is a unique charge that local government assess against land parcels for financing certain public projects which creates a "benefit" in properties lying within a special geographic area known as a special assessment district (S.A.D). A Special Assessment District (S.A.D.) is a geographic area in which the market value of real estate is enhanced due to the

influence of a public improvement and in which a tax is apportioned to recover the costs of the public improvement. Each property owner is supposed to pay an amount proportional to the amount of benefit his/her property will get from the public project being financed. The rationale is that the public projects being financed bring a benefit to the property owner by significantly increasing the property's market value once they are in place. This projected benefit is what is captured by the special assessments.

One of the longest land value capture experiences in the United States is the use of special assessments (Misczynski, 2012). The use special assessments in California accelerated after the passage of 1978 proposition 13 which limited property taxes to 1 percent of the assessed value and required that any increase in property taxes be approved by a two-thirds vote of the electorate. Proposition 13's restrictions on taxation, coupled with a decline in federal funding, meant local agencies had to come up with new ways to finance public improvements (Harris R.D, 2003). Misczynski (2012: 97-114) describes this land value tool in detail and why it was widely adopted in California State. He explains that the passage of proposition 13 was preceded by hyperinflation and especially rapid increases in housing prices in the state. Property taxes had risen to more than 20 percent of the property values. They passed proposition 13 to roll back property tax increases and most importantly to prevent their recurrence. When this proposition was passed, local governments were deprived of an important resource for financing infrastructure to support new developments. The cities turned to special assessment as a fall-back. This instrument has financed parks, open space, rail transit, and other public facilities.

Heim (2012) identifies an important issue in regard to special assessments, that is, the need to have a clear understanding of potential public opposition to special assessments. She wonders why as reported by Misczynski (2012) residents of Los Angeles and San Francisco opposed financing of transit projects using special assessments, while residents of Seattle; Portland, Oregon; and Washington, DC, welcomed such financing. The author is also concerned about inequality. Special assessments are founded on the ability-to-pay principle; thus, this method of financing may be feasible only for affluent neighbourhoods raising questions on how local infrastructure in poor neighbourhood can be financed.

3.4.8   Profit Sharing Arrangements

Fainstein (2012) presents a form of land value capture through profit sharing whereby the Government provides developers with concessions in the form of regulatory or tax relief and the developers in return provide a public benefit often in the form of low-income housing or public amenities. In some cases, the deal includes a provision for profit sharing whereby the government receives some of the benefits from increasing returns on the form of a payment in lieu of taxes. The author presents the example of Battery Park City which was built on the landfill produced by excavation for the World Trade Centre. Battery Park City comprises of classic office and residential real estate and is owned by Battery Park City Authority (BPCA), a subsidiary of New York State's Empire State Development Corporation (ESDC). As a consequence of its public ownership, the BPCA does not pay property taxes to New York City but it remits to the city any profit on revenues received from land leases for buildings on the site. The funds collected would were expected finance the construction of affordable housing elsewhere in the city although the author noted that the city stopped using the income from the leases for housing and instead diverted it to the general fund.

Despite the fact that city of New York diverted these funds from this project to the general fund, the arrangement provides an international experience. It is a noble arrangement particularly for cities which have idle public land and willing to enter into private-public partnerships. With clear binding agreements, cities can tap into the benefits of robust land markets by inviting investors with the resources at hand. However, for this model to work well, first and before the agreements are signed a feasibility analysis using residual valuation method should be undertaken to determine the value increase as a result of the approved development. This will ensure that the Government and the developer are in an informed position as they negotiate the public benefits to be provided. The agreements must allow for periodical revisions of the profits sharing formula based on consistent economic analysis to capture the state of the market.

3.5 Slum Upgrading and Equitable Affordable Housing Tools

3.5.1   Towards a sustainable approach to slum upgrading

Cities Alliance (2020) points out three key issues for governments and stakeholders to consider in formulating policies that facilitate affordable housing provision for the urban poor. First, the need

to accept the reality of urban growth and plan for it. Second, a shared understanding that slums and their residents are an integral part of the city, and thirdly, that slum residents have a right to the city and to its services. There is a need to embrace sustainable approaches of slums upgrading in order to provide decent housing to the urban poor. As United Nations (2011) argues, what is needed is an inclusive and sustainable approach to urban development, one that can enable cities to cope with slums so that their future is safeguarded. To achieve this, United Nations advises that authorities have to clearly identify barriers to effective slums regeneration and introduce incentives for change. For SDG target 11.1 to be achieved, it will need to be owned by all stakeholders including national and local authorities who should develop participatory slum upgrading strategies and programmes devoid of forced evictions (Teferi & Newman, 2017). This is important because ''the challenge of informal settlements is complex as evidenced from their persistence after decades of planning and therefore, tackling them requires new approaches and ideas'' (Mwaniki et al, 2015 :16-17). In the face of the huge challenge of housing the urban poor living in slums ''urban planning must become more efficient and forward-looking, in order to enhance urban densities and reduce transportation needs, cut per-unit land costs, provide more efficient and affordable basic services as well as improved living environments for all citizens" (UN-Habitat, 2010: 9). The housing problem in cities has become worse while city's economies and real estate markets have become more robust. Therefore, tools are required that captures this urban dynamism in order to meet the rising housing needs. "A system is often required to redefine itself and reinvent itself to meet new challenges and accommodate new needs" (UN-Habitat, 2008a: 2).

Bah et al (2018) suggests two key ways to stop the expansion of existing slums and prevent development of new ones. The first is to effectively address the supply failures of the housing market. The second is to provide affordable housing alternatives for the most poor, but bearing in mind that there is also a dearth of affordable housing alternatives for middle-income households. This calls for an approach which will lead to an increase of both low-income and middle-income housing preferably in mixed spatial setup hence enhancing social inclusion. This will improve the living conditions of the slum dwellers as well as their economic welfare. In order to achieve sustainable slum improvement, governments will need to adopt comprehensive and integrated approaches supported by a range of policy tools that assure better outcomes (Teferi & Newman, 2017).

In order to develop and implement effective interventions in slums, there is a need for new policies and understanding of the role of the land and housing market. New participatory and inclusive approaches that explore new innovative and effective financing avenues are needed (United Nations, 2011). For slums to be eliminated, critical governance, economic, and political-cultural reforms that cater for the interests of the urban poor must be implemented (Pieterse, 2013). UN-Habitat (2012) has suggested regeneration of slums through a planning process of opening streets, or reinforcing and improving existing streets and access paths. The World Bank's Urban Strategy supports approaches that embraces efficient use of space, addresses congestion, promotes social inclusion and harnesses urbanization to deliver equitable housing production, inclusive growth and reduction in urban poverty (World Bank, 2010).

Bah et al (2018) proposes that governments should find ways of recouping the cost of slums regeneration. Bah et al argues that where land tenure in slums has been regularized to private individuals, the government should either levy land rates or charge households for outright purchase of the land. Baker & McClain (2008) observe that the public sector cannot bear the burden of slum upgrading alone and there is much need for alternative approaches. One such approach with huge potential is engaging the private sector developers by attracting their finances and expertise through innovative land-use incentives which could benefit both the public and the private investors. This is because in most urban areas, the real estate market is vibrant and highly dynamic, and may hold the potential of bearing the costs of regenerating slums. It seems prudent to promote private sector in housing development because as World Bank (2010) observes, when the public sector dominates the private sector in land development, land market outcomes in cities are on average less favourable in terms of housing affordability and access to land by firms. World Bank further observes that cities that auction public land as well as those that do limited or no land banking also tend to have more affordable housing. However, if the housing crisis in the inner cities is to be solved, there is a need for change of land use regulations to higher densities (UN-Habitat, 2019) accompanied with a well-designed land value capture mechanism to finance affordable housing provision. This approach will enable the government to tap financial resources from the private sector.

3.5.2   Land value capture, inclusionary housing and slums regeneration.

That there is an active informal land market in slums is not in doubt. The process by which the illegal subdivisions and land allocation is done in slums is similar to what happens in the formal land markets. Transactions are totally market-based and just like in the formal markets, prices are guided by the size and quality of the land itself, level of perceived security of tenure, location of the land in terms of proximity to road, bus termini, shops and employment centres (Berner, 2001; UN-Habitat, 2003). As Baker & McClain observe, before slums benefit from any NGO or government interventions including upgrading, existing developments are exclusively done by the informal private sector. As Baker & McClain point out, this highlights the market system on which slums rely and could be the basis for envisioning and proposing an expanded role for the formal private sector into the slums.

The use of LVC and IH in slums regeneration hasn't been fully explored in the literature. This may be because of the way slums are construed - as separate entities from the city thus propagating exclusion of the 'slum land', 'slum-dwellers' and 'slumlords' from the land and housing market. Yet, slum upgrading using one or a combination of land value capture instruments would trigger endogenous development with positive effects at national level, especially in Africa (UN-Habitat, 2013). UN-Habitat sees this less common method as the most effective, fair and sustainable approach to slum upgrading at scale.

Slums constitute a market segment that is often ignored because it is mostly perceived as highly risky and hence unviable. However, given the prime location of most slums and the high population of low-income earners in our cities chasing the few residential units available for this market segment, there is huge business opportunity for investors and developers. However, debate on the potential of using LVC for affordable housing in slums in now gaining momentum. Enrique Silva, associate director of the Lincoln Institute's Programme on Latin America and the Caribbean, while discussing the challenges presented by slums and informal settlements and the role of land in Jason (2018), observed that ''Land-based financing tools like property tax or land value capture are not silver bullets, but they certainly play a role in ensuring that land is available for housing and services, thereby improving quality of life. Land-based financing tools, when used correctly and widely, ensure that the costs and benefits of urbanization for all residents are distributed and born as equitably as possible''. But governments haven't considered the great

opportunities presented by land value capture due to failures in strategy and limitations in land tenure and urban planning (Faye et al., 2013; Bah et al, 2018).

The idea of involving the private sector in slum areas is not entirely new. Bah et al (2018) identifies two interesting examples of private-sector involvement in slum upgrading in Africa. The first example is Entreprises de Construction et Aménagement Divers (ECAD) in Kigali, Rwanda. Bah et al explains that ECAD's approach involved buying rundown, owner-occupied, or rental housing structures in a slum; repairing and refurbishing them; and then selling or renting them at a profit, with an expectation of progressively upgrading the quality of housing in the slum. For example, ECAD would buy a housing structure from a low-income owner for RF 8 million (about US$11,500), repair and refurbish it, and then sell it to a middle-income buyer at RF 15 million (US$26,582). The second example Bah et al gives is the Trust for Urban Housing Finance (TUHF) Limited in South Africa, which provides loans to entrepreneurs willing to invest in rental accommodation in inner cities. Bah et al explains that TUHF can, for example, provide financing to renovate rundown buildings or transform old factory buildings into rental accommodation.

The problem with the approaches in the above examples is the possibility of gentrification and displacement of the slum dwellers because of the inability to pay the higher rents. These approaches have been unable to provide housing that is fully affordable to the poor low-income households who as a result prefer to leave. However, as Bah et al (2018) observes, the failure of land and housing markets to supply affordable housing alternatives for the middle-income urban households should also be blamed for the gentrification which occurs when these middle-income households displace low-income and slum households from the upgraded neighbourhoods. An approach is therefore needed that will serve the housing needs of both the low-income slum dwellers and middle-income earners. The approach of LVC through IH will serve this need as it supports the inclusion and integration of different income groups. This is through the provision of affordable units for low-income households in market developments resulting into mixed income communities. The approach is seen as supporting the "Right to the City" included in the United Nations Rights to Housing (United Nations, 2017b) which seeks to promote equal access to the potential benefits of the city for all urban dwellers. However, as Bah et al (2018) argues, the private sector faces a number of challenges while working in low-income areas, including serious constraints related to the legal and regulatory framework. But, as Baker & McClain (2008) observe,

there are opportunities for both the private-sector and slum dwellers to benefit from the engagement of private entities.

Bah et al (2018) further argues that despite the inherent informality in slums, private-sector companies can be involved in slum upgrading through the provision of basic infrastructure and services. Where slum upgrading interventions are to be implemented in unattractive remote or very poor areas, Bah et al proposes that governments can finance the capital cost of the services and then transfer responsibility for operation and maintenance to private companies. Bah et al further proposes that in some cases, especially for water provision, the government can offer subsidies to private companies to serve upgraded areas. The latter two proposals by Bah et al will face challenges in many developing countries because governments are grappling with dwindling financial resources.

Other approaches including the creation of "Transferable Development Rights" (TDRs) have been used elsewhere to woo private developers into the low-income market. Mukhija (2001) gives an example of Mumbai where developers were offered an increase in the permitted floor-surface-index (FSI) if they agreed to produce a given number of low-income units. In cases of slums, Mukhija says that upon densification, the government would require the developer to provide serviced housing in situ for all slum households and allow the developer to use any remaining FSI in developing market-rate units on- site, or transfer the FSI as TDRs to another location or sell them to another developer for use elsewhere in the city**.** As Baker & McClain (2008) observe, developers as business people responded not to the opportunity to upgrade slums or produce low-income housing, but to the opportunity to pursue more high-income development. In this case, it can rightly be argued that the end justified the means.

There is no doubt as Alder (1995) observes that land management (allocation, tenure and use) is fundamental to solving the problems of informal settlements. Alder adds that a better managed and equitable land and housing administration system that benefits the poor and increase affordable housing ensures that i) residents benefit ii) chances of gentrification are reduced iii) business investment is encouraged to create employment within the community iv) encourages mixed income development and v) ensures essential urban services are provided.

In designing a working LVC model for affordable housing provision, it is important to understand key requirements for successful implementation of LVC. Agyemang & Morrison (2018) identified

the key factors required for effective delivery of affordable housing through land value capture. These are summarized and emphasized in Table 3.2 below

Table 3.2: Key factors required for effective delivery of affordable housing through land value capture.

Governance and Planning System	Land and Residential Housing Market
Development rights are owned and controlled by the State	Clearly delineated, formalised land market and ownership structure
Government commitment to legislative change where and when necessary to support land value capture	Abundance of formal market players and willingness to bring forward land by those who hold it
Strong enforcement of development control regulations by city authorities	Strong land and housing market conditions—economic viability not adversely affected
Strong capacity of local authorities – to plan and undertake residual land value analyses	Strong and experienced private residential development sector
Strong negotiating skills by national government and city authorities	Developer willingness to pay

Source: Author's modification from Agyemang & Morrison (2018).

Taylor (2016) also outlines the following key considerations when implementing land value capture schemes which we are summarised in table 3.3 below.

Table 3.3: Key considerations when implementing land value capture.

Consideration	Rationale
Justification	The government must have increased the value of land through a public policy or action, and the community is entitled to a share of the resulting land value uplift.
Entitlement	The government must identify the unearned land value uplift resulting from such public policy or action to decide on the public's legitimate claim to a share of it.
Calculation	How the land value increase will be calculated for value capture purposes must be clear, and mostly residual land value analyses should be used.
Development feasibility	The implementation of value capture should not adversely impact on development feasibility by denying the developer a reasonable share of development profit.
Timing	In consideration of reasonableness and equity, the value capture requirement should apply after a nominated date related to the implementation of the public policy or action

Source: Author's construction summarised from Taylor (2016)

3.6   Conceptual Framework

Before beginning the next chapter on research methodology, it is important to summarize the discussions in Chapter 1 to 3 into a conceptual framework which guides this research. A conceptual framework defines the relationship between the main concepts of a study (Adom et al, 2018). It is a set of broad ideas used to explain the relationship between the independent variables and the dependent variable (Makori & Memba, 2015) and is arranged in a logical structure to provide a picture or visual display of how ideas in a study relate to one another (Grant & Osanloo, 2014). It can be presented graphically or in a narrative form to show the key variables or constructs to be studied and the presumed relationships between them (Miles & Huberman, 1994).

Affordable housing production is conceptualized as dependent on the nature of extant approaches and programmes of affordable housing production in a city. In order to unravel this relationship, it is critical to study how affordable housing programmes are structured and analyse both qualitatively and quantitatively their corresponding outputs. The conceptual framework is shown in figure 3.2 below. The approach and nature of programmes of affordable housing production will determine the output of affordable housing and the level of socio-economic integration achieved in the residential neighbourhoods. As depicted in figure 3.2 affordable housing is either produced through the conventional approaches which rely on state and donor funding or through the equitable approaches which harness the strength of the real estate market. All the approaches for affordable housing provision used in the past and in the present (conventional approaches) including slum upgrading, civil servants housing scheme and affordable housing programme are reliant on either state or donor funding. Conventional approaches are strict in enforcing building standards and regulations, promote distorted markets where private developers produce housing mostly for the middle and high-income households, face land acquisition challenges because of cost of land in the market and resistance where land is in slums and may be hampered by inadequate funds, state bureaucracies particularly in procurement, political influence and length development approval processes. Approaches which rely on market funding are equitable in nature as market developers share land value increments (resulting from public policy) with the public through affordable housing provision. Therefore, equitable affordable housing approaches focus on harnessing the strength of the real estate market through land value capture and inclusionary housing tools. The inclusionary housing

programmes which are modelled to capture increased land values after rezoning or increased density attract private developers through various incentives offered by the local authorities. They offer flexibility in terms of choices for developers to enable compliance with the inclusionary requirements and mostly promote a comprehensive approach to mixed use development. They are associated with progressive politics and participatory planning.
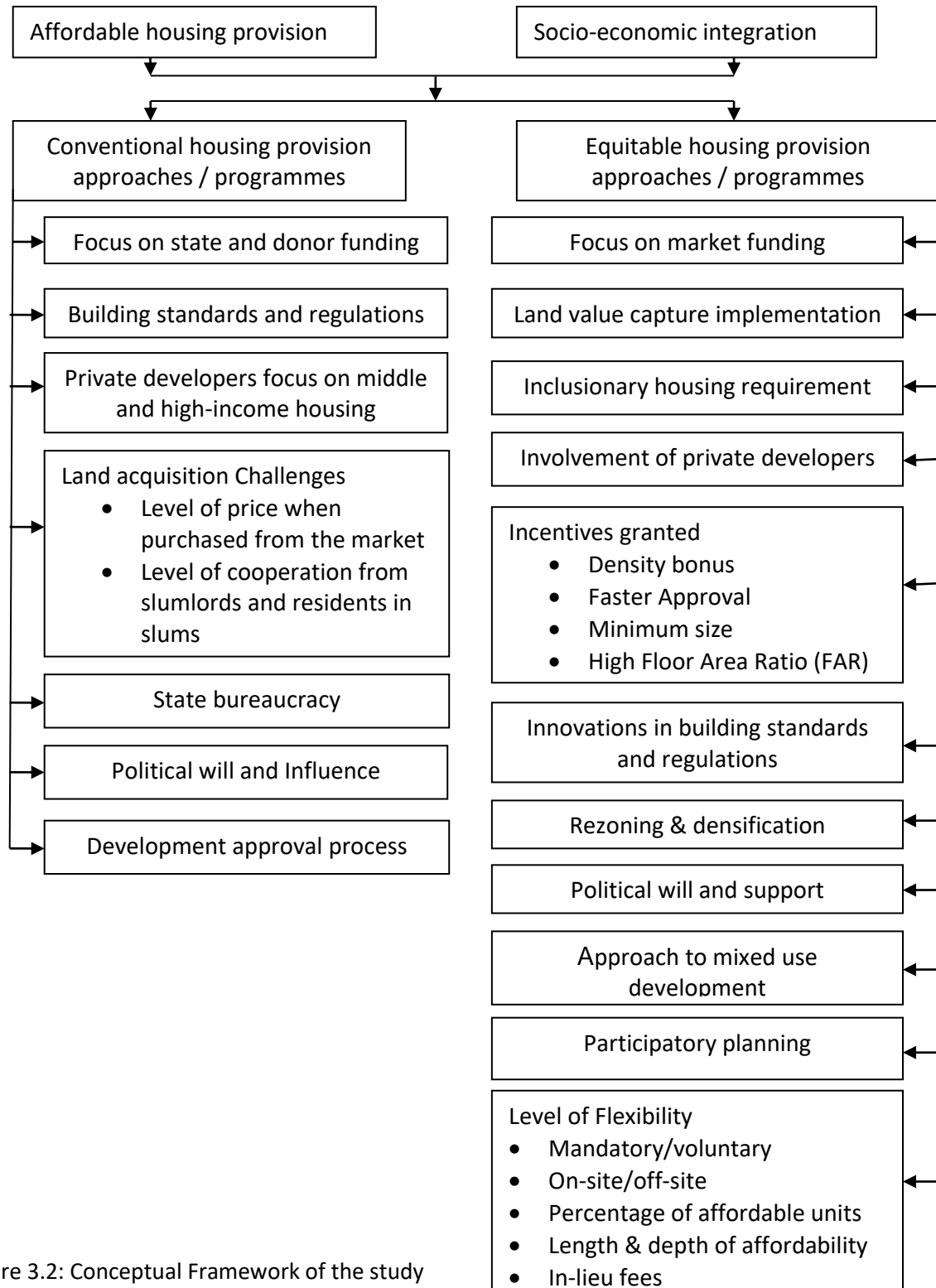
Figure 3.2: Conceptual Framework of the study
Source: Adapted and modified from Nair et al (2005)

3.6   Chapter Summary

This chapter has presented equitable planning tools which have been used in the USA to increase affordable housing and enhance social inclusion. Inclusionary Housing and Land Value Capture are defined and how the two relate is explained. The genesis, spread, programme characteristics, impacts and output of Inclusionary housing in the USA is outlined. Other forms of Land value Capture apart from Inclusionary housing are discussed. The chapter discusses the potential of using Land Value Capture and Inclusionary housing for slums regeneration and lastly develops a conceptual model that guides the study.

Literature seems to agree that the provision of durably affordable housing is difficult and requires significant intervention in the housing market. There is a need for equitable planning to encourage inclusion – social and economic integration of communities. Land value capture (LVC) and Inclusionary Housing (IH) have been proposed as innovative ways to generate affordable housing. IH and LVC are intertwined and actually, IH is a form of LVC. IH relies on LVC to capture the increase in land value (through increased affordable housing) brought by increased density. The question of how these planning tools impacts on the housing development, housing affordability and social inclusion continues to stir public debate in many countries. Many cities in the USA have experimented with reversing the trend of housing unaffordability and exclusion by promoting IH. Although according to some scholars IH has promised more that it has delivered, still a robust scholarship supports the contribution of IH in achieving higher level of housing affordability and social integration.

Just like the other Sub-Saharan African countries, Kenya faces enormous challenges in providing adequate affordable housing for the increasing number of the urban poor. Relying on public or external funding has been the main impediment to slum upgrading. There is potential for LVC and Inclusionary Housing in slums regeneration in the country.

4   Research Methodology

4.1 Introduction

This chapter provides detailed processes of the research with emphasis on the step by step developments, research tools/techniques, and procedures followed in conducting this research. Research methodology represents the procedural framework that guides the design and conduct of a research study (Denscombe, 2014)

Researchers have developed many different models for understanding the nature of knowledge of the world. One example is the 'Onion' model developed by Saunders et al. (2016), shown in Figure 4.1 below, which shows the stages of research represented by knowledge 'rings', with each ring being integrated and looped with the next to show the holistic research design of a study. This model will be used to explain this research's philosophical stance, research approach, choice of methods, strategies and techniques.
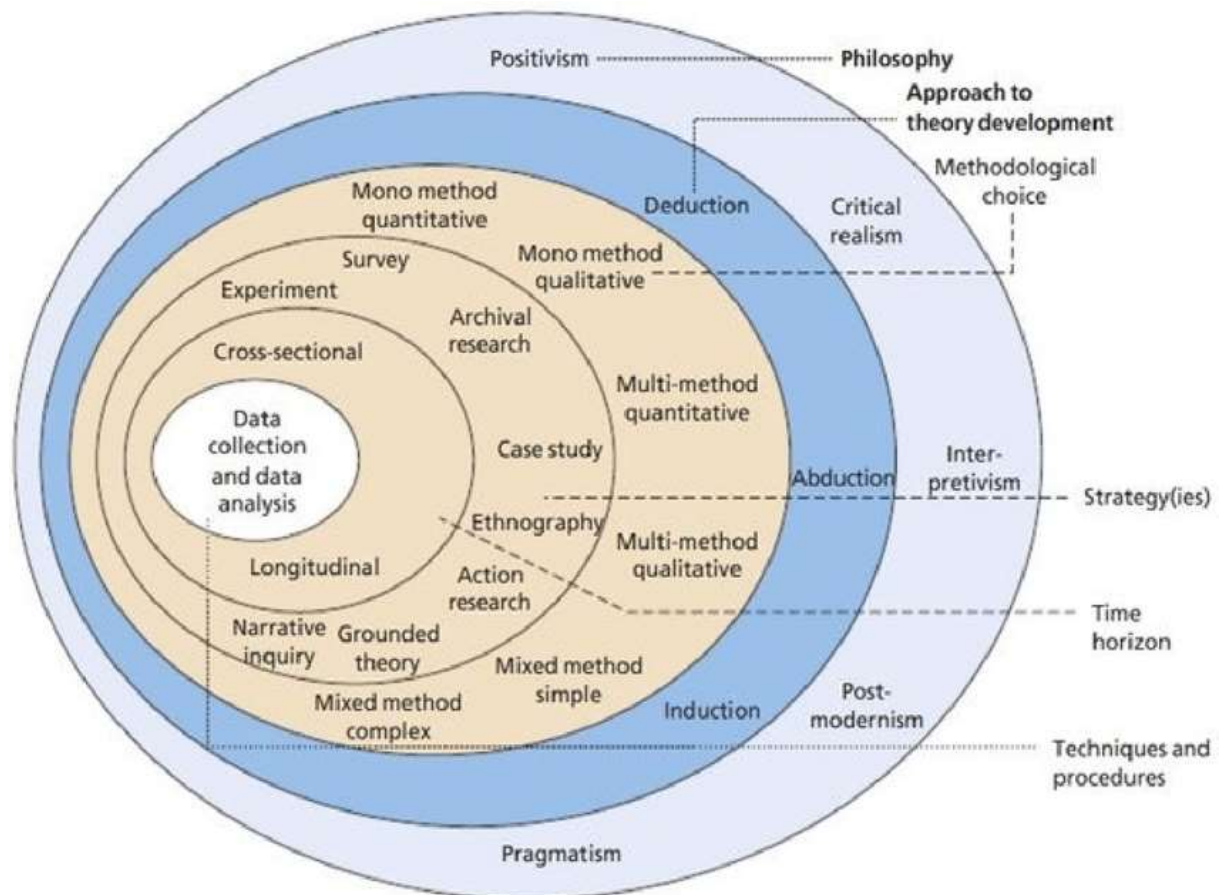
Figure 4.1: The research "onion"; Source: Saunders et al, 2016

The outer ring of the research 'Onion' deals with the research philosophy paradigm that includes different terms, followed by approaches to theory development, strategies, methodological choices, time horizons, and techniques used to investigate the research questions and tools for data collection.

4.2 Research Philosophy

Research philosophy refers to a system of beliefs and assumptions about the development of knowledge (Saunders et al, 2016). It reflects the author's important assumptions, which represent a base for the research strategy. The initial step determines the direction and methodological approaches of the research. Researchers approach their subject via explicit or implicit assumptions about the nature of the social world and the way in which it may be investigated (Burrell and Morgan, 1979). These assumptions shape the outcome of the research and choices made about research methodology profoundly affects the findings and therefore research philosophy should be embedded in the research questions, objectives, research design and strategy, guiding readers to follow the path of research logically (Crotty, 1998 cited in Saunders et al, 2016; Burrel and Morgan, 1979; Benbasat et al, 1987; Kincheloe & Berry (2004: 6) cited in Jackson, 2013).

There are three major types of assumptions made by all research philosophies. Burrel & Morgan (1979) and Saunders et al (2016) have discussed these in detail and outlined them to include those assumptions about the realities encountered in research (Ontological assumptions), about human knowledge (epistemological assumptions), and the extent and ways one's own values influence their research (axiological assumptions). Different philosophies can be differentiated by the differences and similarities in their ontological, epistemological and axiological assumptions.

Ontology concerns researchers' assumptions about the nature of the world and reality (Saunders et al, 2016). It is the philosophical study of the nature of reality (Jackson E., 2013). Ontological assumptions made determine what research objects and phenomena to focus on, and how they are seen and approached (Saunders et al (2016). 'The researcher's view of reality is the corner stone to all other assumptions, that is, what is assumed here predicates the researcher's other assumptions" (Holden et al, 2004: 5). Jackson (2013) explains that ontological position taken

shapes the methodological decision-making, dependent on whether the researcher sees an external, independent reality (the perspective of objectivism) or an experienced, constructed reality based on social or individual human conception (the perspective of Constructivism/Subjectivism). The author adds that the perspective taken will affect whether a quantitative approach is necessary to fit an objective and measurable study, a qualitative approach to encompass a subjective and interpretative study or a mixed-methods approach.

Epistemology concerns assumptions about knowledge – how we know what we say we know, what constitutes acceptable, valid and legitimate knowledge, and how we can communicate knowledge to fellow human beings. These assumptions entail ideas, for example, about what forms of knowledge can be obtained, and how one can sort out what is to be regarded as 'true' from what is to be regarded as 'false'. Epistemological assumptions one makes determine what sort of contribution to knowledge they can make as a result of their research (Saunders et al, 2016). ''The researcher's ontological stance links to their epistemological perspective – with the ontological perspective pertaining to the reality of the world and the epistemological perspective pertaining to knowledge of that world. In simple terms, an ontological view of knowledge as reality that exists separately from a learner's interpretation, means epistemologically, knowledge can be obtained from objective observation, whereas an ontological view of knowledge as subject to interpretation means, epistemologically, that knowledge is arrived at through sense-making and meaning" (Jackson, 2013: 53-54)

Axiology refers to the role of values and ethics within the research process, which incorporates questions about how a researcher deals with their own values and also with those of their research participants (Saunders et al, 2016). Axiology has two extreme assumptions in that a decision has to be made if it is value free and unbiased or value laden and biased (Saunders, 2007). Axiology makes known the assumptions concerning the value system. Generally, on what constitute the truth, people have different perspectives based on their beliefs and experiences (Pathirage et al, 2008).

Saunders et al (2016) in their 'onion' model demonstrate and explain that most researches comprise of five main philosophies: positivism, critical realism, interpretivism, postmodernism and pragmatism. Positivism relates to the philosophical stance of the natural scientist. This entails working with an observable social reality and the end product can be law-like generalisations

similar to those in the physical and natural sciences. Critical realism focuses on explaining what we see and experience in terms of the underlying structures of reality that shape the observable events. Critical realists tend to undertake historical analyses of changing or enduring societal and organisational structures, using a variety of methods. Interpretivism is a subjectivist philosophy, which emphasises that human beings are different from physical phenomena because they create meanings. Interpretivists study meanings to create new, richer understandings and interpretations of social worlds and contexts. Empirically, interpretivists focus on individuals' lived experiences and cultural artefacts, and seek to include their participants' as well as their own interpretations into their research. Postmodernism emphasises the world-making role of language and power relations. Postmodernists seek to question the accepted ways of thinking and give voice to alternative worldviews that have been marginalised and silenced by dominant perspectives. Postmodernists deconstruct data to expose the instabilities and absences within them.

Pragmatism is focused on arousing action and improving future practice and strives to reconcile objectivism and subjectivism, facts and values, accurate and rigorous knowledge and different contextualised experiences. It does this by considering theories, concepts, ideas, hypotheses and research findings not in an abstract form, but in terms of the roles they play as instruments of thought and action, and in terms of their practical consequences in specific contexts. Reality matters to pragmatists as practical effects of ideas, and knowledge is valued for enabling actions to be carried out successfully. As pragmatists are more interested in practical outcomes than abstract distinctions, their research may have considerable variation in terms of how 'objectivist' or 'subjectivist' it turns out to be (Saunders et al, 2016)

4.2.1   Choice of Research Philosophy

This study takes an ontological assumption that city authorities and the national Government have failed to deliver affordable housing in Nairobi, Kenya. This ontological stance is based on the epistemological assumption that current approaches of affordable housing production in the city continue to rely on the dwindling public resources committed to housing. Therefore, the study adopts a pragmatic philosophy that new approaches supported by planning policies are needed that enhance and harness the strength of the real estate market for affordable housing provision. These approaches will involve various participants both in the public and private sector. From this

ontological and epistemological perspectives, the researcher formulated the research questions (Page 15). That is why the researcher first seeks to understand the current approaches of affordable housing in the city, their successes and the challenges faced in using these approaches (Question 1, 2 and 3). Next, the researcher seeks to find out what alternative approaches are available in the USA, whether the alternative approaches have succeeded and what lessons can be learned from them (Question 4,5 and 6). Lastly, the researcher seeks to find out why and how the USA models can be made to work for Nairobi, Kenya to harness the real estate market (Question 7). From the above ontological perspective, therefore, the focus for the research is the interaction between real estate market and all the participants to generate affordable housing facilitated by appropriate policies. This interactive process starts from policy making to occupation and enjoyment by the household. The positionality of this research includes the value placed on housing affordability particularly for the low income and middle-income households together with the belief that proper policy tools can help increase the stock of affordable housing and reduce or eliminate slums and informal settlements. A paradigm of public legitimacy is taken where the Government cooperates with developers, land owners, civil society and other players in the market to exploit the market in order to increase the affordable housing stock. The beneficiaries of the affordable housing are seen as having the right to be in the city and also the right to reap the benefit that come with public policies and investments.

The researcher's ontological perspective of affordable housing provision through being a human construction, created through the relationship between the real estate market, the government, developers, households and other players supports a pragmatic epistemological stance of relying on subjective, sense-making and meaning (for human actors) and objective observation (for the market). Pragmatism approach was preferred because it employs a combination of qualitative and quantitative research paradigms for conducting research into complex issues and as such, it is considered most suitable for investigating phenomena involving both numerical and non-numerical datasets (Kral et al, 2012). Pragmatism assumption is appropriate for research undertakings that are multifaceted in nature in order to capture inferences drawn from qualitative and quantitative methodologies in a single research design to explore issues (Fidel 2008). According to Masadeh (2012), Pragmatism approach draws on the strengths of both positivism and interpretivism and hence the choice of the approach was expected to enrich the outcome of the research.

In terms of axiological assumptions, the research involves subjective assessments involving participants (households, developers, academia and professionals) and could evoke emotions as it relates to livelihood and profits and may not be free from bias. The study considers different opinions which affected the choice of research techniques adopted and the ways the results were interpreted. Thus, the study cannot be completely freed value-laden. However, the assumptions only suggested the directions to seek answers rather than description of what to seek in itself. Therefore, the axiological stance for this study leans more towards value-laden than value free.

4.3 Approach to Theory Development

The next layer in the research onion depicts the approaches to theory development/Research approach which is concerned with the selection of appropriate research methods for addressing the research questions. However, the logics (reasoning) informs the choice of research approach or theory development to enable researchers make better decision about research design (Sarantakos, 2013). Saunders et al (2016) outlines the three main approaches to theory development: deduction, induction and abduction. With deduction, a theory and hypothesis (or hypotheses) are developed and a research strategy designed to test the hypothesis. With induction, data are collected and a theory developed as a result of the data analysis. While the inductive approach is mainly concerned with developing theory from observation of empirical reality--moving from theory to empirical investigation--deductive approach seek to make enquiry into the identified problems through testing of theories--theoretical structure is developed and then tested by empirical observation (Blaikie, 2010).

According to Yin (1994), inductive reasoning starts with investigation into an area of less theory to develop equivalent theory. Through the inductive process, behaviour about certain phenomenon or facts can be observed for a period of time on the basis of which generalization about the development can be made. Inductive approach is bottom-up and starts from specific to general. On the other hand, deductive approach is top-down as it starts from general principle to specific case and is used extensively in literature review basically from global perspective. The inductive approach is mainly concerned with theory building while deductive approach is concerned with theory testing. The theory generated through inductive process can further be developed through empirical testing in a deductive manner(Anderson, 2013).

With abduction, data are used to explore a phenomenon, identify themes and explain patterns, to generate a new or modify an existing theory which is subsequently tested, often through additional data collection (Saunders et al, 2016). It proceeds with construction of hypothesis (a provisional guess) which may give way later in the process when more evidences are provided especially in experiments. Abduction combines both inductive and deductive logics of reasoning with some flexibility. Abduction is a presumptive and plausible form of reasoning which goes backward from a given conclusion to search for the premises upon which this conclusion was drawn (Walton, 2004)

4.3.1   Choice of Approach to Theory Development

The logic behind this study leans towards inductive reasoning but a combination of deductive and inductive reasoning (abduction) was adopted to adequately address the research questions and the identified problems and hence enhance the reliability of the study. Extensive data is collected through interviews, council reports, surveys and observations on the case studies in order to identify patterns and relationships to build an abstraction or to describe a picture of the affordable housing provision. This allows the researcher to generate meanings from the data sets and make conclusions about the affordable housing models used in US. It is from these conclusions and after additional data collection that appropriate models will be recommended and tested for adoption in Nairobi making abduction the most logical reasoning.

4.4 Research Design

Research design is the overall plan of how a researcher goes about answering their research questions (Saunders et al, 2016). Adams et al (2007) defines research design as the blueprint for fulfilling research objectives and answering research questions. In other words, the authors add, it is a master plan specifying the methods and procedures for collecting and analysing the needed information. Kumar (2005: 84) explains that a research design serves two purposes. First is to conceptualize an operational plan to undertake the various procedures and tasks needed to complete a study; and secondly is to ensure that the procedures are adequate to obtain valid, objective and accurate answers to the research questions. Saunders et al (2016) clarifies that a research design should contain clear objectives derived from your research question(s), specify

the sources from which you intend to collect data, how you propose to collect and analyse the data, and discuss ethical issues and the constraints you will inevitably encounter.

A research design therefore comprises of methodological choices, research strategy, the time horizon and techniques or procedures for data collection and analysis.

4.4.1   Methodological Choice

There are three main methodological design approaches identified in Literature. These are qualitative, quantitative and mixed methods approaches. (Yin, 2011; Saunders et al, 2016; Creswell, 2009). The choice of which approach or approaches to use depends on the nature of the study.

4.4.1.1 Quantitative Research Design Approach

Quantitative approach provides data guides in understanding the magnitude and scale of a phenomenon by providing a numeric picture of its impact upon affected communities. It addresses the questions "how many" and "how much" suggesting measuring or counting (Creswell, 2009: 12). Quantitative research examines relationships between variables, which are measured numerically and analysed using a range of statistical and graphical techniques. A quantitative research design may take the form of a mono method quantitative study (use a single data collection technique, such as a questionnaire, and corresponding quantitative analytical procedure) or a multi-method quantitative study (use more than one quantitative data collection technique such as Questionnaires and structured observation, and corresponding analytical procedure (Saunders et al, 2016).

4.4.1.2 Qualitative Research Design Approach

Creswell (2009: 4) terms qualitative research as a process of studying the research problem in its natural setting by exploring and understanding the meaning that individuals or groups impute to a social or human problem rather than studying the subjects in a laboratory. Qualitative research design is most useful for answering humanistic *"why?"* and *"how?"* questions (Yin, 2011). Qualitative research relies primarily on human perception and understanding (Dawson, 2009; Stake, 2010). Bryman (2012) opines that it is an approach or strategy that usually emphasizes words rather than quantification in the collection and analysis of data. Saunders et al (2016) adds that qualitative research studies participants' meanings and the relationships between them,

using a variety of data collection techniques and analytical procedures, to develop a conceptual framework and theoretical contribution. The authors further explain that a qualitative research design may take the form of a mono method qualitative study (use a single data collection technique, such as semi-structured interviews, and corresponding qualitative analytical procedure or a multi-method qualitative study (use more than one qualitative data collection technique such as in-depth interviews and diary accounts and corresponding analytical procedure

4.4.1.3 Mixed Research Design Approach

Mixed research design combines both qualitative and quantitative approaches. It involves philosophical assumptions, the use of qualitative, quantitative and the mixing of both approaches in a study (Creswell, 2009: 4). Saunders et al (2016) identifies a mixed variety of ways that range from simple, concurrent forms to more complex and sequential forms on how quantitative and qualitative research methods are combined. These include i) Concurrent mixed methods research which involves the separate use of quantitative and qualitative methods within a single phase of data collection and analysis (a single-phase research design). This allows both sets of results to be interpreted together to provide a richer and more comprehensive response to the research question in comparison to the use of a mono method design. ii) concurrent triangulation design involves collecting qualitative and quantitative data in the same phase of research in order to compare how these data sets support one another iii) Sequential mixed methods research involves more than one phase of data collection and analysis. In this design, the researcher will follow the use of one method with another in order to expand or elaborate on the initial set of findings. iv) double phase research design leads to two alternative mixed methods research strategies, either a sequential exploratory research design (qualitative followed by quantitative) or a sequential explanatory research design (quantitative followed by qualitative) and v) multi-phase design which is a more complex, sequential, mixed methods research will involve multiple phases of data collection and analysis (e.g. qualitative followed by quantitative, then by a further phase of qualitative).

