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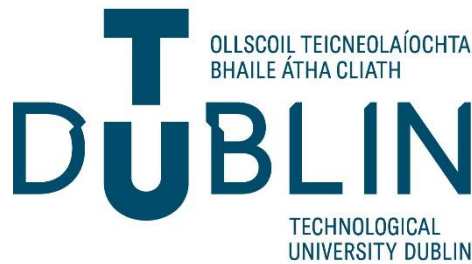


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Housing in Kibera's Soweto East informal settlement, Kenya: A socio-technical evaluation

A Thesis Presented For the Award of Masters in Philosophy by

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Technological University Dublin

Department of Engineering

For Research Carried Out Under the Guidance of

Dr. Stephen Tiernan

&

Dr. Gerard Ryder

Submitted to Technological University Dublin

March 2023


Declaration

I certify that this thesis which I now submit for examination for the award of a master in philosophy, is entirely my own work and has not been taken from the work of others, save and to the extent that such work has been cited and acknowledged within the text of my work.

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Signature  Date 30/03/23

Candidate

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Abstract

In 2003, the Kenya Slum Upgrading Programme (KENSUP) was launched in partnership with UN-Habitat and the Government of Kenya (GoK) to improve the livelihoods of people in Kenya by 2020 through the provision of improved shelter, infrastructure, land tenure and income generation. Kibera is an informal settlement in Kenya where varying housing typologies and traditional vernacular-style designs coexist with modern housing units. Soweto East was one of eighteen villages located in Kibera selected for KENSUP's first major housing development initiative. Soweto East was selected from a screening of several housing projects that could be subjected to a socio-technical (STE). The evaluation followed Dr. Frank Geels's socio-technical approach to innovative and transitional studies in national and global sustainability. His approach combines elements including technology, policies, standards, markets, consumer practices, infrastructure, and cultural meaning. Various methods and theories applied in transitional and humanitarian studies were investigated as part of the literature review. No known prior research has considered KENSUP's housing complexities through the lens of Frank Geels' socio-technical system approach. Therefore, a methodological procedure was created to adapt and scale the evaluation method specifically for housing in Soweto East. The methods used in the evaluation included: a document screening process; a narrative and stakeholder interrelation analysis supported by qualitative coding software; and a qualitative survey distributed following a purposeful sampling method.

The evaluation identified that KENSUP has struggled to bring innovative housing designs to one of the four zones of Soweto East, resulting in social, political, and technical challenges. The social difficulties identified include poor coordination and cooperation between stakeholders, whilst political issues include unclear national policies on land tenure. The technical challenges include providing housing solutions that were financially within reach of the occupants and affordable to maintain. This delay and challenges during the project indicated that housing in Soweto East experienced a disruptive transition. The stakeholder groups (regimes) did not adapt to the development of high-rise buildings. The research presented in this thesis recommends establishing synergies between regimes, improving building regulations, and implementing existing housing policies. Moreover, the transition to improved housing in Soweto East will remain disruptive until these issues are addressed.

The findings from the STE were developed from the analyses applied, offering a transparent evaluation. The STE use of Geel's theory has demonstrate it's exceptional usefulness in

evaluating a complex housing development project, with specific modifications to the scale of the study. Restrictive travel and accessibility of participants means the evaluation process should be cautiously reviewed before being considered for application to other field research areas. In conclusion, the STE produced a holistic perspective of the housing situation in Soweto East and could be applied in the subsequent phases of KENSUP.

Keywords: Evaluation, Housing, Informal Settlement, Kenya, KENSUP, Socio Technical Evaluation (STE), Transitional Theory.

List of Abbreviations

ANT	Actor-Network Theory
AFD	French Agency Development
CBO	Community-based organisation
CDS	Community-Driven strategy
CNSUI	Collaborative Nairobi Informal Settlement Upgrading Initiative
COHRE	Centre on Housing Rights and Evictions
COPS	Complex Products and Systems
CGI	Corrugated Galvanised Iron Sheets
CHS	Core Humanitarian Standards
DARAJA	Developing Risk Awareness through Joint Action
DFA	Department of Foreign Affairs, Ireland
DRR	Disaster Risk Reduction
ECHO	European Community Humanitarian Aid Office
ECOSOC	UN Economic and Social Council
EPPI	Evidence for Policy and Practice Information and Co-ordinating Centre
EU	European Union
GCFU	Global Counter Fraud Unit
GHA	Global Humanitarian Assistance
GoK	Government of Kenya
GSC	Global Shelter Cluster
HRRP	Housing Recovery and Reconstruction Platform
IACC	Inter-Agency Coordination Committee
IASC	Inter-Agency Standing Committee
IATWG	Inter-Agency Technical Working Group
ICESCR	International Covenant on Economic, Social and Cultural Rights
IDP	Internally Displaced Personal
IFRC	International Red Cross and Red Crescent Societies
IIED	International Institute for Environment and Development
IMF	International Monetary Fund