Greene et al (1989) identifies five reasons for considering using mixed methods. First reason is triangulation. Triangulation is the use of more than one method while studying the same research question in order to "examine the same dimension of a research problem" (Jick, 1979: 602 cited in Hesse-Biber, 2010: 3). "The researcher is looking for a convergence of the data

collected by all methods in a study to enhance the credibility of the research findings. Triangulation ultimately fortifies and enriches a study's conclusions…" (Hesse-Biber, 2010: 3-4). The second reason is complementarity. complementarity enables a researcher to get a better and clear understanding of the research problem and to clarify a given research result using both quantitative numerical data and qualitative narrative data (Greene et al, 1989; Hesse-Biber, 2010). The third reason for using mixed methods is development. Mixed methods often aid in the development of a research project by creating a synergistic effect whereby the results from one method help to develop or inform the other method (Greene et al, 1989). The fourth reason is initiation; a study's findings may raise questions or contradictions that will require clarification, thus initiating a new study. The desired effect of the new study would be to add new insights to existing theories on the phenomenon under examination (Greene et al, 1989; Hesse-Biber, 2010). The fifth reason is expansion. Expansion allows extension of inquiry enabling generation of detailed findings. This enables future research endeavours and allows researchers to continuously employ different and mixed methods in their pursuit of new or modified research questions (Greene et al, 1989; Hesse-Biber, 2010).

4.4.1.4 Methodological Choice for this research

Generally, this research evaluates the affordable housing approaches used in Kenya and explores and examines the potential of models and approaches used in the USA for enabling the increase of equitable affordable housing by harnessing the real estate Market. Specifically, the research examines how the USA models harness the real estate market to deliver affordable housing and also evaluate their effectiveness in i) increasing housing affordability and ii) fostering social and economic integration. Considering the nature of the study, a mixed research design method was found most appropriate. Considering the nature of evaluation research, qualitative method of analysis is mostly be used but is backed by some quantitative analyses. Qualitative method is appropriate for the ''evaluation component'' of the research to answer questions including what approaches are used, why and how they are implemented and how successful they are (Yin, 2011). This approach is seen as the most suitable to evaluate and examine the effectiveness of the approaches in delivering affordable housing units and meeting their objectives of ensuring housing affordability and fostering socio-economic integration. This is supported by Cassell & Symon (1994: 5), who argue that 'only qualitative method is sensitive enough to allow the detailed analysis on investigation and evaluation'. By deciding to use qualitative research

method, the researcher intended to get insights in order to understand the nature, processes and effectiveness of the programmes.

In addition to the qualitative methods, this research also employs a quantitative approach to enjoy triangulation advantages, support and complement the qualitative method of analysis. This is important particularly in clarifying some matters and this is be done in the form of descriptive statistics. These two methods are used concurrently and therefore the research will adopt a concurrent mixed methods research design. This is expected to provide a richer and more comprehensive response to the research questions.

In using the concurrent mixed methods research design, comparative analysis of the programmes in different cities is undertaken in order to understand the approaches and challenges faced and how they have been dealt with in different environments. As Ponce (2010) argues, a comparative methodology is a very useful means to properly understand particularly inclusionary housing. "Although there is no universally accepted doctrine or paradigm in the housing sector, comparative housing studies help to provide insights into the true forces driving the changes and differences in housing markets and policies as well as their performance. It provides the basis of examining the possibilities of tackling the housing problems of diverse developing nations in Africa, Asia and Latin America" (UN-Habitat, 2008a: 3). To achieve this goal, field work was carried out in the cities of San Francisco, Santa Monica, Los Angeles, Emeryville and San Diego in California State, USA and Nairobi, Kenya to collect empirical data.

The thesis also undertakes comprehensive review of literature on urban housing challenges, affordable housing, urban housing market dynamics, tools for affordable housing provision including Land Value capture and Inclusionary housing among others.

4.4.2   Research Strategy

In general terms, a strategy is a plan of action to achieve a goal. A research strategy may therefore be defined as a plan of how a researcher will go about answering her or his research question (Saunders et al, 2016). In choosing a research strategy, there are many options. These include surveys, case studies, experiments, action research, grounded theory, ethnography and archival research (Yin, 2011; Saunders et al, 2016).

4.4.2.1 Experiment Strategy

The purpose of an experiment is to study the probability of a change in an independent variable causing a change in another, dependent variable. An experiment uses predictions, known as hypotheses, rather than research questions. This is because the researcher anticipates whether or not a relationship will exist between the variables (Saunders et al, 2016).

4.4.2.2 Survey Strategy

This strategy is usually associated with a deductive research approach and is most frequently used to answer 'what', 'who', 'where', 'how much' and 'how many' questions. It therefore tends to be used for exploratory and descriptive research (Saunders et al, 2016).

4.4.2.3 Case Study Strategy

A case study is an in-depth inquiry into a topic or phenomenon within its real-life setting. A case study strategy has the capacity to generate insights from intensive and in-depth research into the study of a phenomenon in its real-life context, leading to rich, empirical descriptions and the development of theory (Yin, 2014 cited in Saunders et al, 2016). An in-depth inquiry can be designed to identify what is happening and why, and perhaps to understand the effects of the situation and implications for action. To achieve such insights, case study research draws on quantitative or qualitative research and frequently uses a mixed methods approach, to understand fully the dynamics of the case (Saunders et al, 2016). Case studies are time and activity bound and the researcher explores in depth a programme, event, activity, process or one or more individuals (Creswell, 2009).

4.4.2.4 Ethnography Strategy

This is a strategy of inquiry in which the researcher studies an intact cultural group in a natural setting over a prolonged period of time by collecting primarily observational and interview data (Creswell, 2009). Ethnography literally means a written account of a people or ethnic group. It is the earliest qualitative research strategy, with its origins in colonial anthropology (Saunders et al, 2016)

4.4.2.5   Grounded Theory Strategy

In the grounded theory strategy, the researcher derives a general, abstract theory of a process, action or interaction in the view of participants (Creswell, 2009). Grounded theory may be used loosely to incorporate methodology and method but more specifically it refers to a theory that is grounded in or developed inductively from a set of data (Saunders et al, 2016).

4.4.2.6   Narrative Research Strategy

In this strategy, the researcher studies the life trajectories [life stories] of one or more individuals in a chronological order (Creswell, 2009).

4.4.2.7   Action Research Strategy

 Action Research is an emergent and iterative process of inquiry that is designed to develop solutions to real organisational problems through a participative and collaborative approach, which uses different forms of knowledge, and which will have implications for participants and the organisation beyond the research project (Coghlan, 2011; Coghlan & Brannick, 2014 cited in Saunders et al, 2016).

4.4.2.8   Archival and Documentary Research Strategy

This is a strategy that makes use of the Internet and the digitalisation of university-based, governmental, organisational and media documents and other data. This potentially provides researchers with considerable scope to design a research project that capitalises on a wide range of available data sources (Saunders et al, 2016).

4.4.2.9   Choice of the Research Strategy

In choosing a research strategy, the guiding factor is the data that is required to conduct the research and respond to the research problem (Cohen, 2013; Bryman, 2012).

This study has adopted a case study research strategy with surveys and interviews incorporated within the case studies. This is in line with Saunders et al (2009) view that strategies are not mutually exclusive as more than one strategy can be combined to achieve the goal of the research. While studying how housing in redeveloping inner-city areas of Dar es Salaam is produced, Bwire (2016) gave six reasons for his choice of a case study strategy. 1) Issues being

studied were contemporary phenomena taking place in a particular context, 2) the research questions involved the how- and what-type suggesting conducting inquiry and empirical investigation of a contemporary issue encompassing processes, events, persons, social groups and institutions, 3) the research took place in a real-world situation, 4) the processes being studied were in the context of a city fragment with defined spatial and time boundaries and 5) Generalizations could be made applicable to other cases of the same type.

Based on the above criteria identified by Bwire (2016), case study strategy was found to be the most suitable for this research compared to other strategies. First, the issue being studied, that is, 'affordable housing provision' is a contemporary phenomenon taking place in a particular context. According to Yin (2011), this requires an in-depth study which is only possible with a case study strategy. The rest of the strategies did not fit because of being unable to investigate contemporary issues (Bwire, 2016). Secondly, the main questions of this research relate to *What* approaches are currently used to provide affordable housing in Kenya? and *what* models are at the forefront of the planning practice in the USA to enable the increase of equitable affordable housing stock by harnessing the real estate market (Questions 1 and 4), to W*hat* extent have these approaches used in Kenya succeeded in enhancing production of affordable housing? (Question 2), *How* far have those models and approaches used in USA succeeded in achieving the desired goals (Increasing levels of housing affordability and socio-economic integration of the communities)? (Question 5), *What* challenges are faced in producing affordable housing using the above approaches? *What* lessons have been learned by planning authorities and other stakeholders during the implementation of these innovative models and approaches for equitable affordable housing? (Question 6), *What* international innovative models are applicable to Nairobi to harness the real estate market and increase the stock of affordable housing? (Question 7). The 'how' and 'what' type questions suggest inquiry since housing provision is a process and it involves many institutions and actors with different roles (Bwire, 2016). Therefore, the nature of the research questions implied conducting an empirical investigation of a contemporary issue encompassing processes, events, persons, social groups and institutions (Kumar, 2005), whose study involves the use of multiple sources of evidence (Yin, 2003; Hancock & Algozzine, 2006). Therefore, basing on these arguments, a combination of exploratory and explanatory accounts towards identifying and understanding housing provision and housing market mechanisms and their spatial outcomes was required (Bwire, 2016). Thirdly, the research

takes place in a real-world situation. Therefore, the researcher had no control over the behaviour of actors and the events that take place in the study area as opposed to experiments (Yin, 2002). In other words, it is not possible to separate affordable housing provision as a process from the natural setting in which it occurs. Fourthly, the processes studied are in the context of a city fragment with defined spatial and time boundaries (Yin, 2003; Hancock and Algozzine, 2006). Hence, it was necessary to emphasize the role of the context in which they occur at a particular time in order to relate the issues with the theoretical background and the reality (Bwire, 2016). Lastly, case studies selected and developed in the cities in the USA as well as the case study in the city of Nairobi are typical of all cases of certain types within the cities and in other cities in the countries. Therefore, through intensive analysis, generalizations can be made and may be applicable to other cases of the same type (Kumar, 2005).

In addition to the above justifications, a case study strategy will allow the researcher to deeply inquire on the models in an historical perspective to derive lessons for improvement on policy making. Kothari (2008) argues that case study allows historical analysis and suggests measures for improvement based on the environment of the concerned social unit.

As explained earlier, case study strategy was combined with survey strategies within the case studies. The combined strategies were employed in a multiple case studies to gain deeper understanding of participant's opinions and housing tools' outputs from the different cities investigated. Multiple case study was adopted because it permits extensive discovery of theoretical development and reproduction of outcomes across cases (Creswell, 2014).

4.4.2.10 Case Selection

In selecting the case studies, purposive sampling was used. In a case study research, selection of appropriate cases is very critical. In this direction, a case for study must be selected based on its critical need, uniqueness and other criteria such as revelatory and exemplifying (Bryman, 2008). As Patton (1987) argues, the strength of purposeful sampling lies in selecting information rich cases. Information rich cases are those from which one can learn a great deal about issues pertinent to the research and central to the purpose of valuation. The author further argues that the selection of case study areas should focus on cases which are interesting, which can answer what the researcher wants to study, which fit the purpose of the study as well as those from

which data can easily be accessible. Stake (1995) also argues that it is useful to select a case from which one can maximise what can be learnt from it.

For this research, multiple best-case studies of Santa Monica and San Francisco were selected while Nairobi was selected as the application case study. The case study programmes selected in the USA are in the state of California. California State was chosen because it has high concentration of IH programmes. Although IH in U.S. originated in the wealthy suburbs of Washington DC, since then, the epicentre of IH practice has moved west to California and more than 25 % (145) of the state's local governments have adopted inclusionary policies (Wiener & Barton, 2014). Although the case studies are in the same state and operate almost in the same housing market, they differ significantly in terms of design and structure. Therefore, it was envisaged that the cases would offer potential insight into how contrasting approaches relate to outcomes. The cases are considered most suitable to enable the researcher cover a cross-section of issues relating to land value capture and inclusionary housing.

Before deciding to study the models in some Californian cities for possible adaptation in Nairobi, it was necessary to ascertain if such cases would be appropriate for replication in the city. The main issue to consider was ''the conditions necessary for LVC/IH models to work and how those conditions compare between the Californian Cities and Nairobi''. There are some key factors required for effective delivery of affordable housing through land value capture. These factors are related to land and residential housing market, governance and planning system (Agyemang & Morrison, 2018). Regarding the land and residential housing market, the key factors identified by Agyemang & Morrison are clearly delineated, formalised land market and ownership structure; abundance of formal market players and willingness to bring forward land by those who hold it; strong land and housing market conditions to allow for economic viability of development projects; strong and experienced private residential development sector and developer willingness to pay. Calavita & Wolfe (2014) also argued that successful implementation of land use based LVC requires a strong, or at least stable, real estate market. Regarding governance and planning system, the key factors identified by Agyemang & Morrison are development rights being owned and controlled by the State; government commitment to legislative change where and when necessary to support land value capture; strong capacity of local authorities – to plan and undertake residual land value analyses, strong enforcement of

development control regulations by city authorities and strong negotiating skills by national government and city authorities

In terms of housing needs, the cities chosen in California have experienced housing crisis similar to what Nairobi is currently experiencing and have experimented with land value capture and inclusionary housing. California has serious housing crisis and has one of the highest homelessness rates in the United States. Cost of housing in California has risen beyond the reach of the low-income and middle-income classes (Calavita & Mallach, 2010). Just like Nairobi is suffering from reduced funding for affordable housing, the Californian cities are faced with the same problem following reduced funding for affordable housing to cities and states from the USA federal Government. With the increasing need for low-cost housing and declining federal subsidies, these cities have been forced to search for new policy tools to provide housing that is affordable to low and moderate-income households (Schuetz et al, 2009) and Nairobi has a lot to learn from them. Again, California has no state mandate supporting affordable housing production through IH and LVC but instead a number of cities have adopted either voluntary or involuntary IH in their housing elements in attempts to boost affordable housing production (Cotter, 2014; Calavita & Grimes, 1998).

Just like the cities in California, Nairobi enjoys a strong and well-developed real estate market. Nairobi has continued to record increased real estate development activities and according to the Kenya National Bureau of Statistics (KNBS), the real estate sector grew by 4.8% on average from Quarter 1 of 2019 to Quarter 3 of 2019, which is 0.3% points higher than the growth rate recorded over the same period in 2018 (Cytonn, 2020). There is a strong real estate investment demand driven by substantial yield (Anim-Odame, 2016) and as Cytonn (2020) reports, the sector continues to record relatively high returns with the 5-year average (as at 2019) being 20.1% per annum compared to traditional assets at 8.7% per annum. Property rights are clearly delineated with first registration of land in the city already completed (National land commission, 2019). In terms of supply of developable land, the city compares better than the Californian cities because of abundance of prime private and public land near the city centre. Noticeable difference between the California Cities and Nairobi is that whereas the market in California is mostly formal, Nairobi has both formal and informal market segments. However, formal housing market in Nairobi has been in place much longer and has been recognized by the state and enjoys preferences (Macharia, 2007). The formal market is well developed and supported by a strong

and experienced private residential development sector. However, the failure of the formal market to offer affordable housing is what fuels the informal market and existence of the informal market will not affect the adoption of the LVC and IH tools but actually their adoption is expected to reduce and eventually eliminate the informal market segment by availing the informal land to the formal market. The use of LVC and IH has happened in other jurisdictions with formal and informal market dualism such in Sao Paulo in Brazil (Santoro, 2013). Furthermore, the country has taken steps to enhance the efficiency of the market. As Anim-Odame (2016) points out, the country has undertaken specific interventions that have accounted for the excellent real estate performance including increased availability of real estate market data and increased expansion of the country's land registry. The country has been able to achieve a significant attraction for international real estate investors and ''credible data accessibility and consistency has been the driving force in the Kenyan real estate market in recent years'' (Anim-Odame , 2016: 9).

Cities in California as everywhere in the USA own and control development rights. The cities have strong capacities to plan and undertake residual land value analyses, strong enforcement of development control regulations and have demonstrated strong negotiating skills as they engage private developers. The city of Nairobi also owns and controls development rights. Kenya also a highly trained manpower in planning and valuation capable of supporting land value capture and inclusionary housing. Government commitment to legislative change has been demonstrated by the recent land reforms and the new Constitution which was enacted in 2010 followed by new land laws enacted in 2012. While it is appreciated that there are weaknesses in development control and enforcement, the new constitution introduced devolution with creation of 47 counties which has meant that resources are now devolved to the counties enhancing their capacities. The new land laws have devolved planning function to the counties boosting development control. There has been increased infrastructural development and development approvals including change of user in the counties but the county authorities have failed to exploit the opportunities presented by the resultant increased land values for public benefit.

It is appreciated that there are socioeconomic and cultural differences between the USA and Kenya which one may expect to affect perceptions of targeted occupants of both market and affordable housing. Whereas inclusionary housing in the USA is developed in neighbourhoods which ordinarily attract buyers for the market units, one may express doubt about the uptake of

the market units in Kibera because of its current informality and hence perceived unattractiveness. However, based on previous slum upgrading projects in Kibera, the demand for housing by the middle-income households (who are the targeted occupants of market rate units) is guaranteed. This is because, in these previous upgrading projects which were meant for the low-income, the middle-income households have displaced the low-income households in most of the units (through subleasing at higher rents or informal transfers). This means that there is no negative perception towards the area and hence market units proposed in the researcher's model will have ready market. Furthermore, Kibera is located in a very prime and accessible locality close to the city centre and is surrounded by posh middle-income estates. This advantage combined with proper planning, infrastructure provision and formalization proposed in the model will greatly improve success of the model.

The three case studies are presented below: -

Case 1: Santa Monica city

The city of Santa Monica has a long-standing tradition of achieving community benefits such as affordable housing for low-income families through working with developers. On 6th July 2010, after many years of extensive community engagement, the City adopted a new Land Use and Circulation Element ("LUCE") of the General Plan. A fundamental tenet of the LUCE programme was that future development should fund a range of measurable public benefits, from open spaces and parks to affordable housing. In the programme, developers would be granted higher densities and the resultant gain in value captured through increased provision of affordable housing within their developments.

The case of LUCE 2010 programme was selected on purpose as it met the main criteria which included: (i) the programme being identified as best practice in literature and corroborated through informal interviews with academic experts in the field, and (ii) the programme having been in operation for at least five years to enable an evaluation of the results. Thus, firstly, the LUCE 2010 programme has been considered best practice in some IH literature (Hickey, 2014; Calavita & Wolfe, 2014) and, secondly, IH has been implemented in the city for a long time evolving into the present LUCE 2010 based Affordable Housing Production Programme (AHPP).

This has allowed for the evaluation of the programme and an assessment of the impacts of LUCE on AHPP.

Case 2: San Francisco

In the early 2000's, the city of San Francisco rezoned the Eastern Neighbourhoods (ENs) as a result of the need for the city to plan for areas containing underutilized industrial areas and to deal with the conflicts between residential and industrial uses that arose from the dotcom boom of the late 20th century. The rezoning would allow for building relatively higher-density development in the eastern neighbourhoods that are well-served by transit and close to downtown. The plan areas that were primarily previously zoned for industry were planned for urban-mixed-use (allowing for residential and commercial developments). The plan increased permissible heights for different parcels as a proxy for additional intensity of development. The city used a plan-based approach to capture land value by through increased IH requirements for new zoning districts in formerly industrial areas, requiring deeper affordability and enabling new options above and outside of current inclusionary options. This study was based on a mixed research methodology and a case study strategy. The case of San Francisco's Eastern Neighbourhoods was selected on purpose having met all the main criteria according to a preliminary literature review corroborated with informal interviews with academic experts in the field. First, according to Calavita (2014), it could be argued that LVC in the US was invented in San Francisco. Secondly, (Brahinsky et al, 2013), praised the Eastern Neighbourhoods plans as examples of the transformations of plans and regulations to address community needs. Thirdly, LVC has been implemented in the city for a sufficient duration allowing for evaluation of the programme and assessment of impacts on affordable housing production and social inclusion.

Case 3: Nairobi.

This is the application case study. Reasons for selecting Nairobi as the application case study are explained in chapter one under the scope of the study. The city has serious housing affordability issues and is a host to more than 200 informal settlements (UN-Habitat, 2010). One of the informal settlements is Kibera which sits on public land and is viewed as one the biggest, largest and poorest slum in Africa (Desgroppes & Taupin, 2011). The slum stands on a 2.5 square kilometres and development is characterised by iron sheets and mud structures. The Kibera slum

upgrading project by the government has stalled due to financial constraints. This case study demonstrates how Land Value Capture and Inclusionary Housing as practised in the USA can be modelled to deal with the slum problem and provide adequate affordable housing in a sustainable manner.

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4.4.3   Time Horizon

There are two-time horizons in research design, that is, cross-Sectional and longitudinal. Saunders et al, (2016) describes cross sectional to be a "snapshot" taken at a particular time while longitudinal to be more akin to a series of snapshots and be a representation of events over a given period. The choice of which to use is guided by the research questions. Cross-sectional studies involve the study of a particular phenomenon (or phenomena) at a particular time and often employ the survey strategy. They may also use qualitative or mixed methods research strategies. The main strength of longitudinal research is its capacity to study change and development (Saunders et al, 2016)

4.4.3.1 Choice of Time Horizon

This study takes a longitudinal time horizon as it seeks to look at effectiveness of models of affordable housing provision. This involves evaluation which means a timeframe will be specified. The projects chosen in the case study areas in this study should have been in existence for at least five years to enable the researcher appropriately examine the impacts of these planning tools.

4.4.4   *Techniques and Procedures for Data Collection and Analysis*

Data collection is the precise, systematic gathering of information relevant to the research problems using methods such as interviews, participant observations, focus group discussion, narratives and case histories (Burns & Grove, 2003).

4.4.4.1 Choice of Techniques and Procedures for Data Collection and Analysis

The research uses mixed data sourcing by getting data from various sources. Primary data was obtained through observation, photography and through interviews with property developers, city officials, planners, Academia, Developers, Community leaders, affordable housing advocates, property managers and residents. Semi-structured Questionnaires and oral interviews were used

to gather data from the respondents. In addition to the interviews, residents were sent a follow-up survey. Secondary data was also obtained through programme reports at the city offices, texts from University Libraries, the United Nations Centre for Human Settlements (UN-Habitat) Library and the Internet.

The objectives of this research were achieved through both qualitative and quantitative analysis. Data was analysed using NVivo, Excel and SPSS softwares. GIS was also used to improve on measurement of locational attributes and to aid in analysis and visualization of results.

In testing the applicability of these tools in Nairobi, residual land value analyses are used to assess and compare development feasibility under various scenarios. Residual land value is a measure of the value of land (or what a developer would be able to pay for the land) given a set of assumptions regarding development (total number of housing units), construction costs, capital costs and revenue (from prices of finished housing).

Table 4.1 below shows the research questions and the corresponding strategies and research tools adopted.

Table 4.1: A summary of research questions and the corresponding strategies and research tools adopted

Research question	Research strategies	Research tools
What approaches are used to provide affordable housing in Kenya?	Literature review Case study	Reports, research papers, Interviews with experts (academic, public and private professionals)
To what extent have these approaches used in Kenya succeeded in enhancing production of affordable housing?	Literature review Case studies	Reports, research papers, Interviews with experts (academic, public and private professionals) and field observations

What challenges are faced in producing affordable housing using the above approaches?	Literature review Case studies	Interviews with experts (academic, public and private professionals), reports, research papers and field observations
What models and approaches are currently at the forefront of the planning practice in the USA to enable the increase of equitable affordable housing stock by harnessing the real estate market?	Literature review Case studies	Reports, research papers, Interviews with planners, city officials, academia, developers and direct field observations
How far have those models and approaches succeeded in achieving the desired goals (Increasing levels of housing affordability and socio-economic integration of the communities)?	Literature review Case studies	Reports, research papers, Interviews with planners, city officials, academia, developers and residents; direct observations; GIS datasets and affordable housing projects and socio-economic indicators
What lessons have been learned by planning authorities and other stakeholders during the implementation of these innovative models and approaches for equitable affordable housing?	Literature review Case studies	Reports, interviews, direct observation
What international innovative models are applicable to Nairobi to harness the real estate market and increase the stock of affordable housing?	Pilot case study in Nairobi for testing the application of proposed model	Interviews with local experts, Stakeholders, developers and residents, Questionnaires Dataset on the pilot case

Source: Author's construction.

4.5 Detailed Specific Research Methodologies for Case Studies

4.5.1 Research Methodology for Santa Monica case study

Data collection was carried out over a ten (10) months' period from April 2018 to January 2019. Secondary data were gathered from the city offices and websites while primary data were gathered through interviews, surveys and field observations. The secondary data collected included programme characteristics, the number of both market-rate and affordable housing units produced over the years for different programmes, and the levels of affordability of the housing units produced. Primary data were gathered through interviews, complemented by surveys and field observations. The researcher interviewed planners, city officials, developers, academia, community leaders and affordable housing advocates. Ten (10) persons were purposively selected (including 3 local city officials, 2 academicians, 2 developers and 3 community advocates/leaders), all experienced in the field of IH and affordable housing in the Santa Monica area. The primary data collected from planners and city officials are related to issues on programme ordinance including motivation, formulation process, the context of adoption and implementation, affordability enforcement, outcomes, and on the challenges encountered. Developers were interviewed regarding their participation in programme formulation and implementation, their knowledge and views on the options available to them, and the construction and management of housing units. Academia, community leaders and affordable housing advocates provided information regarding community participation, their interests and interactions with the planners and city officials.

Interviews were complemented by a survey undertaken among IH residents. Their selection was undertaken through cluster, stratified and simple random sampling techniques to ensure representation of the population. The clusters were based on the location of the households in the city, while the stratification was based on the type of housing occupied (market-rate or affordable), hence two stratums. A list of addresses of all IH projects was obtained from the city's department of housing and economic development. A grid was prepared covering the whole city and then samples of IH projects picked in each grid (unless none was available in a grid) through simple random sampling. A total of 20 buildings were identified. Subsequently,

their property managers were approached and requested to help in serving questionnaires to the residents. According to the city records, there were 135 buildings with IH in Santa Monica as at 2017 and the buildings sampled represents 15% of the total IH building population. In each building, 2-4 questionnaires were administered to the market-rate households and 1-3 questionnaires to the affordable rate households depending on the number of units in the building. The total number of questionnaires administered were 85. Of these, 64 or 75% were returned (39 market-rate occupants and 25 affordable housing occupants).

Residents were asked questions regarding their demographic and household characteristics (including gender, age, race, number and age of children), period of residence, interaction with neighbours, access to social services and public amenities, and their own views on the level of social and economic integration. Field observations and a photo survey of the extant IH projects were also undertaken during repeated fieldwork sessions.

4.5.2   Research Methodology for San Francisco Case study

Secondary data were gathered from San Francisco city offices and websites and the U.S. Census Bureau's American Community Survey, while primary data was gathered through interviews and field observations. Planners, city officials, developers, academics, community leaders and affordable housing advocates were purposively selected. The researcher purposely sampled and interviewed 12 persons including four local city officials, two academics, two developers and four community advocates/leaders—all familiar with the Eastern Neighbourhood rezoning and its goals.

Data collection was carried out over an 11 months' period from April 2018 to February 2019. Primary data collected from planners and city officials related to the rezoning process (plan preparation) and the IH requirements, outcomes and challenges encountered. Developers were interviewed regarding their participation in programme formulation and implementation, their knowledge and views on options available to them and feasibility of their projects. Other stakeholders, including academics, community leaders and affordable housing advocates, provided information regarding community participation, their interests and interactions with the planners and city officials. Secondary data included programme characteristics, number of both market rate and affordable housing units produced, affordable units produced by market rate

developers and affordable units produced using public subsidy. Data from field observation related to the intensity, type and nature of developments across the five plan areas.

4.5.3   Research Methodology for Nairobi Case study

The research methodology is based on a single case study, the slum of Kibera in Nairobi, Kenya. The case study has been chosen because Kibera is the largest slum in Africa and is particularly dense thus making regeneration attempts challenging. The Kibera slum is very conveniently located near the Central Business District of the city of Nairobi, hence it benefits from being positioned in a high value location in real estate market terms. The research methodology has been developed by testing a hypothesis that the real estate market in Nairobi would be sufficient to support the production of affordable housing to meet the needs of slum residents, through a simulated spatial master plan and related economic and residual land value analyses. The spatial plan incorporates the principles of sustainable urban planning, i.e., mixed-use, respect of the social context and identity, high quality of public spaces and walkability. It has been developed by considering as canvas for the new development the existing socio-economic fabric (existing small retail and economic activities, villages, political and tribal patterns) in order to meet not only financial sustainability goals but also the wider sustainable planning concept. As Teferi & Newman (2017) observe, a positive slum upgrading and renewal should not be about merely providing housing and infrastructure but rather about prioritizing economic, social, and community activities that are needed to turn around downward trends in an area. Such an approach can indeed lead to urban regeneration at a precinct level and impact the overall urban fabrics of cities. The methodology proposed incorporates UN-Habitat Participatory Upgrading approach (UN-Habitat, 2009) as it involves the participation of the local community (slumlords and tenants), relevant stakeholders, developers and the government to form a strong network focussed on seeking a sustainable financial solution to the slum problem. The methodology is also motivated by the World Bank's urban Strategy which promotes approaches that facilitate spatial efficiency in production while addressing concerns of congestion and internal divisions within urban areas focussing on harnessing urbanization to deliver equitable and inclusive growth and poverty alleviation (World Bank, 2010). Testing the methodology has included iterations of feedback from the experts in charge of delivering the UN-Habitat Participatory Slum Upgrading Programme in Nairobi.

The legal context has been analysed through systematic review of the current laws related to land use and land administration in order to understand their provisions (whether they support or curtail) land value capture. These statutes include the Constitution of Kenya 2010, the Physical and land Use Planning Act of 2019, the Land Act No. 6 of 2012, the National Land Commission Act No. 5 of 2012, the Land Registration Act No. 3 of 2012, the Community Land Act No. 27 of 2016 and the Urban Areas and Cities Act No. 13 of 2011.

The researcher has analysed current plans, financial data, reports and documents on the spatial planning process and slum regeneration strategies in Nairobi. The researcher considered the existing social fabric, which is embedded in the physical fabric of the Kibera villages. Each village holds a specific social identity, mainly related to the tribal social structure, and is politically managed by a local leader, the chief. Hence, the proposed spatial plan has been developed for a chosen village rather than for the entire Kibera, assuming that the methodology can be easily upscaled to the entire slum but recognizing that the phasing-up of the regeneration strategy should be approached on a village-by-village basis. Soweto East has been selected as the sub-case for the research due to its proximity to an existing area of recent regeneration. This selection also has been motivated by the availability of reliable benchmark data for the economic calculations. Residual land value analyses have been conducted simultaneously to verify the hypothesis financially. Informal consultations with Stefano Marras, a sociologist with previous experience on mapping Kibera in a participatory approach allowed taking into account social considerations both in setting up the methodology for approaching the spatial plan, and in understanding the context and its peculiarities.

The spatial plan has been based on principles of sustainable planning, i.e. mixed-use, social-mix, walkable urban fabric, public spaces and facilities provision. The reconfiguration of the slum's physical fabric has been grounded in the existing socio-economic and physical conditions, assuming that local identity and social ties are embedded in the current physical fabric. Hence, streets have been reorganised but not changed, keeping in place the same economic pattern and distribution of services. Sustainable planning basis has been incorporated in the simulated plan to ensure no eviction of any resident or small retailers.

Data collection was carried out over a ten (12) months' period from May 2019 to April 2020. Secondary data were gathered from the city offices and websites while primary data were gathered through interviews, complemented by surveys and field observations. In evaluating the

existing Kibera upgrading project and testing the applicability of the proposed model, the author interviewed city and national government officials, academia (experts in planning, law and real estate), private practising professional, community leaders as well as developers. The persons were purposively selected from Nairobi city planning office, the Kenya slum upgrading project, Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works, Ministry of Lands and physical planning, National Land Commission, University of Nairobi and civil society groups operating in Kibera. The primary data collected from KENSUP and government ministry officials are related to issues on the existing programme including implementation and challenges encountered. Developers were interviewed regarding their willingness to participate in the proposed programme. Academia and community leaders provided views on how they perceive the proposal and how to make the model succeed in Kibera, the former based on their experiences on researching in Kibera, and the latter based on their knowledge of community needs within Kibera. In validating the model, discussions were held with two experts from the University of Nairobi and one expert from the UN-Habitat's participatory slum upgrading programme (PSUP). For these discussions, two meeting were held with the University of Nairobi experts and 4 meetings with UN-Habitat expert.

Interviews were complemented by a survey undertaken among slum dwellers and landlords. Their selection was undertaken through cluster, stratified and simple random sampling techniques to ensure representation of the population. The clusters were based on the location of the structures they own or lease within the slum, while the stratification was based on type of occupant – whether landlord or tenant, hence two stratums. A grid was prepared covering the whole study area (Soweto East village, zones C and D) and then samples of structures picked in each grid through simple random sampling. A total of 97 structures were identified and subsequently, the household heads of at least two units (one tenant and structure owner or two tenants where the structure owner is absent) within the structures were approached and served with the questionnaires. Therefore, a total of 194 questionnaires were served. Out of these 156 questionnaires (80.4%) were returned. Demonstrations of residual land value analyses were simultaneously undertaken with a follow-up survey among slumlords and follow-up interviews with developers.

Residents were asked questions regarding their demographic and household characteristics (including number and age of children, household size, rent payable), their own assessment of

the ongoing Kibera Upgrading project and their views on the proposed model of affordable housing provision. Field observation was also undertaken during repeated fieldwork sessions. Finally, based on the data collected, a master plan was prepared and housing prototypes developed for Zones C and D. These prototypes were subjected to residual land value analysis to test their feasibility and to determine the most feasible scenarios for development within the slum with land value captured through inclusionary housing.

Before the testing the proposed model and hypothesis, other affordable housing programmes in existence were also evaluated alongside the Kibera slum upgrading project. This was undertaken through interviews on programme officials and experts as summarised below for each programme.

i. The Civil Servants Housing Scheme Fund (CSHSF): Interviewees were purposely sampled from the following groups: a) Civil servants who have benefited from the scheme, b) Civil servants who have applied for houses under the scheme but were not successful, c) Civil servants who have never applied nor benefitted from the scheme d) Civil servants working in the CSHSF, and d)Academia and professionals conversant with the working of the scheme

ii. National Housing Corporation (NHC): Interviewees were purposely sampled from the following groups: a) Kenyans who have benefited from the scheme (Sampled from Madaraka estate in Nairobi), b) Kenyans who have never benefitted from the scheme, c) NHC officials, d) Academia and professionals conversant with the working of the programme

iii. Housing provision under the affordable housing programme (AHP): Interviewees were purposely sampled from the following groups: a) officials working in the State department of housing in the ministry of Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works, b) officials from Nairobi City County, c) experts from the academia, and d) practising private professionals.

4.6 Experiences during Fieldwork and Data Collection

It is worthy to share my fieldwork experience both in the USA and Kenya. The experiences are totally different in the two contexts. When I arrived in the USA in April 2018, I thought it was

going to be easier to schedule appointments with key stakeholders in affordable housing provision. Because my plan was first to have a bird's view of the programmes in five cities - San Diego, Los Angeles, Santa Monica, San Francisco and Emeryville, I began by making calls to city offices to secure appointments with key officials. While i secured an appointment using this approach in San Diego, it never worked for other cities and relevant organizations. I quickly had to change tactic and used i) academia at San Diego State University and University of Southern California to refer me to the relevant officials. Once I met an official, he/she would refer me to others within and outside their cities in a snow balling manner ii) Direct visit to the offices to schedule appointments. I found that it was easy to schedule an appointment even at short notice when physically present in the office. Officials in all the cities I went to were very open and willing to share data which was readily available. However, I experienced difficulties in making follow-ups particularly where additional information was required. Most emails went unanswered and I had to make many trips to the city offices again. A lot of quantitative data was available in cities' websites because the state law requires cities to file frequent online returns on how they are fairing in terms of meeting their housing targets.

Administering questionnaires in Santa Monica was somehow difficult and interesting at the same time. Difficult because some property managers for some buildings I sampled refused to allow access. However, these were very few and it was easy to get a replacement within the immediate neighbourhood. It was interesting because some residents demanded my presence as they filled the questionnaires because they had more to say than write. I was initially afraid that Santa Monica being an affluent city, the residents may have no time for interviews and questionnaires but the matter of affordable housing seemed to be too close to their hearts and I received overwhelming responses. In San Francisco's eastern neighbourhoods, language was a barrier in a few incidences. Most residents in the neighbourhoods speak Spanish. I overcame this by requesting neighbours who spoke English if they could assist and in all situations they gladly accepted.

Securing appointments for interview in Nairobi was much easier for me because some officials were known to me and they referred me to others who I didn't know. Also, the spatial area covered during fieldwork and interviews was smaller in contrast to the spatial area covered in California. In Kibera, some interviewees and respondents complained that they have been

interviewed countless times and they have not seen any benefits from previous researches. Others saw my research as a Government project and wanted to know when the project would begin. I had to overcome these reactions and expectations and convince them to participate in the survey. I did this by clearing explaining that I was there to collect data that would enable me to make a proposal to the government based on their views for an alternative approach to slum upgrading. I invited the people to be part of the whole process from housing needs assessment, master planning to the feasibility analysis. It also helped that the local administration and NGOs who are known to the people were involved and could intervene where there were issues. People cooperated and participated very well seeing the project as ''theirs'' not ''mine'' or 'Government's''.

4.7 Chapter Summary

This chapter has presented the research methodology followed to achieve the aim and the specific objectives of this study. The choice of research philosophy, research approach, research design, research strategy, case selection, techniques and procedures for data collection and analysis are explained in detail.

This study takes an ontological assumption that based on dwindling public resources committed to housing and the continued failure of previous approaches to increase affordable housing, pragmatic approaches are needed that involve various participants to harness the strength of the real estate market for affordable housing provision. The study leans towards inductive reasoning but a combination of deductive and inductive reasoning (abduction) was adopted to adequately address the research questions and the identified problems and hence enhance the reliability of the study. To achieve the research objectives, this study undertakes a comprehensive review of literature, uses mixed data sourcing techniques and employs a concurrent mixed research design for case study analyses. The study has adopted a multiple case study research strategy but with surveys incorporated within the case studies. In selecting the case studies, purposive sampling was used.

5   Harnessing the Real Estate Market for Equitable Affordable Housing Provision: Insights from California, USA

5.1   Introduction

Many cities in California State have turned to the market using Land Value Capture and Inclusionary Housing to increase affordable housing development and ensure socially and economically integrated communities. During the fieldwork in California, the researcher studied programmes in the following cities: San Diego, Los Angeles, Santa Monica, San Francisco and Emeryville. The aim was to understand the structure of the programmes and which ones could be selected for detailed case study analyses. All the five cities were found to have implemented a density bonus programme in compliance with "The Density Bonus Law (found in California Government Code Sections 65915 – 65918). This law requires cities to offer developers with incentives including up to a 35% increase in project densities, depending on the amount of affordable housing provided and an 80% increase in density for projects which are completely affordable with the aim of encouraging the development of affordable and senior housing (Goetz & Sakai, 2020). The cities have implemented other market based affordable housing programmes beyond the state required density bonus programme and these are discussed in the sections 5.2 – 5.6 below based on i) interviews with city officials ii) programme reports and documents and iii) city ordinances perused. It is important to clarify that there are other affordable housing programmes which are directly funded through city or state funds which are not discussed in sections 5.2 - 5.6 below.

5.2 Affordable housing programmes in the City of San Diego

The City of San Diego has two inclusionary housing programmes in existence. The first is a programme that has been under implementation since 1992 in portions of the North City that are now designated for urban uses. These areas were, until the 1990s, designated as "future urbanizing" areas. In these areas 20 percent of residential units constructed must be affordable to families earning no more than 65 percent of Area median Income (AMI). Projects with more than ten units must build these affordable units on site or near the site of the market-rate units. Smaller projects may pay an in-lieu fee (City of San Diego, 2020).

Secondly, the Inclusionary Housing Ordinance, enacted by the City Council on May 20, 2003, applies to all new residential developments of two units or more, outside of the "future urbanizing" areas. It is a mandatory programme and project developers have the option of providing at least ten percent of the homes in residential developments at affordable rates for low- to moderate-income families or paying an affordable housing fee to build affordable housing elsewhere. In October 2011, the Inclusionary Housing Ordinance was amended by the City Council to require all rental development to pay an Inclusionary Affordable Housing fee. Developers of for-sale affordable housing have an option to provide 10 percent of the total homes at affordable rates instead of paying a fee. Developers who are converting apartments to condominiums are also required to pay Condominium Conversion Inclusionary Affordable Housing Fee which is normally one-half of the Inclusionary Affordable Housing Fee or take the option of providing at least five percent of the total dwelling units in the development as affordable units for low- to moderate-income families. Development of affordable units is supposed to be completed at the same time with the market rate units. Incentives are offered to offset the cost to developers of providing inclusionary housing. These include expedited permit processing, reduced sewer and water connection fees, multifamily bond financing for certain projects, and density bonus. In addition, the City has allowed for on-site density bonus for projects that meet the inclusionary requirement on site.

The city also established a "Floor Area Ratio (FAR) Bonus Payment Programme" in 2006 which allows developers wishing to build above and beyond the levels permitted in the Downtown Plan to do so at a cost of $15 per square foot, for a maximum of two FARs. The revenues of the programme are utilized for funding the open space and park system in the downtown. Lastly, the city launched the Affordable Homes Bonus Programme (AHBP) in June 2016. This programme offers extended incentives including a maximum of 50 percent density increases in exchange for 15 percent rent-restricted units built.

5.3 Affordable housing programmes in the City of Los Angeles

Interviews with city officials revealed that Los Angeles is one of the major cities in the USA which does not have an inclusionary housing policy. However, the city has several land use incentive programmes under implementation including Zone Changes, General Plan Amendments and Height District Changes which are granted in increased affordable housing requirements. A zone

change is an approval changing the zoning of a land parcel to allow more density and/or different uses. Height District Change approval is granted if there is a significant increase in building height from what is allowed in the district. When a zoning is changed, the General Plan which guides the city's long-term city development must also be amended so that the zoning is in conformity with the general plan. According to the city officials, the contribution of Land use incentives programmes to total affordable housing production has been increasing steadily over the recent years.

Realizing the potential of land use incentives, the city has sought for ways to use land policies to advance housing affordability and equity in a sustainable manner. In the recent past, the city has passed more ordinances to support affordable housing through the market. Such include the Land Value Capture (LVC) Ordinance, Measure JJJ and Transit Oriented Communities (TOC) Affordable Housing Incentive Programme. The LVC ordinance clarifies existing regulations and aligns affordability requirements across the range of zoning entitlements that allow for increased density or floor area ratio beyond what is allowed by zoning. The ordinance ensures the creation of affordable housing through certain conditional use permits and public benefit projects. A project may be granted additional density increases beyond 35% allowed under the state density bonus law "by providing additional affordable housing units in the following manner: i)For every additional 1% set aside of Very Low Income Units, the project is granted an additional 2.5% density increase; or ii) For every additional 1% set aside of Low Income Units, the project is granted an additional 1.5% density increase; or iii) For every additional 1% set aside of Moderate Income Units in for-sale projects, the project is granted an additional 1% density increase" (City of Los Angeles, 2018: 2).

Measure JJJ which was voted in November 2016 instituted new labour and affordable housing requirements for projects that receive general plan amendments or zone changes. It mandated the city authorities to introduce the Transit Oriented Communities Affordable Housing Incentive (TOC) Programme, which requires developers to designate a percentage of affordable units for low-income tenants for residential or mixed-use projects located within ½ mile of a major transit stop. The TOC programme incentives are applicable to a qualified development which proposes to provide more affordable housing than is currently required under the City's existing density bonus programme. The aim of this programme is to facilitate mixed-income and affordable

housing development in transit areas. According to City of Los Angeles City Planning Commission (2017), Measure JJJ approves additional development incentives under the TOC programme that are necessary to ensure feasibility of housing development. In exchange for increased affordable housing requirements, Measure JJJ approved TOC incentives including higher densities (increase in FAR and number of units), reduced parking requirements and reduced yards/setbacks requirements for projects which are located within a 1/2 mile of a major transit stop. The City Planning Department defines a Major Transit Stop as a site containing a rail station or the intersection of two or more bus routes with a service interval of 15 minutes or less during the morning and afternoon peak commute periods.

In order to help address the increased need for affordable housing connected with new commercial development and the development of new market rate residential units, the Council adopted the Affordable Housing Linkage Fee Ordinance in December 2017. This requires payment of a linkage fee calculated per square foot of built up floor area. The fees are usually required and paid before issuance of the building permit. The city council uses these fees to subsidize affordable housing construction or to rehabilitate and preserve existing affordable housing units. The ordinance exempts some projects from payment of the linkage fees including i) small residential projects those whose total new or additional built up floor area does not exceed 1,500 square feet, ii) non-residential developments whose new or additional built up floor area does not exceed 15,000 square feet and iii) projects which propose higher affordable housing inclusion at 40% moderate, 20% low-income or 11% very low-income (City of Los Angeles, 2017).

5.4 Affordable housing programmes in the City of Santa Monica

The City of Santa Monica has implemented various IH programmes since the late 1980's. The genesis of IH in the city could be traced to 6th November 1990 when the voters passed Proposition R, which required that 30 percent of all new multi-family residential housing units produced in the city annually be affordable to low and moderate-income people with at least fifty percent of the affordable units being for the low-income households. Since 1990, there have been various implementing ordinances passed by the council. The current Affordable Housing Production Programme (AHPP) was implemented in July 1998. According to the City's Municipal Code, AHPP which implements proposition R allows developers of new multifamily housing to satisfy their affordable housing obligation through a variety of options as listed below.

1. Including affordable units in the market-rate project,

2. Developing affordable units at another location in the city,

3. Paying a fee in lieu of developing affordable units,

4. Dedicating land to the City or to a non-profit housing development entity.

AHPP is implemented through the Land Use and Circulation Element ("LUCE") of the City's General Plan. On 6th July 2010, after many years of extensive community engagement, the City adopted a new LUCE. A fundamental tenet of the new LUCE was that future development should fund a range of measurable public benefits, from open spaces and parks to affordable housing. In the programme, developers would be granted higher densities and the resultant gain in value captured through increased provision of affordable housing within their developments.

In addition to inclusionary housing under AHPP, the City Council adopted ordinance Chapter 9.68 of the Santa Monica Municipal Code on June, 2015. This ordinance chapter implements the Affordable Housing Commercial Linkage Fee which is charged to all new non-residential developments to mitigate the increased need for affordable housing that is created by these developments. This fee helps to finance affordable housing for worker households of extremely low, very low, low, or moderate income. The fee is based on the gross square footage of each use included in the proposed project and is charged as follows: a) Retail: $9.75 square foot b) Office: $11.21 per square foot c) Hotel/Lodging: $3.07 per square foot d) Hospital: $6.15 per square foot e) Industrial: $7.53 per square foot f) Institutional: $10.23 per square foot. g) Creative Office: $9.59 per square foot and h) Medical Office: $6.89 per square foot. The Commercial / Housing Linkage fees paid is deposited into the Affordable Housing Commercial Linkage Fee Reserve Account and used solely for the purpose of affordable housing provision.

5.5 Affordable housing programmes in the City of San Francisco

The IH Programme in San Francisco also known as "Below-Market-Rate Programme" began in 1992 with the adoption of guidelines which required housing projects with 10 or more units that seek a conditional use (CU) permit or planned unit development (PUD) to set aside a minimum of 10% of their units as affordable units. These guidelines were legislated into law in 2002 with expansion of the requirement to all projects with 10 or more units. In 2006, the inclusionary requirements were increased to 15% if units were constructed on-site, and to 20% if constructed

off-site and was applicable to projects of five units or more. In 2013, the inclusionary requirements were changed back to projects with 10 or more units and the on-site requirement went back down to 12% (San Francisco Planning Department, 2017). According to San Francisco Planning Code Section 415, the programme's aim is to increase affordable housing units for low, moderate, and or middle-income households in new buildings. The programme requires a developer who proposes a residential project with 10 or more units to either i) Reserve a percentage of units on-site in the new building to be rented or sold at a below market rate, ii) Reserve a percentage of units off-site in another building they build to be rented or sold at a below market rate, iii) pay an affordable housing fee in lieu of providing the affordable units, iv) dedicate land to the city for affordable housing development or v) a combination of all the above.

The city also implements the Jobs Housing Linkage Programme established under Section 413 of the San Francisco Planning Code. This Programme establishes affordable housing fees applicable to non-residential developments. The Jobs Housing Linkage Fee is required to be paid by developers of all non-residential projects of at least 25,000 square feet. The fee is meant to mitigate the increased need for affordable housing as a result added employment due to construction of new non-residential buildings. As an alternative to payment of the fees, the programme gives the developers the options of either i) providing affordable housing units or ii) combining fee payment and provision of affordable housing units.

In the early 2000's, the city devised a plan to encourage new housing at appropriate locations in the Eastern Neighbourhoods (ENs) and make it affordable to city residents of different income levels. The city rezoned the ENs as a result of the need for the city to plan for areas containing underutilized industrial areas and to deal with the conflicts between residential and industrial uses that arose from the dotcom boom of the late 20th century. The rezoning would allow for building relatively higher-density development in the eastern neighbourhoods that are well-served by transit and close to Downtown. The plan areas that were primarily previously zoned for industry were planned for urban-mixed-use (allowing for residential and commercial developments). The plan increased permissible heights for different parcels as a proxy for additional intensity of development. The city used a plan-based approach to capture land value through increased IH requirements for new zoning districts in formerly industrial areas, requiring deeper affordability and enabling new options above and outside of current inclusionary options.

5.6 Affordable housing programmes in the City of Emeryville

The City of Emeryville adopted the Affordable Housing Set-Aside (AHSA) Ordinance in 1990 to address a shortage of affordable housing to moderate, low, and very low-income households. The ordinance requires that all new residential units – for rent and for sale in projects of thirty or more units set aside a portion of the units for low and moderate-income households. For-sale projects were required to set 20% of the units as affordable to moderate income households while rental projects were required to set 15% of the units as affordable to low and very low-income households at a mix. Interviews with city officials revealed that through implementation of the AHSA, a substantial number of affordable units have been produced in Emeryville since the programme was adopted in 1990.

The Affordable Housing Set-Aside (AHSA) Ordinance of 1990 was replaced by another inclusionary housing ordinance named Affordable Housing Programme in July 2014. The Affordable Housing Programme updated the City's former policy to lower the threshold of residential development project applicability from thirty or more units to ten or more units and establish fees to be imposed on rental housing developments and non-residential development to mitigate the impacts of these development types on the City's ability to provide affordable housing. The impact fee is deposited into an affordable housing fund which is used for the provision of affordable housing. For sale units, the percentage of affordable units remains at 20% at moderate income level but to maintain affordability of the for-sale units, the city imposes resale conditions for 45 years after recordation of each grant deed. Rental residential projects of 10 or more units are subject to an affordable housing impact fee or may instead elect to provide 6.9 percent of units as affordable for low-income households for a period of at least 55 years.

The city of Emeryville also runs a local development bonus programme provided under Article 2 Chapter 4 Section 9-4.204 of the city's Municipal code designed to allow for bonuses above 35 percent required by the state bonus law. The local development programme allows density bonuses up to 100 percent with deep levels of housing affordability. This is about three times greater than the bonus provided through the State density bonus law. A developer must choose whether to apply for the state bonus or the local bonus programme because the two are mutually exclusive. If a project is seeking a bonus of 35% or less, it is easier and practical to

choose the State Density Bonus Law while applications exceeding 35 percent bonus must use the local programme.

5.7 Choosing Programmes for Case Study Development

There was a need to choose at least two programmes from the cities sampled for a detailed case study analysis. The affordable housing programmes in Santa Monica City and San Francisco City were selected on purpose as they met the main criteria which included: (i) the programme being identified as best practice in literature and corroborated through informal interviews with academic experts in the field, and (ii) the programme having been in operation for at least five years to enable an evaluation of the results. Thus, firstly, the LUCE 2010 programme in Santa Monica has been considered best practice in some IH literature (Hickey, 2014; Calavita & Wolfe, 2014) and, secondly, IH has been implemented in the city for a long time evolving into the present LUCE 2010 based Affordable Housing Production Programme (AHPP). This has allowed for the evaluation of the programme and an assessment of the impacts of LUCE on AHPP. The San Francisco City programme in the eastern neighbourhoods has been praised as an example of the transformations of plans and regulations to address community needs particularly affordable housing (Brahinsky et al, 2013). Secondly, Francisco as a city is seen as a pioneer in LVC. According to Calavita (2014), it could be argued that LVC in the US was invented in San Francisco in the early part of this century. LVC has also been implemented in the city for a sufficient duration allowing for evaluation of the programme and assessment of impacts on affordable housing production and social inclusion. In the sections below, the two case studies are presented in a detailed form.

5.8 Harnessing the Real Estate Market for Equitable Affordable Housing Provision: Insights from the City of Santa Monica

5.8.1 Setting the Context for the Case Study

5.8.1.1 Location

Santa Monica is a relatively small coastal city within Los Angeles County, California State. Los Angeles is a huge county with 9.9 million people and 88 municipalities including Santa Monica.

Santa Monica is a coastal city to the west of Los Angeles city with beautiful beaches and attractions, and it is because of this that Santa Monica is a top resort city in the United States.

5.8.1.2 Demographics Characteristics

Santa Monica is one of the most densely populated urban areas in California. Tables 5.1 and 5.2 below summarises the city's demographic characteristics.

Table 5.1: Population & Race distribution, Santa Monica citywide

Area (Sq. Miles)	Population (1st July 2017)	Population Density (1st July 2017) People Per Sq. Mile	Race Distribution						
			White	Black/ African American	Asian	Mixed Race	American Indians & Alaska Native	Native Hawaiian & Other Pacific Islanders	Hispanic or Latino Origin (Of any Race)
8.42	92,306	10,962	78%	4.1%	10%	4.9%	0.5%	0.1%	16.1%

Source: Author's Compilation (Data from US Census Bureau, accessed December 2018)

Table 5.2: Age and Gender Distribution, Santa Monica citywide

Age and Gender Distribution					Population living below the federal poverty line
Under 18	25 to 44	65 or more	Men	Female	
14%	36%	16.2%	51.7%	48.3%	11%

Source: Author's Compilation (Data from US Census Bureau & worldpopulationreview.com, accessed December 2018)

The changing characteristics of the City's population and households will have important implications for housing needs. According to David Martin, the director of Planning in Santa Monica, the day time population is approximately 200,000 people because of tourism and commercial office workers. Therefore, this means more housing opportunities are needed to cater for this dynamic populace.

5.8.1.3 The Santa Monica Housing Market

The city of Santa Monica just like the whole of Los Angeles County is confronting a housing and homelessness crisis. Housing prices and rental values have continued to escalate since the early 2000's only decreasing during the recession of 2010/2011 but again increasing after the recession

(City of Santa Monica, 2013). There is growing concern that housing in the city is increasingly becoming unaffordable for the vast majority of the city residents.

Residential development trend in Santa Monica can be described as one moving towards high-density high-rise development (See table 5.3). Most land in Santa Monica was developed by the mid-1960. Since then, development has occurred by converting lower-intensity land uses to higher density uses. Residential development has also occurred in commercial, mixed-use zones of the city in the recent years (City of Santa Monica, 2013).

Table 5.3: Residential development in Santa Monica (2010)

Multifamily developments > 5 units	Multi-family complexes 2-4 units	Single-family attached and detached homes	Mobile homes
67%	10%	23%	< 1%

Source: Housing Element (2013)

Home ownership still remains a dream for many middle- and lower-income levels of the workforce. Santa Monica has one of the highest proportions of rental households in Los Angeles County. Homeownership in Santa Monica city is lower than the state's and the nation's average as shown in table 5.4 below. There is growing concern that housing in the city is increasingly becoming unaffordable for the vast majority its residents (City of Santa Monica, 2013). Demand for affordable housing in the city is high with the highest level of housing demand being among households that require two to three bedrooms, and sometimes more although significant demand also exists for small units including studios (The Urban Land Institute, 2004). The median value of owner-occupied housing units in the city is higher than the state's and the nation's average as shown in table 5.4 below.

Table 5.4: Median Value, Median Gross Rent & Home Ownership in Santa Monica (2013-2017)

Market Characteristics in Santa Monica (2013-2017)								
Median Value (Owner Occupied Houses)			The Median Gross Rent			Home Ownership		
Santa Monica	California	US	Santa Monica	California	US	Santa Monica	California	US
$1,168,500	$443,400	$193,500	$1,669	$1,358	$982	27.7%	54.5%	63.8%

Source: Author's Compilation (Data from U.S. Census Bureau, accessed December 2018)

Affordable housing has been at the centre of the social, economic and political development of Santa Monica. The City has maintained its commitment to expanding the supply of affordable housing over the years even as it continues to face serious housing crises. Affordable housing policies have always received overwhelming support at the ballot.

It is important to explain at this point how affordable housing is understood in the city. California State defines affordable housing as housing which is affordable to and occupied by households of low and moderate-income paying rent not exceeding 30 percent of the corresponding Area Median Income (AMI) for each income group adjusted for household size appropriate for the unit. AMI's for all areas of the country are published annually by the U.S. Department of Housing and Urban Development. For Los Angeles County, the 2017 AMI was $64,300 a year for a family of four adjusted for household size. Moderate-income households' income is between 81 percent and 120 percent of AMI and Low-income households' income is below 80 percent of AMI. The low-income is further categorised into extremely low-income, very low-income and low-income. The extremely low-income households' income does not exceed 30 percent of AMI, very low-income households' income is between 31 and 50 percent of AMI and low-income households' income is between 51 and 80 percent of AMI.

5.8.2   Inclusionary Housing as a tool for Affordable Housing Provision in the city of Santa Monica

As mentioned earlier, the City of Santa Monica has implemented various IH programmes since the late 1980's. The genesis of IH in the city could be traced to 6th November 1990 when the voters passed Proposition R, which required that 30 percent of all new multi-family residential housing units produced in the city annually be affordable to low and moderate-income people with at least fifty percent of the affordable units being for the low-income households.

Since 1990, there have been various implementing ordinances passed by the council. The current Affordable Housing Production Programme (AHPP) was implemented in July 1998. According to the City's Municipal Code, AHPP which implements proposition R allows developers of new multifamily housing to satisfy their affordable housing obligation through a variety of options as listed below.
  5.   Including affordable units in the market-rate project,

6. Developing affordable units at another location in the city,

7. Paying a fee in lieu of developing affordable units,

8. Dedicating land to the City or to a non-profit housing development entity.

The housing requirement under each option are summarized in table 5.5 below.

Table 5.5: Affordable Housing Production Programme options in Santa Monica

OPTION	OWNERSHIP PROJECTS IN MULTI-FAMILY RESIDENTIAL ZONES			RENTAL PROJECTS (2 OR MORE UNITS) IN BOTH MULTI-FAMILY RESIDENTIAL ZONES and NON-RESIDENTIAL (COMMERCIAL / INDUSTRIAL) ZONES
	2-3 UNITS	4 -15 UNITS	16 OR MORE UNITS	
ON-SITE	• 5% extremely low-income units (for rental) or • 10% very low-income units (for rental), or • 20% low income units (for rental), or • 100% moderate income units (for rental)	• 5% extremely low-income units (for rental) or • 10% very low-income units (for rental) or • 20% low-income units (for rental) or • 20% moderate-income units (as ownership units)	• 10% extremely low-income units (for rental) or • 15% very low-income units (for rental) or • 25% low-income units (for rental) or • 25% moderate-income units (as ownership units)	• 5% extremely low-income units (for rental) or • 10% very low-income units (for rental), or • 20% low income units (for rental), or • 100% moderate income units (for rental)
OFF-SITE	Same as on-site option	25% more than required number of on-site units	25% more than required number of on-site units	Same as on-site option
IN-LIEU FEES (2018)	$35.70/sf for apartments $41.70/sf for condominiums	Not Applicable	Not Applicable	$35.70/sf for apartments $41.70/sf for condominiums
LAND DONATION	Within ¼ Mile	Not Applicable	Not Applicable	Within ¼ Mile

Source: Author's Compilation from Santa Monica Municipal Code, accessed May 2018

AHPP allows the city council to establish the affordable housing fees for new market rate housing development. This fee must be paid in full prior to final approval of a building permit by the City Council. The fees are deposited into a Housing Trust Fund and are used to subsidize the development of new affordable housing units by non-profit affordable housing developers who normally provide 100% affordable housing. The fees established by the City council are periodically revised and at least every two years by resolution of the City Council. There is also a provision for 25% to 50% discounts on the fee if the new development will occur on vacant land or on land in non-residential zones which is not developed with multifamily housing. Table 5.6 below indicates the fees charged in different times

Table 5.6: Affordable housing fees charged by Santa Monica

Financial Year	Fee per Square foot for apartments	Fee per Square foot for condominiums
1998/1999, 1999/2000	$6.14	$7.13
2000/2001, 2001/2002, 2002/2003, 2004/2005	$6.14	$11.01
2005/2006	$22.33	$26.08
2006/2007	$24.10	$28.15
2007/2008	$25.31	$29.56
2008/2009	$26.45	$30.89
2009/2010, 2010/2011	$26.79	$31.28
2011/2012	$27.35	$31.94
2012/2013	$27.57	$32.30
2013/2014	$27.79	$32.46
2014/2015	$29.79	$34.80
2015/2016	$31.25	$36.51
2016/2017	$32.38	$37.82
2017/2018	$34.00	$39.71

Source: Authors construction with data retrieved from Annual Affordable Housing Reports on Propositions R and I

There is continuous monitoring by the city council on the manner in which affordable housing provisions are met. This is through reports by the staff to the council detailing the projects that have received planning approval during the previous year and the manner in which the provisions

of AHPP were met and satisfied. This enables the Council to determine whether it should amend the City's Affordable Housing Production Programme or its implementation to ensure that the provisions are met.

The Income and rent limit methodology adopted deserves mention. The City determines annual maximum household income levels, and maximum rent levels, for low- and moderate-income families who are eligible to reside in affordable housing in Santa Monica. The State does this through a formula which is tied to the AMI for the area. The methodologies for determining income eligibility and maximum rents has evolved over time over years. As developers get approvals for their projects, they have to sign an agreement which imposes restrictions on their real property with the City. The income/rent limit methodology for inclusionary units for a particular project/ development is specified in this agreement. The income/rent limit methodologies changes depending on when the project was approved and the specific agreement (deed-restriction) associated with a property. The current methodology used for the AHPP was approved by the City Council in June 2013. The city council monitors the inclusionary units annually for compliance with income eligibility and rent limits. This is done using reports submitted online by the owners as well as documents on tenant household income. Household incomes are allowed to increase to 140% of income limit before they are required to move-out to allow other qualifying households to benefit.

5.8.3 Innovation in Affordable Housing Policies and Planning: AHPP under the Land Use and Circulation Element (LUCE) 2010

On 6th July 2010, the City of Santa Monica adopted a new Land Use and Circulation Element ("LUCE") of the General Plan. Among other objectives, LUCE was designed to encourage additional housing in a sustainable manner where few or none existed. The plan accomplishes this by establishing a maximum ministerial base building height of 32 feet and requiring that projects over the base height incorporate community benefits, with affordable housing identified as a primary community benefit. The programme, therefore, allows more Floor Area Ratio (FAR), height and density but recaptures the resultant gains in land values by requiring additional affordable housing in the development. This is undertaken through three approval tiers or procedural paths which were established to regulate development. The tiers are tied to the type of development, its location and intensity. The programme provides for prerequisite ministerial

(by-right) approval of projects that meet all the applicable requirements and do not exceed the base height and two optional tiers, both of which would require applicants to provide community benefits (including affordable housing) in order to receive approval to increase the project's height and/or floor area. Table 5.7 below compares the Affordable Housing Production Programme (AHPP) Pre-LUCE 2010 and the AHPP Post-LUCE 2010

Table 5.7: Pre-LUCE & Post-LUCE 2010, Santa Monica

	AHPP Pre-LUCE 2010	AHPP Post-LUCE 2010
Time Period	1998-2010	2010-Present
Requirements	Mandatory	Mandatory under Tier 1 Voluntary under Tiers 2 and 3
	Applied mostly in residential districts. Residential developments in commercial and industrial zones allowed only after getting a development review permit or administrative approval	Residential developments in residential, commercial and industrial zones through Ministerial approval
Programme attributes	No comprehensive approach to mixed use development	Comprehensive approach to mixed use development
	Tedious approval process	Faster approval Easier for developers Ministerial Plan approval up to 75,000 sq. meters in the Downtown Community Plan
	Low affordable housing	High & predictable affordable housing at 50% under tier 2
Bonuses	State bonus programme	Bonus exceeding the State bonus programme tied to 3 tiers

Source: Authors' elaboration on City of Santa Monica data, December 2018.

The LUCE 2010 programme required economic analyses during the planning phase to determine 'enhanced land values' resulting from higher densities. These analyses indicated that projects would be financially feasible even after providing community benefits. Such analyses are also required for individual projects seeking tier 2 or tier 3 height bonuses and provide context for the city's decision-making over what level of community benefits is to be required (Hickey et al., 2014).

LUCE 2010 established three tiers which are summarized in table 5.8 below: Tier 1 is the basic option, which establishes the base height and FAR, with no additional community benefits required. However, under Tier 1, developers are rewarded with additional floor if they provide affordable housing on-site or close to transit corridors (if they choose the off-site option). Under Tier 1, all apartment projects can pay fees in-lieu of including affordable units but for condominium projects, only those of 3 units or less, or projects located in commercial zones, can pay fees in-lieu of including affordable units. For developers who choose to provide affordable units offsite, the location where they develop them should be within a quarter (¼) mile of the market-rate project. An exception to this rule may be granted if the developer provides substantial evidence that the location of the off-site units in a location different from that required better accomplishes the goals of affordable inclusionary housing, that is, maximizing affordable housing production and dispersing affordable housing throughout the city.

Tier 2 allows additional height and FAR through a ministerial approval process. Tier 2 housing projects must provide 50% more affordable units than Tier 1 either onsite or offsite. They cannot pay fees in-lieu of providing affordable units. Tier 3 allows more height and FAR than Tier 2 but requires development agreements to be signed between the city and the developers with a public review. Tier 3 differs substantially from both Tier 1 and Tier 2 mechanisms of implementation because it rests on negotiation whereas Tier 1 and Tier 2 are plan based. Tier 3 is applied only on large projects while Tier 1 and Tier 2 cover small to medium projects. So far, Tier 3 has been applied on a limited number of cases, while Tier 2 represents the most common way of implementing the LUCE plan (Interviews with city officials of the City of Santa Monica, December 2018).

Table 5.8 summarizes the LUCE 2010 programme and shows how, by progressing from Tier 1 to Tier 3, the public benefits in terms of a higher percentage of affordable housing required to be provided as the developers get more height and FAR.

Table 5.8: Tiers under Santa Monica's LUCE 2010;

	TIER 1	**TIER 2**	**TIER 3**
Height	Establishes the base height and FAR	Above base height and FAR	Above tier 2

Community Benefits	No additional community benefits save for the existing ones under AHPP pre-LUCE 2010	50% more affordable housing than Tier 1 must be provided	Higher numbers of affordable housing units through development agreements
Approval Process	Ministerial (by-right)	Ministerial (by-right)	Includes public review
Additional Development	3 to 7 extra feet (1 extra floor) allowed if affordable housing is provided on-site or close to transit corridors	Additional height and FAR provided	More height and FAR than tier 2
In-lieu fees	All Apartment projects can pay in-lieu fees. For Condominium projects, only those of 3 units or less, or projects located in commercial zones, can pay in- lieu fees	Payment of in-lieu fees not allowed	Payment of in-lieu fees allowed
Affordable Housing Requirements	Same as in the AHPP pre-LUCE 2010	5% extremely low-income, or 15% very low-income, or 30% low-income. No Moderate-income units allowed.	By negotiation
Size & Number of Affordable Units' Bedrooms	Same as in the AHPP pre-LUCE 2010	Bedroom number same or greater than the number of market-rate bedrooms. Size must be the same as the market-rate units. Must have at least 15% 3-bedroom units, at least 15% 2-bedroom units and not more than 15% studios. The average	By negotiation

		number of bedrooms must be 1.2	
Scale	Small to Medium	Small to Medium	Large

Source: Authors' elaboration on City of Santa Monica data, December 2018.

5.8.4   Towards an Evaluation of LUCE

The researcher began by seeking to understand what has been pushing the city to seek for innovative ways of financing affordable housing. Interviews with city officials and documents availed revealed several compelling factors. Firstly, the reduced federal support of public housing since the 1970s has resulted in a housing shortage manifested in low vacancy rates and rising rents. Secondly, the dissolution of the Redevelopment Agency (RDA) in 2012 affected the city's affordable housing production as RDA was the single largest funding source for affordable housing and was instrumental in increasing affordable housing production in the past (Blount et al., 2014). Thirdly, the city has been responding to the serious need for affordable housing as reflected in local, state and federal housing regulations and policies (Ordinance No. 2486CCS adopted on 23/06/2015). Fourthly, the city aims to maintain an inclusive diverse community (City Council Special Meeting Minutes of 23/8/2015). Fifthly, the latest policy (LUCE 2010) was Santa Monica's innovative way of responding to the Palmer ruling, which prevented a mandatory IH rental policy. A developer can choose to provide rental housing under Tier 2 in exchange for more height and FAR, while under Tier 3 rental inclusionary units can be part of a development agreement. This arrangement makes the requirement for rental housing provision legal, since it is voluntary and enables recapture of land value for community benefits possible.

It is extremely important at this point to stress that the Santa Monica programme is in addition to, and on top of, existing IH requirements. It is very similar to a density bonus programme, but different in that it is based on a land use plan, on economic analyses that ascertain the land value increases due to the density bonus (for land value capture), and on extensive public participation. To evaluate AHPP under LUCE 2010, the researcher sought to understand how the programme works and how the city ensures compliance with AHPP requirements by developers. To begin with, as developers get project approvals, they have to sign an agreement with the city which imposes restrictions on their properties. To remove any possible bias and enhance equity, the city requires developers to accept prospective tenants only from the city's consolidated list of appropriately qualified applicants. Developers are required to submit annual online reports on

tenants and their household incomes. Household incomes are allowed to increase to 140% of income limit before tenants are required to move out to allow other deserving households to benefit.

It was found that developers have embraced LUCE 2010 positively as it has brought provisions to the AHPP which enhanced their project's feasibility compared to the provisions existing before. For instance, the provision giving 25% to 50% discounts on in-lieu fees if offsite development occurs on land in non-residential zones was expensive to exploit before 2010 due to a lengthy costly approval process. This provision which aimed at reducing pressure on residential land and dispersing residential development to commercial and industrial zones was almost redundant and unutilized before 2010. However, LUCE 2010 brought a comprehensive mixed-use policy assuring quick approvals and developers have utilized the provision resulting in developments spreading into these unutilized zones.

The majority of the projects particularly before LUCE 2010 chose to pay in-lieu fees. Between 2003/2004 and 2009/2010, 70 out of 82 projects (85%) by for-profit developers paid in-lieu fees. Under the LUCE 2010 programme, payment of in-lieu fees is not allowed under tier 2 and this together with increased offsite affordable housing construction explains why out of 55 projects by for-profit developers, only 30 of them (55%) paid the fees. Figure 5.1 illustrates the marked decrease in projects paying the in-lieu fees in post-LUCE 2010 as compared to pre-LUCE 2010. Figure 5.1 also shows that the number of off-site constructions of affordable units increased after 2010.

Figure 5.1: Number of Projects in Santa Monica (2003- 2017). Source: Authors' elaboration on City of Santa Monica data, December 2018.

The researcher questioned why, in post-LUCE 2010, still 55% of the projects were taking the option of paying in-lieu fees instead of incorporating more IH on-site, since this high percentage goes against the LUCE 2010 goal of ensuring mixed income neighbourhoods. Evidence from the interviews and the quantitative data gathered from the City of Santa Monica planning office clarified that the projects which paid in-lieu fees in the post-LUCE 2010 period were mostly small projects. It is obviously challenging for a small project to identify a suitable percentage of affordable units on-site, and it is expected that small developments would tend to pay the in-lieu fee. Well distributed affordable housing is easier to achieve in large developments, where more flexibility in the allocation of the units is possible. As shown in figure 5.2, in the post-LUCE 2010 period, the majority of the projects that paid in-lieu fees were very small projects. 83% of the projects had a total of 1 to 5 units, 10% had 6 to 10 units, 3.5% had 16 to 20 units and only 1% had 26 to 30 units. In comparison, in the period 2003-2010 (pre-LUCE), larger projects paid in-lieu fees with 70% having 1-5 units, 18% with 6 to 10 units, 2.5% with 11 to 15 units, 4% with 16 to 20 units, 1.5% with 21 to 25 units, 2.5% with 51-100 units and 1.5% with 101 to 150 units. The fact that, in the post-LUCE 2010 period, there were no projects with more than 30 units that paid in-lieu fees, when previously projects with over 100 units took that option, is a manifestation of success in ensuring mixed income developments and ensuring social integration. This finding

brings impetus to the intense debate going on within the affordable housing advocates' community relating to whether IH developers should be allowed to pay in-lieu fees, or be required to build the affordable units within the project they are proposing. In debating this, we need to remind ourselves that IH is not only about producing affordable housing, but also about enabling social and economic integration. With an increase in projects choosing on-site affordable housing provision in Santa Monica after LUCE 2010 we argue that: (1) the low-income households are likely to benefit from living close to higher-income people because social and economic opportunities for low-income families are enhanced by living in the same building as their wealthier next door neighbours, and (2) more affordable units would be built since the in-lieu fee does not usually cover the full cost of building affordable units. Additionally, construction of IH housing units is especially important for Santa Monica because every market-rate project built without affordable units makes it more difficult to build affordable housing projects, because it decreases an already short supply of developable land. And in a region where many neighbourhoods are gentrifying, inclusionary units would ensure a minimum of social integration.
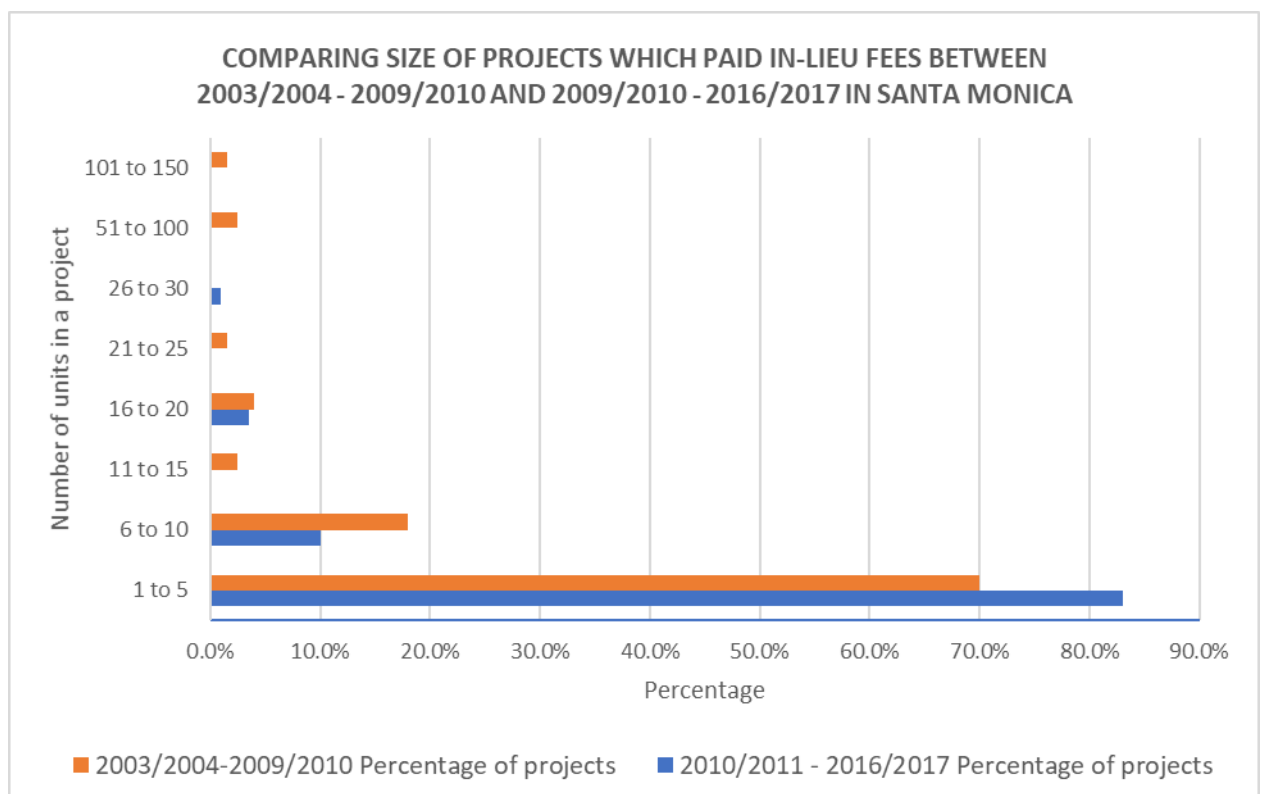
Figure 5.2: Size of projects paying in-lieu fees in Santa Monica (2003 – 2017). Source: Authors' elaboration on City of Santa Monica data, December 2018.

Interviews with city decision and policy makers indicated that there is a feeling that the in-lieu fees are too low and not commensurate with the loss of affordable units. Information from the housing department indicated that producing an affordable low-income unit costs approximately $500,000. However, looking at table 5.9 below, the fees paid falls far below that cost and is also inconsistent with the number of units lost. In the table, the researcher calculated the number of units which projects paying in-lieu fees could have built if they had provided on-site affordable units based on the AHPP requirement of 30% for low-income housing category. The last column showing the average fee per unit illustrates the inconsistency (fluctuations up and down over the years) in the amount of fees compared to the units lost.

Table 5.9: In-Lieu fees paid in Santa Monica (2010-2017).

PERIOD	NUMBER OF PROJECTS WHICH PAID IN-LIEU FEES	NUMBER OF MARKET RATE UNITS FOR PROJECTS WHICH PAID IN-LIEU FEES	APPROXIMATE AFFORDABLE LOW-INCOME UNITS IF ON-SITE UNITS WERE PROVIDED @30%	FEES PAID (US$)	AVERAGE FEE PAID PER UNIT (US$)
2010/2011	2	12	4	239,510	66,530.56
2011/2012	4	21	6	717,184	113,838.73
2012/2013	5	48	14	442,246	30,711.53
2013/2014	3	9	3	451,199	167,110.74
2014/2015	9	32	10	1,093,252	113,880.42
2015/2016	3	8	2	481,232	200,513.33
2016/2017	4	29	9	1,247,872	143,433.56

Source: Authors' elaboration on City of Santa Monica data, December 2018.

It is important to note that, in most cases, in-lieu fees are leveraged to access external funding, such as Federal Low-Income Housing Tax Credits, allocated by the State. When this happens, it results in at least double the number of units constructed. But, as the data in table 5.9 above show, it will require in-lieu fees to be leveraged at least five times to achieve an affordable unit (going by 2016/2017 average fee paid per unit) which is not easy to achieve (interviews with city officials, 2018).

Quantitative results from the LUCE 2010 programme show that between the 2010/2011 fiscal year and the 2016/2017 fiscal year, cumulatively 1663 housing units were produced in the city. Of these, 974 units were market-rate units and 689 were affordable units. Therefore, 41% of the housing units

produced in the city during this period were affordable. It was found that private developers preferred incorporating very-low income units because the requirements allow them to provide less of these units thus allowing them to get more market-rate units. Figure 5.3 below presents the affordability levels of the 689 affordable units and shows that there were more affordable units provided in the very low-income category.
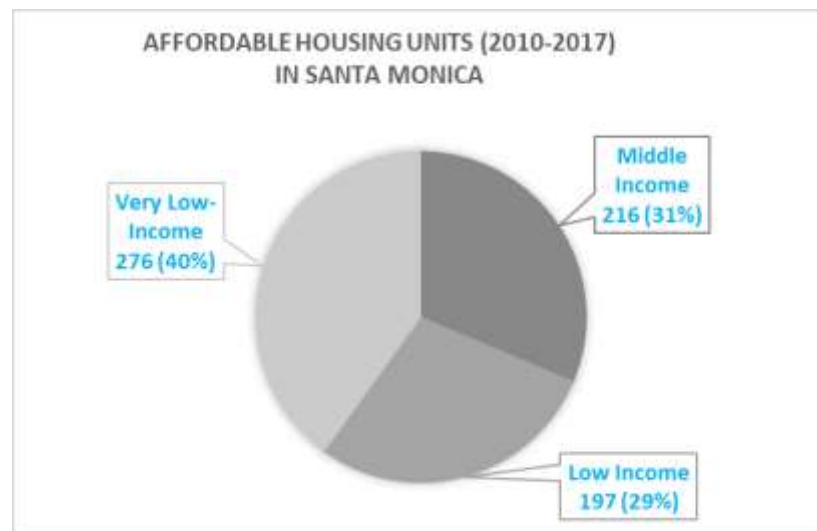
Figure 5.3: Affordable housing in Santa Monica (2010- 2017). Source: Authors' elaboration on City of Santa Monica data, December 2018

The researcher analysed the contribution of the market through the inclusionary policy and found that, out of the 689 affordable units, 259 were produced from the market whereas 430 were city-funded produced by non-profit developers (figure 5.4). This means that within the seven years the programme has been in place, 38% of all newly produced affordable units in the city were financed by the market, built by market-rate developers through the inclusionary policy with no cost to the city save for administration expenses.
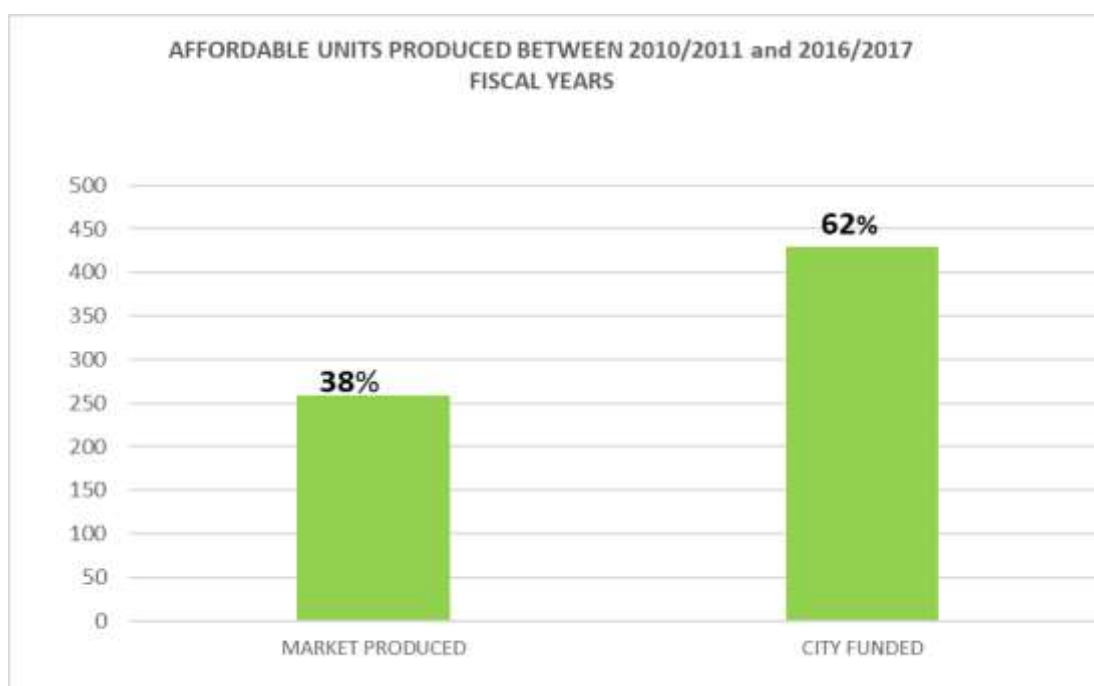
Figure 5.4: Affordable housing units produced in Santa Monica (2010-2017). Source: Authors' elaboration on City of Santa Monica data, December 2018.