List of Abbreviations Continued

SSB	Interlocking Stabilised Soil Blocks
IPO	Input-Process-Output
IOM	International Office of Migration
IPCC	Intergovernmental Panel on Climate Change
JPPT	Joint Project Planning Team
KAR	Kings African Rifles
KCODA	Kibera Community Development Agenda
KDI	Kounkuey Design Initiative
KeNHA	Kenya National Highways Authority
KENSUP	Kenya Slum Upgrading Programme
KISIP	Kenya Informal Settlement Upgrading Programme
KLA	Kenya Land Alliance
KNBS	Kenya National Bureau of Statistics
KRC	Kenya Railway Corporation
LTS	Large Technical Systems Theory
LRT	Long Range Theory
MDG	Millennium Development Goals
MLP	Multi-level Perspective
MnU	Maji na Ufanisi
MoRPWH	Ministry of Roads, Public Works, and Housing
MoLHU	Ministry of Lands, Housing, and Urban Development
MoU	Memorandum of Understanding
MSF	Doctors Without Borders
MSSG	Multi-Stakeholder Support Group
NCC	Nairobi City Council
NGO	Non-governmental Organisation
NHC	National Housing Corporations
NHP	National Housing Policy
NRC	Norwegian Refugee Council
NSA	Nairobi Situation Analysis

List of Abbreviations Continued

NSUPP	National Slum Upgrading and Prevention Policy
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OECD	Organisation for Economic Co-operation and Development
PIU	Project Implementation Unit
PJIF	Post Judgement Implementation Framework
RHP	Railway Housing Project
RW	Renewable World
RIS	Research Information System
SACCO	Soweto East Zone A Housing Cooperative Ltd
SCOT	Social Construction of Technology
SDG	Sustainable Development Goals
SDSN	Sustainable Development Solutions Network
SEC	Settlement Executive Committee
SNM	Strategic Niche Management
SRF	Soweto Residents Forum
SIDA	Swedish International Development cooperative Agency
SIU	Systems Innovation Network
SPIU	Settlement Project Implementation Unit
SSA	Sub-Saharan Africa
SSUP	Soweto Slum Upgrading Project
STE	Socio-technical evaluation
SUD	The Informal Settlement Upgrading Department
SUF	Global Slum Upgrading Facility
TEC	Tsunami Evaluation Coalition
TU-Dublin	Technological University Dublin
UN	United Nations
UNDP	United Nations Development Programme
UN-Habitat	United Nations Human Settlement Programme
UNHCR	United Nations High Commissioner for Refugees

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Chapter 1. Introduction

1.1 Introduction

Kibera is an informal settlement in Kenya with an ethnically heterogeneous population of over 185,000 people (Kenya National Bureau of Statistics [KNBS], 2019). Within Kibera's 2.5 square kilometre region are varying housing typologies where traditional vernacular-style designs coexist with modern housing units. Their design and construction are driven independently or collectively by communities, non-governmental organisations (NGOs), or governing bodies. However, such housing typologies are distinguished based on affordability, size, ownership, materials, process in construction and maintenance.

Kibera has a total of twelve villages (Figure 1). The villages are subject to housing complications caused by infrastructure and housing developments. For example, the ongoing construction of a 6-lane highway as part of a government vision and the completed corporate-driven expansion of the Kenya-Uganda railway resulted in the evictions and relocation of thousands of residents from several villages.

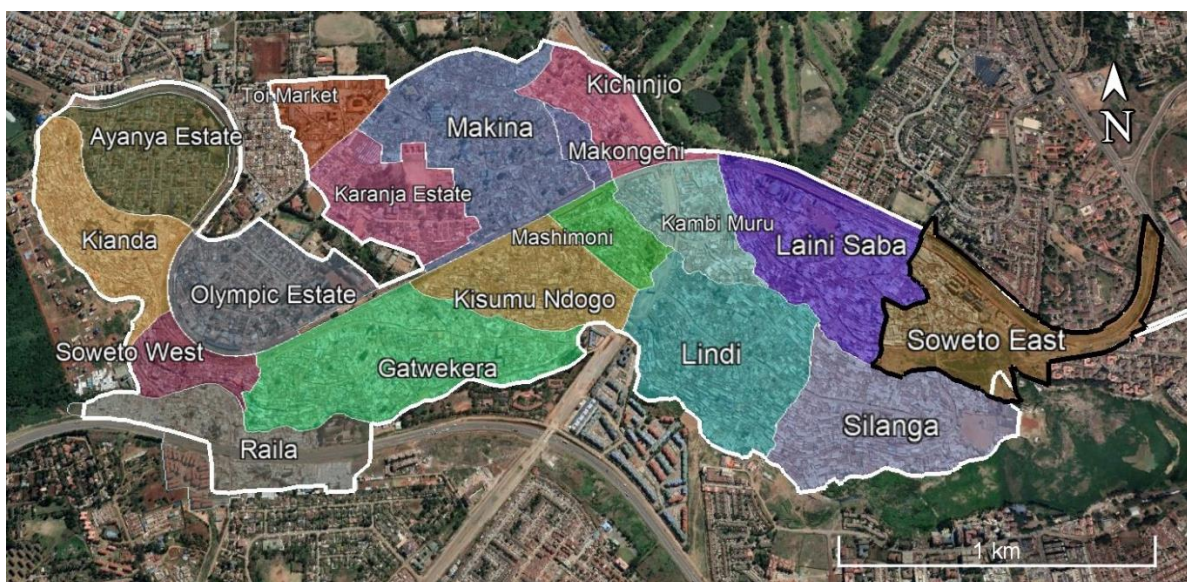


Figure 1. A map of Kibera's boundaries and village.