It is important to note that the above numbers do not include affordable units preserved using federal funds. It is also worth noting that the market contribution under the LUCE 2010 programme is even greater than the 38% because the in-lieu fees paid by private developers partly constitute the city funds loaned to not-for profit developers. According to city officials, in-lieu fees constitute about 10% of the total city funds for affordable housing. As noted earlier, when these funds are leveraged, they bring at least double funds hence approximately 20% of the city funded affordable housing units are attributable to in-lieu fees. However, data on the exact number of affordable housing units resulting from in-lieu fees or the exact amount leveraged from the fees was not available since the City of Santa Monica did not closely monitor such data. Therefore, the officials interviewed could only give approximations and not actual figures. This is a weakness which the researcher also found in other three cities with IH programmes in California which he covered under the larger research project. There is, therefore, a need for stricter data monitoring and further research could be conducted after a reasonable timeframe to assess what in-lieu fees actually achieve in terms of affordable housing production; but this analysis offers a certain amount of evidence that, in the case of Santa Monica, prohibiting payment of in-lieu fees generated more affordable housing from market- rate developers after LUCE 2010. What is clear is that in-lieu fees as part of city funds are used to produce off-site affordable housing units and may not help to disperse affordable housing units

and increase social integration across different income groups as on-site affordable housing units do. This is well demonstrated ahead in figure 5.7 and the related discussion.

In order to understand the impact of LUCE 2010 on affordable housing production, we analysed data on the affordable units financed from the market using the inclusionary policy in a temporal perspective. Firstly, we focused on the programme itself and compared data for fourteen fiscal years, seven years before and seven years after the LUCE 2010 implementation. Between 2003/2004 and 2009/2010, market rate developers produced 223 affordable units and 1106 market-rate units. Between 2010/2011 and 2016/2017, the production by market developers of affordable units increased to 259 and that of market-rate units decreased to 974 (figure 5.5). This is a 15% increase in affordable units and a 12% decrease in market-rate units. Comparing the proportion of affordable units to total units produced by market-rate developers, it was found that whereas 17% of all units produced by market-rate developers between 2003/2004 and 2009/2010 were affordable, this increased to 21% between 2010/2011 and 2016/2017.
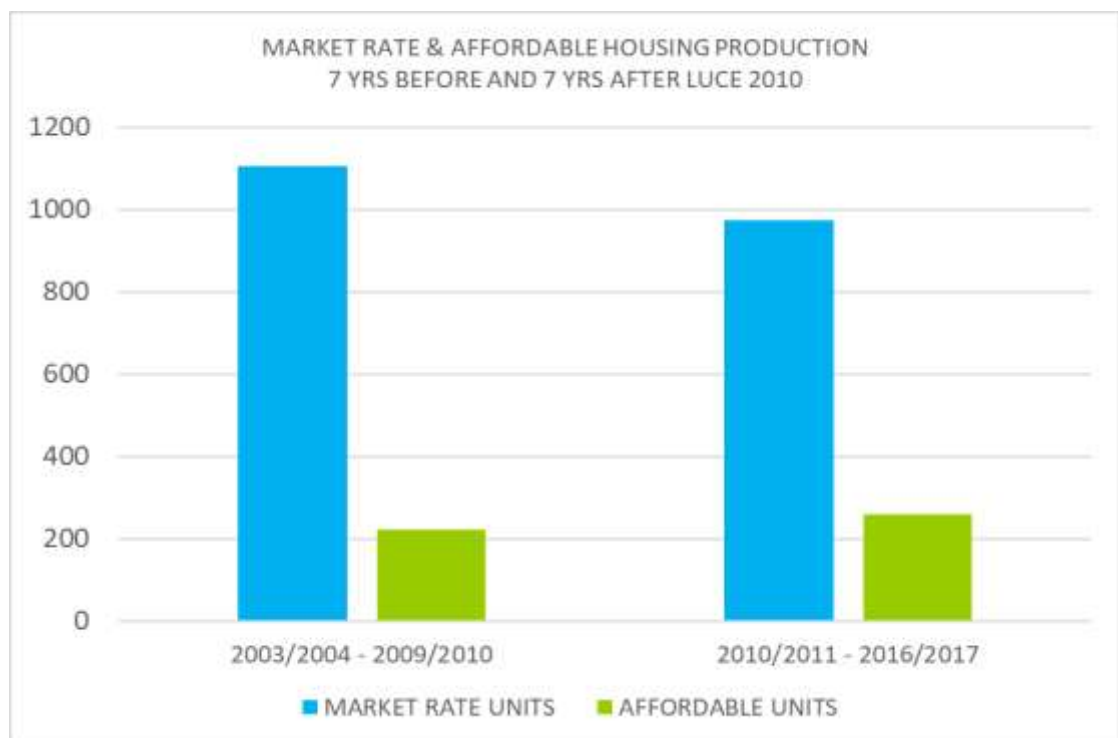
Figure 5.5: Market rate & Affordable units' production in Santa Monica 2003-2017.
Source: Authors' elaboration on City of Santa Monica data, December 2018

From the literature and interviews with developers and affordable housing experts, we identified other factors that might impact upon affordable housing production and controlled them in order to isolate the impact of the LUCE 2010, relative to these other factors. The factors identified are:

(i) housing demand; (ii) the cost of credit finance; (iii) housing prices/rents; (iv) land prices, and (v) the cost of construction (materials and labour). Measurements were undertaken for all the individual factors over a 14 years' period (the seven pre-LUCE years and the seven post-LUCE years). Table 5.10 below summarizes how the factors were measured and lists the data sources.

Table 5.10: Key factors hypothesized to affect affordable housing production in Santa Monica between 2003 and 2017.

FACTOR	MEASUREMENT	SOURCE
Housing demand	Average annual rental vacancy	U.S. Census Bureau's American Community Survey
Cost of credit finance	US 15-year Fixed Rate Mortgage (FRM) rate	Freddie Mac's Primary Mortgage Market Survey
Housing prices / rents	Rate of annual increase in median rents	U.S. Census Bureau's American Community Survey
Land prices	Rate of annual change in land prices	Federal Housing Finance Agency & City of Santa Monica
Cost of construction (Materials and labour)	Construction prices indexes	U.S. Census Bureau
LUCE 2010	Ordinal measurement (1 for Post-LUCE and 0 for pre-LUCE 2010)	City of Santa Monica

Source: Author's Construction based on literature review and interviews with experts; Data from City of Santa Monica; U.S. Census Bureau, accessed December 2018; Federal Housing Finance Agency, 2019; Freddie Mac's Primary Mortgage Market Survey, n.d)

The hypothesis to be tested were formulated as follows: (1) Null hypothesis: There is no correlation between LUCE 2010 and affordable housing production; (2) Alternative hypothesis: There is a positive correlation between LUCE 2010 and affordable housing production.

Using SPSS Statistics, a partial correlation was run to determine the relationship between affordable housing production and the LUCE 2010 policy while controlling for the six other factors identified above. The descriptive statistics (table 5.11) show that there was no missing data since the recorded sample N=14 is the same as the number of years data was entered. N shows the number of observations and for this case there are 14 observations, each observation representing annual affordable housing production for one year. We can also see that the mean

for affordable housing for the 14 years is 34.4286 with a standard deviation of 27.11433. The correlation results are presented in table 5.12.

Table 5.11: Results of the descriptive statistics for the key factors hypothesized to affect affordable housing production in Santa Monica between 2003 and 2017.

Descriptive Statistics			
	Mean	Std. Deviation	N
Affordable_Housing	34.4286	27.11433	14
LUCE	.5000	.51887	14
Rental_vacancy_rate	2.5500	.56806	14
Rate_median_rent	3.1143	1.03764	14
Cost_Credit	4.2950	1.12012	14
Rate_land_price	10.4393	4.26858	14
Cost_of_Construction	4.0571	2.92935	14

Source: Author's data analysis

Table 5.12: Results of the partial correlation analysis of the key factors hypothesized to affect affordable housing production in Santa Monica between 2003 and 2017.

Control Variables			Affordable_Housing	LUCE	Rental_vacancy_rate	Rate_median_rent	Cost_Credit	Rate_land_price	Cost_of_Construction
Correlations									
-none-[a]	Affordable_Housing	Correlation	1.000	.298	-.606	-.321	.009	-.077	.416
		Significance (2-tailed)	.	.007	.022	.264	.976	.794	.139
		df	0	12	12	12	12	12	12
	LUCE	Correlation	.098	1.000	.431	-.586	-.895	.593	-.056
		Significance (2-tailed)	.738	.	.124	.028	.000	.025	.850
		df	12	0	12	12	12	12	12
	Rental_vacancy_rate	Correlation	-.606	.431	1.000	.120	-.481	.482	-.291
		Significance (2-tailed)	.022	.124	.	.683	.082	.081	.313
		df	12	12	0	12	12	12	12
	Rate_median_rent	Correlation	-.321	-.586	.120	1.000	.643	-.147	-.034
		Significance (2-tailed)	.264	.028	.683	.	.013	.617	.908
		df	12	12	12	0	12	12	12
	Cost_Credit	Correlation	.009	-.895	-.481	.643	1.000	-.605	.031
		Significance (2-tailed)	.976	.000	.082	.013	.	.022	.917
		df	12	12	12	12	0	12	12
	Rate_land_price	Correlation	-.077	.593	.482	-.147	-.605	1.000	.390
		Significance (2-tailed)	.794	.025	.081	.617	.022	.	.169
		df	12	12	12	12	12	0	12
	Cost_of_Construction	Correlation	.416	-.056	-.291	-.034	.031	.390	1.000
		Significance (2-tailed)	.139	.850	.313	.908	.917	.169	.
		df	12	12	12	12	12	12	0
Rental_vacancy_rate & Rate_median_rent & Cost_Credit & Rate_land_price & Cost_of_Construction	Affordable_Housing	Correlation	1.000	.397					
		Significance (2-tailed)	.	.029					
		df	0	7					
	LUCE	Correlation	.397	1.000					
		Significance (2-tailed)	.029	.					
		df	7	0					

a. Cells contain zero-order (Pearson) correlations.

Source: Author's data analysis using SPSS Statistics

The above table shows two results – the one at the bottom highlighted by a blue rectangle shows correlation between LUCE 2010 and affordable housing production while controlling for all other variables identified. The results at the top (called zero-order correlations) highlighted by the green rectangle shows correlation between affordable housing production and LUCE 2010

without controlling for the other variables identified. The coefficient of correlation (r) shows the strength and direction of correlation and its value ranges from -1 to +1. Correlations above 0.4 are considered to be relatively strong; correlations between 0.2 and 0.4 are moderate, and those below 0.2 are considered weak. The p-value helps in determining the significance of the correlation results and is a number between 0 and 1. A small p-value (typically ≤ 0.05) indicates strong evidence against the null hypothesis and the null hypothesis is rejected and vice versa.

The above results show a positive moderate partial correlation between affordable housing production and LUCE 2010 while controlling for housing demand, the cost of credit finance, housing prices/rents, land prices and the cost of construction (highlighted by the blue rectangle). This correlation was statistically significant, (r(7) = 0.397, N = 14, p = 0.029). With a p-value of 0.029 (less than 0.05), it means the correlation is significant. The zero-order correlations between affordable housing production and LUCE 2010 without controlling for housing demand, the cost of credit finance, housing prices/rents, land prices and the cost of construction (highlighted by the green rectangle) showed that there was also a statistically significant, positive correlation between affordable housing production and the LUCE 2010 policy (r(12) = 0.298, n = 14, p =0.007), indicating that the other five variables had very little influence in controlling the relationship between affordable housing production and the LUCE 2010 policy. This is because even when they are not controlled, they do not render the correlation between LUCE 2010 and affordable housing production insignificant. With these results, we reject the null hypothesis and accept the alternative hypothesis that there is a positive correlation between LUCE 2010 and affordable housing production.

In order to evaluate the ability of LUCE 2010 to harness the market and increase the proportion of affordable housing in relation to the total housing produced in the city, the researcher compared the housing outputs from the LUCE programme with outputs in two other southern Californian cities (Los Angeles and San Diego). These two cities were selected because they are the biggest south Californian cities with growing real estate markets and they run IH programmes. Unfortunately, the researcher could only get Los Angeles and San Diego's housing output data for the period 2009 to 2017 and, therefore, the comparative analysis covers this period. The researcher wanted to ascertain if the increase in proportion of affordable housing in relation to the total housing produced was happening in the two big cities. In doing this, he

compared the trends in total housing, market-rate housing and affordable housing production in Santa Monica and the two cities. The comparative results in figure 5.6 show that the trend in affordable housing production in Santa Monica is different from the other two cities as it increases and decreases with both market-rate and total housing productions. In the other two cities, annual affordable housing production does not follow the pattern of both market-rate and total housing production and is actually almost flat over the years. These results demonstrate that Santa Monica city is harnessing the market for affordable housing production more efficiently than Los Angeles and San Diego cities.
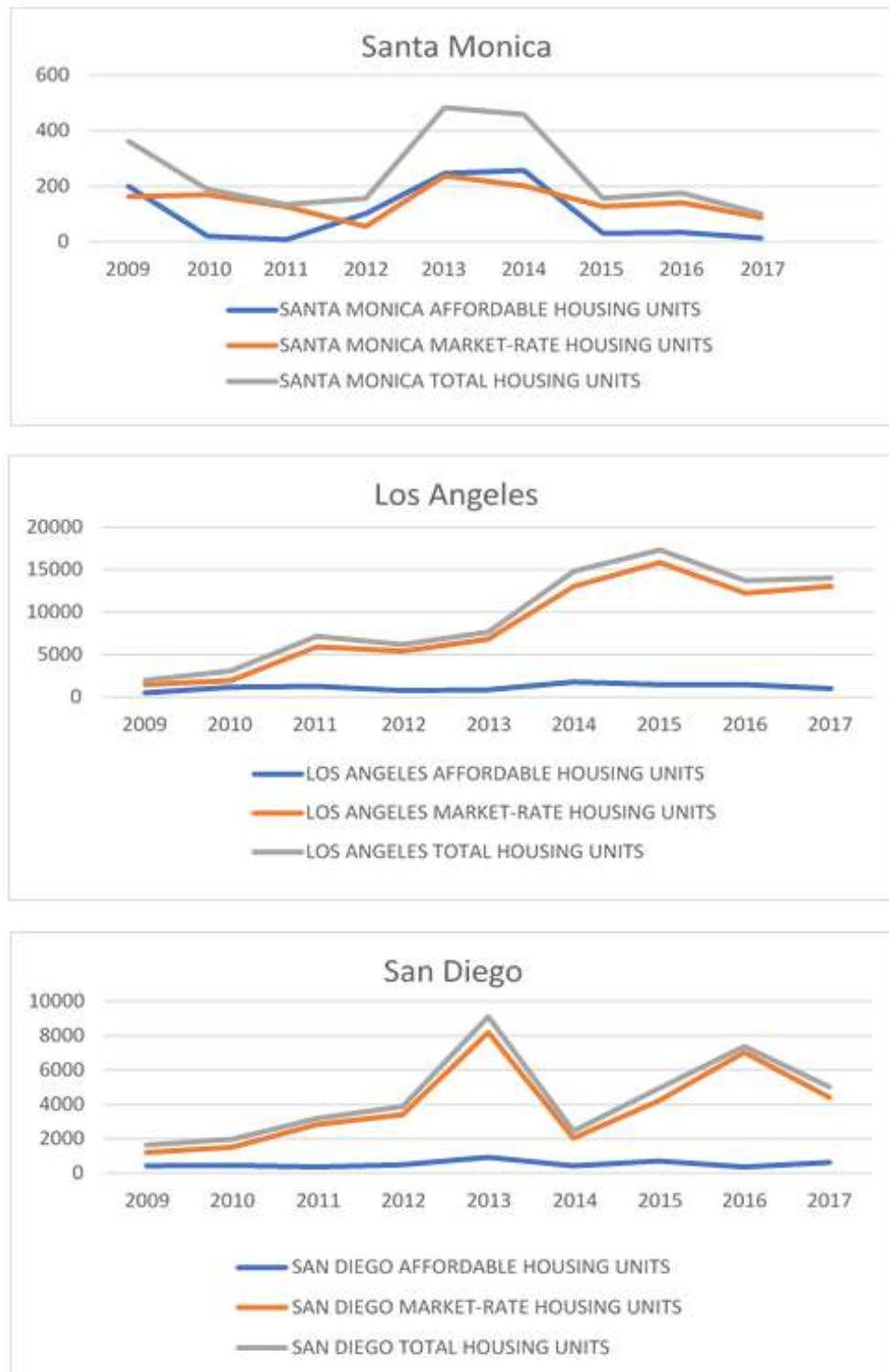
Figure 5.6: Trends in total, market-rate and affordable housing productions in Santa Monica 2009-2017, benchmarked against Los Angeles and San Diego.   Source: Authors' elaboration on Cities of Santa Monica, Los Angeles and San Diego data, December 2018.

To find out if AHPP has helped to disperse affordable housing across the city, using geo-coded property data for the whole city, the researcher mapped the locations of the for-profit market

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developments with affordable units and the city funded housing projects (figure 5.7). It can be seen that AHPP through the market developments has dispersed affordable housing across the city better than the city funded programme. Of critical importance is the finding that AHPP has enabled low income households to access costly neighbourhoods of opportunity including the downtown in a way they could not have if the city relied on its funded projects alone. Figure 5.7 shows the land use map of Santa Monica City overlaid with location of affordable housing units, produced through both the IH policy (red dots) and the city funds (blue dots). The figure shows a high number of IH units in the downtown area - 12 market-rate buildings were built within the city downtown area (orange colour on the map). Only 3 city funded buildings were built in the downtown. Moreover, the 12 IH buildings are well dispersed in the whole downtown area, unlike the 3 city funded buildings which are clustered in a small area of the downtown. Similar situations emerge in the high cost low-density neighbourhoods of the city. These areas have better services including quality schools, better walk scores and better access to parks.
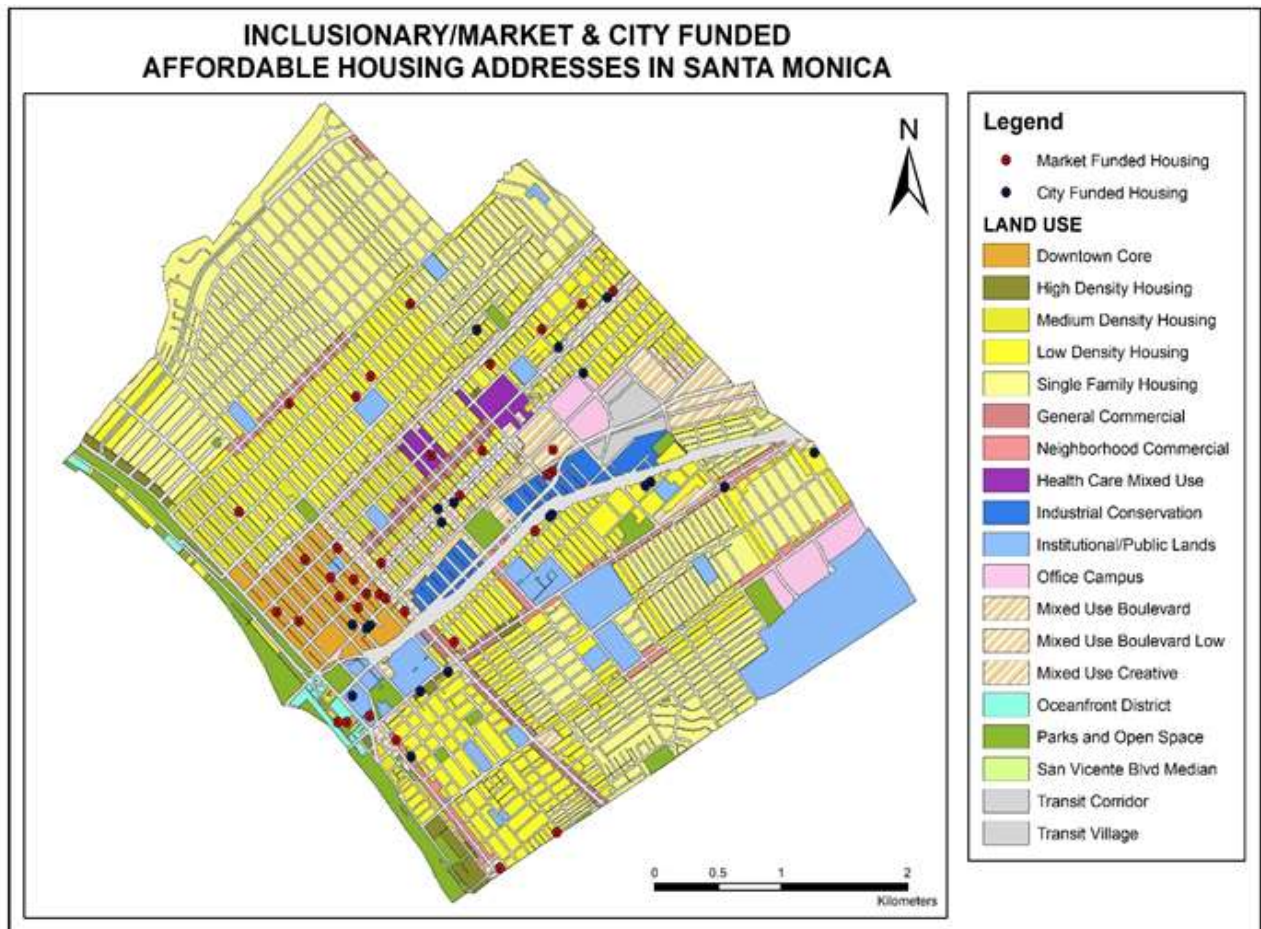
Figure 5.7: Location of affordable housing units in Santa Monica. Source: Mapping by the author based on City of Santa Monica data, December 2018.

City officials were asked if there could be any requirements by the city council placed on the non-profit developers who are funded by the city which could have influenced the location of their projects. It was confirmed that these developers were not subject to any legal or regulatory constraints that could have driven the choice of location of their projects. The location of these projects is mostly determined by land prices hence mostly being located in relatively cheaper and less affluent neighbourhoods than market-rate projects.

The researcher sought to find out the quality of services enjoyed by the affordable unit occupants in their neighbourhoods. As mentioned in the methodology chapter a survey was undertaken among the city residents. Table 5.13 below shows the demographics of the sample.

Table 5.13: Demographics of the survey sample, Santa Monica (December 2018).

Gender	Male	69%
	Female	31%
Race	White/Caucasian	34%
	Hispanic/Latino	16%
	African American	16%
	Asian	16%
	Mixed	12%
	American Indian/Alaska native	6%
Age	Below 25 Years	12.5%
	25-34 years	37%
	35-44 years	16%
	45-54 Years	16%
	55-64 Years	12.5%
	Over 65 Years	6%
Stratum	Market rate residents	61%
	Affordable units' residents	39%

Source: authors' survey from 64 respondents out of a sample of 85, December 2018.

In the survey questionnaires that was administered to them, the researcher asked them to score the quality of various services they enjoy within their neighbourhoods on a scale of 1 – 5. The results are shown in table 5.14.

Table 5.14: Scoring of access to services by respondents in Santa Monica, December 2018.

SERVICE	SCORE	NO. OF RESPONDENTS	MEAN SCORE	STANDARD DEVIATION
Access to Quality Schools	4	10	4.84	0.3631
	5	54		
Access to better walkways	3	4	4.80	0.5356
	4	5		
	5	55		
Access to Public parks	4	52	4.19	0.3903
	5	12		
Access to Employment	2	15	3.86	1.2483
	3	10		
	4	8		
	5	31		

Source: Survey by authors

The above results show that affordable housing residents rated highly the services in the neighbourhoods in which they resided. ''Access to quality schools'' was best rated with a mean score of 4.84 out of 5 followed by ''access to better walkways'' and ''access to public parks'' with mean score of 4.80 and 4.19 out of 5 respectively. This means that the residents are satisfied with the level of services in their neighbourhoods.

As mentioned earlier, the sample was stratified to reflect the different experiences of the two groups of residents, those occupying market-rate housing and those occupying affordable housing. To find out if social integration had been achieved in the IH developments and the neighbourhoods, questionnaires with closed and open-ended questions were served on both stratums of the sample. Residents were asked whether they felt their neighbourhoods were socially well integrated and the reason(s) for their answer. The survey results show that the majority of the residents feel that the neighbourhoods with IH are socially well integrated. However, there was some disparity in approval of integration among the two groups with higher approval coming from the market-rate residents. As shown in figure 5.8, 95% of market-rate units' residents and 80% of affordable units' residents felt that their neighbourhoods are well integrated, with 20% of affordable units' residents indicating that the neighbourhoods are not

well integrated compared to 5% of market-rate residents who indicated the same. These results suggest that the expectations of affordable units' residents in terms of what constitutes a well-integrated neighbourhood is higher than those of the market-rate residents.

Residents who thought their neighbourhoods were well integrated mainly gave two reasons. These are: the presence of different economic groups and the presence of different racial groups within the neighbourhoods. Those who thought the neighbourhoods are not well integrated observed that there are too few affordable units compared to the number of needy people.
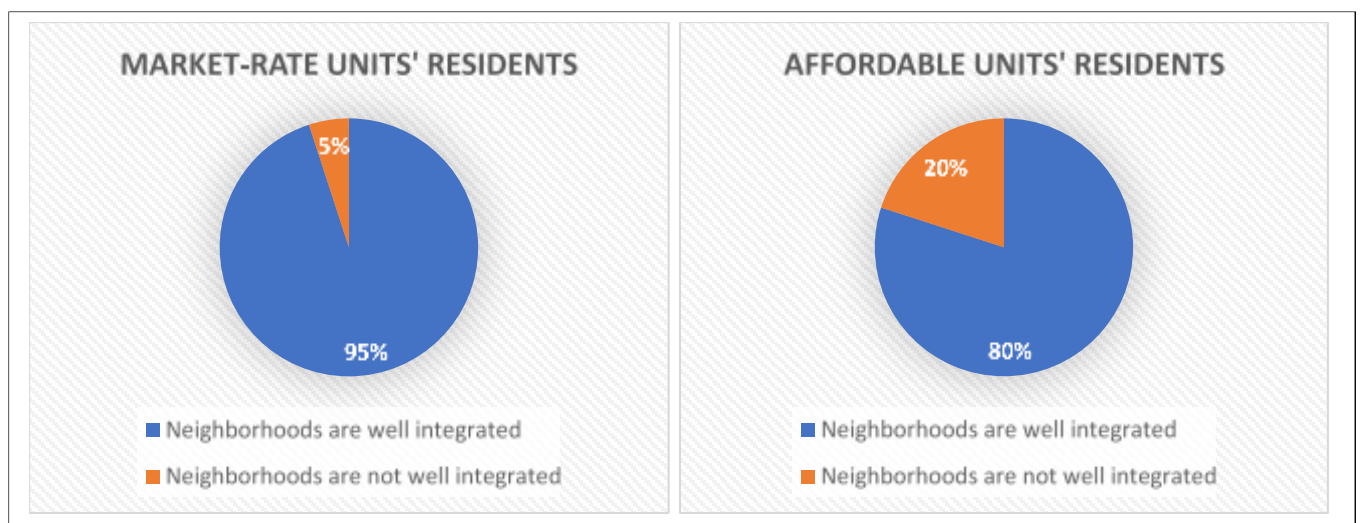
Figure 5.8: Respondent's response to the level of integration in their neighbourhoods in Santa Monica; Source: Survey by authors (December 2018)

Figure 5.9 shows the distribution by race of residents who indicated that neighbourhoods are well integrated.
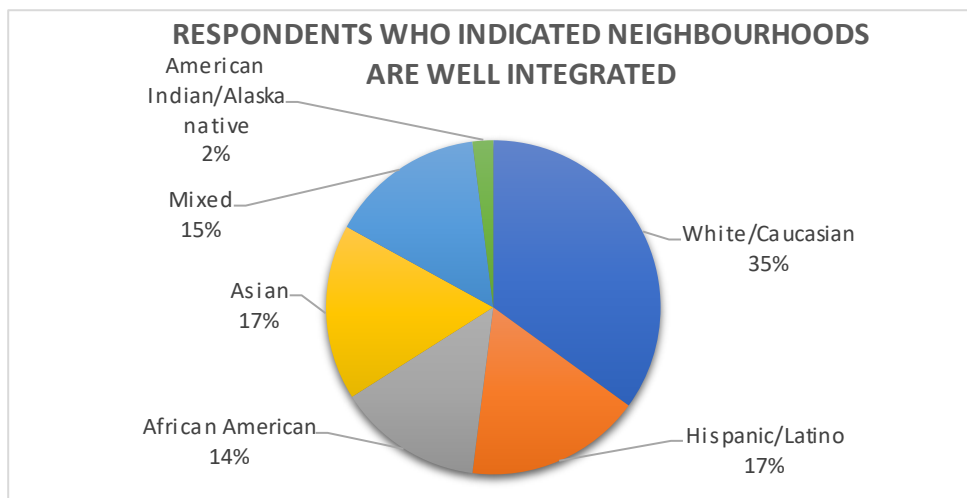
Figure 5.9: Distribution by race of respondents who indicated that neighbourhoods are well integrated in Santa Monica. Source: Survey by authors (December 2018)

Asked if they were aware if there are affordable units in their neighbourhood, 90% of market-rate occupants replied in the affirmative. But asked if they were aware if there are affordable units within their buildings, only 40% of market-rate occupants replied in the affirmative. 60% of market-rate occupants were not aware of the presence of affordable units within their buildings. The researcher asked those who were aware that there are affordable units within their buildings if they knew the units which are affordable. Only 10% (of the 40% of market-rate occupants) said they knew at least one affordable unit within the building and also knew their occupants and somehow interacted with them. They, therefore, knew of such affordable units from the interaction with their occupants and not from the physical appearance of the units.

From the responses on the open-ended questions, three main drivers for interaction among residents were identified. It was observed that residents, who had interacted, had met either (i) in the common rooms/spaces, (ii) through their children, or (iii) when walking their dogs. The results show that those residents residing in buildings with common rooms and those having children and dogs were more likely to interact with others of different socio-economic groups. As shown in table 5.15, 50% of both the market-rate and affordable rate residents who interacted with neighbours indicated they did so when using the common rooms within their buildings. 50% of the market-rate and 30% of the affordable rate residents who interacted with neighbours indicated they met their neighbours through their children. Their children often visited or played

with their neighbours' children in the same building and the parents ended up meeting in the process. 20% of affordable units' residents who had interacted with market-rate units' residents indicated that they had met their neighbours while walking their dogs into or out of their buildings at the same time.

Table 5.15: Level of interaction in relation to the main drivers identified through the open-ended questions and by typology of residents in Santa Monica

Residents who interacted	in common rooms/spaces	Through children	When walking dogs	Total
Market units	50%	50%	0%	100%
Affordable units	50%	30%	20%	100%

(Source: authors' survey, December 2018)

The level of interaction was also found to differ with the demographic characteristics of the respondents and the length of stay in their current residences (figure 5.10). The survey found that residents who have stayed for a long time and who are older are more likely to interact with others. For those who had interacted with others, 70% of them had stayed in their present residences for more than two years. In terms of age, 10% were below 25 years, 20% were between 25 and 34 years, 20% were between 35 and 44 years and 50% were above 45 years.
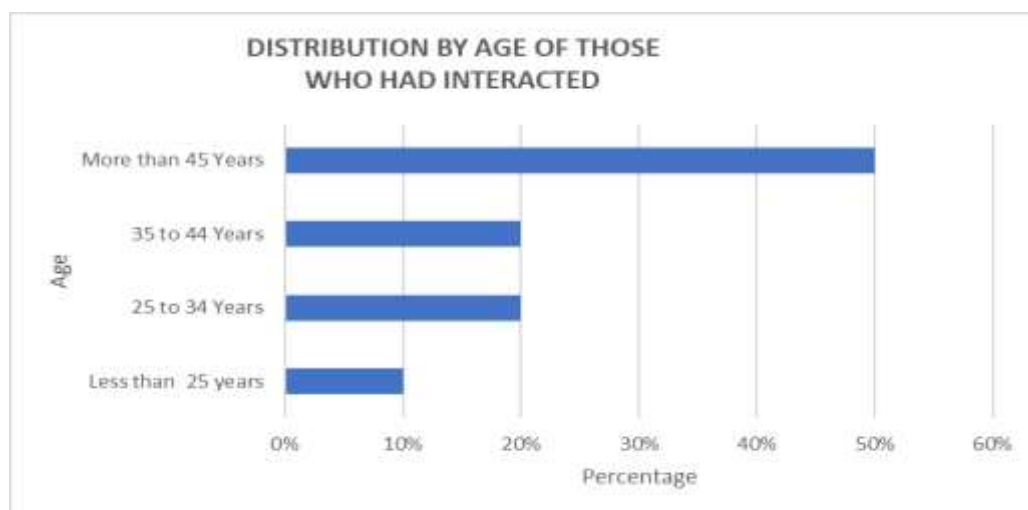
Figure 5.10: Distribution by age of those who had interacted in Santa Monica
Source: Survey by authors (December 2018)

In terms of race, those who interacted were 30% white/Caucasian, 20% Hispanic/Latino, 20% African American, 10% Asian and 20% mixed race. This is shown in figure 5.11 below:
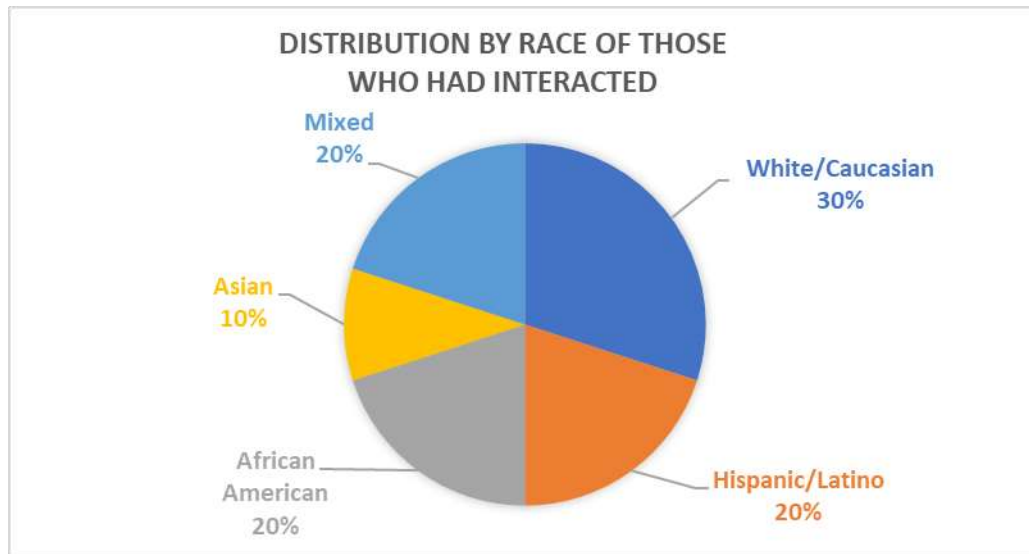
Figure 5.11: Distribution by race of those who had interacted in Santa Monica

Source: Survey by authors (December 2018)

Residents living in affordable units were asked further closed questions including where they had resided before, whether they thought that moving into the neighbourhood had improved their socio- economic status, and whether they had noticed any negative bias associated with their status of residence in an affordable / below market unit. Affordable units' occupants surveyed indicated they had resided either in low income (50%) or mixed income (50%) neighbourhoods before getting their present affordable units. They all indicated that they were happy with their present neighbourhoods. 80% of them considered that moving into their present neighbourhoods and occupying their present housing units had improved their socio-economic status because of the benefits they enjoy including easy access to work, schools, transport and public facilities. The majority of them (90%) indicated that they had never experienced any bias within their residences. The 10% of the affordable units' respondents who had experienced some form of bias said mostly that it did not emanate from within their residences but from their needy colleagues who were upset that they did not have access to the affordable units themselves.

Generally, the findings revealed that there is great support for an inclusionary policy among residents. Asked if the presence of low-income people within their buildings undermined the satisfaction they got from their units, all the market-rate occupants said that it did not. Most respondents indicated that IH is a good and a necessary tool with impressive results. Others

indicated that more needs to be done to achieve better results. However, some cautioned that IH should not be applied everywhere in the city and zoning should be respected but mixed-use zoning should be promoted. There was a feeling among some of them that the city leaders are too 'soft' on developers and need to push them harder.

The findings from the survey have been further corroborated by fieldwork and direct observation, which confirmed that buildings following the IH regulations incorporate very-low income units which are not at all recognizable in visual terms. The only way to identify them is through the technical floor plans (Figure 5.12), but in terms of the actual built environment, they all look alike (Figure 5.13)

Figure 5.12: Floor plans for typical studio and two bedroomed apartments for a multi-family development (actual building shown in figure 5.13 below), Santa Monica City, Source: Developer's website: http://swaysantamonica.com/residences/floorplans, retrieved December 2018.

Figure 5.13: Inclusionary Housing along 6th and Broadway Avenues, Santa Monica
Source: Authors' photo, April 2018.

Although the programme has achieved great success, interviews with planning staff revealed that there are challenges in dealing with Tier 3 development agreements. The communities put the staff under enormous stress during negotiations with endless demands and the city ended up having 40 pending negotiation agreements after the implementation of LUCE 2010. However, most of these projects have now been either approved, withdrawn or given development review permits. Furthermore, interviews with the planning officers suggest that negotiation should be used on complex cases but should not be extended to all planning applications, to avoid overburdening the programme implementation.

5.9 Harnessing the Real Estate Market for Equitable Affordable Housing Provision: Insights from the City of San Francisco

5.9.1 Setting the Context for the Case Study

5.9.1.1 Location

San Francisco is located in Northern California on the West Coast of the US and includes significant stretches of the Pacific Ocean and San Francisco Bay as its boundaries. It is California State's only consolidated city-county and lies approximately 560 Kilometres North West of Los Angeles City.

5.9.1.2 Demographic Characteristics

San Francisco is one of the most densely populated cities in USA. As per the 2010 US census, it is the second most densely populated major American city after New York (among cities greater than 200,000 population). Tables 5.16 and 5.17 below summarises the city's demographic characteristics. San Francisco is a relatively small city, both in area and population with a long tradition of progressive/left politics.

Table 5.16: Population & Race distribution:

Area (Sq. Miles)	Population (1st July 2017)	Population Density (1st July 2017) People Per Sq. Mile	Race Distribution						
			White	Black/ African American	Asian	Mixed Race	American Indians & Alaska Native	Native Hawaiian & Other Pacific Islanders	Hispanic or Latino Origin (Of any Race)
46.87	884,363	18,868	47.2%	5.3%	34.2%	5.1%	0.4%	0.4%	15.3%

Source: Author's Compilation (Data from US Census Bureau)

Table 5.17: Age and Gender Distribution

Age and Gender Distribution				Population living below the federal poverty line
Under 18	65 or more	Men	Female	
13.5%	14.4%	51%	49%	12.5%

Source: Author's Compilation (Data from US Census Bureau & worldpopulationreview.com)

San Francisco experienced its largest population boom from 1848 to 1849, when its population grew a massive 2,400% because of the California Gold Rush. Its population has grown very steadily since then, except for declines during the 1960s through the 1980s (worldpopulationreview.com). San Francisco has seen an increase in population and jobs in recent years (City of San Francisco, 2014).

5.9.1.3 San Francisco Housing Market and Affordable Housing

As Walker (2018) observes, San Francisco Bay area is going through the worst housing crisis in its history with home prices and rents shooting through the roof. San Francisco city in particular remains one of the least affordable housing markets in the country and the World. With its increasing population attracted by a booming economy in both the city and the region, housing demand has continued to increase making the provision of adequate affordable housing a significant challenge for the city. Contributing to the high demand is the desire for high tech, wealthy employees in Silicon Valley to live in an exciting urban environment.