In 2003, the Kenya Slum Upgrading Programme (KENSUP) was launched in partnership with UN-Habitat and the Government of Kenya (GoK) to improve the livelihoods of people in Kenya by 2020 through the provision of improved shelter, infrastructure, land tenure and income generation (UN-Habitat, 2005, 2007, 2008b). Soweto East was selected as the first pilot project for KENSUP. Soweto East is one of Kibera's eighteen villages with an estimated population of 19,000 (UN-Habitat, 2008a; Fernandez and Calas, 2011). The village was divided into four zones (A-D). Over 5,000 residents from zone A were relocated to temporary apartments (called a decanting site) in Raila before moving into their new high-rise apartments.

High-rise apartments are becoming part of the ambition of making Kibera a thriving settlement, and their design has manifested in informal settlement upgrading (UN-Habitat, 2008a). The emergence of high-rise apartments on Kibera's outskirts resulted from housing projects such as the Nyayo Highrise, and National Housing Corporations (NHC) apartments. Figure 2 displays the areas of infrastructure and housing projects in Kibera.

Since KENSUP's inception in 2003, the programme has struggled to bring innovative housing designs to Kenya, resulting in social, political, and technical challenges. The social difficulties identified include poor coordination and cooperation between the stakeholders involved (Ehresmann, 2004), while political issues include unclear national policies on land tenure (Ochieng, 2011; Solymári *et al.*, 2021). The technical challenges include the provision of housing solutions that were financially out of reach to the occupants and difficult or expensive to maintain (Gulyani and Talukdar, 2008; Omondi and Zanotto, 2010; Fernandez and Calas, 2011). Researchers and organisations have evaluated KENSUP's challenges using various methodologies. The most common method used has been a socio-economic approach that compares income levels to the quality of life and often includes a situation and stakeholder analysis (Ehresmann, 2004; Mutisya and Yarime, 2011; Ndung'u, 2011; Ochieng, 2011; Ndukupui, 2013; MacDonald, 2014; Mutisya *et al.*, 2014; Michael, 2015; Mitra *et al.*, 2017; Solymári *et al.*, 2021). These evaluations found that affordability was an issue in housing since the residential's income level was affected by housing developments such as increased costs in renting and purchasing agreements and relocation. These evaluations have proposed both incremental and radical solutions. One minor suggestion was to add a thermal performance evaluation of new apartments (Omondi and Zanotto, 2010). One major recommendation was to shift from a socio-economic approach to a co-production one that emphasises community participation in the decision made in Kibera.

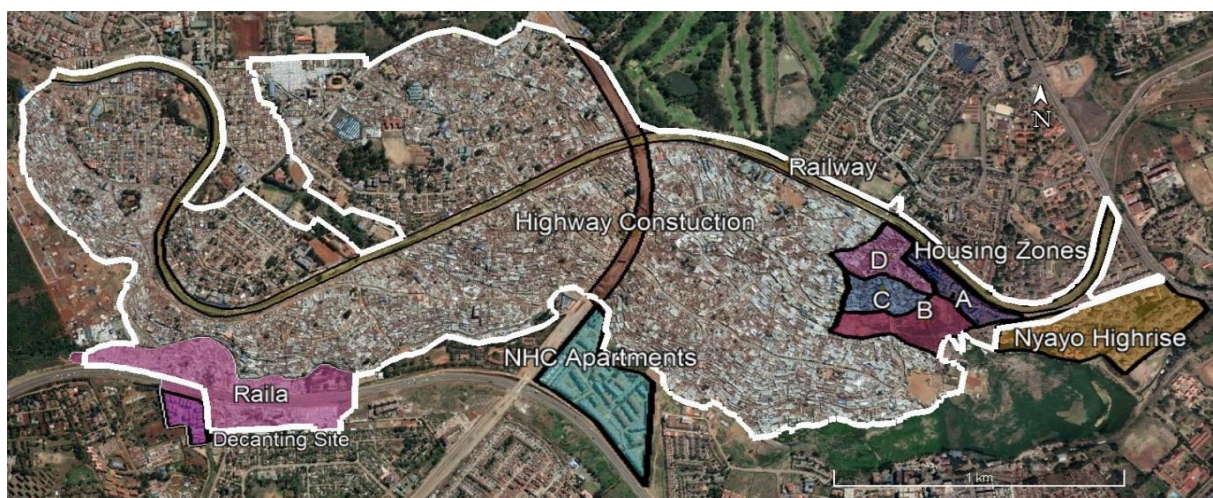


Figure 2. Kibera's housing and infrastructure projects.

Researchers and organisations have evaluated KENSUP's challenges using various methodologies. The most common method used has been a socio-economic approach that compares income levels to the quality of life and often includes a situation and stakeholder analysis (Ehresmann, 2004; Mutisya and Yarime, 2011; Ndung'u, 2011; Ochieng, 2011; Ndukui, 2013; MacDonald, 2014; Mutisya *et al.*, 2014; Michael, 2015; Mitra *et al.*, 2017; Solymári *et al.*, 2021). These evaluations have proposed both incremental and radical solutions. One minor suggestion was to add a thermal performance evaluation of new apartments (Omondi and Zanotto, 2010). One major recommendation was to shift from a socio-economic approach to a “*co-production*” one that emphasises community participation in the decision-making and housing design process (Kinyua, 2016). However, KENSUP continues to struggle to meet its objectives and has been delayed until 2025 (Solymári *et al.*, 2021).

Researchers have classified Kibera as a complex system with various stakeholders operating in the area without clear demarcation of responsibility (Mutisya and Yarime, 2011; Ndukui, 2013). Stakeholders include several governing bodies, including community-based organisations (CBOs), housing cooperations, elders, illegitimate landlords, councils, and local and national governments (Gulyani and Talukdar, 2008; Kinyua, 2016). A complex system has numerous components that interconnect, interchange and have interdependencies that are difficult to describe, understand, predict, manage or change (Magee and de Weck, 2002). Kibera has experienced such changes in stakeholder interactions, such as the many interchanging partnerships between the above stakeholders established to support or oppose specific elements in housing developments through KENSUP. The mixed perspectives on the impacts of Soweto East's housing development demonstrate the difficulty in evaluating such an area and topic, and providing information that advises professional practice in future developments.

In 2002, Dr. Frank Geels published a socio-technical approach to innovative and transitional studies (Geels, 2002, 2005a; Geels and Kemp, 2007). Unlike previous socio-economic analyses of Kibera, a socio-technical approach combines elements such as technology, policies, standards, markets, consumer practices, infrastructure, cultural meaning, and scientific knowledge. Each element within the system is maintained, reproduced and changed by various actor groups or stakeholders (Geels, 2005a; Geels and Kemp, 2007). Geels has combined the works of various prolific researchers to produce a modified structure for assessing challenging social and technical systems and innovative transitions (Trist and Bamforth, 1951; Simon, 1957; Pinch and Bijker, 1984; Hughes, 1987; Latour, 1987; Schwartz-Cowan, 1987; Garud and Rappa, 1994; Bijker, 1995; Lie and Sørensen, 1996; Callon, 1998; Hobday, 1998). Geels's

framework analyses complex social conditions and has been applied to transportation, computer and business modelling, and environmental and housing studies (Swan, 2013; Schibline, 2021; Magnani and Cittati, 2022). A preliminary review of the evaluations of Soweto East and the publications by Geels identified the research gap.

1.2 The research gap

As mentioned, researchers and organisations applied various methodologies to analyse complex situations during KENSUP (Ehresmann, 2004; UN-Habitat, 2007b; Ndukui, 2013b; MacDonald, 2014; Kinyua, 2016; Mitra *et al.*, 2017; Solymári *et al.*, 2021). Celentano found that assessments of informal cities were viewed through a single political, economic, technical, or social lens (Celentano *et al.*, 2020). However, such studies were usually limited in producing an integrated view of the settlements (Celentano *et al.*, 2020). A repetitional socio-economic approach was used in KENSUP's published evaluations. The evaluations compared income, enterprise development, and employment to Kibera's quality of life. Ndung'u (2011) believes that a socio-economic approach may have been used to enable residents to generate sufficient income to afford upgraded shelter conditions through training and promotion of income-generating activities. Geels followed Garud and Rappa's (1994) understanding that repetitional evaluations "*tend to reinforce an established paradigm and preclude the emergence of others*" (Geels, 2005a, p. 44). Geels added that an economic approach is a market-based process driven by price and performance and does not include "*co-evolution processes in system innovations*" (Geels, 2002, p. 1259). Co-evolution refers to a wider process for innovative systems which can be influenced by established or emerging connections between stakeholders or other elements (Kemp, Schot and Hoogma, 1998; Geels, 2005a).

Traditional and innovative housing approaches and their design solutions in different humanitarian contexts have also been studied extensively (Turner, 1976; Lizarralde, 2000; Davidson *et al.*, 2007; Johnson, 2007; Johnson and Lizarralde, 2012; Gonzalo and Verdouw, 2016; Smits, 2020). The identification and evaluation of housing challenges in humanitarian aid and development have also been studied, such as post-disaster reconstruction and refugee management (Syagga, 1993; Lizarralde, 2002; Ohlson and Melich, 2014; Gonzalo and Verdouw, 2016; Hong, 2017). Geels has applied a socio-technical approach in evaluating complex systems in several sustainable development initiatives, such as transport and infrastructure (Geels *et al.*, 2019; Geels and Turnheim, 2022). However, there is a gap in the research as no known researcher has viewed such housing challenges under a socio-technical system approach, such as Dr. Geels.