The property market in San Francisco enjoys a stable high demand with vacancy rates for both sale and rental remaining low. In 2010, vacancy rates were at 5.4% for rentals and 2.3% for homeownership (City of San Francisco, 2014). This shows a quick uptake of the housing stock within the housing market despite the housing prices and rents being among the highest in the country. The median value of owner-occupied housing units in the city is higher than the state's and nation's average as shown in table 5.18 below. However, the city has strived to increase affordable housing production over the years and has adopted a general plan, area plans and housing elements which support this goal.

Table 5.18: Median Value, Median Gross Rent & Home Ownership (2013-2017)

Market Characteristics in San Francisco (2013-2017)								
Median Value (Owner Occupied Houses)			The Median Gross Rent			Home Ownership		
San Francisco	California	US	San Francisco	California	US	San Francisco	California	US
$927,400	$443,400	$193,500	$1,709	$1,358	$982	37.3%	54.5%	63.8%

Source: Author's Compilation (Data from U.S. Census Bureau)

As at 2012, San Francisco's housing units consisted of roughly equal proportions of low-density single-family units, two to nine-unit medium density structures, and ten unit plus high-density buildings (City of San Francisco, 2014). However, this scenario has changed in the last few years with a trend to higher density development

Affordable housing in California is defined as housing which is affordable to and occupied by households of low and moderate-income and whose total cost does not exceed 30 percent of the corresponding Area Median Income (AMI) for each income group adjusted for household size. AMI's for all areas of the country are published annually by the U.S. Department of Housing and Urban Development. For San Francisco city/County, the 2018 AMI was $118,400 for a family of four adjusted for household size. Moderate-income households' income is between 81 percent and 120 percent of AMI and Low-income households' income is below 80 percent of AMI. The low-income is further categorised into extremely low-income (less than 30 percent of AMI), very low-income (between 31 and 50 percent of AMI) and low-income households (between 51 and 80 percent of AMI). The AMI of $118,400 in San Francisco compares to AMI's of $81,800 in San Diego and $ 69,300 in Los Angeles respectively.

The IH Programme in San Francisco also known as "Below-Market-Rate Programme" began in 1992 with the adoption of guidelines which required housing projects with 10 or more units that seek a conditional use (CU) permit or planned unit development (PUD) to set aside a minimum of 10% of their units as affordable units. These guidelines were legislated into law in 2002 with expansion of the requirement to all projects with 10 or more units. In 2006, the inclusionary requirements were increased to 15% if units were constructed on-site, and to 20% if constructed off-site and was applicable to projects of five units or more. In 2013, the inclusionary requirements were changed back to projects with 10 or more units and the on-site requirement went back down to 12% (San Francisco Planning Department, 2017)

According to the Housing element at year-end 2012, the median price for an average single-family home in San Francisco exceeded $855,500 and was over 1.2 times the cost of similar housing in the Bay Area and four times the national average. The gap between the nation's average housing prices and San Francisco housing prices has since grown wider.

San Francisco has one of the highest proportions of rental households in California states County, and the vast majority of residential buildings in the city are multifamily. U.S Census Bureau puts homeownership in San Francisco at 36.8% compared to the nation's homeownership of 63.6% for the period 2012-2016. This means 63.2% of San Francisco households are renters; this is quite high compared to the national average of 36.4% renters. Rental affordability continues to be a citywide problem. Average asking rents in San Francisco dropped slightly with the dot-com bust but remain high, climbing to $2,750 in 2007 and remaining constant until about 2011. After 2011, asking rents for a two-bedroom apartment skyrocketed to an average of $4,100 in 2014. To afford this level of rent in 2013, a household would need to earn about $170,000 a year (City of San Francisco, 2014)

Between 1990 and 2011, the percentages of low, moderate and middle income (50-150% AMI) households have decreased, while those in the very low income (up to 50% AMI) and highest income levels (more than 150% AMI) have increased. (San Francisco Mayor's Office of Housing and Community Development, 2014)

Home ownership still remains a dream for many middle- and lower-income levels of the workforce. Home sales prices in San Francisco has been steadily climbing since 2000 before peaking in 2005. With the global recession, prices dropped between 2005 and 2011. Since 2011, the price of housing in San Francisco continues to grow and based on the trend since 2000, the price of housing is projected to surpass the high prices seen in 2005 (City of San Francisco, 2014). The Housing Element 2014 estimates that only 16% of San Francisco's households can afford a median priced home in the city.

5.9.2   Rezoning and Land Value Capture under the Eastern Neighbourhoods Plans

5.9.2.1   The Case Study Contextualisation

The Eastern Neighbourhoods (EN) includes Mission, Showplace Square/Portrero Hill, East Soma, West Soma and the Central Waterfront. This area represents approximately 7% of the city's total area and is approximately 1,500 acres or 607 hectares in net area. The gross area including streets is 2000 acres or 809 hectares (San Francisco Planning Department, 2008).

During the 1990s, some areas south of the Market Street (SOMA) within the Eastern Neighbourhoods had experienced conflicts between residential and industrial uses. There were rapid increases in real estate values and widespread displacement of families and businesses as new commercial and market rate housing increased fuelled by new internet (dot-com) boom (Zuk & Chapple, 2015; Calavita, 2014). City policies had allowed "live work" spaces in warehouses and industrial structures with a simple conditional use permit, without paying development impact fees and in most cases, these were used only for residential purpose (Calavita, 2014). The area saw a vast amount of change, especially in housing development because residential use could pay more for land and outbid industrial use. Between 2002 and 2006, approximately 1,550 new residential units were constructed, primarily as market-rate ownership and live/work lofts (San Francisco Planning Department, 2008). Additionally, "dot com" businesses moved into the area, many of which displaced existing jobs and residences. On occasion, conflicts arose between some of these new office or residential uses and previously existing industrial uses, due to noise or other by-products of industrial businesses (San Francisco Planning Department, 2008).

Several authors (Casique, 2013; Calavita, 2014; Zuk & Chapple 2015; Opillard, 2015) have explained how a group called the "Mission Anti-Displacement Coalition" (MAC) was formed to fight the changes occurring in their neighbourhoods. When the city initiated a planning process for those areas, MAC proposed their own plan, called the People's Plan for Jobs, Housing, and Community. According to Calavita (2014), as part of the People's Plan preparation, the leaders of MAC came up with the idea of "Public Benefit Incentive Zoning" (PBIZ). They argued that increases in density create greater value for land owners and developers and that, a portion of this increase should be captured in the form of public benefits that would mitigate the impact of the additional development. The plan included a menu of public benefits, with affordable housing on top of the list. Eventually, the city embraced the concept of PBIZ as part of the planning process for the EN. The San Francisco Planning Department began a community driven land use planning process intended to permit housing development in some areas which were zoned for industrial use while protecting an adequate supply of land and buildings for PDR (production distribution and repair), employment and businesses. PDR uses are, generally, light industrial in nature.

The rezoning would allow for building relatively higher-density development in the EN neighbourhoods that are well-served by transit and close to Downtown. The plan areas that were primarily previously zoned for industry were planned for urban-mixed-use (allowing for residential and commercial developments). The plan increased permissible heights for different parcels as a proxy for additional intensity of development. PDR uses were maintained in the more traditional industrial zones. The city hired a consultant to prepare a residual land value analysis to estimate the enhanced value from height increases and land-use changes. The analysis showed that residual land values and profitability were generally higher under proposed zonings and requirements than under previous zoning.

In summary, the Eastern Neighbourhoods Plan attempted to balance industrial business and affordable housing, mainly by reserving a certain amount of land for industrial business but significantly increasing the amount of housing. According to a senior policy analyst of the Planning Department, the idea was to come up with "a smart growth plan to permanently shape the neighbourhoods "and to find the right balance and right mix that will work for residents and businesses of San Francisco" (Kim, 2002). The overall bias was toward encouraging affordable housing development while seeking to retain what remained of the area's rapidly diminishing pool of blue-collar jobs (Beitel, 2013). Gabriel Metcalf, deputy director of the San Francisco Planning and Urban Research Association is quoted as having said "the city can have it both ways if planners get it right - enough housing can be built in eastern neighbourhoods to ease the citywide shortage, without sacrificing the jobs that are already there. There is no reason to have scarcity of housing. There is no reason to have a conflict between jobs and housing. We need to plan to make sure we are not squandering land uselessly" (Kim, 2002).

Harnessing the Real Estate Market for Equitable Affordable Housing Provision in Nairobi, Kenya: Insights from California, USA

Eastern Neighbourhoods Planning Areas
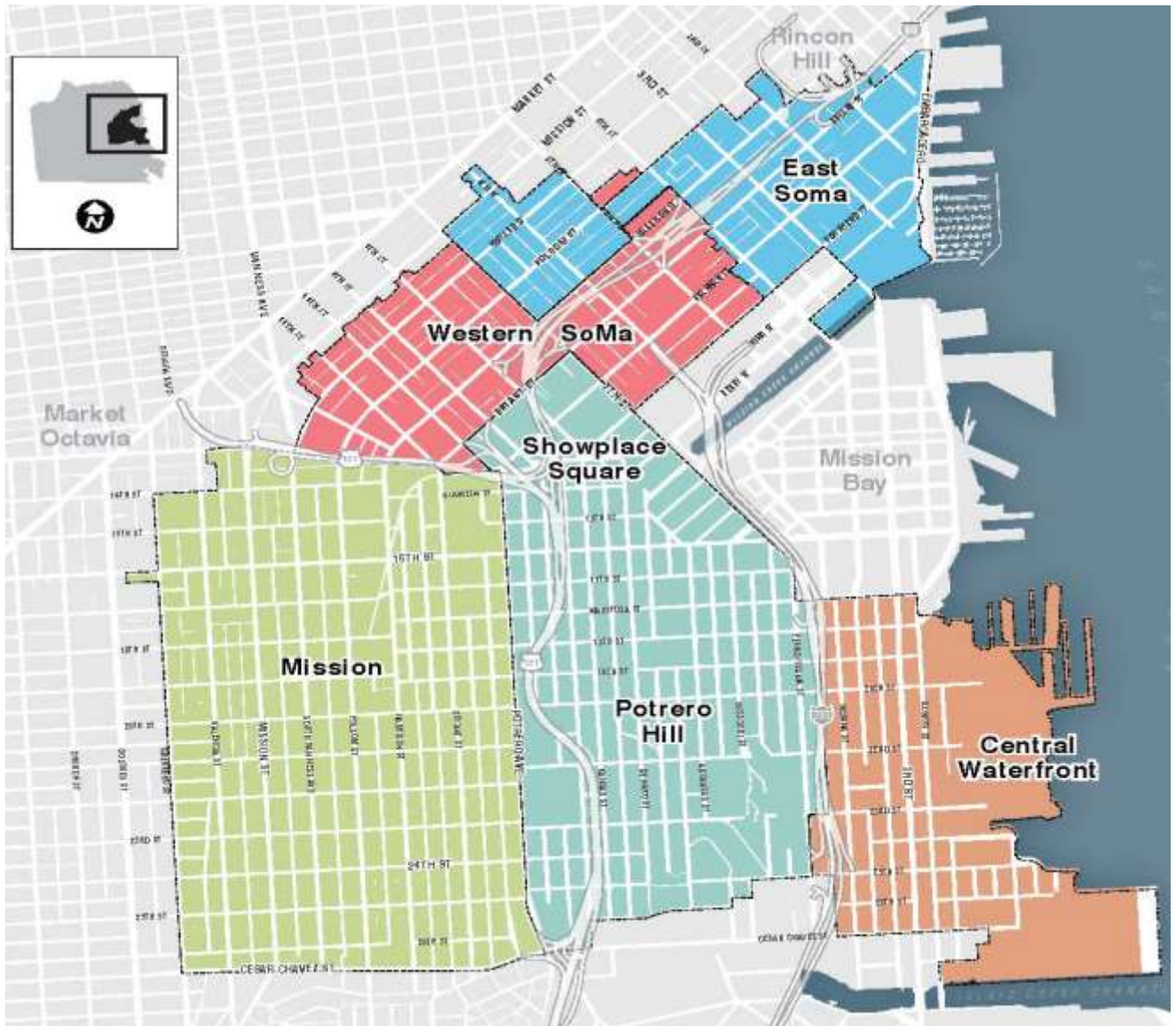
Figure 5.14: The Eastern Neighbourhoods
Source: San Francisco planning Department

The EN Plans were community driven through public workshops. During the rezoning process, the Planning Department engaged the community to solicit input and understand community concerns regarding the rezoning and area plans. There was a comprehensive assessment of needs for each community with ranged from open space; transit and public realm improvements; community facilities and affordable housing. Community members expressed the need for additional community facilities and amenities to meet the demands of existing and new population. The department conducted an extensive outreach programme, including several large workshops in each of the neighbourhoods, hundreds of smaller meetings and discussions with community groups and individuals (City of San Francisco Planning Department, 2008b). The

Plans established the Eastern Neighbourhoods Citizen's Advisory Committee (EN CAC) consisting of 19 members representing key stakeholders. CAC is the central community advisory body charged with providing input to City agencies and decision makers with regard to all activities related to implementation of the Eastern Neighbourhoods Area Plans. The committee also seeks input and relays information to community members regarding the status of development proposals in the eastern neighbourhoods (San Francisco planning department, 2019)

5.9.2.2   Land Value Capture for Affordable Housing Provision under the Plans

Producing public benefit through LVC can be done through either 1) individual project "deals'', utilizing development agreements or similar instruments or 2) establishing at the onset the level of public benefit to be expected, proportional to the benefit received for different parcels, known as the "plan-based" approach (Calavita, 2014). The city of San Francisco chose a plan-based approach to LVC which is based on two primary methods to address the increased need for affordable housing production in the Eastern Neighbourhoods. The first method is increased IH requirements for new zoning districts in formerly industrial areas, requiring deeper affordability and enabling new options outside of current inclusionary options. The plans rezoned many areas that were primarily previously zoned for industry to urban-mixed-use (allowing for residential and commercial developments). The new plans called for increased IH requirements in the formerly industrial zoning districts of the eastern neighbourhoods. A new zoning designation of Urban Mixed Use (UMU) required increased affordable housing above the ordinary city's inclusionary programme. This district is comprised of areas where market rate housing was formerly permitted only with a conditional use permit. In the new UMU zoning district, market rate housing is now permitted as-of-right provided it is accompanied by an increased amount of below market rate (BMR) housing through increased inclusionary requirements as shown in tables 5.19 and 5.20. The increased housing requirements are based on the fact land values are increased by allowing additional heights and the removal of conditional use requirements for housing. The second method is through requiring additional fees. The impact fees resulting from up-zoning may be directed towards construction of new housing and preservation of affordability of existing housing within the Plan Areas. These two methods, the affordability and fee requirements are summarised in table 5.19 and 5.20 below.

a)   Table 5.19 shows requirements in existing Residential and Commercial Zones where the focus was towards improving neighbourhoods.

Table 5.19: Rezoning Fees and inclusionary requirements for existing residential/commercial zones

TIER	DESCRIPTION	RESID FEE*	COMM FEE**	INCLUSIONARY REQUIREMENT	ALTERNATIVES	
					MIDDLE INCOME	LAND DEDICATION
1	Projects without height increase	$8	$16	15% onsite 20% offsite	×	×
2	Projects with 1-2 story height increase	$12	$20	15% onsite 20% offsite	×	×
3	Projects with 3+ height increase,	$16	$24	15% onsite 20% offsite	×	×

Source: San Francisco Planning Department

b)   Table 5.20 below shows requirements in formerly Industrial Zones where the focus was towards expanding affordability.

Table 5.20: Rezoning Fees and inclusionary requirements for formerly industrial zones

TIER	DESCRIPTION	RESID FEE*	COMM FEE**	INCLUSIONARY REQUIREMENT	ALTERNATIVES	
					MIDDLE INCOME	LAND DEDICATION
A	UMU/Projects without height increase	$8	$16	18% onsite 23% offsite	30-40%	35%
B	UMU/Projects with 1-2 story height increase	$8	$20	20% onsite 25% offsite	40-50%	40%
C	UMU/Projects with 3+ height increase; other designated districts	$8	$24	22% onsite 27% offsite	50-60%	50%

Source: San Francisco Planning Department

According to San Francisco Planning Department (2008), the land dedication affordability option enables developers with large sites in the UMU district to dedicate a portion of the proposed development site to the Mayor's Office of Housing for the development of affordable housing, in substitution of traditional inclusionary requirements. And while the City's inclusionary programme provides a modest amount of housing for those at the lower income groups, there are no programmes to address people at "middle" incomes, making far less than the 200 percent of San Francisco Median Income (SFMI) required to purchase the average priced home. The middle-income option is intended to address this gap and allows developers to opt to provide a higher number of affordable units at a higher price, affordable to households with incomes averaging at 135 percent of SFMI, in substitution of traditional inclusionary requirements. Developers would be able to price units at their discretion to be affordable to households between 120 – 150 percent of SFMI as long as the average equalled 135 percent of SFMI, in order to differentiate among unit prices and avoid being too close in price to the market rate units. The resulting market-produced units would address the exodus of small families unable to afford a home in the city, without requiring any public subsidy.

5.9.3   Data Presentation and Discussion

Interviews with city official revealed that the Eastern Neighbourhoods Area Plans placed a high priority on the production of affordable housing as demanded by the communities in the neighbourhoods during the planning process. Officials confirmed that on top of the up-zoning, the plans removed density controls and parking requirements in most zoning districts, particularly those well-served by public transit and pedestrian and bike infrastructure.

The researcher looked at the housing production data between 2011 and 2015 city wide and within the eastern neighbourhoods. This period was chosen because of two reasons. First, by the time the rezoning was done in 2008, the U.S. economy had gone into a recession caused largely by a collapse of the national housing market but by 2011, the market had begun recovering and has rebounded quite strongly since then. Secondly, the city had reliable data on housing production between 2011 and 2015. To begin with, we sought to understand the overall production of affordable units in the city compared to the eastern neighbourhoods. San Francisco produced 2,497 affordable units between 2011 and 2015. Out of this, 290 units or 11.6% were produced in the Eastern neighbourhoods. This is shown in figure 5.15 below.

Figure 5.15: Affordable housing units produced in San Francisco between 2011 and 2015
Source: Authors' elaboration based on Data provided by the City of San Francisco

The researcher sought to understand the programmes which provide affordable housing and their respective contribution. Affordable housing in the city is produced either through city funding or by market-rate developers through the inclusionary policy. It was found that Citywide, out of the 2,497 affordable units produced, 1,644 (65.8%) were city funded whereas 853 (34.2%) were market funded through the inclusionary policy. Out of the 290 affordable units produced in the eastern neighbourhoods, 221(76.2%) were produced from the market by for-profit developers whereas 69 (23.8%) were funded with public subsidies. For the rest of San Francisco, out of 2,207 affordable units, 1575 units (64.5%) were city funded and 632 units (35.5%) were market funded through the inclusionary policy. Table 5.16 below shows the proportion of city funded units versus market funded affordable units (produced through inclusionary policy) in the Eastern Neighbourhoods, the rest of San Francisco and Citywide. It is shown that there was a higher percentage of affordable units produced from the Market (built by the market-rate developers through the inclusionary policy) in the Eastern Neighbourhoods compared to the rest of the city. 76.2% of all the affordable units produced in the eastern neighbourhoods were financed by the market, built by market rate developers through the inclusionary policy. This is significant when compared to the rest of San Francisco and citywide scenarios where 35.5% and 34.2% respectively of the affordable units were produced from the market through inclusionary policy.
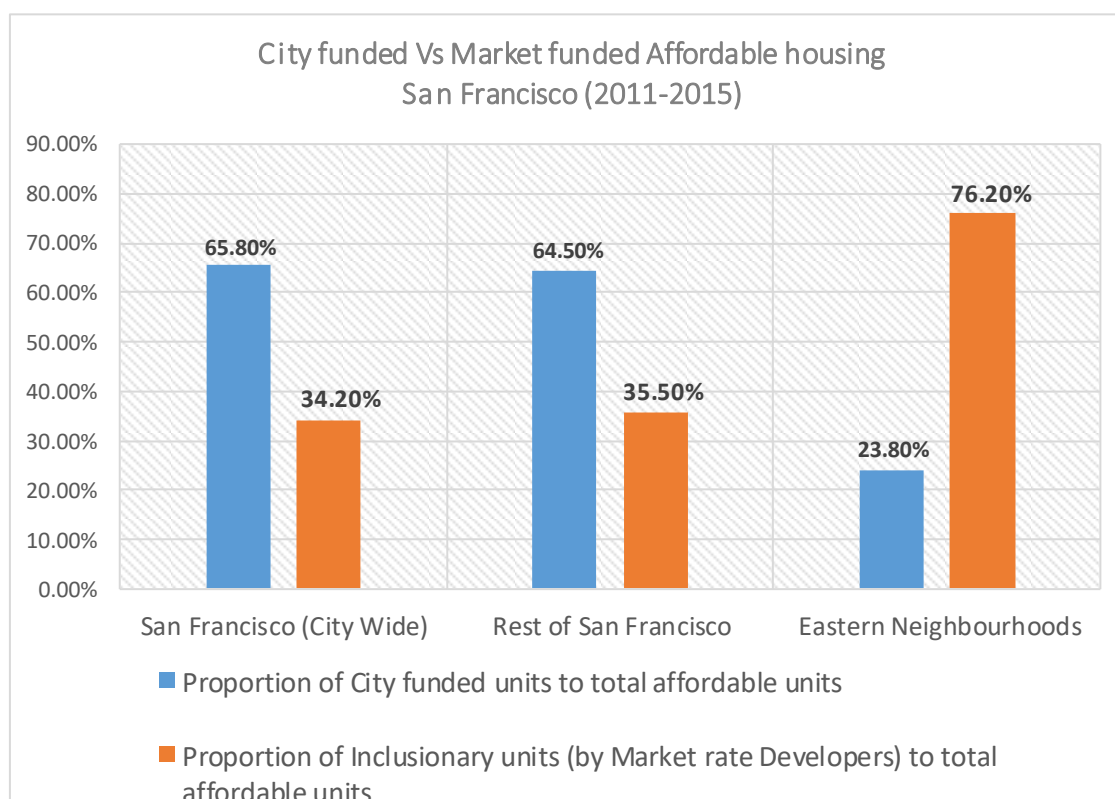
Figure 5.16: Comparing the proportion of city funded and market funded affordable housing
Source: Authors' elaboration based on Data provided by the City of San Francisco

The contribution of the market to affordable housing within the EN within the period is larger considering affordable housing in-lieu fees which is paid by developers who choose not to produce on-site affordable units. These in-lieu fees form part of the funds which are used to produce city funded affordable units. Within the period 2011-2015, 17 projects within the eastern neighbourhoods paid a total in-lieu fees of US$ 41,029,643. According to San Francisco Planning Department (2016), new affordable units are estimated to cost roughly $550,000 in construction costs (not including land). This is based on rough estimates based on recent projects that have received assistance from the city. Therefore, the US$ 41,029,643 "in-lieu fees" collected if used to build projects on publicly controlled land, could yield an additional 80 affordable units. This means in essence therefore, the market contribution in EN under the inclusionary programme is much greater than the 76.2 % because of the contribution of the in-lieu fees to the city funded units. If the approximated 80 units were to be included in the analysis, it would push the contribution of the Market to affordable housing provision in EN to 81%. However, it is important to note that in most cases, in-lieu fees and other city funds are leveraged to access external funding, such as Federal Low-Income Housing Tax Credits, allocated by the State. When this happens, it results into more than double the number of units

constructed (San Francisco Planning Department, 2016). Therefore, the researcher's hypothetical analysis of 80 additional units ignores this leverage because he wanted to show the actual contribution of the market without any public funding.

City wide, San Francisco produced 853 inclusionary affordable units between 2011 and 2015. Out of these, 221 units or 26% were produced in the Eastern neighbourhoods (See figures 5.17 & 5.18). Given that the eastern neighbourhoods occupy approximately 7% of the total land area in the city (San Francisco Planning Department, 2008), this is quite a significant contribution.
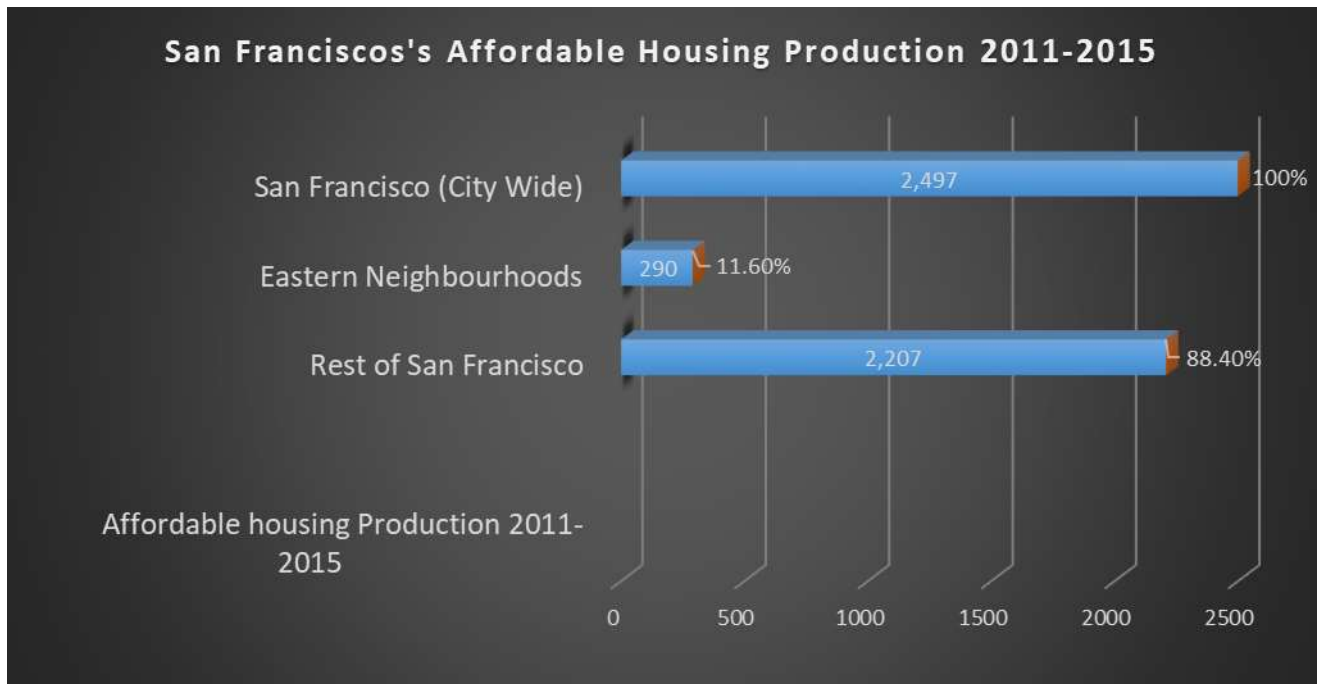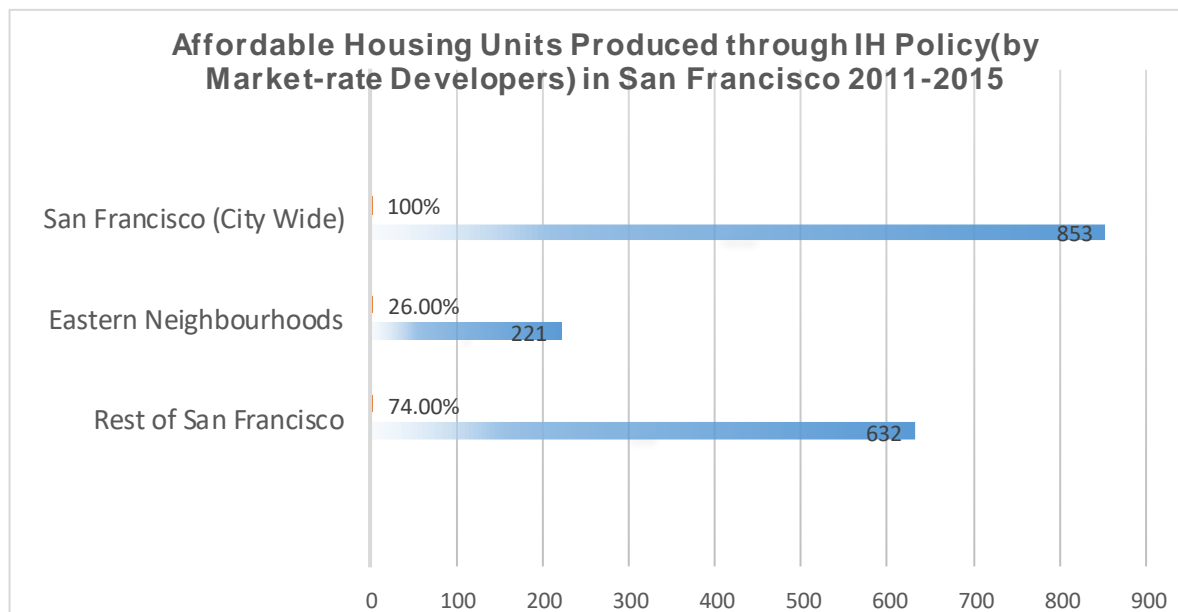

Figure 5.17: IH units produced in San Francisco between 2011 and 2015
Source: Authors' elaboration based on Data provided by the City of San Francisco
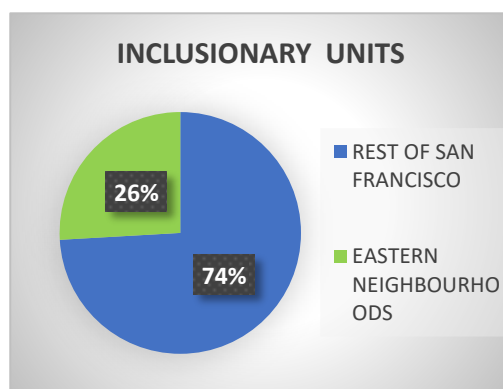
Figure 5.18: Comparing proportion of IH produced in San Francisco to proportion of Land size
Source: Authors' elaboration based on Data provided by the City of San Francisco

It was also found that the rezoning and the resultant LVC through increased IH has resulted in increased social class inclusivity within the communities, if inclusivity is measured by the proportion of affordable units within market-rate developments. Interviews with officials indicated that prior to the implementation of the Eastern neighbourhood plans, housing production in EN was mostly market rate units. Now this scenario has changed and eastern neighbourhood are now more inclusive as compared to the city average. The city's inclusionary policy by the time required affordable units be provided at 12% of the total housing units produced by Market-rate developers. In the EN, inclusionary affordable units were 20% on average with some plan areas reporting more than four times the legal requirement. For the rest of San Francisco, inclusionary affordable units were at 10.9% while citywide, the average inclusionary level was 12.4% propelled by the eastern neighbourhood production. These analyses are shown in figure 5.19 below.
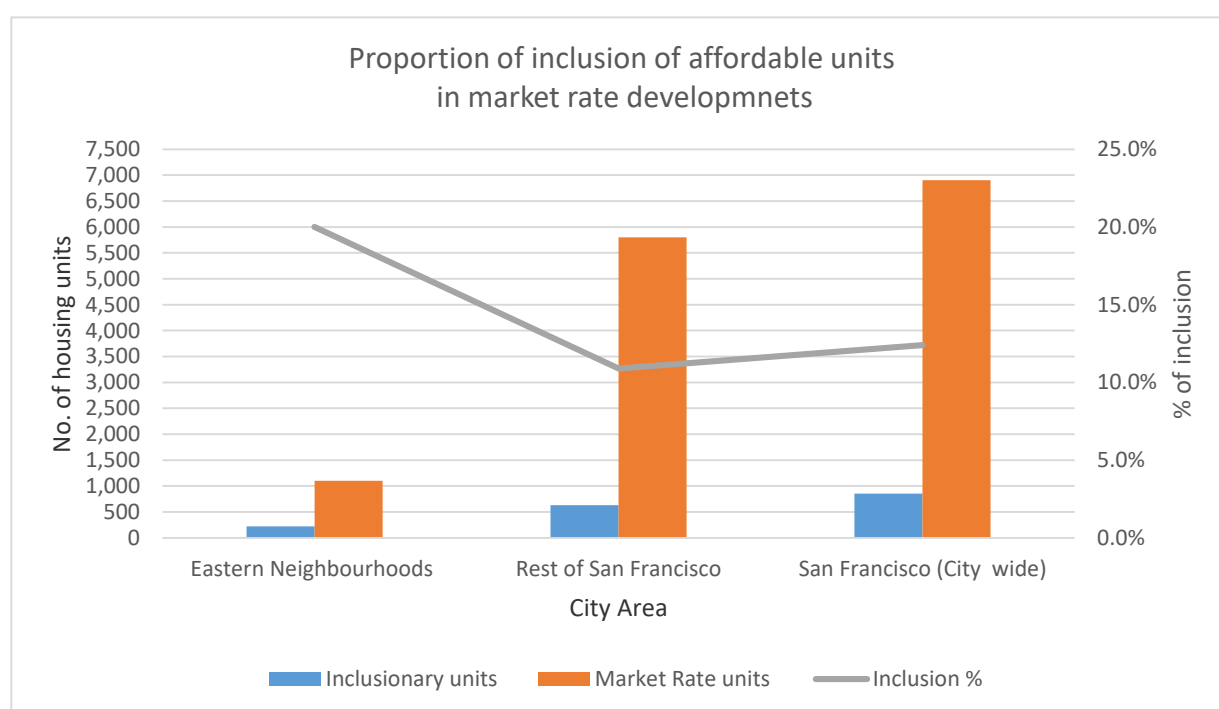
Figure 5.19: Comparing the level of inclusion of affordable units in market rate developments
Source: Authors' elaboration based on Data provided by the City of San Francisco

Table 5.21 and figure 5.20 below shows the percentage of market rate units to total housing units in the eastern neighbourhoods, the rest of San Francisco and citywide. Areas with high levels of inclusion of affordable housing in market rate developments also have a higher proportion of market rate units to the total housing production. The eastern neighbourhood had the highest

proportion of market rate units compared to the total housing produced at 79.2%, with the rest of San Francisco and San Francisco citywide at 72.4% and 73.4% respectively.

Table 5.21: Comparing the level of inclusion of affordable units in market rate developments and proportion of market rate units to total units produced

	Total Affordable units	Market Rate units	Inclusion (proportion of affordable units in market rate developments)	proportion of market rate units to Total units produced
Eastern Neighbourhoods	290	1,102	20.0%	79.2%
Rest of San Francisco	2,207	5,799	10.9%	72.4%
San Francisco (City wide)	2,497	6,901	12.4%	73.4%

Source: Authors' elaboration based on Data provided by the City of San Francisco
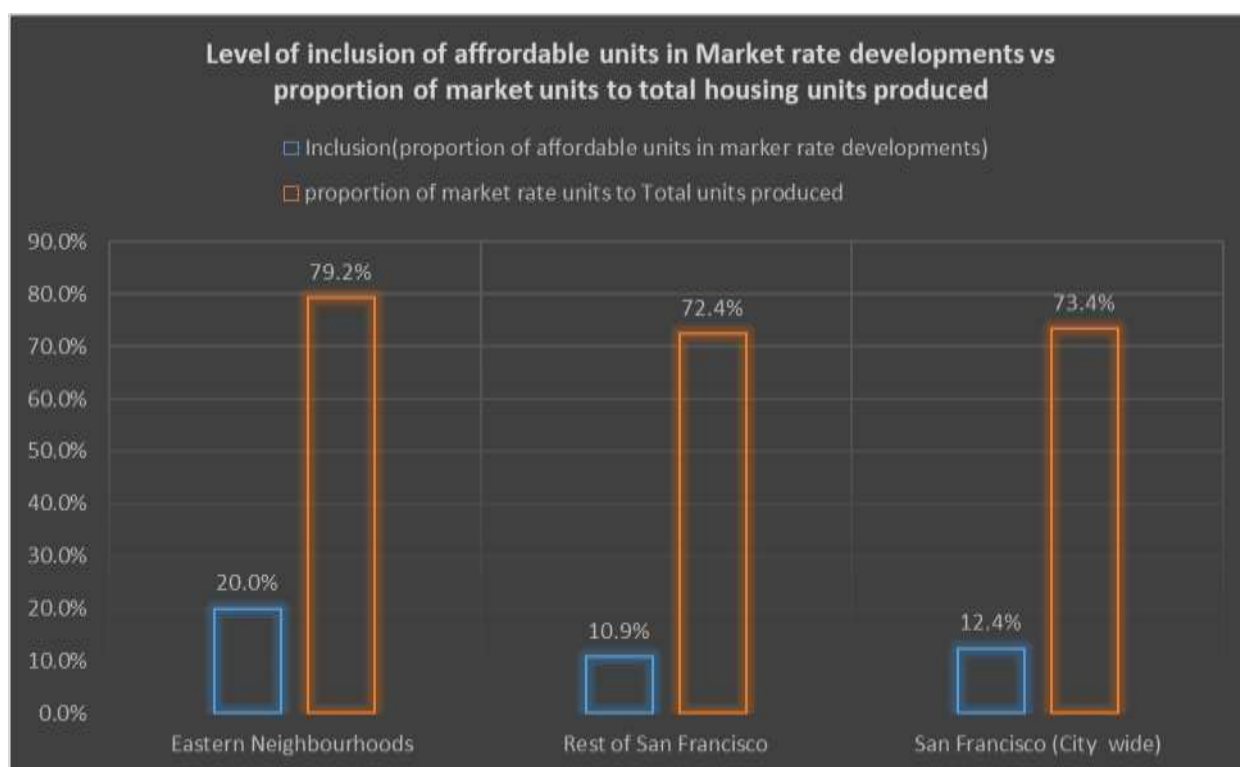
Figure 5.20: Comparing the level of inclusion of affordable units in market rate developments and proportion of market rate units to total units produced; Source: Authors' elaboration based on Data provided by the City of San Francisco

The analyses further found that there were significant differences in affordable housing production and levels of inclusivity among the five plan areas of eastern neighbourhoods (Mission, Showplace Square/Portero Hill, East SoMa, West Soma and the Central Waterfront).

Central Waterfront had the highest inclusion of affordable units into market units at 50.4 % while East Soma recorded 22.6 % inclusion, followed by Mission at 12.5%, Western Soma at 8.6% and Showplace Square/Portero Hill at 3.6% (See figure 5.21).
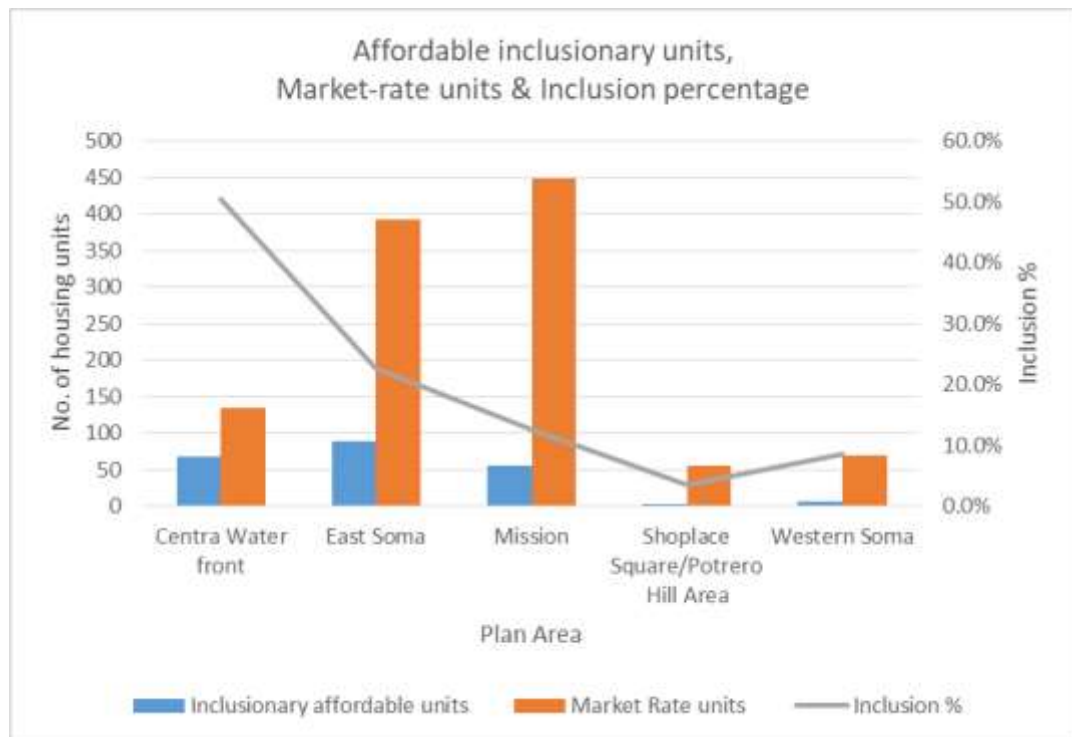
Figure 5.21: Market rate units, Affordable IH units, and Inclusion percentage in Eastern neighbourhoods

Source: Authors' elaboration based on Data provided by the City of San Francisco

The researcher sought to understand the above dynamics with quantitative data triangulated and complemented with qualitative data, gathered through field observations and semi-structured interviews with local decision makers, planners, experts, developers and community leaders. Interviews confirmed that the programme has been successful in capturing land value for affordable housing provision with increased inclusion of low-income earners among market rate residents in most areas. However, the following reasons were identified for the differences in amount of affordable housing and levels of inclusion of affordable units within market-rate units in the different plan areas.

a) Size and intensity of Urban Mixed Use (UMU) zoning.