Kibera's infrastructure and sanitation have been studied as a social and technically complex system (Garfias Royo *et al.*, 2018; Pedersen and Nygaard, 2018; Mulligan *et al.*, 2020), but Geels' approach has not been applied to housing initiatives driven by organisations and governing bodies. Celentano adopted Geels' socio-technical approach for her assessments of informal settlements in Bangkok and Kenya (Celentano *et al.*, 2020; Celentano and Habert, 2021). However, she aimed to analyse the owner-driven material selection process in Mathare, Kenya's oldest informal settlement and did not include innovative and traditional housing designs and construction (Celentano and Habert, 2021). Similarly, Will Swan used Geels's approach as his primary methodology to study the UK's government initiative for innovative sustainable housing concepts for social housing in the U.K (2013). However, Swan and Celentano did not apply a narrative analysis combined with a coding process in their studies, a process this research used and incorporated with Geels's knowledge of transitions and process theory. Process theory explains outcomes from “*sequences of events*” (Geels and Schot, 2007, p. 414). Similarly, a narrative analysis is a process of understanding the complexities of various stakeholder perspectives and their interactions during a period and at the narrative's location (Esin, Fathi and Squire, 2014).

There are limited cases of using Geels's socio-technical approach in the humanitarian field of research. Geels' socio-technical approach has been primarily used in sustainability projects in Europe and the UK (Verbong and Geels, 2010; Geels and Turnheim, 2022). Several researchers have suggested that a socio-technical approach should be applied in the Global South, including informal sector developments (Kinyua, 2016; Ramos-Mejía, Franco-Garcia and Jauregui-Becker, 2018).

This research addressed this gap by using Geels' approach to study housing in Soweto East. An examination of how Geels and other researchers used his approach identified its limitations and benefits. One limitation was the absence of a specific methodology, such as the selection process of documents and participants. In addition, there are challenges in scaling an evaluation to a local context and the number of actors in the study. Therefore, a framework was created for studying housing provisions in the context of humanitarian aid and development from a social and technical perspective.

1.3 The research question

This research aims to develop a methodology in applying Geels' socio-technical approach to address the following research question;

How can housing in Soweto East, Kenya, be evaluated from a socio-technical perspective?

The research question follows an exploratory style and is focused on understanding how and under which housing conditions desired change occurs (Sminia, 2009; Geels and Turnheim, 2022).

1.4 The research objectives

The objectives are as follows:

- To create a narrative of housing in Soweto East using a novel methodological procedure based on Geels's socio-technical approach.
- To convert the narrative of Kibera's Soweto East housing scenario into an analytical explanation that follows Geels's explicit theoretical knowledge on transitions.

The research question addresses the challenges of respecting social complexities and delivering impactful design solutions, supports the efforts being made by KENSUP, and brings a new perspective to the evaluation of housing. The academic relevance of this research question is to expand the use of the socio-technical perspective to humanitarian development. The output of the study provides data and a novel perspective for those responsible and interested in upgrading informal settlements. Specifically, the stakeholders involved in upgrading the Soweto East zones B-D. The study informs the professional practice of developers and planners to make informed decisions with a process for understanding complex scenarios between stakeholders and housing development.

1.5 The research philosophy

A systems thinking approach was applied in the study to understand the complexity of housing development in Kibera. Arnold and Wade (2015) explained that systems thinking involves understanding dynamic interconnections, the structure and scale of the system, and its types of physical and emotional support. This requires the researcher to have the "*ability to represent and assess dynamic complexity*" (Sweeney and Sterman, 2000, p. 2). The result of applying a systems thinking approach is developing new knowledge and sharpening assumptions (Grin *et al.*, 2010).

1.6 Methodology

A socio-technical methodology was developed to evaluate Soweto East's housing complexities from a cross-disciplinary dimension to produce integrated outputs of information (Geels, 2002, 2005a; Geels and Kemp, 2007). An integrated view of KENSUP was completed after reviewing Kibera's technological developments, market dynamics, policy actions, and the tensions between stakeholders (Geels, 2002). The data from this review identified the issues

encountered in Soweto East's housing and how the challenges were overcome or halted developments. The complete methodology process is detailed in chapter 3.

1.6.1 Analysis process

Kibera's housing challenges were analysed by combining Geels's socio-technical approach with a modified narrative analysis. The analysis focused on creating a narrative of the events, decisions and actions that occurred during KENSUP and the "*contextual interrelations*" between its stakeholders (Esin, Fathi and Squire, 2014, p. 214). The data gathered focused on documents associated with KENSUP in Soweto East but was later expanded to study external effects on Soweto East's housing. The documents were analysed with the aid of a qualitative data analysis software called NVivo Pro 12. This software assisted in the manual creation and grouping of codes to identify and evaluate the social groups (also called regimes) in the socio-technical system. An inductive sub-coding process was used to create the factors that encouraged or prevented the development of KENSUP (Braun and Clarke, 2006, 2021).

1.6.2 Survey

The evaluation used a qualitative survey to address data gaps and confirm results, such as the type and phases of transition that occurred during the Soweto East project. Purposive sampling was used in the surveys distributed to stakeholders involved, directly or indirectly, in KENSUP. The study concluded when research saturation was present, i.e. new data no longer provided additional insights into the research questions (Bryman, 2016).

Chapter 2. Literature review

2.1 Introduction

The creation of a socio-technical evaluation of housing in Soweto East required the investigation of literature outside the scope of the engineering field, such as the variable formulation, implementation, and evaluation processes of providing housing in humanitarian aid and development. Publications on transitional theory (Geels and Kemp, 2006), specifically the multi-level perspective (MLP) (Kemp, Schot and Hoogma, 1998; Geels, 2005a), were reviewed for their potential application to a humanitarian evaluation process.