Areas which had large urban mixed used (UMU) districts and where former industrial areas use lost a higher percentage of Land to UMU had a higher inclusion of affordable units. This is because of the enhanced inclusionary requirements applied to the UMU districts. There is currently a strong market development activity particularly of high-rise residential development

in the Central waterfront plan area which had the highest inclusivity of affordable units. Areas with significantly higher densities and height recorded higher affordable housing production.

b) Level of office development within Urban Mixed Use (UMU) Districts.

Areas with low levels of office development within the UMU Districts had a higher level of inclusivity of affordable units. There is noticeable less office development in the Central water front which had the highest inclusivity. East Soma plan area produced the highest number of affordable units but compared to the market rate units, its level of inclusivity was less than for the Central waterfront. Because of East Soma's close proximity to Downtown, more office development was recorded with value being captured through impact fees and Jobs-housing linkage fees. See table 5.22 below where the contribution of East Soma in terms of impact fees and Jobs-housing Linkage fees is significantly higher than other areas.

Table 5.22: In-lieu fees, Jobs Housing Linkage fees and Impact fees collected in EN

	EAST SOMA	CENTRAL WATER FRONT	MISSION	SHOWPLACE SQUARE/ POTRERO HILL	WESTERN SOMA
In-lieu fees ($)	11,511,743	21,503,695	7,313,592	1,293,902	917,881
Jobs Housing Linkage fees ($)	15,200,000	911,848	899,747	478,509	1,300,000
Impact fees	14,635,000	10,034,000	5,357,000	11,384,000	6,940,000

Source: Authors' elaboration based on Data provided by the City of San Francisco

c) Percentage of Market-rate projects paying in-lieu fees in the plan area.

Areas with high percentages of in-lieu projects had lower inclusivity of affordable units. As shown in figure 5.22 below, Showplace square/Portrero Hill plan area which had the highest percentage of market-rate projects paying in-lieu fees at 75% had the lowest inclusion at 3%.

Central Waterfront plan area which had the lowest percentage of projects paying in-lieu fees at 17% had the highest inclusivity at 50.4%. This pattern remains true for the other plan areas except Western Soma plan area. For Western Soma area, the inclusion wasn't as high as expected compared to the percentage of market-rate projects paying in-lieu fees because most market-rate projects in Western Soma were done outside areas which required increased inclusionary requirement.
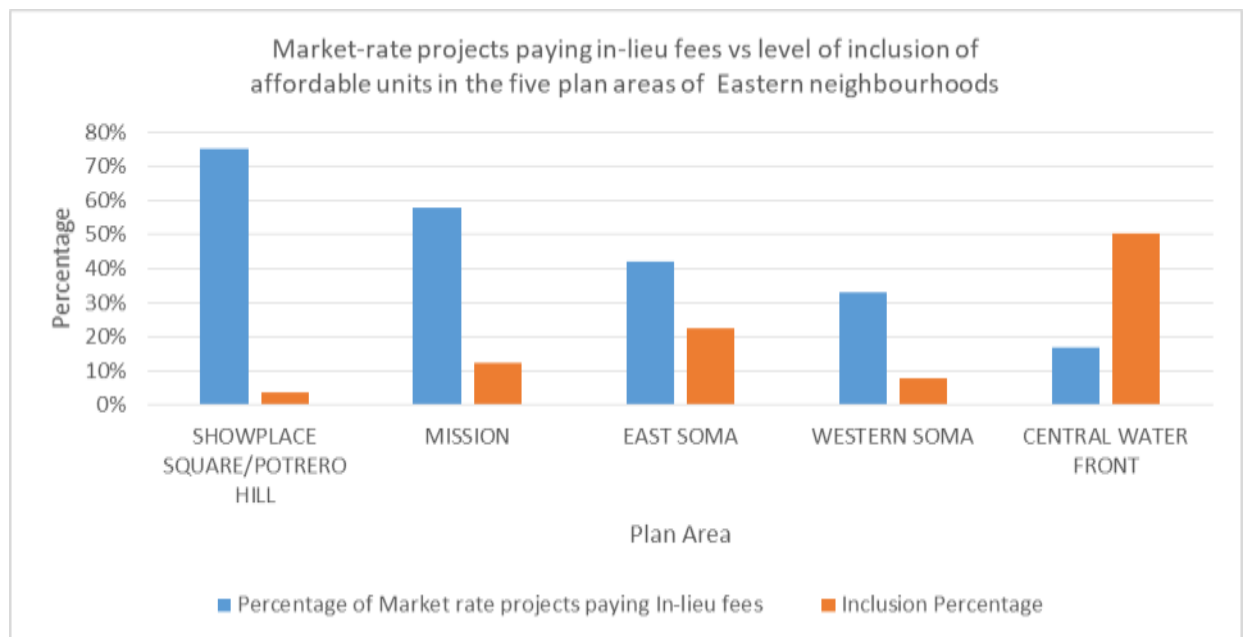
Figure 5.22: Comparing market rate projects paying in-lieu fees and inclusion percentages

Source: Authors Compilation with Data from City of Francisco

d) Desirability of the Planning area

Developers indicated that there are certain areas preferred by housing consumers because of the desirability of the neighbourhoods. As investors, they would therefore prefer building in such areas even when the inclusionary requirements are high compared to an alternative with low inclusionary requirements because it guarantees fast uptake of the market housing units. Central Waterfront which had the highest inclusivity of affordable units is a very desirable area because it fronts the San Francisco Bay and has infrastructure that supports and encourages transit use, walking, and biking.

e) Existing housing stock under rent control

In some plan areas such East Soma and Western Soma, most of the existing housing stock as at the time of plan implementation was under rental control. Interviews revealed that because

residential conversions of rent-controlled units are strongly discouraged, this hampered redevelopment of properties by market rate developers who could have provided new and more affordable units through the market.

Interviews with developers confirmed that LVC for affordable housing provision through enhanced inclusionary requirements does not deprive developers of adequate returns on their investments. Developers were found to have embraced the programme with increased projects in the EN. Developers interviewed agreed that the rezoning had brought a windfall of increased returns and didn't find the increased inclusionary housing requirement economically burdensome to fulfil. City officials also attributed the positive response from developers to Residual Land Value Analysis undertaken by the city consultants showing the enhanced returns following the upzoning. Planners also attributed the success to the plan-based approach to land value capture adopted by the city because it created certainty in stakeholders. To them, it worked far better than any negotiation could. Community leaders interviewed indicated they felt their interests were secured when the level of benefits was decided upfront rather than through negotiation and development agreements which could be politically influenced. Developers also indicated that it is a better way to them than negotiating case by case as it gave them certainty about what they are required to contribute. They felt they were protected from future community demands and also found that it led to faster delivery of projects.

Field observations (figure 5.23 and 5.24) confirmed that most of the new developments were found to have utilized the maximum development as permitted under the rezoning although developing below the maximum allowed is an option which developers could take. This clearly demonstrates that the practice on the ground of capturing values provided a push to developers to develop to achieve maximum returns and cushion themselves from economic losses therefore encouraging highest and best use of land.

Figure 5.23 and 5.24: Developments in the Eastern Neighbourhoods, San Francisco

Source: photos by authors, 10.09.2018

5.10   Chapter Summary

This chapter begins by providing a general overview of the main affordable housing programmes in five cities in California – San Diego, Los Angeles, Santa Monica, San Francisco and Emeryville. The chapter then provides insights in detailed case studies from the cities of Santa Monica and San Francisco. The LUCE 2020 programme from the city of Santa Monica and the Eastern Neighbourhood Plans in the Eastern Neighbourhoods of the city of San Francisco were explored and evaluated to understand their impact on increasing affordable housing production and increasing socio-economic integration.

The LUCE 2020 Affordable Housing Production Programme (AHPP) in Santa Monica was established to increase affordable housing production and enable social integration. Based on the Land Use and Circulation Element (LUCE) of the General Plan, the AHPP seeks to capture some of the increases in land value resulting from planned increases in the intensity of development. LUCE 2010 provided a very comprehensive and a well-structured approach to using the market to provide equitable affordable housing using the principle that allowing incremental increases in the development intensity enhances the value of the property and hence developers have to include affordable housing in their projects. Results have shown that the programme increased inclusionary housing production by market-rate developers by 15% over the previous inclusionary housing policy. The study also found that the tiered bonus-based

changes brought by LUCE 2020 served to enhance the programme goals of increasing the stock of affordable housing and enabling social integration. LUCE 2010 demonstrates that land use policies and planning can help encourage greater supply and affordability, as well as influencing the type and location of housing enabling households to access neighbourhoods of opportunity.

The San Francisco case study focuses on the application of Land Value Capture (LVC) through increased Inclusionary Housing (IH) requirements after plan changes that increased density potential in San Francisco's Eastern Neighbourhoods to evaluate its effects on the goals of increasing both affordable housing and social inclusion. Findings reveal that the increased inclusionary requirements used as LVC mechanism enabled 76.2% of all the affordable housing units produced in the Eastern Neighbourhoods to be produced by market-rate developers in 2011–2015 as compared to the rest of San Francisco, where 35.5% of the affordable units were produced from the market through inclusionary policy during the same period. The Eastern Neighbourhoods occupy approximately 7% of the total land area in the city yet they produced 26% of all affordable housing produced in the city. The study demonstrates that upzoning underutilised land coupled with a well-planned LVC mechanism can help harness the strength of the real estate market and increase both affordable housing production and social inclusion.

6 Harnessing the Real Estate Market for Equitable Affordable Housing Provision in Nairobi: A Proposed Model for Slums Regeneration

6.1 Setting the context for the case study

6.1.1   Location

Nairobi is the capital city of Kenya and lies at the southern end of Kenya's agricultural heartland, 1.19 degrees south of the Equator and 36.59 degrees east of meridian 70. Its altitude varies between 1,600 and 1,850 metres above sea level (Mitullah, 2003). The city is located about 486 kilometres by road from Mombasa, Kenya's second largest city located on the shores of the Indian Ocean and about 344 Kilometres by road from Kisumu, the third largest city, located on the shores of Lake Victoria. It lies adjacent to the eastern edge of the Rift Valley while the Ngong hills occupy the western part of the city. Mount Kenya is located to the North while Mount Kilimanjaro lies towards south-east of the city.

6.1.2   Demographics Characteristics

Nairobi is a culturally diverse and cosmopolitan city whose three main population components are Africans (95 percent), Asians (about 4 percent), and Europeans (about 1 percent). All the major Kenyan African ethnic groups are represented in the city (Otiso, 2012). Table 6.1 shows the population and gender distribution in Nairobi City.

Table 6.1: Population and Gender Distribution in Nairobi City

Area (Sq. Km)	Population (August 2019)	Population Density (No. per Sq. Km (August 2019)	Number of Households	Gender Distribution	
				Men	Female
703.9	4,337,080	6,247	1,506,888	49.9%	50.1%

Source: Compiled by authors in January 2020 (Data from Kenya National Bureau of Statistics, 2019)

6.1.3   Nairobi's property market

The property market in Nairobi and Kenya in general remains robust. According to Cytonn (2018), the real estate sector has remained attractive as a result of (i) relatively high returns which in 2018 averaged at 24.3% over the last five years, compared to an average of 13.2% for

traditional asset classes, (ii) continued growth, with the real estate sector contribution to Kenya's GDP increasing to 6.8% in Quarter 1 of 2018, from the 6.1% recorded in Quarter 1 of 2017 according to data from Kenya National Bureau of Statistics (KNBS), and (iii) low supply in the residential sector which has a housing deficit of 2.0 Million units.

According to DFID (2003), the current land and housing administration legislations and procedures in Kenya are inappropriate for poor people who live in the rapidly growing urban centres. DFID further observes that the urban poor have been unable to comply with these existing planning standards, regulations and administrative systems since the regulatory framework is complex, and compliance often involves long administrative procedures with long delays. The result has been the proliferation of slums and informal settlements across the city where majority of the city's residents live under poor living conditions, lacking basic services and security of tenure. Slums in Nairobi are mostly located in prime public or private land near the city centre, industrial area and affluent estates where the slum dwellers access employment opportunities.

Nairobi currently experiences overwhelming housing demand particularly in the middle- and low-income categories although output has favoured the moderate- and high-income markets. This high demand is supported by a stable macroeconomic environment and continued infrastructural improvements. Therefore, private rental investment is lucrative and as Stenton (2015) observes, private landlords dominate the housing market in the city with rental accommodation being the main form of housing. Stenton further observes that Nairobi has experienced uneven spatial development since the colonial era, creating social exclusion of the urban poor (and residents of informal settlements) through urban design and land-use decisions which cater mostly for the middle- and upper-class citizens severely limiting the space that is currently available to the urban poor.

6.2 An Evaluation of the current approaches and programmes of affordable housing provision in Kenya.

Literature, interviews and surveys have identified the following as the main approaches and programmes currently used to provide affordable housing in Kenya.

  i. The Kenya Slum Upgrading Project (KENSUP)

ii.   The Civil Servants Housing Scheme (CSHSF)

iii.   Schemes under the National Housing Corporation (NHC)

iv.   The Affordable Housing Programme (AHP).

6.2.1   Housing provision under the Kenya slum upgrading project (KENSUP)

KENSUP was formally launched in January 2003 when the government signed a memorandum of understanding with UN-Habitat where the government ''committed to systematically upgrade slums in the urban areas in compliance with Millennium Development Goal 7 by 2020'' (KNCHR, 2018: 26). An evaluation of KENSUP in Kibera is undertaken through qualitative analysis based on interviews with professionals and other stakeholders and survey among Kibera residents and triangulated with quantitative data. Table 6.2 shows the composition of those interviewed while table 6.3 show the composition of Kibera residents surveyed.

Table 6.2: Composition of the interviewees on Kibera slum upgrading project

Interviewees	Working sector	Number	Sub Total	Percentage
1. Professionals/Experts				
Planners	Academia	1		13.33%
	Public sector	2	4	
	Private Sector	1		
Land Economists/valuers	Academia	1		13.33%
	Public sector	1	4	
	Private Sector	2		
Land Economists/Building surveyors	Public sector	3	3	10.00%
Lawyers	Public sector	1	2	6.67%
	Private Sector	1		
Housing planners	Public sector	2	2	6.67%
Architects	Public sector	1		6.67%
	Private Sector	1	2	
Land administrators	Public sector	2	2	6.67%
Estate Agents	Private Sector	2	2	6.67%
2. Other Stakeholders				
Community leaders in Kibera		2	2	6.67%
Civil society members operating in Kibera		2	2	6.67%
Private developers		5	5	16.65%
		TOTAL	**30**	**100%**

Source: Author's construction; February 2020

Table 6.3: Composition of the Kibera Survey respondents

	Strata	Number	Percentage
Kibera Respondents	Tenants	142	91%
	Slumlords/Structure owners	14	9%
	TOTAL	156	100%

Source: Author's construction; February 2020

Asked if they are happy with the progress of the upgrading Kibera slum under KENSUP, only 9.5% of the professionals, 11.1% of other stakeholders and 9.4% of Kibera respondents answered in the affirmative. 90.5%, 89.9% and 90.6% of the professionals, other stakeholders and Kibera respondents respectively were not happy about KENSUP's upgrading progress. This is shown in figure 6.1 below.
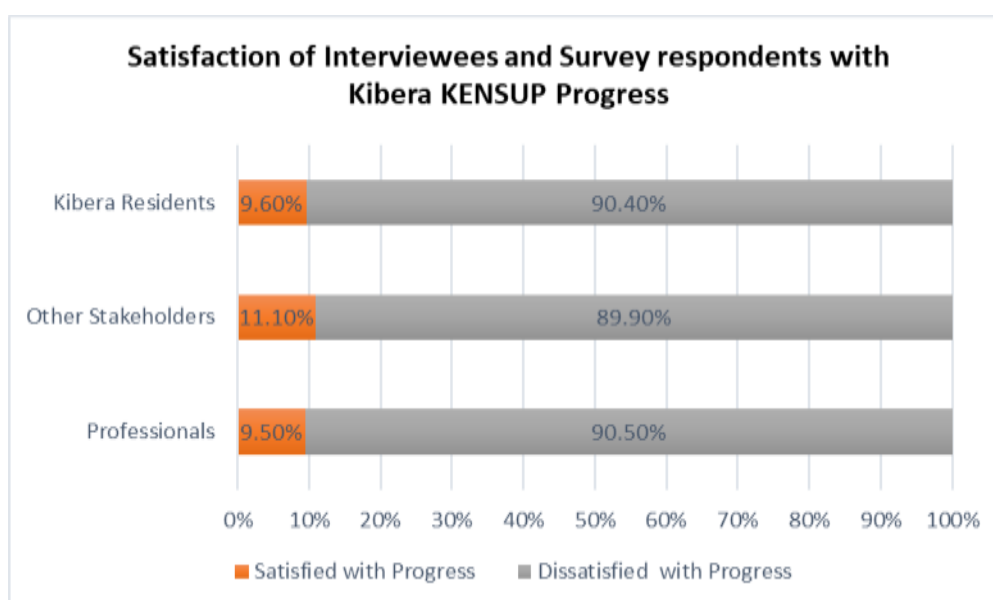
Figure 6.1: Satisfaction of interviewees and survey respondents with the progress of Kibera KENSUP in regard to affordable housing provision
Source: Author's construction; February 2020

The following are the reasons given for the high levels of dissatisfaction with the Kibera KENSUP progress.

i. The upgrading progress is very slow. The upgrading process in Soweto East started in 2003 and after several years, there is very little to show. I corroborated this with the data available from the state department of housing and only 822 housing units (11.4%) out of a target of 7,233 housing units was achieved after 13 years leaving a deficit of 6,411 units. Figure 6.2 illustrates this output.
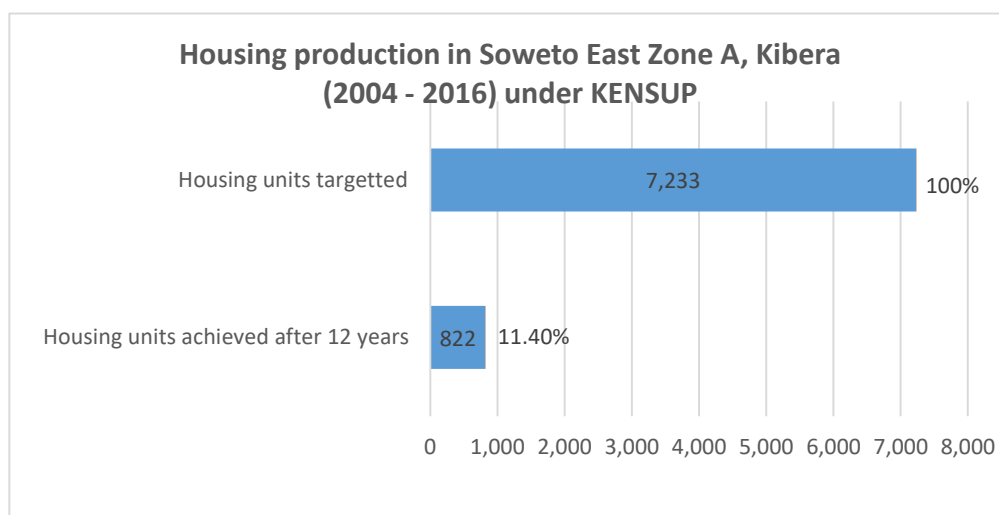
Figure 6.2: Affordable Housing Production in Soweto East, Kibera under KENSUP
Source: Author's elaboration; February 2020: Data from KNCHR (2018)

It is important to note is that the 7,233 units targeted to be produced where based on the residents enumerated before the project began and didn't consider future population increase. This means that even if the target was met, many current residents would still have been left out.

ii.   Most of the targeted beneficiaries (the needy slum dwellers) missed out on upgraded units. They moved out to either other areas of Kibera or other slums. As one respondent said ''slum upgrading process as currently constituted is the main agent of slum expansion in the country'' because when dwellers miss out on the upgraded units, they move out to start other slums propagating the slum problem. 26% of the Kibera respondents thought that there was political interference and corruption in the allocation of the housing units because they believed people who were not the intended beneficiaries benefited.

iii.   Upgraded units are expensive and beyond the reach of poor targeted households. Under KENSUP, the housing units are delivered on ownership basis under a mortgage scheme with a repayment period of 25 years at an interest rate of 3% on a reducing balance. The monthly mortgage instalments have proved beyond the reach of most beneficiaries. There was lack of proper user need assessment as most residents said they should have been given a choice either to lease or to buy the units. Most of them could not qualify for purchase because the beneficiaries were required to have

deposited at least 10% of the applicable price of the house before allocation. With an option of renting the units, there would have been no deposit requirements enabling many residents to qualify for allocation. 57.7% of the Kibera respondents indicated they would have preferred leasing the units to buying. This challenge is well captured by one expert who said ''the main challenge is the community not appreciating the new houses because they can't afford them. Most of them rent out the new houses and go back to the slums. With these slum dwellers going back to the slums, the cycle continues. They become professional squatters''. Interviews with the residents confirmed that almost half of those allocated the units in Soweto Zone A have leased them out and have moved back to the slum. The low-income earners seem unable afford life in the new upgraded environment.

Given the dismal housing output by KENSUP in Kibera, i sought to understand the challenges facing the project. Through interviews with KENSUP officials, State department of housing officials, private professionals and other stakeholders and surveys with residents, the following matters which are shown in figure 6.3 were identified as the main challenges.
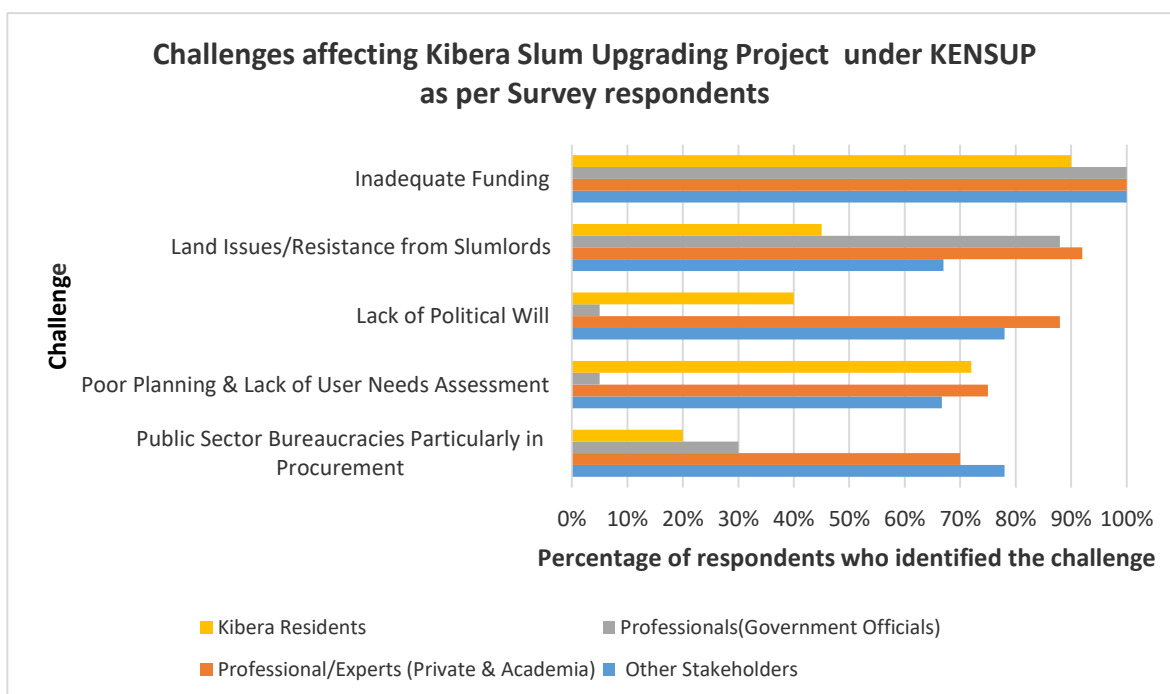
Figure 6.3: Challenges affecting Kibera Slum upgrading project under KENSUP as identified by Kibera residents, government officials, experts and other stakeholders; Source: Author's Construction from Interviews and survey data; February 2020

a) Inadequate Funding: All the interviewees and survey respondents identified this as the biggest challenge facing KENSUP. It was observed that the project is dependent on public funding and the government has inadequately funded it because of limited funds. As shown in figure 6.3, those who identified this challenge were government officials (100%), private professionals/experts (100%), other stakeholders (100%) and Kibera residents (90%).

b) Land Issues/Resistance from slumlords: It was observed that resistance from the slumlords and other stakeholders coupled with vested interests by different stakeholders and mistrust by the slum dwellers frustrates the upgrading process. It was reported that in the course of upgrading Zone A of Soweto east, at least one court injunction was served. 45% of Kibera respondents, 88% of government officials, 92% of private professionals/experts and 67% of other stakeholders identified 'land issues and resistance from slumlords' as a challenge facing KENSUP.

c) The Political will has been questioned because the government is slow in implementing their part of bargain. 88% of professionals/experts, 78% of stakeholders, 40% of Kibera respondents and 20% of government officials identified this as a major challenge and some experts pointed out that this challenge is manifested in the following ways: -

   i. There is no distinctive legislative framework and effective housing policy to guide affordable housing production. One expert observed that ''the housing policy in use is a like political proclamation, there is nothing new from independence and is not knowledge based as it is not supported by appropriate statistics or data''. There seems to be a systematic political and institutional failure on affordable housing matters.

   ii. There is disjointed ministry alignment resulting into multi-agency coordination challenges. For example, currently departments of lands and physical planning are in one ministry (Ministry of Lands and physical planning) whereas the department of housing is in a different Ministry (Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works). Poor multi-agency coordination of the various government agencies responsible for matters of lands, housing, finance, water and power who are key was reported to have affected seamless development process.

   iii. Poor project planning and lack of user needs assessment. 72% of Kibera respondents identified this as a challenge with many residents complaining that they were not involved in the whole planning process. They indicated this as the main reason why some slum dwellers don't support upgrading projects as they fear being displaced.

They also felt that their needs were not well incorporated. 75% of private professional/experts, 67% of other stakeholders and 5% of government officials agreed that 'poor project planning and lack of user needs assessment' is challenge to KENSUP.

d) Public sector bureaucracies particularly in procurement: It was observed that government bureaucracies' results to delays in securing funds, contractors and project partners. As shown in figure 6.3, 78% of other stakeholders, 70% of private professionals/experts, 30% of government officials and 20% of Kibera identified 'public sector bureaucracies' as a challenge.

6.2.2   Housing provision under the civil servants housing scheme fund (CSHSF)

This programme was started in 2004 with the aim of assisting civil servants acquire houses at affordable mortgage rates. Prior to this, the government used to house few civil servants in the public housing units owned by the government. Most of these government houses were located in very prime areas and with large plot sizes. However, most of these houses were allocated to some well-connected civil servants and politicians in the 1980's and 1990's. Under the CSHSF, the government turned into the remaining public land to develop high-rise developments for sale to civil servants. The fund enables Civil Servants to purchase houses at 5% per annum interest rate. Table 6.4 shows the composition of those interviewed in evaluating this scheme.

Table 6.4: Composition of the interviewees on CSHSF

Interviewees	Classification/Specialisation	Number	Sub Total	Percentage
Civil servants	Benefitted from the Scheme	8	23	76.66%
	Applied but not Successful	6		
	Never Applied	6		
	CSHSF Officials	3		
Professionals/Experts	Valuers (private)	3	5	16.67%
	Estate agents	1		
	Housing planners (public)	1		
Academia	Planner	1	2	6.67%
	Land Economist/valuer	1		
	TOTAL	30	100%

Source: Author's construction; February 2020

The researcher asked professionals whether they were satisfied with the progress of this programme in terms of its delivery of affordable housing to civil servants. Only 20% of the

interviewees responded in the affirmative with 80% saying they were dissatisfied with the programme's progress. The following matters stood out as the main reasons for the dissatisfaction:

i. Unaffordability: Experts complained that the scheme is still pegged on the conventional housing finance model which is out of reach for most low-income earners and therefore cannot be classified as affordable housing. One civil servant interviewee said ''I spent about Kenya shillings 500,000 (5,000 US$) as pre-loan expenditure – application fees plus minimum deposit required. Yes, the interest rate is lower than the commercial rate but the product is not affordable. The lower cadre staff can't afford even the lowest priced houses''. Due to poor earnings of majority of the civil servants, only a few can qualify and afford to buy the houses. Collectively, 83.3 % of the interviewees indicated that the housing units are unaffordable to majority of the civil servants.

ii. Variation in Prices: The houses take so long before they are built leading to variations in initial agreed prices. One interviewee said ''I was allocated a three bedroomed unit in 2007 at a price of Kenya shillings 2,900,000 (approximately 290,000 US$). I paid a deposit of Kenya shillings 290,000 (approximately 2,900 US$) the same year. Construction was completed in 2012 and the price was adjusted to 4,200,000 Kenya shillings (approximately 420,000 US$)''. This was an increase of 44.8%. For this particular case, the scheme officials explained that this was occasioned by variations in the costs of construction. Housing units which have already been completed were sold at prices ranging from KES 1,500,000 to KES 7,600,000. The problem of price variation was identified by 66.67% of civil servants interviewed.

iii. Very few units are produced which are inadequate compared to the number of deserving civil servants. To date, CSHSF has delivered more than 3,000 housing units through either development by the scheme or issuance of housing finance loans (State department of housing & urban development (2020b). However, this is a drop in the ocean compared to the more than 240,000 civil servants (Public Service Commission, 2013). Compared to KENSUP, CSHSF fares well in terms of ownership and rental mix because at least 410 units of the total number delivered (13.7%) are for rental.

iv. Spatial Concentration of the housing units in some particular cities and towns: There is no geographical dispersion of the housing units. Most of the completed units have been built in Nairobi. The houses have been constructed without considering the geographical distribution of the civil servants who need the units.

 v. Vested interests and influence by senior government officers in allocation of units. 26% of the civil servants interviewed believe that there are vested interests in the allocation process and that senior officers influence the allocation process.

The challenges facing CSHSF are similar to those facing KENSUP. The following matters were identified as the main challenges.

 i. Inadequate Funding: The project was started through direct government funding where a state department is responsible for its implementation. Government allocation to the fund has been decreasing over years and in fact for the last two years, the government has not allocated any funds to the scheme. This has slowed down the progress of the scheme with few units produced compared to the number of deserving civil servants.   All the interviewees identified inadequate funding is a major challenge to CSHSF.

 ii. Lack of suitable serviced land in good and accessible locations: This challenge was identified by 100% of CSHSF officials, 67% of other civil servants, 80% of professionals/experts and 100% of academia. It was noted that the scheme mostly builds on public land which is classified as re-development site where old government houses are demolished to pave way for high-rise flats. In Nairobi and other major cities, such land is limited as most of it had previously been allocated to private individuals particularly in 1980's and 1990's.

iii. High cost of construction: The high cost of construction in the country as well as the rigidity in construction technology was blamed by 80% of professionals/experts and 100% of academia for the high prices of the finished units.

iv. Public sector bureaucracies: Government processes particularly in procurement are lengthy and were observed to have caused delays affecting the scheme's progress. Delays were identified in bringing on board partners under Public Private Partnership or joint Venture arrangement which the scheme has recently began to embrace and procurement of

contractors. 80% of private professionals/experts, 73.9% of government officials and 100% of academia identified 'public sector bureaucracies' as a challenge.

6.2.3   Housing provision under the National housing corporation (NHC)

Under this scheme, the state-owned National housing corporation purchases land from the market and develops housing units which are offered to the public for purchase or for rental. Units for purchase are sold on tenant purchase scheme where the applicants are required to pay a deposit on application and through monthly remittances, pay the balance within 18 years. Under rental housing NHC develops houses for rental purposes to individuals and in most cases enters into an agreement with the local county government for the latter to purchase the housing units through a loan repayable in 40 years. The county government then leases the housing units to individuals. Since its establishment in 1967, NHC has delivered over 44,000 housing units spread all over the country (Construction Review, 2016). Construction review identifies the main challenges facing NHC in its mandate to be i) high urban land prices, ii) inadequate suitable land for housing development in urban areas, iii) high costs of credit for both construction finance and long-term mortgage loans, iv) High costs of construction, v) inadequate infrastructure to support housing development in urban areas and vi) high poverty which dampens affordability of the housing units developed. Table 6.5 shows the composition of those interviewed in evaluating this scheme.

Table 6.5: Composition of the interviewees on NHC

Interviewees	Classification/specialisation	Number	Sub Total	Percentage
Programme beneficiaries		2	2	16.67%
None beneficiaries of the programme		2	2	16.67%
NHC officials		2	2	16.67%
Professionals/Experts	Land Economists/Valuers	3		41.66%
	Estate agents	1	5	
	Housing planners (public)	1		
Academia	Planner	1	1	8.33%
		TOTAL	12	100%

Source: Author's construction; February 2020

The researcher sought to understand from the sampled interviewees what they thought about the housing production under NHC in terms of output and affordability. 83.3% of them

expressed dissatisfaction with the progress of this scheme, with only 16.7% giving the scheme a thumps-up. Two reasons were given for dissatisfaction.

i. Unaffordability: Most interviewees complained the prices offered by NHC are not different from what is offered by private developers for similar houses. Just like CSHF, experts complained that the NHC tenant purchase scheme is still pegged on the conventional housing finance model which is out of reach for most urban residents. Beneficiaries interviewed indicated that they didn't settle for NHC houses because they were cheaper than other options but that their choice was based on other considerations which a prudent investor makes in deciding where to buy a house. Collectively, 91.7 % of the interviewees indicated that the housing units are unaffordable to majority of Nairobi residents.

ii. Few housing units produced for low income earners: Currently most units produced by NHC are for middle income earners. In Nairobi very few low-income units were produced by NHC in 1990's as part of slum upgrading in Pumwani and Kibera but ended up benefitting the middle-income earners.

NHC officials, professionals/experts and academia were asked about the challenges facing NHC in provision of affordable housing. NHC officials confirmed that NHC currently does not receive any funding from the government. Therefore, the corporation has to seek for funds through loans from lending institutions just like private developers do and these loans come at high costs. High urban land prices coupled with the high cost of construction in the country makes housing units produced expensive. Inadequate suitable land for housing development due to limited infrastructure that supports housing development was also blamed for slow housing delivery by the corporation in urban areas. Land which is in abundant supply is located in peri-urban areas and is either un-serviced or suffers from insecure tenure. NHC officials also identified inadequate demand as a serious challenge currently facing the tenant purchase scheme. This, as some experts argued confirms the unaffordability of the housing units produced by NHC. Experts also identified corruption within the corporation particularly during land purchase to have contributed to making housing units produced by NHC expensive and unaffordable to majority of the urban residents.

6.2.4   Housing provision under the affordable housing programme (AHP)

The Affordable Housing Programme (AHP) was launched in 2017 as one pillar of the government's big four agenda. The other pillars under the big four agenda are food and nutrition security, manufacturing and universal health care. Under the programme, the government planned to deliver 500,000 housing units by 2022 at prices ranging from KES 600,000 to KES. 3,000,000 (Approximately 6,000 – 30,000 US$). These prices were deemed to be affordable to the low and middle-income households in urban areas. The housing delivery model envisaged by the government under the AHP is through collaborative efforts by both the public and private sector and incentives to facilitate private sector investment in affordable housing. Under AHP, the government has proposed several projects in Nairobi and other counties as shown in table 6.5. Social housing units are planned to be delivered in low income areas including Kibera consisting of single rooms, two rooms and three rooms with shared common areas such as water points and bathrooms with prices ranging from KES. 600,000 to KES.1,350,000 (Approximately 6,000 – 13,500 US$).

To benefit, members of the public are supposed to express their interest by registering at AHP's Boma yangu website. They are allowed to make voluntary contributions that will be included in the cost of the houses allocated to them. However, not everyone who registers and makes contribution is guaranteed a unit in the short term but allocation will be based on a lottery system. The composition of those interviewed in evaluating this scheme is shown in table 6.6 below

Table 6.6: Composition of the interviewees on AHP

Interviewees	Classification/specialisation	Number	Sub Total	Percentage
Department of Housing Officials		2	2	25.0%
Private Professionals/Experts	Land Economists/Valuers	3	5	62.5%
	Estate agents	1		
	Housing planners (public)	1		
Academia	Planner	1	1	12.5%
		TOTAL	**8**	**100%**

Source: Author's construction; February 2020

From literature, official state department of housing website and interviewees, the planned projects under AHP, the number targeted housing to be delivered and the progress status of the projects are illustrated in table 6.7 below

Table 6.7: Status of implementation of projects under the AHP

Location of AHP project	No. of targeted housing units	Housing units delivered as at June 2020 or progress status of the project
Park road, Ngara estate Nairobi	1,370	228
Jeevanjee estate, Ngara Nairobi	1,600	Nil units delivered -Notices of relocation to allow for development work to start have already been issued to current tenants/occupants of the estate by Nairobi City County
Makongeni estate, Nairobi	20,000	Nil units delivered
Shauri Moyo/Starehe, Nairobi	8,000	Nil units delivered -Bidding processes for contractors to undertake development work is ongoing
Kibera, Marigu-ini and Kiambiu, Nairobi	11,000	Nil units delivered -Vacate notices have been issued to current tenants/occupants in these sites to allow for commencement of works - KES. 2.3 billion relocation assistance has been set aside by the government -Developers are ready to move to site any time
Lukenya AthiRiver, Machakos County (a memorandum of understanding between the State Department of Housing and the United Nations Office of Projects Services (UNOPs) to deliver 100,000 affordable housing units)	100,000	Nil units delivered His Excellency the president of Kenya launched the first phase of 8,800 units for the United Nations staff under the affordable housing programme in December 6, 2019.
Mavoko Sustainable Housing Programme	463	Nil units delivered

Source: Adopted from Kieti et al (2020) and modified by author with data from interviews and official state department of housing website

As shown in table 6.5, AHP has only managed to produce 228 units since inception. At this pace, the dream of producing 500,000 by 2022 will be unattainable. Experts seemed to agree that it is too early to evaluate this programme because its first project started practically started late 2018 even though the programme was launched in 2017. However, it was observed that based

on the reading of various AHP documents and presentations available on the official state department of housing website, the programme is better framed than the previous ones and if the government delivers what it has promised in terms of facilitation, the results could be better in the long term. The government has promised to facilitate access to land, fund infrastructure, offer tax incentives and breaks, and standardized designs and/or processes. The AHP incorporates public private partnerships through project-specific joint venture arrangements which may allow tapping the strength of the private sector. However, based on the number of housing units delivered so far and considering the government's promise of delivering 500,000 units by 2022, 87.5% of the experts expressed dissatisfaction with the progress so far. Doubts were expressed whether the government will meet its target by 2022 and whether the units will be delivered at prices affordable to the urban poor. These fears are validated in a previous research (Shah, 2019) which found a gap between the government's original AHP framework and what is now being delivered at the inaugural Park Road project - the project does not include social housing units (units ranging from 15M^2 to 25M^2 and priced at between KES 600,000 and KES 1,000,000). These are the units which under the AHP framework target those at the bottom of the income pyramid in urban areas. Without including such units in the projects as promised, the Ngara AHP project fails to enhance housing affordability for the majority the urban poor residents and leads to their continued exclusion and segregation.

6.2.5 Rating the Programmes' enhancement of affordable housing production

The researcher asked the interviewees and survey respondents to rate on a scale of 1-5 (with 1 being lowest and 5 highest) the respective programmes' enhancement of affordable housing production for the low-income households. These results are summarised in table 6.8 below

Table 6.8: Rating the various affordable housing programmes in Kenya

PROGRAMME	SCORE	NO. OF RESPONDENTS	MEAN SCORE	STANDARD DEVIATION
Slum upgrading programme (KENSUP)	1	130	1.4	0.6688
	2	37		
	3	19		

Civil servants housing scheme fund (CSHSF)	1	13	1.9	1.0288
	2	11		
	3	2		
	4	4		
National housing Corporation (NHC)	1	6	1.7	1.1146
	2	4		
	4	2		
Affordable housing programme (AHP)	1	6	1.25	0.4629
	2	2		

Source: Author's construction; February 2020

The above results show that all the above programmes and approaches are poorly rated in terms of their enhancement of affordable housing production in the country. The programmes scored between 1.25 and 1.9 out of 5 with the 'civil servants housing scheme fund' being the best rated (1.9), followed by the 'National housing Corporation' (1.7), 'Slum upgrading programme (KENSUP)' (1.4) and the recently launched 'affordable housing programme' (1.25).

6.3 The Kibera slum in the City of Nairobi

Kibera is one of the largest slums in Africa with an average population of approximately 250,000 people (Kibera.org.uk, 2020; Desgroppes & Taupin, 2011). Kibera is located approximately 5 kilometres southwest of Nairobi city centre and stands on 2.5 square kilometres. The slum is divided into 12 villages - Kianda, Soweto West, Raila, Gatwekera, Karanja, Kisumu Ndogo, Makina, Kicchinjio, Kambi Muru, Mashimoni, Lindi, Laini Saba, Silanga and Soweto East (See figure 6.4 below).

Figure 6.4: Map showing the 13 villages within Kibera slum
Source: http://mapkiberaproject.yolasite.com/maps-and-statistics.php, retrieved 20.10.2019

Buildings in Kibera slum mostly are mud walled and are roofed with corrugated iron sheets (Amnesty International, 2009]. One structure contains several single rooms of approximately 12ft by 12ft each occupied by a single household. According to Mutisya & Yarime (2011), a household in the slum comprises of seven members on average. Approximately 10% of Kibera residents own some of the structures (UN-Habitat, 2003; Kibera.org.uk) whereas the rest are owned by absentee landlords who reside elsewhere (Bah et al, 2018). The structure owners charge monthly rent of approximately 15 US $ for a single room.

Most of the residents in Kibera live in abject poverty and rely heavily on their engagement with the city's informal economic sector, particularly buying and selling goods in local markets (Stenton, 2015) and within the slum. Others work either in Nairobi's city centre, Nairobi's industrial area or as domestic servants in Nairobi's affluent estates near Kibera. Because of Kibera's central locality in terms of its close proximity to these areas (city centre, the industrial area and many affluent estates), most residents walk to these places of work.

6.4 The Kibera upgrading Initiatives: progress and failure

Through the Kenyan Slum Upgrading Programme (KENSUP), the government in partnership with the UN-HABITAT, implemented an upgrading pilot project in Soweto-East, one of Kibera's 13 villages. To facilitate a systematic implementation process, Soweto East was divided into four zones namely A, B, C and D (KNCHR, 2018) with upgrading starting in Zone A. Kibera's Soweto-East village covers an area of 21.3 hectares and had a population of approximately 19,318

people as at 2004/2005 when the project commenced (Stenton, 2015; KNCHR, 2018); A total of 6,377 bonafide residents (household heads) of Kibera Soweto East Zone 'A' were identified to be allocated housing units in the new developments but the Ministry of lands through KENSUP committed to build at least 7,233 housing units. A decanting site located next to the Lang'ata Women's Prison was built to move and house residents temporarily as the new housing units were being constructed in Kibera Soweto East Zone 'A' (KNCHR, 2018). A memorandum of understanding between the government and the residents of Kibera Soweto East Zone 'A' Village bound the residents to move back to the Soweto East Zone 'A' on tenant purchase scheme once the houses and related infrastructure were ready for occupation. However, within the course of implementation, the project which had received a lot of global attention and garnered the support of large international agencies stalled mainly because of break-down of partnerships and funding streams (Stenton, 2015) and lack of public funds. KNCHR (2018) reports that the project only managed to produce 822 housing units in 12 years leaving a deficit of 6,411 units. The project also delivered 245 commercial stalls, a multipurpose centre and upgraded infrastructure. The housing units are within several seven storey blocks of flats. Of the 822 housing units, 144 are three-roomed units, 570 are two roomed units and 108 are one-roomed units. Figure 6.5 below shows the four zones of Kibera Soweto East village.

Figure 6.5: The Zones of Sowest East Village, Kibera
Source: UN-Habitat, 2008c

As explained earlier, the total land area in Sowest East is 21.3 hectares. Zones C and D occupies 3.6 hectares and 4.5 hectares respectively (UN-Habitat, 2008d). The study area encompasses zones C and D – a total land area of 8.1hectares.

6.5 Legal Context in relation to Land Value Capture

A systematic review of the current laws related to land use and land administration in Kenya including the Constitution of Kenya 2010, the Physical and land Use Planning Act of 2019, the Land Act No. 6 of 2012, the National Land Commission Act No. 5 of 2012, the Land Registration Act No. 3 of 2012, the Community Land Act No. 27 of 2016 and the Urban Areas and Cities Act No. 13 of 2011 reveals that the government can use various sections in some of the statutes to plan Kibera and implement land value capture for affordable housing provision within the area. Section 52 (1) of the Physical and land Use Planning Act of 2019 empowers the County government on its own motion or when requested by the national government to declare an area as a special planning area. This declaration can be done if that area has been identified as suitable for intensive and specialized development activity; the development of that area might have significant effect beyond that area's immediate locality; the development of that area raises significant urban design and environmental challenges; or the declaration is meant to guide the implementation of strategic national projects. This declaration which should be published by notice in the Gazette and in at least two newspapers of national circulation is required to specify the area declared as a special planning area and the nature of the proposed development for which the declaration has been made. This will facilitate development of a special area plan for the area which would guide sustainable and economically feasible physical development through a participatory approach.

The Land Act No. 6 of 2012 Section 12 provides the Commission may, on behalf of the National or County governments, allocate public land. The Commission is allowed to set aside land for investment purposes provided that that the investments in the land benefit local communities and their economies. This section further provides that, in an allocation of public land, the Commission may impose any terms, covenants, stipulations and reservations that the Commission considers advisable, including the applicant doing such work and spending such money for permanent improvement of the public land within the period specified by the Commission; or paying a consideration for a disposition of the public land. It is provided that

Public land allocated shall not be sold, disposed off, sub-leased, or sub-divided unless it is developed for the purpose for which it was allocated. Where the land allocated is not developed in accordance with the terms and conditions stipulated in the lease, the law provides that such land shall automatically revert back to the national or county government, as the case may be. These provision under the Land Act No. 6 of 2012 Section 12 make the implementation of inclusionary housing requirements (enforcing inclusion of affordable housing in developments) practical.

In assessing the proportion of housing units to be affordable, the commission is supported by the National Land Commission Act No. 5 of 2012 section 6 (2) (c) which gives the commission powers to take any measures it considers necessary to ensure compliance with the principles of land policy set out in Article 60(1) of the Constitution i.e equity, efficiency, productivity and sustainability among others. The Constitution (article 67(2) and the National Land Commission Act (section 5(1)(g) gives the National land Commission the mandate to assess tax on land and premiums on immovable property in any area designated by law. Urban Areas and Cities Act No. 13 of 2011 gives cities and urban areas the power and mandate to control land use, land sub-division, land development and zoning. In addition, the Country's Constitution protects the right to housing. The Constitution in Chapter 4 under Article 43, sub-article 1 (a) states that "Every person has the right to accessible and adequate housing, and to reasonable standards of sanitation". Article 60. (1) of the constitution states that ''Land in Kenya shall be held, used and managed in a manner that is equitable, efficient, productive and sustainable''. Definitely, the way land is used in Kibera does not meet this article's requirement as access to it is not equitable. Given the prime location of the land, it is neither used efficiently nor productively with the current one storey iron sheet structures which allows for accommodation of a few residents in a congested environment. Hence, this scenario is not sustainable. The national and county governments may ride on provisions in the various statutes highlighted above to effectively implement land value capture through inclusionary housing.

6.6 Possible solution and demonstration of the hypothesis: assessing the viability of the proposed model for Soweto East, Kibera; Nairobi.

Relying on public or external funding has been the main impediment to slum upgrading. This research considers the rationale and potential of using Land Value Capture to increase affordable housing in the city of Nairobi. The research hypothesizes that slums could best be regenerated through Conversion of public land (where most slums sit) to private land through alienation to private developers who include the slum-landlords. This methodology is being proposed for slums and informal settlements on public land where through stakeholder participation, land would be planned and allocated with priority going to the structure owners with the ability to develop but also extending the offer to market developers. The conversion of the land from public to private status with high density user (high-rise flats) and its planning will enhance its value. Such value enhancement needs to be harnessed for public good through Land Value Capture (LVC) mechanism. If this increment is not captured, it will end up benefitting the new landowners only and would have harmful effects on the low-income slum residents as it will result into their displacement. LVC should be used for redistributive purpose to redress disadvantage as the benefits of urban land ownership should flow to all city dwellers (Fainstein, 2012). As Smolka (2013) argues, LVC should be used to mobilize some of the land value increments generated by actions other than those of the landowner for the benefit of the community at large. Such actions may include changes in land use norms and regulations such as rezoning and densification. Kenya just like the other Sub-Saharan African countries faces enormous challenges in providing adequate affordable housing for the increasing number of the urban poor and hence she cannot afford to let go the opportunity to apply LVC (Agyemang & Morrison, 2018).

The potential for LVC in Nairobi presents itself in the following four main fronts: i) Slums on prime public land ii) Prime public land near the CBD with very old developments which need urgent renewal/redevelopment iii) Slums and informal settlements on private land and iv) Private land with developments which are below the highest and best use. How to capture land value for each category of land identified above will need a different strategy. However, in this case study the researcher evaluates the application of LVC on slums on prime public land. The housing crisis we are facing calls for a critical assessment of the systems that have existed and aggravated already a bad situation. The city authorities and the government need to evaluate

the role of public land which is mostly invaded by squatters, developing informal settlements which eventually degenerate into slums. The government's ability to combat slums and increase affordable housing hinges on its influence on the use and ownership of its land. Conversion of public land to either community or private land with stringent conditions including prioritising affordable housing development could be an important part of a broader response to our slums and affordable housing problem. As land for developing affordable housing becomes scarce, government land occupied by slums remains highly ignored, yet most of it is close to the city centre and hence is highly accessible. This land where the urban poor live remains un-serviced and excluded constraining development to its highest and best use. Yet the city continues to struggle with the dual challenges of housing its low- and middle-income households and eliminating slums.

In slums regeneration, LVC could best be implemented through Inclusionary Housing (IH). In this case, developers would be required to set aside a portion of their units for the slum dwellers, the proportion being determined through economic and residual land value analysis. IH is a means of using the planning system to create affordable housing by capturing resources created by the marketplace (Calavita & Mallach, 2010). It is a means of harnessing increased land values to finance the development of affordable housing (Schuetz et al, 2009). As Cronin & Guthrie (2011) observe, one solution for Kibera could be for the government to allow the structure owners to invest in developing the land in accordance with master planning guidelines formulated by the government. Cronin & Guthrie add that it may also be the case that the structure owners are better connected to the community than any NGO or development agency and so have a good understanding of the real needs of their tenants. Interviews with structure owners suggest that most of them can raise funds to put up permanent buildings if approved by the government. They have also developed a bond with their tenants and most of them said it will not be a pain for them to accommodate these tenants in the new developments at a rent that is affordable, if that is the sacrifice they have to make in exchange for secure tenure and higher development rights.

Kibera is congested but the land parcels are not densely developed. The way to address the housing problem in Kibera would be to seize the prime locality of the land and its lack of density and through public policy focus on creating opportunities to build denser and more vertical mixed-use developments. Such a policy should take cognisance of the likely possibility of

resistance from some structure owners/slumlords who benefit from rent seeking within the slum. It should also calm the slum dweller's fears of losing their affordable homes and eliminate the reluctance of the private developers in getting into the slums. Therefore, the policy must demonstrate to all interested persons that there will be a gain on their side. The model must be designed in a way that it achieves the following i) enables the government to economically and sustainably upgrade the slum, ii) allows slum dwellers to access quality housing at affordable rent, iii) fosters social inclusion and curtails gentrification, and iii) attracts developers and permits them to make a profit despite the inclusion of subsidized units in the developments.

In this research, an alternative and sustainable model of dealing with slums and providing equitable affordable housing is offered. The study suggests that a density-focused inclusionary housing development model supported by a well-designed land value capture mechanism might be a useful policy to embrace. Use of land value capture and inclusionary housing will help to eliminate slums, increase affordable housing and create inclusive and integrated communities. This can be done without displacing the slum dwellers because inclusionary housing ensures that they are accommodated in affordable units provided within the development. This approach will likely result in enough affordable units for the current Kibera residents and future immigrants thereby achieving two objectives, that is, i) regenerating Kibera slum and ii) preventing development of new slums. As Crawford (2017) argues, density incentives if executed carefully, have the advantage of being more environmentally responsible because they promote less sprawl. This is consistent with the principle of sustainable land use in Kenya's land policy as set out in Article 60(1) of the Constitution. The approach embraces mixed-use sustainable development and hence anticipates inclusion of small retail and productive activities as well as common public facilities in the master plan. The study demonstrates the financial viability of a real estate market driven regeneration approach using a village of the Kibera slum, i.e. Soweto East. If adopted, this model can help create a mixture of affordable and market rate housing by tapping the strength of the real estate market. This is because as the model proposes private developers will be allocated land after planning and then compelled to include affordable units in new developments and contribute an impact fee that will fund i) alternative accommodation of slum dwellers during construction and ii) infrastructural facilities including access roads, walkways and pavements to make the neighbourhoods accessible and liveable. The model does not consider the present population only but includes future low-

income residents and workers, as well as market rate middle-income residents who will access market properties and trigger the financial viability of the initiative. The model ensures that development requirements simultaneously facilitate infrastructure and new housing development while maximizing affordable housing delivery for the low income/poor inhabitants. This calls for a delicate balance in the analyses to ensure that both public benefit and project feasibility are achieved. If affordable housing requirements are set too low, the slum would be upgraded, but this won't address the affordability issue and will lead to gentrification. On the other hand, if requirements are set too high, no development will occur because it would be financially infeasible, and thus the slum will not be upgraded and affordable housing will not be provided.

The proposed model can be adopted to implement in the entire Kibera, with a potential to upscale and adapt to slums worldwide, provided that specific social and legal aspects are considered. The residual land value analyses have evaluated the financial performance of different prototype developments in the proposed master plan area and analysed how land values will be affected by the proposed increased development density and a range of new requirements such as affordable housing and development impact fees. These analyses are important in order to find out which development requirements maximise affordable housing provision while achieving development feasibility for the developer.

In order to illustrate the proposed methodological approach in practice, the researcher analysed the subdivision potential and affordable housing requirements for the Soweto East village Zones C and D situated in the north-eastern part of Kibera, adjacent to Canaan Estate, an existing upgrading project done by the government and UN-Habitat, within the Kenya Slum Upgrading Project frame-work. Upon collecting the necessary data, the following preliminary steps were undertaken: -

1. Needs assessment. The researcher began by quantifying affordable housing needs in the study area. The affordable housing units required should be equivalent to the current number of households plus an annual increment to take care of population increase before developments are completed. The study area lies within Laini Saba sub-location of Kibera and as per the 2019 Kenya population and housing census, the population density in this area is 81,807 persons per square kilometre (Kenya National Bureau of Statistics, 2019). The total land area for the study area is 8.1 hectares or 0.081 square kilometres which translates

to a population of 6,627 persons. Bearing in mind that i) developments are estimated to take approximately two years and ii) the annual rate of population increase in Nairobi is 3.9% (United Nations, 2018), the population that needs to be accommodated in affordable housing will have increased to 7,168 persons by the time developments are completed. The next step in the user needs assessment was the determination of number of households. Results from the survey conducted show that the most common household size within the study area is 6 followed by 5,4,3,7, 1 & 8 and 9. The average household size was found to be 4.878 as demonstrated in table 6.9 below.

Table 6.9: Determination of the average household size in Zone C&D, Soweto East, Kibera

Household Size	No. of Households	Total
1	3	3
2	8	16
3	15	45
4	33	132
5	39	195
6	43	258
7	10	70
8	3	24
9	2	18
TOTAL	156	761
AVERAGE HOUSEHOLD SIZE	**761/156 = 4.878**	

Source: Author's analysis; April, 2020

The derived average household size is collaborated by other studies. UN-Habitat in Research International (2005) reported an average household size of 5 persons while Desgroppes & Taupin (2011) arrived at an average household size of 3.2 persons. Mutisya and Yarime (2011) indicate that a household in Kibera comprise of 7 members although they did not indicate their source or how they arrived at this number. For purposes of determining the number of required affordable housing units for the residents in the study area, this study uses the average derived by the above analysis but approximates the same at 5 persons per household. The number of affordable housing units is derived by dividing the population in the study area (7,168 persons as determined earlier) by the average household size (5 persons). This results into 1,434 housing units.

2. Master plan preparation: A master plan was prepared for Soweto East zones C and D (total area of 8.1 hectares). This was done on assumption that the land is rezoned into high-rise flats user. Further, to attain aesthetic value, the master plan assumes typical building designs can be imposed on all the land parcels save for minor adjustments where the plot areas and shapes differs significantly. However, the master plan strives to achieve uniform plot sizes where possible. It is also proposed that where the building plans are typical, they would be approved in advance by the county government meaning that developers will not need to make individual applications hence hastening the development process and reducing cost. This will act as an incentive to the developers and is important because approval processes have been identified as length and an impediment to the housing development process. In preparing the master plan, benchmarking was done with other low-income estates in Nairobi including Umoja, Kayole and Dandora to determine the ideal plot size for such a housing scheme. It was determined that land parcels measuring approximately 280 square metres would be ideal for the proposed model. The master plan prepared is shown in figures 6.6 and 6.7 and aimed at creating a sustainable neighbourhood in the upgraded neighbourhood and created 122 land parcels. The master plan incorporates two seven-storey prototypes - 50 land parcels which front the main arterial routes are mixed use and will have some commercial units on ground floor while 72 land parcels will be purely residential. A typical development prototype is shown in figure 6.8 below. The master plan incorporates ideas provided by residents, experts and other stakeholders on what kind of neighbourhoods would be ideal for the upgraded developments and seeks to improve on what was delivered in Canaan estate (Kibera East, Zone A) under the Kenya Slum Upgrading Project. It provides for green areas and wide access roads to allow for incorporation of small business stalls along the roads to accommodate those who are currently trading along the roads.
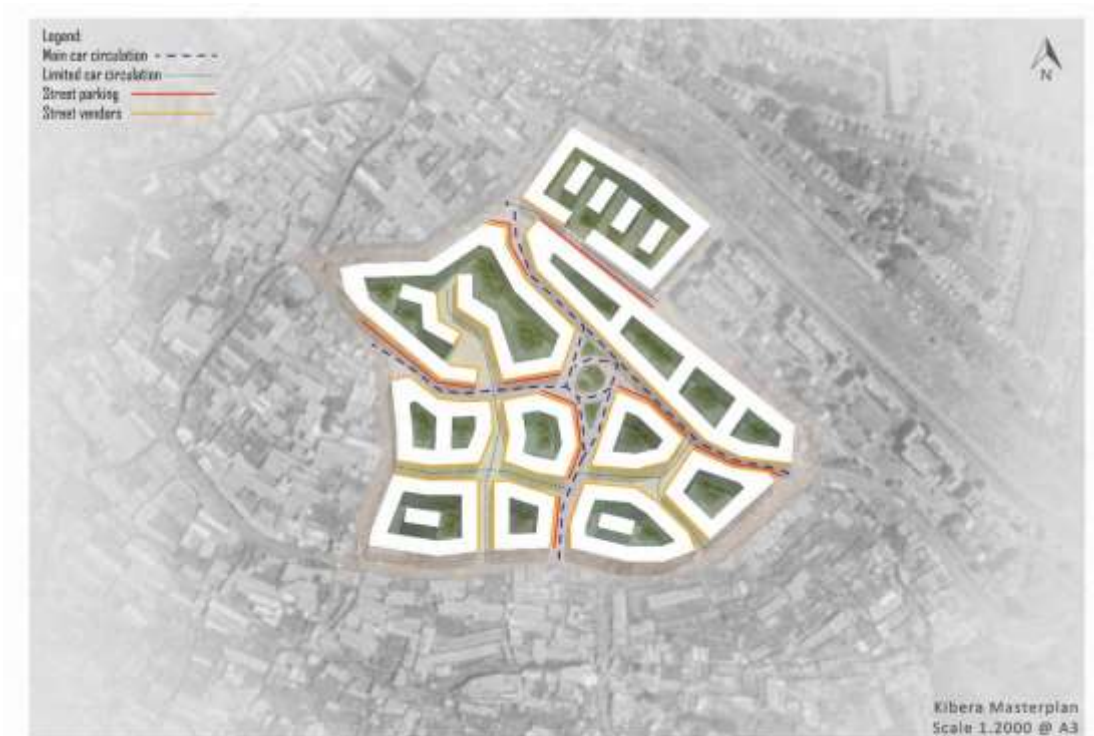
Figure 6.6: Proposed Master plan for zones C & D, Soweto East, Kibera
Source: Nzau, Trillo, Cassady. April, 2020; Master plan for zones C and D, Soweto East Kibera, Nairobi, Kenya. Unpublished.
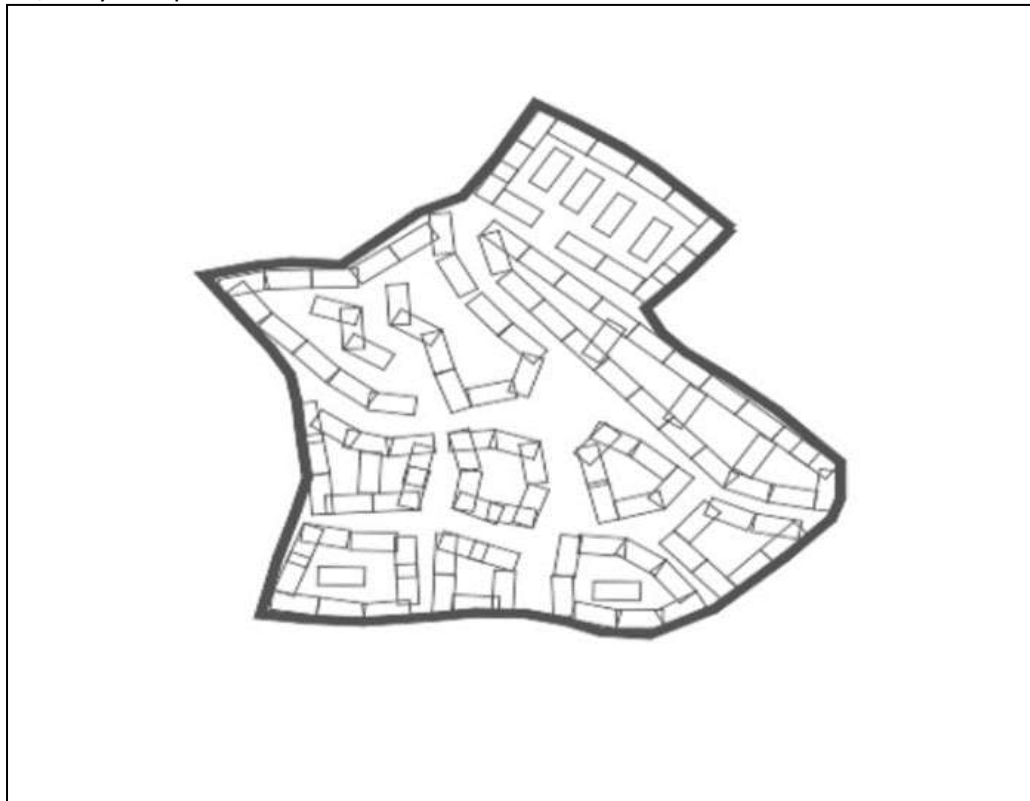
Figure 6.7: Master plan for zones C&D showing the created land parcels, Soweto East, Kibera; Source: Nzau, Trillo, Cassady; April, 2020. Master plan for zones C and D, Soweto East Kibera, Nairobi, Kenya. Unpublished.

Figure 6.8: A Model showing a typical prototype.
Source: Nzau, Trillo, Cassady; April, 2020. Typical prototype for zones C and D, Soweto East Kibera, Nairobi, Kenya. Unpublished.

3. Determination of affordable housing requirements per land parcel: Based on the population, household size and number of households derived in 1 above, number of land parcels delivered by the master plan in 2 above, determination of the affordable housing requirements per land parcel was done as demonstrated in table 6.10 below.

Table 6.10: Determination of affordable housing units required in Zone C & D, Soweto East, Kibera;

DETERMINATION OF AFFORDABLE UNITS REQUIRED PER LAND PARCEL/DEVELOPMENT	
Number of land parcels created by masterplan after readjustment & subdvision	122
Population of Soweto East Zones C & D based on 2019 Kenya Population and Housing Census = 0.081 square kilometres x 81,807 persons per square kilometre = 6,627 Persons; Allowing for population increase @3.9% per annum, population to be housed will be 7,168 Persons in 2 years	
Average number of persons in a household as per Survey analysis = 5	
Number of households = 7,168/5 = 1,434 households	
Number of affordable units to be required per land Parcel = 1,434/122 = 11.75 call 12 units	12
Therefore, development in each land parcel will need to accommodate a minimum of 12 affordable units if the proposed model is to be successful. This will result into 1,464 affordable units enough to cater for the estimated 1,434 households in Zones C & D of Soweto East village, Kibera	

Source: Author's analysis, April, 2020 – Data on population from Kenya National Bureau of Statistics (2019); Rate of population increase in Nairobi from United Nations (2018).

4. Residual Land Value Analysis: Given the developments proposed in the master plan, residual land value analyses for prototype developments were undertaken. Residual land value models are useful in testing feasibility and determining residual values for land subjected to land value capture requirements. The residual values reflect how much private developers would be willing to pay for land in order to meet LVC requirements and achieve development feasibility taking into account a target rate of return and development risk. Residual land value analyses enable determination of applicable number of affordable units of different affordability levels to be required, the market units attainable and the density and the floor area ratio (FAR) to be awarded to enable feasibility of the development. In this stage, the impact of a range of proposed development requirements on the residual land value for each development prototype was modelled.

In implementing this model, the importance of sharing with developers the residual land value analyses cannot be overemphasized. This is because as Baker & McClain (2008) argue, developers are often ill prepared to service the low-income market, and their lack of experience with poor clients like slum dwellers makes them even more wary of exploring profit-making

opportunities in slum areas. Therefore, it is proposed that concurrently with sharing the analyses, the government would invite developers to bid for the land with first priority going to the structure owners. Successful bidders would then be allocated the land and granted leases with stringent grant conditions. The first condition or requirement should be payment of a premium to be treated as impact fees for developing i) temporary accommodation for the slum dwellers during construction ii) infrastructure such as access roads, walking paths and pavements within the immediate neighbourhoods. The main arterial infrastructure has already been developed under the Kenya Slum Upgrading Project. In order to protect the fund paid as impact fees, the government needs to dedicate a special kitty managed by an independent authority which would also monitor compliance with the lease conditions. Secondly, successful bidders would be required to develop affordable housing through 'inclusionary housing' policy which requires the developer to accommodate at the existing or affordable rent the slum dwellers who would be displaced by the upgrading but also include some market rate units to recoup their investment. In this way, land value is captured for the common good by ensuring provision of affordable units at no cost to the government. Lastly, it will be important for the developers to be compelled to develop the land within a certain period not exceeding two years. Should any allottee/developer fail to meet the conditions of the grant, the land should revert to the county or national government and be re-allocated as per the provisions of the Land Act Section 14.

Tables 6.11 and 6.12 (pages 216 & 217) shows the residual land value analyses for the two prototypes for Soweto East zones C and D. Table 6.11 shows the residual land value analysis of prototype 1 which is mixed use. The prototype incorporates a seven-storey plus rooftop development with 43 units (3 shops and 40 residential units). Since most Kibera residents work in the informal sector, provision of shops in some of these developments will be instrumental in supporting livelihoods. Two of the shops are proposed to be availed at affordable rent to Kibera residents and one to be offered at market rent/price. Out of the 40 residential units, 12 units are proposed to be affordable and 28 units are proposed to be market rate units. Tables 6.12 shows the residual land value analysis of prototype 2 which is purely residential. The prototype also incorporates a seven-storey plus rooftop development with 42 residential units. Out of the 42 residential units, 12 units are proposed to be affordable and 30 units are proposed be market rate units. Prototypes 1 and 2 results into 27.9% and 28.6% respectively of the

residential units within the prototype developments being affordable and being fully funded by the private developers and hence the market. This also translates into a 27.9% and 28.6% inclusivity (mix of different income groups) if inclusion is measured by the proportion of affordable units within upgraded developments. Inclusivity has been measured in this way in other studies (Schwartz et al, 2012).

To undertake the residual land value analyses shown in tables Tables 6.11 and 6.12 ahead, data from various sources was used in order to derive the expected revenues from the finished units and the associated costs of production. To arrive at market values adopted, the researcher undertook market analyses of sales of similar housing in neighbouring estates including Kibera highrise estate, Nairobi dam estate, NHC langata housing estate, Karanja and Olympic Estates. Based on the prevailing rents in Kibera, the analyses indicate that affordable prices/rents would be approximately 25% to 30% of the market prices/rents. The housing units for Sowest East Zone A under KENSUP were priced at approximately 40% of the Market values (KNCHR, 2018). In the analyses, the revenue is deferred for two years to allow for construction and disposal of the units. Costs of production of the units has been derived by summing up the following components:- (i) Costs of construction of the main building, (ii)site works – sewer connection, underground water storage tank, gates, security cameras etc), (iii)cost of capital – loans used by the developers for construction, (iv)developer's profit – the profit margin expected by the developer, (v)development impact fees – these are levied to mitigate the impacts of the proposed development, and (vi)permit approval fees.

Costs of construction are derived from the Institute of Quantity Surveyors of Kenya (IQSK, 2019); the cost of site works has been applied at 5.6% of the cost of the main building as determined by Taylor (2015); the current cost of credit in Kenya as applied in the analysis is 13% (Central Bank of Kenya, 2020a). Developer's profit margin in Nairobi can range from 20% to 40% (Kieti, 2015; Limbe 2013; Gichuhi, 2013) and hence an average of 30% is applied in the analyses. Impact fees applied have been determined by incorporating two components. The first is the cost of construction for temporary galvanised corrugated iron sheets structures needed to accommodate the slum dwellers during the development period. These structures will be constructed on public land to be provided by the county government of Nairobi. County officials interviewed expressed support for this proposed model and confirmed that the county government can facilitate the process by availing land for temporary accommodation of the

displaced slum dwellers. It was earlier determined that each land parcel will accommodate 12 households. For temporary accommodation, each household has been allocated a two roomed structure measuring 32 square metres (m^2). For 12 households, the total built up area will be 384 m^2 and at a construction cost of 5,000 per m^2 (IQSK, 2019), it will cost Kenya shillings (KES) 1,920,000 to build the complete structure for the 12 households. For easy appreciation, it is important at this point to indicate that the exchange rates as per Central Bank of Kenya as at 12th June 2020 were 1 US\$=106.5 KES, 1 sterling £=134.9 KES and 1 Euro=120.9 KES (Central Bank of Kenya, 2020b). This cost (KES 1,920,000) divided by the total built-up area of the proposed development (1,293m^2) gives a cost of KES 1,500 per m^2. The second component of Impact fees covers light infrastructure –access roads and drainage from the main roads to serve the immediate neighbourhood of the land parcels. It is important to note that the main roads have already been tarmacked under KENSUP. Measurements done using GIS on the master plan for such infrastructure within Zone C & D resulted into a total area of 7,887 m^2. At a construction cost of KES 20,000 per m^2 (IQSK, 2019), the total cost of such infrastructure will be KES 157,746,000. This cost is divided by 122 land parcels to get KES 1,293,000 per land parcel or KES 1,000 per m^2 of the main built-up area of the proposed development. Combining the two components results into an impact fee of KES 2,500 per m^2 of the built-up area of the proposed development. Regarding the cost of permit approvals in Nairobi, Keinvest (2020) has given the formula for calculating this as supplied by the Nairobi city planning department. Cost of approvals is equal to Joint Building Council (J.B.C) rate × Plinth area × 1.1%. J.B.C rates vary with the nature of development and low-cost high-rise flats of 6 floors and above, the rate is KES 24,000.

The Residual Land Value (RLV) analyses show that the proposed model of affordable housing provision is feasible with both prototypes returning positive residual land values. The analyses show that even with inclusionary requirements imposed, the land parcels would fetch KES 2, 943,632/80 for prototype 1 and 5,702,632/80 if they were offered in the market, with developers making a profit of 30% on their investments.

Table 6.11: Residual Land Value Analysis for Prototype 1

RESIDUAL LAND VALUE ANALYSIS FOR PROTOYPE 1 -MIXED USER - RESIDENTIAL WITH 2 COMMERCIAL UNITS ON GROUND FLOOR					
WITH LAND VALUE CAPTURE (INCLUSIONARY HOUSING)					
DEVELOPMENT					
GROUND FLOOR - 3 No. COMMERCIAL UNITS, COMMON BATHROOM, 1 No. 1 BEDROOMED UNIT AND 3No. STUDIOS					
1ST to 3RD FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
4TH FLOOR - 1 No. 1 BEDROOMED UNIT AND 2 No. STUDIOS; COMMUNAL LOUNGE & LAUNDRY					
5TH to 6TH FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
7TH FLOOR - 3 No. STUDIOS AND COMMUNAL TERRACE					
SUMMARY OF DEVELOPMENT	**PLINTH AREA**				
3 SHOPS @20 m^2 to 22 m^2	66 m^2				
17 1 BR FLATS @40 m^2	680 m^2				
23 STUDIOS @17 m^2 to 22 m^2	460 m^2				
COMMUNAL LOUNGE AND LAUNDRY	98 m^2				
COMMON WASHROOM ON GROUND FLOOR	4 m^2				
TOTAL PLINTH AREA -MAIN AREAS	1293 m^2				
PLINTH AREA-COMMUNAL TERRACE	153 m^2				
REVENUE					
Units	**Number**	**Price (KES)**	**Revenue (KES)**		**KES**
Affordable studios	6	500,000	3,000,000.00		
Affordable 1 bedroomed units	6	1,000,000	6,000,000.00		
Affordable Shops	2	750,000	1,500,000.00		
Market Shop	1	3,000,000	3,000,000.00		
Market rate Studios	17	2,000,000	34,000,000.00		
Market rate 1 bedroomed units	11	3,800,000	41,800,000.00		
				89,300,000.00	
Defer 2 years @11%				0.89	
			Total Revenue		**79,477,000.00**
LESS COST OF CONSTRUCTION					
	Total Area (m^2)	**Cost (m^2)**	**Total Cost (KES)**		
Main areas $[66m^2+680m^2+460m^2+98m^2+4m^2]$	1293	35,000	45,255,000.00		
Communal Terrace	153	20,000	3,060,000.00		
		Sub-total (i)	48,315,000.00		
Add Siteworks @5.6 % of subtotal (i)			2,705,640.00		
		Sub-total (ii)		51,020,640.00	
Add cost of Capital @13% of subtotal (ii)				6,632,683.20	
Add developers profit @30% of subtotal (ii)				15,306,192.00	
Other Costs					
Impact fees for (i)slum resident's temporary relocation and accomodation @ Ksh 1,500 per m^2 and (ii) Infrastructure -Acess paths,walking ways and pavements @Ksh 1,000 pm^2 (Total Impact fees = 2,500 pm^2)	1,293	2,500		3,232,500.00	
Approval fees = J.B.C rate X Plinth area x 1.1%	24,000 x 1293 x 1.1%			341,352.00	
			Total Cost		**76,533,367.20**
			Residual Value		**2,943,632.80**

Source: Author's Analysis; March-April 2020

Table 6.12: Residual Land Value Analysis for Prototype 2

RESIDUAL LAND VALUE ANALYSIS FOR PROTOYPE 2 - RESIDENTIAL					
WITH LAND VALUE CAPTURE (INCLUSIONARY HOUSING)					
DEVELOPMENT					
GROUND to 3RD FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
4TH FLOOR - 1 No. 1 BEDROOMED UNIT AND 2 No. STUDIOS; COMMUNAL LOUNGE & LAUNDRY					
5TH to 6TH FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
7TH FLOOR - 3 No. STUDIOS AND COMMUNAL TERRACE					
SUMMARY OF DEVELOPMENT					
19 1 BR FLATS @40 m^2	760 m^2				
23 STUDIOS @17 m^2 to 22 m^2	435 m^2				
COMMUNAL LOUNGE AND LAUNDRY	98 m^2				
TOTAL PLINTH AREA -MAIN AREAS	1293 m^2				
PLINTH AREA-COMMUNAL TERRACE	153 m^2				
REVENUE					
Units	Number	Price (KES)	Revenue (KES)		KES
Affordable studios	6	500,000	3,000,000.00		
Affordable 1 bedroomed units	6	1,000,000	6,000,000.00		
Market rate studios	17	2,000,000	34,000,000.00		
Market rate 1 bedroomed units	13	3,800,000	49,400,000.00		
				92,400,000.00	
Defer 2 years @11%				0.89	
			Total Revenue		**82,236,000.00**
LESS COST OF CONSTRUCTION					
	Total Plinth Area (m^2)	**Cost (m^2)**	**Total Cost (KES)**		
Main areas $[760m^2+435m^2+98m^2]$	1,293	35,000	45,255,000.00		
Communal Terrace	153	20,000	3,060,000.00		
Sub-total		**Sub-total (i)**	**48,315,000.00**		
Add Siteworks @5.6% of subtotal (i)			2,705,640.00		
		Sub-total (ii)		**51,020,640.00**	
Add cost of Capital @13% of subtotal (ii)				6,632,683.20	
Add developers profit @30% of subtotal (ii)				15,306,192.00	
Other Costs					
Impact fees for (i)slum resident's temporary relocation and accomodation @ Ksh 1,500 per m^2 and (ii) Infrastructure -Acess paths,walking ways and pavements @Ksh 1,000 pm^2 (Total Impact fees = 2500 pm^2)	1,293	2,500		3,232,500.00	
Approval fees = J.B.C rate X Plinth area x 1.1%	24,000 x 1293 x 1.1%			341,352.00	
			Total Cost		**76,533,367.20**
			Residual Value		**5,702,632.80**

Source: Author's Analysis; March-April 2020

It was important to understand how much land value was captured in the model. RLV analyses were developed for the proposed development without land value capture (without inclusionary affordable units). The results of these analyses are shown in table 6.13 for prototype 1 and table 6.14 for prototype 2. It is shown in the tables that the residue land value

without any value capture would be KES 29,910,632/80 for prototype 1 and KES 28,664,632/80 for prototype 2.

Table 6.13: Residual Land Value Analysis for a prototype 1 without Land Value Capture.

RESIDUAL LAND VALUE ANALYSIS FOR PROTOYPE 1 -MIXED USER - RESIDENTIAL WITH 2 COMMERCIAL UNITS ON GROUND FLOOR WITHOUT LAND VALUE CAPTURE					
DEVELOPMENT					
GROUND FLOOR - 3 No. COMMERCIAL UNITS, COMMON BATHROOM, 1 No. 1 BEDROOMED UNIT AND 3No. STUDIOS					
1ST to 3RD FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
4TH FLOOR - 1 No. 1 BEDROOMED UNIT AND 2 No. STUDIOS;COMMUNAL LOUNGE & LAUNDRY					
5TH to 6TH FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
7TH FLOOR - 3 No. STUDIOS AND COMMUNAL TERRACE					
SUMMARY OF DEVELOPMENT					
3 SHOPS @20 m^2 to 22m^2	66m^2				
17 - 1 BEDROOMED FLATS @40 m^2	680 m^2				
23 STUDIOS @17 m^2 to 22 m^2	460 m^2				
COMMUNAL LOUNGE AND LAUNDRY	98 m^2				
COMMON WASHROOM ON GROUND FLOOR	4m^2				
TOTAL PLINTH AREA -MAIN AREAS	1,293 m^2				
PLINTH AREA-COMMUNAL TERRACE	153 m^2				
REVENUE					
Units	**Number**	**Price (KES)**	**Revenue (KES)**		
Market Shops	3	3,000,000	9,000,000.00		
Market rate studios	23	2,000,000	46,000,000.00		
Market rate 1 bedroomed units	17	3,800,000	64,600,000.00		
				119,600,000.00	
Defer 2 years @11%				0.89	
		Total Revenue			106,444,000.00
LESS COST OF CONSTRUCTION					
	Total Area (m²)	**Cost (m²)**	**Total Cost (KES)**		
Main areas [66m^2+680m^2+460m^2+98m^2+4m^2]	1293	35,000	45,255,000.00		
Communal Terrace	153	20,000	3,060,000.00		
		Sub-total (i)	**48,315,000.00**		
Add Siteworks @5.6 % of subtotal (i)			2,705,640.00		
		Sub-total (ii)		**51,020,640.00**	
Add cost of Capital @13% of subtotal (ii)				6,632,683.20	
Add developers profit @30% of subtotal (ii)				15,306,192.00	
Other Costs					
Development Impact fees to cater for slum resident's temporary relocation and accomodation @ Ksh 1,500 per m^2 and (ii) Infrastructure -Access paths,walking ways and pavements @Ksh 1,000 pm² (Total Impact fees = 2,500 pm²)	1,293	2,500		3,232,500.00	
Approval fees = J.B.C rate X Plinth area x 1.1%	24,000 x 1293 x 1.1%			341,352.00	
		Total Cost			76,533,367.20
		Residual Value			29,910,632.80

Source: Author's Analysis; April, 2020

Table 6.14: Residual Land Value Analysis for a prototype 2 without Land Value Capture.