2.2 The social and technical importance of housing in humanitarian aid and development

The attributions of housing in a humanitarian project were identified from a selection of publications that offered a unique view of housing in humanitarian aid and development. Articles on housing development published between 1960-1970 by a British senior housing researcher John F.C. Turner showed that housing design has a life-changing impact on everyone involved in the project (Turner, 1967, 1969, 1972b, 1976; J. C. Turner, 1968; J. F. C. Turner, 1968). Turner's work created an understanding that housing with no personal or unique features distinguishing itself from other houses causes poor end-user results (Turner, 1976). Hendriks' recent study connected user dissatisfaction with the lack of consideration of residential adaptations to the provided design (Hendriks, 2020). Other reviewed works on humanitarian housing development outlined that the positive and negative impacts include environmental, economic, technical, and sociocultural (Bashawri, Garrity and Moodley, 2014; Leoto and Lizarralde, 2019). For example, one certain social impact was the increased level of responsibility given to residents in decisions throughout a housing project (Lizarralde, 2002; 2019). The technical impacts included the housing following a traditional or innovative design, or a hybrid of both (Lizarralde, 2002; Lyons, Schilderman and Boano, 2010; Saavedra, 2016).

Environmental impacts related to the housing location and access to natural resources (Lizarralde, 2002; Lyons, Schilderman and Boano, 2010; Saavedra, 2016). Adopting traditional methods was a success factor amongst local construction resources (Lizarralde, 2002). Turner identified that the Peru's "*barriadas*" (informal settlements) followed a traditional design that was structurally unstable, but improvements were achieved by offering technical assistance (Turner, 1972a). An evaluation of an NGOs' permanent housing project after the Gujarat earthquake in 2001 showed that the houses' success came from the selected housing design being "*culturally and seismically appropriate*" (Sanderson, Sharma and Anderson, 2012, p. 245). The study added that traditional housing systems are "*too often*

ignored or, worse still, deliberately over-ridden with alien and often inappropriate designs, materials and technologies” (Sanderson, Sharma and Anderson, 2012, p. 245). An evaluation of an NGO housing project in Iran 55 years after its completion concluded that the design considered traditional architecture but failed to be “*socio-culturally*” appropriate (Mohtat and Zargar, 2018, p.310).

Publications on the impacts of housing showed that one positive action could have one or several negative results elsewhere, indicating unforeseen tradeoffs often occur following a cyclone, such as the 2008 cyclone Nargis in Myanmar, Southeast Asia. Responding NGOs distributed modified sheltering kits with bamboo (a traditional and structurally solid construction material in Myanmar) (Fredriksen, 2014). The recovery kit had a positive social and technical impact but risked diminishing resources, causing restrictive access and the reuse of unsound materials (International Red Cross and Red Crescent Societies [IFRC], 2013b; Bashawri, Garrity and Moodley, 2014; Merrilees, 2015). The bamboo kit could be evaluated as a success or failure if an evaluation focused solely on local acceptance or natural resource consumption, respectively. This underscores the need for systems thinking and abductive reasoning in developing solutions.

2.3 The evaluation process in humanitarian aid and development

The impact of a development project was found by academics to be overestimated if a holistic approach requiring system thinking was not applied in the monitoring and evaluation process (Roelfsema *et al.*, 2018; Geels *et al.*, 2019). Adelekan states an impact is misinterpreted if it is misconstrued to a number or single perspective (Adelekan *et al.*, 2015). In contrast, indicators which monitor and evaluate a project offer crucial data on a project's progress, as having none leads to poor developments (Fayazi *et al.*, 2017). Indicators can help highlight the impact of a shelter response as perceived by stakeholders (including the beneficiaries), but these perspectives can vary considerably (Aubry and Hivon, no date; Lizarralde, 2002). The type of indicators used in evaluations were categorised as qualitative, quantitative or mixed. The type of evaluations in humanitarian aid and development by academics and organisations were studied (OCHA, 2017; Mohtat, 2018; OECD, 2018; Hendriks, 2020), and compared to transitional evaluations (Roelfsema *et al.*, 2018; Geels and Turnheim, 2022).

Typical instruments using quantifiable indicators for the evaluation of the impact of projects were regular surveys and surveys of the end-users. For example, Renewable World (RW) [An NGO] used statistical data on users' needs and satisfaction, including social and environmental

impacts, in their sustainability projects (Renewable World, 2011). The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) recommend that the success of a private-sector partnership be measured from “*solid quantifiable-impact driven assessments*” that outline the objectives, key performance indicators, and output predictions (OCHA, 2017, p. 38). Qualitative indicators offer clarity on the target outputs the NGO seeks to complete (DFA, 2010), but the definition of indicators can cause misinterpretations of their success and status. For example, Dodman and Brown criticized how the United Nations (UN) stated that informal settlements had decreased by 13.4% between 1990 and 2010 by “*relaxing the criteria for what constitutes an ‘improved’ situation*”, rendering the trend articulated as misleading (Dodman *et al.*, 2013, p.1). However, quantifiable measures can be helpful in technical assessments of a shelter's ongoing performance, such as its thermal performance (Park, Cho and Jeong, 2019). In contrast, focusing solely on quantifiable indicators becomes a drawback when multiple stakeholder agendas exist, such as appeasing donors by reaching agreed-upon indicators (Lyons, Schilderman and Boano, 2010; ECHO, 2013).