RESIDUAL LAND VALUE ANALYSIS FOR PROTOYPE 2 - RESIDENTIAL WITHOUT LAND VALUE CAPTURE					
DEVELOPMENT					
GROUND to 3RD FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
4TH FLOOR - 1 No. 1 BEDROOMED UNIT AND 2 No. STUDIOS;COMMUNAL LOUNGE & LAUNDRY					
5TH to 6TH FLOOR - 3 No. 1 BEDROOMED UNITS AND 3No. STUDIOS					
7TH FLOOR - 3 No. STUDIOS AND COMMUNAL TERRACE					
SUMMARY OF DEVELOPMENT					
19 - 1 BEDROOMED FLATS @40 m^2	760 m^2				
23 STUDIOS @17 m^2 to 22 m^2	435 m^2				
COMMUNAL LOUNGE AND LAUNDRY	98 m^2				
TOTAL PLINTH AREA -MAIN AREAS	1293 m^2				
PLINTH AREA-COMMUNAL TERRACE	153 m^2				
REVENUE					
Units	**Number**	**Price (KES)**	**Revenue (KES)**		**KES**
Market rate studios	23	2,000,000	46,000,000.00		
Market rate 1 bedroomed flats	19	3,800,000	72,200,000.00		
				118,200,000.00	
Defer 2 years @11%				0.89	
			Total Revenue		105,198,000.00
LESS COST OF CONSTRUCTION					
	Total Plinth Area (m^2)	**Cost (m^2)**	**Total Cost (KES)**		
Main areas [760m^2+435m^2+98m^2]	1,293	35,000	45,255,000.00		
Communal Terrace	153	20,000	3,060,000.00		
Sub-total		**Sub-total (i)**	**48,315,000.00**		
Add Siteworks @5.6% of subtotal (i)			2,705,640.00		
		Sub-total (ii)		51,020,640.00	
Add cost of Capital @13% of subtotal (ii)				6,632,683.20	
Add developers profit @30% of subtotal (ii)				15,306,192.00	
Other Costs					
Impact fees for slum resident's temporary relocation and accomodation @ Ksh 1,500 per m^2 and (ii) Infrastructure - Acess paths,walking ways and pavements @Ksh 1,000 pm^2 (Total Impact fees = 2500 pm^2)	1,293	2,500		3,232,500.00	
Approval fees = J.B.C rate X Plinth area x 1.1%	24,000 x 1293 x 1.1%			341,352.00	
			Total Cost		76,533,367.20
			Residual Value		28,664,632.80

Source: Author's Analysis

These residual land values in tables 6.13 and 6.14 show how much developers would be willing to pay for the land if inclusionary housing requirements were not imposed. As explained earlier, the residual land values in table 6.11 and 6.12 indicate how much developers would be willing to pay for the land when inclusionary housing (land value capture) is imposed. Therefore, the

value created by the public policy of land alienation to private developers and the subsequent rezoning and master planning can be derived by deducting the residual land values with inclusionary housing from residual land values without inclusionary housing as shown in table 6.13 below. The final results in table 6.15 and figure 6.14 indicate that the proposed model captures 50.9% and 53.3% of the value created under prototype 1 and prototype 2 respectively.

Table 6.15: Determination of the land value captured by the proposed master plan incorporating Inclusionary affordable housing in Zone C &D of Soweto East, Kibera, Nairobi

| DETERMINATION OF THE PERCENTAGE OF VALUE CAPTURED				
Value Captured under Prototype 1				**KSh.**
i)Residue land value without Land Value Capture				**29,910,632.80**
ii)Residue land value with land Value Capture(Inclusionary housing)				**2,943,632.80**
Value created by the public policy = i-ii				**26,967,000.00**
a) Affordable Units	**Number**	**Price (KSh.)**	**Total Value(Ksh.)**	
Studios	6	500,000	3,000,000.00	
1 Bedroomed	6	1,000,000	6,000,000.00	
Shops	2	750,000	1,500,000.00	
			Total value of affordable units	**10,500,000.00**
b) Impact fees				**3,232,500.00**
Total value Captured = Value of affordable units + Impact fees				**13,732,500.00**
Percentage of value captured = (Total value captured ÷ Value created by the public policy) × 100			$(13,732,500.00 \div 26,967,000) \times 100$	
Value Captured	**50.90%**			
Value Captured under Prototype 2				
i)Residue land value without Land Value Capture				**28,664,632.80**
ii)Residue land value with land Value Capture(Inclusionary housing)				**5,702,632.80**
Value created by the public policy = i-ii				**22,962,000.00**
a) Affordable Units	**Number**	**Price (KSh.)**	**Total Value(Ksh.)**	
Studios	6	500,000.00	3,000,000.00	
1 Bedroomed	6	1,000,000.00	6,000,000.00	
			Total value of affordable units	**9,000,000.00**
b) Impact fees				**3,232,500.00**
Total value Captured = Value of affordable units + Impact fees				**12,232,500.00**
Percentage of value captured = (Total value captured ÷ Value created by the public policy) × 100			$(12,232,500 \div 22,962,000) \times 100$	
Value Captured	**53.30%**			

Source: Author's Analysis; April, 2020
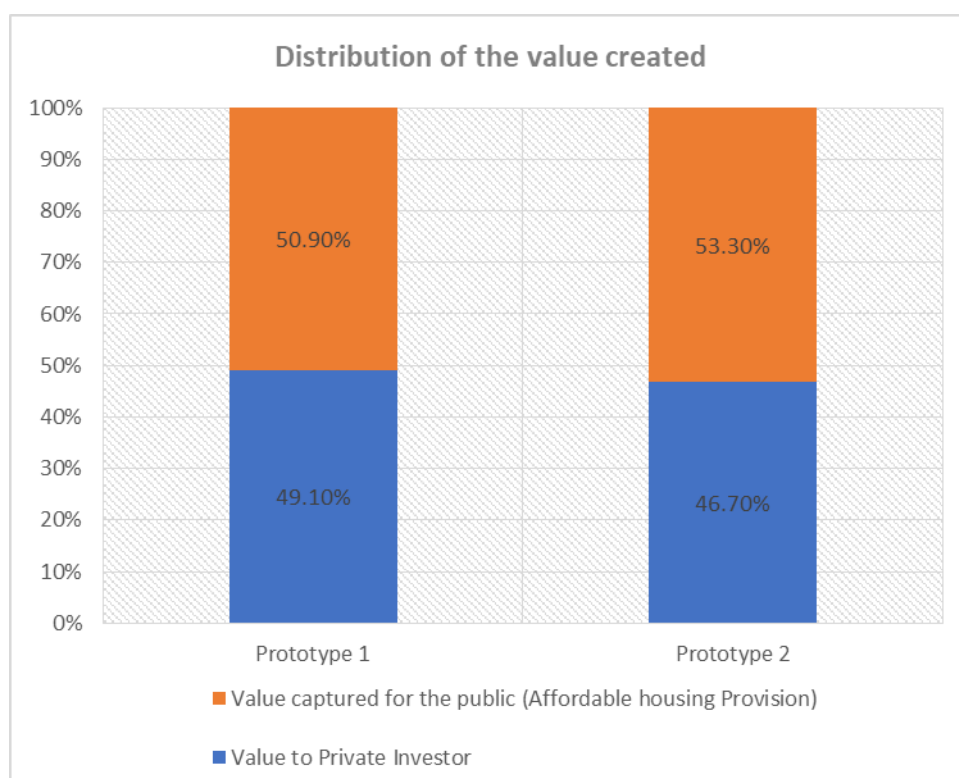
Figure 6.9: Distribution of the value captured by the proposed master incorporating Inclusionary affordable housing in Zone C &D of Soweto East, Kibera, Nairobi
Source: Author's Analysis; April, 2020

We sought to find out the acceptability of the proposed model among Kibera residents, developers, experts and government officials. Our survey data shows that Kibera tenants' respondents were overwhelmingly supportive of the proposed model with 92.2% of them saying they would support it. Whereas, the structure owners/slumlords were mostly reluctant initially (only 42.8% supported the approach in the initial survey), after a follow-up survey targeting the structure owners only which was done with simultaneous demonstration of the RLV analysis, the support among the structure owners/slumlords increased to 85.7%. 25% of the structure owners who supported the model demanded to be given pre-emptive rights in allocation of the land and indicated that they have the capacity to develop the land in conformity with the proposed master plan. Prior to demonstration of RLV analyses, 40% (2 out of the 5) of the developers interviewed indicated they would be willing to participate in the programme. This increased to 80% (4 out of 5) upon demonstration of RLV which showed the model's feasibility. The four developers who supported the model invest mostly in the low- and middle-income housing while the developer who indicated unwillingness to participate in the programme specialises mostly in high end market properties. Majority of the experts also supported the model with 90.5% of them agreeing that the

approach would produce more affordable housing and lead to well-integrated neighbourhoods. There was no marked difference in the level of support between experts in public sector (government officials) and those working in other sectors. Support from government officials was at 90.9% whereas that from experts in the other sectors was at 90%. One official from Nairobi County offices confirmed that the matter of land value capture has been discussed at various senior government forums and the government is very keen on its adoption in order to achieve Vision 2030 although modalities on how and where it can be applied have not been put in place. Figure 6.10 below shows the level of support for the proposed LVC/IH model among the survey respondents and interviewees.
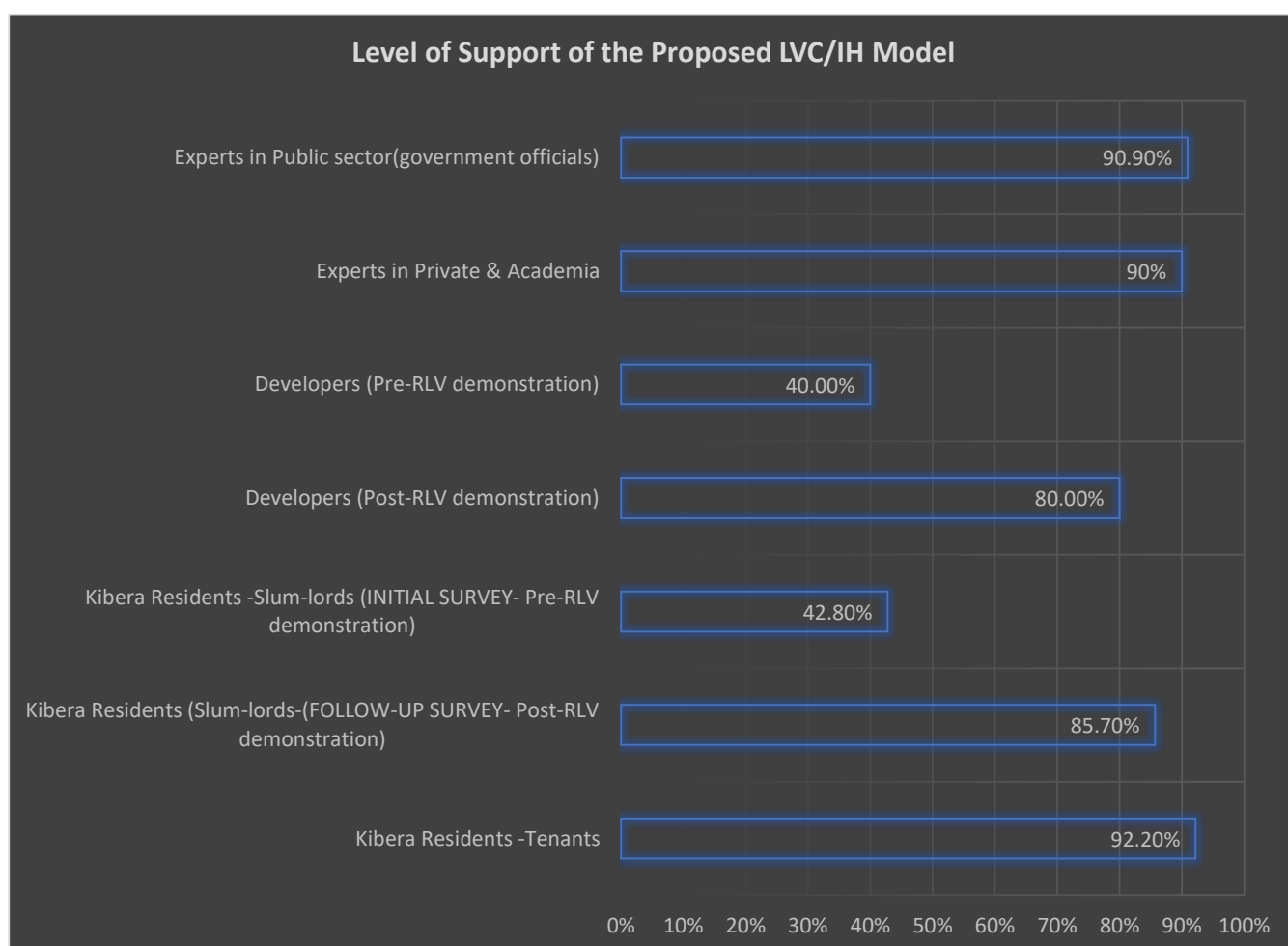

Figure 6.10: Analyses of the level of support for the proposed LVC/IH model among the survey respondents and interviewees; Source: Authors analysis: June 2020

6.7 Chapter Summary

This chapter presents a proposed market-driven model for slum regeneration in Nairobi, Kenya based on LVC and IH mechanisms. In setting the context for the case study, Nairobi's demographic characteristics and property market situation are outlined. An Evaluation of the current approaches and programmes of affordable housing provision in Kenya is undertaken. The Kibera slum, its upgrading initiatives and their progress and failure are discussed. A systematic review of the current laws related to land use and land administration in the country is undertaken in relation to the proposed land value capture. The proposed methodology including the needs assessment, master plan preparation and development prototypes, determination of affordable housing requirements per land parcel and the related residual land value analyses are presented. Finally, analyses of viability of the proposed model, the level of inclusion achievable and the value captured for affordable housing are presented.

If Kenya is to overcome the financial limitations it faces in upgrading slum and providing affordable housing, land value capture and inclusionary housing are tools that need to be incorporated in the Kenya slum upgrading project. This chapter began by a thorough analysis of the real estate market in the city and the country's legal framework which showed that the proposed approach could be feasible. This was important because policy prescription to incorporate LVC and IH or any other tool for slum regeneration ''must be based on a grounded understanding of the functioning of markets'' (Mukhija, 2010:792) and the legal framework governing land use in the targeted city. Through a proposed master plan complemented with residual land value analyses, this research demonstrates that by availing land to private developers for inclusionary housing development, it is possible to meet slum residents' housing needs by including at least 27.9% affordable housing in new developments, entirely borne by the private sector. This means 72.1% of the housing units could be delivered at market rents resulting into well-integrated and inclusive neighbourhoods where residents of different income groups live together. Based on the prevailing rents in Kibera, the analyses indicate that affordable housing could be delivered at prices/rents at approximately 25% to 30% of the market prices/rents. Compared to the housing units delivered in an earlier project by the government under KENSUP in Soweto East Zone A where the prices were approximately 40% of the market values (KNCHR, 2018), the proposed model delivers housing at deeper levels of affordability. The model shows that private developers are able to enjoy feasibility of projects

because of the enhanced values as a result of conversion of land from public to private, planning, infrastructure provision and the permission of dense developments.

Survey data shows overwhelming support of the proposed approach by government officials, slum dwellers and other stakeholders. Whereas, the structure owners and some developers were initially reluctant, upon demonstration of the residual land value analysis which showed the model's feasibility, most of them supported the model but some of the structure owners demanded to be given pre-emptive rights in allocation of the land.

7   Conclusions and Recommendations

7.1 Introduction

This chapter presents the conclusions and recommendations of the study in line with the objectives formulated in chapter 1 section 1.2.2. The chapter draws on the findings discussed in chapters 5 and 6, highlights the limitations of the study and suggests areas of further research. The main aim of this Research was to examine the approaches used to provide affordable housing in Nairobi, Kenya; and explore the nature and examine the potential of innovative models and approaches used in the USA to enable the increase of equitable affordable housing stock in Nairobi, Kenya by harnessing the real estate market. In order to achieve this aim, the following specific objectives were outlined for the study.

1. To evaluate the success and challenges faced in providing affordable housing using the current approaches used in Kenya.

2. To examine how innovative models used in the USA harness the real estate market to ensure delivery of affordable housing.

3. To evaluate the success of these models and approaches in i) increasing housing affordability and ii) fostering socio-economic integration in some cities in the USA and

4. To test the applicability of these models and approaches in harnessing the real estate market to increase the stock of affordable housing in Nairobi, Kenya.

The research design adopted was based on concurrent triangulation mixed methodological choice and a multiple cases study strategy. Qualitative analyses triangulated with quantitative data was undertaken in the two case studies in California (the cities of Santa Monica and San Francisco) and the case study in Kenya (Kibera slum in the city of Nairobi). A comprehensive review of literature on the housing problem, affordable housing and slum regenerations policies, and tools for equitable affordable housing provision including inclusionary housing and land value capture was undertaken.

7.2 Summary of the Study

The first objective was formulated because it was necessary to develop a well-grounded understanding of the policies and approaches used in Kenya before exploring and

recommending other tools and approaches. It provided an opportunity to understand the nature, progress, outputs and challenges encountered in affordable housing provision from the literature, technical staff working in the programmes, experts and other stakeholders. Thus, in achieving this objective, the researcher sought to answer three questions - i) what approaches are used to provide affordable housing in Kenya? ii) to what extent have these approaches used in Kenya succeeded in enhancing production of affordable housing? and iii) what challenges are faced in producing affordable housing using the above approaches? This first objective was achieved by gathering secondary data from the programme offices and websites and primary data from interviews, surveys and field observations. The housing policies and programmes currently in use in Kenya are presented in chapter 2 while analyses of the programmes are presented in chapters 6.

The second objective provided an opportunity to understand the equitable affordable housing tools used in the USA and how they work. This objective was important because before considering any policy tool, it is imperative to understand its nature and operations. In achieving this objective, the researcher sought to answer the question 'what models and approaches are currently at the forefront of the planning practice in the USA to enable the increase of equitable affordable housing stock by harnessing the real estate market? This objective was achieved through a systematic literature review on land value capture and inclusionary housing particularly in the USA context as presented in chapter 3.

The third objective sought to answer two research questions -i) how far have these models and approaches used in the USA succeeded in achieving the desired goals (Increasing levels of housing affordability and socio-economic integration of the communities)? and ii)what lessons have been learned by planning authorities and other stakeholders in the USA during the implementation of these innovative models and approaches for equitable affordable housing? This objective was necessary because before recommending any policy tool, it is important to understand its influence and effectiveness. Therefore, the researcher sought to do analyses of the influence of these models/approaches on housing affordability and social integration in the study areas in the USA. It is important to gauge these dynamics as they are the main aims of these policy tools/models. Policy on housing affordability can only be formulated effectively in a context where the driving forces on affordable housing production are well understood.

For housing policymakers who would want to devise new low-income housing programmes during today's trying economic circumstances, it is helpful to study strategies that have succeeded elsewhere in the past. This objective was achieved by case study development drawn from two cities in California State. Two affordable housing programmes which were considered in literature and by experts as best-case studies were chosen, one from the city of Santa Monica and the other from the city of San Francisco. Secondary data was gathered from the city offices and websites while primary data was derived from interviews, surveys and field observations. The results are presented in chapter 5.

The fourth objective was formulated because it was necessary to find out which of the tools applied in the USA cities can be used to harness the real estate market in Nairobi. This was actually the motivation of this research - to seek for innovative tools and models that would work to provide equitable affordable housing without depending on public funding but which would harness the real estate market in Nairobi and which could also be applied in other cities. The rationale of the research was to find out which of these models have worked well in the developed cities in the USA and can be adopted to enhance and/or finance equitable affordable housing in Nairobi and how this can be done. This was necessary because Kenya is grappling with the challenge of housing affordability and new tools and models need to be devised to help the government in meeting this challenge. The country has a very vibrant land and housing market but has failed to deliver affordable housing particularly for the low-income households. There is good economic, political and social sense for the government to use any feasible tool that will increase the stock of affordable housing for the low-income households. Therefore, this fourth objective sought to answer the research question 'why and how can the USA models be made to work for Nairobi, Kenya to harness the real estate market, facilitate slums regeneration, increase affordable housing and enhance social inclusion?'. This objective was achieved through testing the application of land value capture and inclusionary housing at addressing housing needs in Kibera, the largest slum in Nairobi, Kenya. This was done through a series of steps including i) needs assessment to determine the total number of affordable housing units required in the study area considering the population and household size ii)developing a simulated master plan incorporating the needs assessed and ideas provided by residents, experts and other stakeholders on what kind of

neighbourhoods would be ideal for the upgraded developments iii) determination of affordable housing requirements for each land parcel created in the master plan based on number of households and iv) undertaking residual land value analyses for proposed prototypes to test the feasibility of the approach. This was based on data from various sources needed to determine the expected revenues from the finished units and the associated costs of production. To arrive at market values adopted, market analyses of sales of similar housing in neighbouring estates was undertaken while production expenses such actual construction costs, site works, costs of credit, developers profit, development impact fees and permit approval fees were sourced from either literature and/or institutions and offices dealing with such matters.

7.3   Main Findings and Conclusions

Affordable housing remains a serious problem in many countries. Even as the housing affordability crisis deepens, most cities continue to exhibit robust real estate markets with high property prices. The low-income and poor households are unable to access affordable housing and remain excluded. Land Value Capture and Inclusionary housing have been found to be powerful local policy tools that can help address housing affordability and social inclusion issues.

The research has identified four main approaches and programmes currently used to provide affordable housing in Kenya. These are i) the Kenya Slum Upgrading Project (KENSUP), ii) the civil servants housing scheme (CSHSF), iii) tenant purchase and rental schemes under the National Housing Corporation (NHC) and iv) the affordable housing programme (AHP). The current land and housing administration legislations, policies and approaches of affordable housing provision in Kenya were found unfavourable and inappropriate for poor people who live in the rapidly growing urban centres. Consequently, the urban poor have been unable to access affordable decent housing leading to the proliferation of slums and informal settlements. This is particularly the case for the city of Nairobi which currently experiences overwhelming housing demand in the middle- and low-income categories and where housing output has favoured the moderate- and high-income markets. The approaches identified above have produced minimal housing output compared to the housing need in the city. Even

though the housing units produced are meant for the low-income market, they are expensive, unaffordable and beyond the reach of most low-income households. They face myriad of challenges including inadequate funding, lack of suitable serviced land in good and accessible locations, high cost of construction, public sector bureaucracies, high urban land prices, high costs of credit for both construction finance and long-term mortgage loans and inadequate infrastructure to support housing development. Experts opined that there is also lack of a distinctive legislative framework and effective affordable policy housing in the country.

The empirical research conducted in the City of Santa Monica in California provides fresh insights on a successful innovative inclusionary housing programme, the Affordable Housing Production Programme (AHPP). This programme was established to increase affordable housing production and enable social integration. Based on the Land Use and Circulation Element (LUCE) of the General Plan, the AHPP seeks to capture some of the increases in land value resulting from planned increases in the intensity of development. The research focusses on changes brought about by the LUCE 2010 on the City of Santa Monica's affordable housing production programme and has found that the tiered bonus-based changes served to enhance the programme goals of increasing the stock of affordable housing and enabling social integration. LUCE 2010 provided a very comprehensive and a well-structured approach to using the market to provide equitable affordable housing using the principle that allowing incremental increases in the development intensity enhances the value of the property and hence developers have to include affordable housing in their projects. It brought a balance of interests by requiring economic feasibility analyses of the projects so that, as the community obtains its benefits, the developers are also assured of their project's feasibility. The programme was found to have enabled developers to achieve feasibility and provide housing at deeper levels of affordability than there was before. The research shows that the programme increased inclusionary housing production by market-rate developers by 15% over the previous inclusionary housing policy. LUCE 2010 offers a comprehensive policy on mixed use development to encourage greater supply and affordability, as well as influencing the type and location of housing. The study finds that land use policies and planning can, through inclusionary housing, help harness the strength of the real estate market to increase affordable housing production. The Santa Monica case confirms that IH can be a powerful tool

to achieve effective social integration. This finding was based on the data gathered through the survey and corroborated through direct observation.

The San Francisco case study presents an empirical research conducted in the city of San Francisco after plan changes that increased density potential in San Francisco's Eastern Neighbourhoods to evaluate its effects on the goals of increasing both affordable housing and social inclusion. Findings reveal that the increased inclusionary requirements used as LVC mechanism enabled 76.2% of all the affordable units produced in the eastern neighbourhoods to be financed by the market through market-rate developers between 2011 and 2015. This is significant when compared to the rest of San Francisco and citywide scenarios where 35.5% and 34.2% respectively of the affordable units were produced from the market through inclusionary policy during the same period. The eastern neighbourhoods occupy approximately 7% of the total land area in the city yet they produced 26% of all affordable housing produced in the city implying that recapturing land value increases as a result of new plans for underutilized areas to land uses in demand, especially residential, has a huge potential to increase affordable housing in our cities. The study demonstrates that upzoning underutilised land coupled with a well-planned LVC mechanism can help harness the strength of the real estate market and increase both affordable housing production and social inclusion. These results provide new evidence on how Land Value Capture (LVC) is effective as a planning tool for harnessing increased land values for affordable housing provision thus contributing to enhance affordable housing provision and achieving one of the targets set by the UN within the Sustainable Development Goals agenda (target 11.1, SDG 11). As many neighbourhoods in San Francisco experience gentrification, it becomes very important to make sure that a significant portion of the housing remain affordable in perpetuity, thus avoiding a complete turnover of neighbourhoods to market-rate housing. Increasing the percentage of affordable housing through inclusionary policy is in many cases the only alternative.

Evidence from the quantitative and qualitative data in the San Francisco case show that:

(1) Housing production and the level of affordable housing inclusion in market rate developments was found to depend on the size and intensity of residential zoning, the level of development of competing uses like offices in mixed use zones, the number of market-rate projects paying in-lieu fees, the desirability of the planning areas and the

existing housing stock under rent control. An implication of the findings is that planners should specify goals of development types, in addition to density targets, when upzoning planning areas. Ensuring highest and best of land should be encouraged in residential areas as it has the effect of increasing both market rate and affordable housing. In mixed use zoning, there is a need for a clear balance between the competing uses to be set during the planning phase to ensure programme goals of increasing affordable housing is achieved. To ensure balanced growth across neighbourhoods, investment in infrastructure and other facilities that attract private investment should be prioritized. Projects paying in-lieu fees have the effect of reducing the rate of inclusion of affordable units in a plan area. If the goal of increasing social inclusivity is to be achieved fairly in all areas, then probably there is a need to limit the number of projects paying in lieu fees. Alternatively, the city could mandate that the in-lieu-fees be spent close to where they originated. The policy of discouraging conversions of residential housing under rent control may need to be revised particularly in areas where there is likely to be more affordable housing delivered through the market.

(2) The success of any programme of LVC will depend on the involvement of multiple participants across different segments of the society. The support of city leaders, policy makers, the community and developers is very critical. City leaders and decision makers will have to engage in progressive politics and balance between the interests of different groups pulling in different directions. Community involvement in planning for the rezoning in EN was found to be crucial in ensuring success of the programme because residents were able to propose LVC (which they called Public Benefit Zoning) for public benefits with affordable housing topping the priority list.

(3) LVC for affordable housing provision through enhanced inclusionary requirements does not deprive developers of adequate returns on their investments as confirmed from developers in the eastern neighbourhoods. However, studies undertaken by the city consultants showing the enhanced land values after the upzoning were found to have motivated developers. Introduction of LVC policy should be grounded on a sound framework based on economic analysis of the nexus between change in value due to a public policy (e.g. rezoning) and the requirement for affordable housing provision. The aim

here is to guarantee sustainability by ensuring that any value increase leading to capture is based on economic analyses.

(4) The city of San Francisco used a plan-based approach to LVC in EN. A plan-based approach to LVC for affordable housing provision creates certainty in stakeholders and is likely to be more successful for the city than a negotiation approach.

(5) LVC encourages highest and best use of land as most of the new developments were found to have utilised the maximum development as permitted under the rezoning. Bringing land to its highest and best use not only increases both marker-rate and affordable housing but also has a multiplier effect on neighbourhood businesses and jobs.

(6) San Francisco has successfully implemented LVC without a specific legislation backing the same but has relied on existing legal framework. It can therefore be concluded that the existing legal framework in many countries may be able to support land value capture to harness the strength of real estate markets for affordable housing provision.

The Nairobi case study in chapter 6 sheds light on an innovative hypothesis to achieve slums regeneration by harnessing the real estate market. The study has demonstrated how urban public policy can facilitate slums regeneration, increase affordable housing and enhance social inclusion in cities of developing countries. The study approaches slums regeneration from an integrated land economics and spatial planning perspective and demonstrates that slum regeneration could successfully be managed by applying Land Value Capture (LVC) and Inclusionary Housing (IH) instruments. The research methodology adopted is based on a simulated master plan and related housing policy and strategy, aimed at addressing housing needs in Kibera, the largest slum in Nairobi, Kenya. This simulated master plan has been complemented with economic and residual land value analyses which demonstrate that by availing land to private developers for inclusionary housing development, it is possible to meet slum residents' housing needs by including at least 27.9% affordable housing in new developments, entirely borne by the private sector. Affordable houses could be delivered at between 25% and 30% of the market rents and prices. Private developers are able to enjoy feasibility of projects because of the enhanced values as result of conversion of land from

public to private, planning, infrastructure provision and the permission of dense developments. The model would lead to well-integrated and inclusive neighbourhoods. Interviews with local experts corroborated the soundness and viability of the suggested methodology. These findings suggest that market forces can be the financial drivers to the end of slums by 2050 and have a high potential to increase both affordable and market housing in upgraded neighbourhoods hence enhancing social inclusion in cities of developing countries.

This research contributes to an emerging research agenda, proposing an alternative approach to slums regeneration and affordable housing provision through harnessing the strength of the real estate market. Given the urgent need for new innovative approaches for slum upgrading and considering that the main impediment to successful upgrading has been lack of public funds, the paper proposes the use of land value capture through inclusionary housing policies to meet the housing needs of slum dwellers in the city of Nairobi. This proposal has been proved feasible after a thorough analysis of the real estate market in the city and the country's legal framework. This was important because policy prescription to incorporate LVC and IH or any other tool for slum regeneration must be based on a grounded understanding of the functioning of markets and the legal framework governing land use in the targeted city.

The survey data shows that slum dwellers respondents were overwhelmingly supportive of the proposed model. Whereas, the structure owners were mostly reluctant, upon demonstration of residual land value analysis which showed feasibility of the proposals, most of them supported the model, but some demanded to be given pre-emptive rights in allocation of the land.

7.4 Recommendations

Useful recommendations can be drawn from the Californian case studies as well as the application case study of Nairobi which could be beneficial for implementing LVC and IH programmes in similar contexts. These include the following: -

(1) Although using negotiations and development agreements ensures optimal affordable housing opportunities and gives certainty to developers, they should be limited to large projects. An over-reliance on them might result in an administrative burden on the locality and on additional time taken and resources required for the developer.

(2) Engaging developers helps minimize opposition and increases the success of an IH programme. Economic 'land value enhancement' analyses undertaken under LUCE 2010 provide the basis for negotiation between landowners/developers and the city.

(3) There is a need to put a cap on the low-income and very-low income units' percentages. Developers usually choose what is most feasible to them and this may lead to a shortage of one housing category.

(4) There is a need to rethink about giving developers a choice to pay fees in-lieu of developing affordable units because this seems to work against the goals of the programme. If in-lieu fees have to be an option, there is a need to revise the fees based on the cost of providing an affordable unit. When considering eliminating in-lieu fees, then, from Santa Monica's experience, it might be appropriate to consider the size of the project, with developments above a certain size required to build the units on site.

(5) When upzoning a neighbourhood for affordable housing provision, it is important to design a programme of preferential treatment to existing residents and households when allocating the affordable units to safeguard against the threat of displacement and gentrification.

6) When implementing LVC and IH programmes in slums similar to Kibera, there is a need to use the established social setup and leadership including area chiefs in negotiating with community. It is important to involve leaders such as governors, ministers and local politicians who can lead the process, lobby for political support from senior offices and initiate legal amendments if necessary, to facilitate or support the upgrading process.

7) There is a need to encourage involvement of stakeholders including local non-governmental and civil society organizations, county and national government departments and private entities in the upgrading process.

8) For large slums like Kibera, LVC and IH model can best be implemented on incremental bases, village after village rather than pursuing an urban layout plan and upgrading of the whole slum in a single phase. This will ease the burden of alternative accommodation of the sum dwellers during construction. Also, any project success in the initial phases will trigger increased interest from developers and other participants who initially might have been reluctant in getting involved.

9) Attracting developers to participate in the model proposed for Kibera is also critical for its success. Demonstrating the feasibility of the programme as well expediting the entitlement process and working towards making the land market efficient will attract developers to use the programmes designed.

10) Santa Monica and San Francisco case studies confirmed that there is a need for continuous monitoring by authorities on the manner in which affordable housing provisions are met by developers. In Santa Monica, this is done through reports by the staff to the council detailing the projects that have received planning approval during the previous year and the manner in which the inclusionary provisions were met and satisfied. In San Francisco, a neighbourhood's citizen's advisory committee consisting of 19 members representing key stakeholders acted as the central community advisory body charged with providing input to City agencies and decision makers with regard to all activities related to programme implementation. It is recommended that close monitoring of the implementation of the proposed model provisions in Nairobi be undertaken continuously. A monitoring committee comprising of representatives of residents, key stakeholders, national and county government should be formed and charged with the responsibility.

7.5   Research Contributions

This study makes major original theoretical, methodological and practical contributions to the body of knowledge in affordable housing provision using LVC and IH in the context of both developed countries like USA and developing countries like Kenya.

7.5.1   Theoretical Contributions

This research makes an argument for the translation of housing policy and the application of new policy tools including Inclusionary housing (IH) and Land Value Capture (LVC) to contribute to affordable housing solutions in developing countries like Kenya. This makes the research unique because of the correlation it suggests between the context of the USA and developing countries like Kenya. No previous research has attempted to use policy to directly correlate the housing need and solutions to it in these two consonants. Another major theoretical contribution of this research comes from the contextualization and demonstration of Land Value Capture (LVC) method for the specific case of providing affordable housing in

slums in developing countries and the novel integration of this method with the Inclusionary Housing (IH) to favour the regeneration of these slums. The study puts forward new theoretical insights in the area of slums regeneration and affordable housing provision in developing countries.

The studies undertaken in the USA contribute to fill a gap in the existing LVC and IH scholarship. The Santa Monica case study fills a gap of paucity of studies on the outcomes' evaluation of extant IH programmes at the local scale and, in particular, the evaluation of the level of social integration achieved. Very few studies offer a systematic and comprehensive assessment of a particular IH programme in terms of its modifications and associated impacts over a significant timeframe at the local level. Before this research, it was not clear in the literature how changing a monolithic affordable housing programme to include discretionary tier-based density incentives tied to affordable housing requirements motivates developers. Little research has been conducted to determine whether inclusionary policies are having the intended inclusionary effect for IH recipients. With respect to these research gaps, this study offers an original contribution through an in-depth case study of an IH programme, assessing its actual outcomes over a significant timeframe. Hence, the research makes a significant contribution to the IH international debate on what works and why in different contexts.

The study undertaken in San Francisco city fills a gap in the literature as the effectiveness of affordable housing delivery as a land value capture mechanism wasn't so well-documented before. The research demonstrates to what extent utilizing LVC through increasing IH requirements produces more affordable housing and enhances social inclusion. There was paucity of studies examining rezoning combined with inclusionary housing programmes as best practice tools for mitigating the harms of gentrification. How such a programme affects access to housing for households at various income levels or whether a particular type of rezoning will benefit or burden local residents was not always clear. No research seemed to exist offering a systematic and comprehensive assessment of how LVC implemented through increased inclusionary requirements affects IH goals at the neighbourhood level and particularly comparing the achievement of those goals in different plan areas within neighbourhoods in a city. With respect to these research gaps, the research offers an original

contribution through an in-depth case study of an LVC programme, assessing its impacts on IH goals over a significant timeframe.

In general, this study makes significant contributions in the following areas:

  i. International development: The study explores available models of affordable housing development internationally.

 ii. Housing development: The study demonstrates how affordable housing production can be increased through inclusionary housing and land value capture.

iii. Social Integration: The study demonstrates how the integration of the low-income and middle earners in cities can be achieved.

iv. Land Economics: The study demonstrates the use of residual land value analysis to assess the feasibility of the model of affordable housing provision using Land value capture and inclusionary housing.

7.5.2   Methodological Contributions

The sequence of methodological approach adopted for this research from best case study development in the USA with both qualitative and quantitative data analyses to the application testing of the proposed tools in Nairobi has enriched the level of understanding of the potential of IH and LVC. This approach allowed the understanding of the working of these equitable tools in different contexts and the appreciation of the role of city-based innovations on programme goals of increasing affordable housing and social inclusion. The adoption of the case study methodology incorporating cities in a developed country and a city in a developing country in the application of IH and LVC for affordable housing provision is new. Hence, the outcomes of this research will be valuable to practitioners and researchers in both developed and developing countries.

7.5.3   Practical Contributions

This research offers valuable insights to the larger international policy makers' community, by contributing to fill the current gap in the knowledge regarding how to operationalise the Sustainable Development Goal 11 at the local level and demonstrates the potential of existing

planning instruments and tools for the achievement of the UN targets. The research findings in the two case studies in the USA provides new knowledge for policy makers in the country necessary for improving on policy formulation for affordable housing. The model proposed in this research can be of great interest to the Kenyan government as it embarks its slum upgrading projects and on meeting its goal of providing at least half a million affordable houses as part of its big four agenda. Governments in other developing countries grappling with slums and housing unaffordability challenges will find the research useful. Academics, researchers, housing experts and real estate professionals will also find this study valuable as they strive to understand the working of the proposed models that could alleviate housing shortage and improve housing affordability in Nairobi and other developing cities. This study constitutes an important pioneering work and contributes towards filling the existing literature gap in this area of housing provision research in Kenya and other countries as the model is applicable to other similar cities. At the moment, no similar studies exist not only in the Kenyan context, but also in the developing countries, hence, the United Nations could be interested in the potential application of the model beyond the geographical limitations of this study. Indeed, this has been discussed and confirmed with UN experts in charge of the Participatory Slum Upgrading Project in Nairobi. Using the study findings, the researcher also intends to influence policy at both national and county governments. The 2010 constitutional change in Kenya created counties who are in charge of planning and development control. The national government and the counties have failed to implement working policies for affordable housing provision. This research has established that there have been discussions in government meetings on the introduction of LVC but how it will be done has not been determined. Therefore, this study comes at an opportune moment and the researcher intends to lobby policy makers through various forums for adoption of the proposed model of affordable housing provision. The first step will be through dissemination of the research findings through professional association's meetings and targeted conferences.

7.6 Research Limitations

The evaluation of programmes in the USA cities of Santa Monica and San Francisco and practical testing of an LVC and IH model in Kibera, Nairobi offers valuable insights to planners

and policy makers internationally. However, some limitations of this study should be taken into consideration.

1. The LUCE programme in Santa Monica has only been in place since 2010. Given its overwhelming approval by the stakeholders, it will be interesting to see its impact over a long period transcending leadership and property market cycles.

2. There could be limitations to the transferability of the LUCE programme given that Santa Monica is a contained city in terms of its geographical size and given its favourable conditions in terms of progressive political and local governance. However, Santa Monica's experience is relevant and applicable to other cities because it shows how planning for accommodating new growth can be harnessed to increase the production of affordable housing and foster integrated communities through IH. Cities with less experience or capacity could benefit from shadowing what has been done in such frontrunner cities by means of dedicated programmes such as staff exchanges and best practice training.

3. Santa Monica is a wealthy, desirable community enjoying world-famous beaches meaning that there is a sustained housing demand. Cities intending to use a similar model may need to evaluate the soundness of their property market to guarantee the desired demand for the effective implementation of such a programme.

4. There could be limitations to the transferability of the eastern neighbourhood case study given that San Francisco is a vibrant city with a strong economy supported by the technology industry and during the period studied the city was experiencing unprecedented demand for housing. Cities intending to use a similar model will need to evaluate the soundness of their property markets to guarantee the desired demand for effective implementation of such a programme.

5. Just like the USA cities of Santa Monica and San Francisco, Nairobi enjoys a vibrant real estate market. Currently, the city experiences overwhelming housing demand particularly in the middle- and low-income categories. This high demand is supported by a stable macroeconomic environment and continued infrastructural improvements. The city also benefits from a large expatriate population working in the many international organizations which have their headquarters in the city. There could be

limitations of transferability of the proposed model to some cities which may not have similar real estate market conditions.

6. Lastly, the model developed for Kibera, Nairobi is based on a simulated master plan. Although care has been taken to simulate all the milestones that goes with the process, it is appreciated that an actual implementation may not proceed as smoothly as the simulation assumes. Although the researcher has established that there is overwhelming support of the model among residents and other stakeholders, the risk of dissent by some stakeholders can't be overruled.

However, even with all the above limitations it is important to note that the strength of the proposed approach lies in its use of the zoning powers which is not anticipated to be impractical in many cities. Almost universally, zoning ordinances give cities enormous powers which in most cases are untapped for affordable housing provision.

Based on the above findings and conclusions and bearing in mind the identified limitations, this research offers valuable lessons on using LVC and IH for equitable affordable housing provision applicable to the wider international context and sits within the body of knowledge aimed at understanding how LVC and IH can benefit the wider community.

7.7 Areas for further Research

1. Further studies could expand on the social inclusion and IH nexus in the Santa Monica case study. A possible investigation is the spatial location of affordable IH units against affordable units produced through alternative instruments and analysing the correlation to socio-economic indicators and the level of accessibility to public services and facilities.

2. Further studies could explore the nexus between increased housing production, local business growth and housing opportunities for those working in the business sector in the eastern neighbourhoods in San Francisco city.

3. Further studies in the Nairobi context could contribute to propose and develop models for LVC and IH for i) Prime public land near the CBD with very old

developments which need urgent renewal/redevelopment ii) Slums and informal settlements on private land and iii) Private land with developments which are below the highest and best use.

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The equal right of all men to the use of land is as clear as their equal right to breathe the air — it is a right proclaimed by the fact of their existence. For we cannot suppose that some men have a right to be in this world, and others no right (Henry George, 1879)