Qualitative studies focus on social processes from the perspective and lived experience of the involved participants (QDatatraining, 2012). Qualitative measurements of a housing project's success are based on perspectives and judgments over numerical data. Senior aid organisations like the European Community Humanitarian Aid Office (ECHO) and the Core Humanitarian Standards (CHS) encouraged the use of qualifiable measures to evaluate the impact of humanitarian intervention (ECHO, 2013; CHS Alliance, 2015). Other senior aid and development organisations like the International Office of Migration (IOM), Norwegian Refugee Council (NRC) and United Nations High Commissioner for Refugees (UNHCR) have collected beneficiaries' perspectives through complaint mechanisms, interviews, focus groups, and observational studies (IOM, NRC and UNHCR, 2015). In 1999, an evaluation was completed of a housing project in Turkey that mass-produced standardized housing to manage the growing demand for housing (Johnson and Lizarralde, 2012). The evaluation gathered local perspectives and identified that the project had reoccurring issues: poor occupancy satisfaction, limited local cooperation, and an unaccepted housing design. Although qualitative data may not be presented in numerical value, the terminology used to represent success were longevity, replicability, and a clear demonstration of the housing's functionality (Lyons, Schilderman and Boano, 2010; DG ECHO, 2013; ECHO, 2013; Mohtat and Zargar, 2018; Hendriks, 2020).

There has been a widespread use of quantitative and qualitative methods and indicators to measure the efficacy of a housing scenario in humanitarian aid and development (Habitat for

Humanity, 2012b; Johnson and Lizarralde, 2012; Trócaire, 2016a; OECD, 2018; Rhea Bhardwaj, 2018). For example, Irish Aid used both methods to review their partners' operations during the Haiti 2010 earthquake (DFA, 2010). A mixed-method approach was preferred by organisations and researchers alike because “*behind the quantitative aspect of reconstruction lies complex social, cultural requirements*” (Davidson, Lizarralde and Johnson, 2008, p. 3). Geels also encouraged reflexive and realistic quantitative and qualitative measurements in the evaluations of transition experiments to create new evaluations (Kivimaa, Kangas and Lazarevic, 2017; Luederitz *et al.*, 2017; Geels *et al.*, 2019).

Most transition studies have focused on transitions to global environmental sustainability, contributing to the study of what Geels refers to as “*The great re-configuration*” (Geels and Turnheim, 2022). A transitional evaluation requires continuous monitoring, with readjustment to the indicators (Roelfsema *et al.*, 2018). The evaluation explores an extensive period because transitions are long-term processes (40 –50 years), while breakthroughs may be relatively fast (e.g. 10 years) (Grin *et al.*, 2010). The evaluation may be inappropriate for humanitarian projects with short-term goals seeking immediate results (Hughes, 2013; Turnheim *et al.*, 2015). However, the evaluation may be applied to projects with long-term housing solutions and strong community participation (Lizarralde and Massyn, 2008; Smith, 2009; Hendriks, 2020). In practice, navigating transitions requires connecting the past, the present and the future through a sense of trajectory (Suarez and Oliva, 2005; Geels and Schot, 2007). Long-term commitments, the timing and modulation of interventions are important in studies of humanitarian housing projects and sustainable global transition (Davidson *et al.*, 2007; Lizarralde, Johnson and Davidson, 2010).

2.4 The methodologies used to evaluate Kibera, Kenya

Kenya is in sub-Saharan Africa (SSA) with a population of 48 million (George *et al.*, 2019). Kenya is currently facing many challenges, the greatest being the growth of informal settlements (Slums). “*Africa’s largest slum*”, named Kibera, is located near the country’s capital, Nairobi (Engleson, 2011, p. 15; Mitra *et al.*, 2017). The size of Kibera has been about speculated for decades, but the settlement was estimated to be 2.5 km² (See appendix A). Within Kibera’s 2.5 km² region are varying housing typologies where traditional vernacular-style designs coexist with modern housing units. Their designs and construction are driven independently or collectively by communities, NGOs, or governing bodies. Soweto East is one of eighteen villages located in Kibera and was selected for the first major housing development initiative under the Kenya Slum Upgrading Programme (KENSUP). Stakeholders directly and

indirectly involved in KENSUP have published documents throughout the lifecycle of the project. A study of KENSUP was seen as a narrow approach to a complex environment. The single case also limited the generalisation of findings and replication of the methodology (Jacinta, 2010; Kusienya, 2010; Ndukui, 2013). There were difficulties in obtaining access to locations, people, and documents, creating a time constraint for researchers to produce data (Maina, 2013; Ogundele, 2014; Kibere, 2016). The time constraints also prevented researchers from exploring other projects within Kibera or from different countries (Ochieng, 2011; Kvarbstrom, 2014).

The methods used to study Kibera were reviewed based on the overall effectiveness of completing the documents' stated goal(s) and limitations. Most investigations used a mixed-method approach, such as collecting and reviewing documents and conducting in-field assessments through key informant interviews, focus group discussions, field surveys and participant observation. There was no distinction between the discipline of the study (e.g. socioeconomic, geographical, and technical) and the methodology used to support their research goal. A summary of the methods used to evaluate Kibera's development is provided below.

Tacit knowledge is unarticulated knowledge, unformulated and does not follow any theoretical framework (Maykut and Morehouse, 2005). The process involved notes of events and hypothetical perspectives of their outcomes. In Kvarbstrom's study on the construction of low-cost housing in Kibera, he acknowledged his limited prior knowledge of KENSUP and made assumptions about the issues in Kibera's housing (Kvarbstrom, 2014). These assumptions would be confirmed or considered less relevant as his research progressed.

Many observational studies were completed during KENSUP, and most focused on changes in and around Soweto East. Long-term observations (5+ years) were effective in establishing a personal network within Kibera's villages, which resulted in the research gaining access to places which were restricted due to "*limited trust*" and participants' "*fear of bad publicity*" (Schramm, 2017, p. 5). Other observational studies spanned several visits over a short period (MacDonald, 2014).

Focus groups method used in Kibera to identify and rank the positive and negative experiences villages had experienced during the development of Kibera's housing (Achungo, 2014; Garfias Royo *et al.*, 2018). Most focus groups were structured to address the research topic (M'Rabu,

2004), and their arrangement was often based on gender and age (Achungo, 2014; Mitra *et al.*, 2017).

The physical mapping method used the acquisition of imagery and aerial photos to examine Kibera's infrastructure and housing typology (UN-Habitat, 2008b, 2020a; Clouette and Wise, 2017). Clouette and Wise's used a timescale of aerial photos to analyse the changes in architecture (2017). A mapping process was initiated during the early stages of KENSUP to display the physical features of the 12 villages, information on structures and their density in Kibera (Ochieng, 2011). The mapping approach was used again in 2020 to identify the types of facilities in Kibera, such as water and sanitation facilities, and community spaces (UN-Habitat, 2020a)

A survey was used in studies of Kibera to reflect individuals' beliefs (UN-Habitat, 2014). Surveys supported UN-Habitat in assessing the impact of the decanting site and the construction of a new road in Kibera (UN-Habitat, 2014). Most surveys were administered to village elders, politicians, NGOs, CBOs, and residents within Kibera. Particular surveys went through a review process, sometimes by representatives from the targeted groups, before being implemented in the field (M'Rabu, 2004; UN-Habitat, 2014). Surveys were issued in Swahili and English. Participants could request payment before participating. In cases where participants were illiterate, the survey was read to them, and answers were recorded via microphone (Ogundele, 2014). Accessibility to targeted groups was a limitation, in particular for research focused on residents. For example, Ogundele's evaluation struggled to access residents who moved into the decanting site, resulting in scheduled days that were scheduled specifically for residents to complete the survey (Ogundele, 2014).

Unstructured and semi-structured interviews have been used for evaluations because they obtain narratives that offer perspectives from the different strata of stakeholders, such as CEOs, management, staff, donors, volunteers, and beneficiaries. Researchers used interviews to analyse coping strategies used by the residents in Kibera (Schramm, 2017), to address the limitations of KENSUP (M'Rabu, 2004). The interviewees ranged from government and institutional bodies, UN agencies, NGOs, CBOs, and communities involved in KENSUP (MacDonald, 2014; UN-Habitat, 2014). Certain implementations of interviews were completed in years, months or weeks (Schramm, 2017). The number of field interviews varied from less than ten (Ehresmann, 2004) to over three hundred (Mitra *et al.*, 2017). Small-scale interviews with Kiberan residents were found to be frequently conducted during times of tension. In 2003,

residents did not have information on the objective of KENSUP, and researchers were cautious as it was thought that interviews would cause confusion, rumours or conflict (Ehresmann, 2004).

Memon (2020) defined the nature of probability statistical sampling as having an often fixed population size allowing the number of participants to be calculated. The sample size can also be pre-determined by type of statistical analysis. Ochieng (2011) studied the factors influencing the implementation of KENSUP by following Gay and Airasian's (2003) suggestion that a 10-20% sample of the total population is acceptable in descriptive studies. In contrast, purposive sampling means that participants are included in the research based on a preselected criterion that relates to a research question, and the sample size can be fixed or nonfixed (Mack *et al.*, 2005). Purposive sampling techniques were standard and seen as “*valid*” methods to study the effects of KENSUP (Ndukupi, 2013; Charles, 2018). Purposive sampling was applied to evaluations that used focus groups (Achungo, 2014; UN-Habitat, 2014; Achwoka, 2018). Most studies of Kibera concluded purposive sampling when there was a “*repetition of information*” or data saturation (Kibere, 2016, p. 155). Bryman (2016) defines research saturation as a point when new data no longer provides additional insights into the research questions. More than one sampling approach was used in studies of KENSUP. For example, a survey of the challenges of upgrading Kibera used purposeful sampling for the staff in the Ministry of Housing (n=14) and random sampling for the residents in Soweto East (n=217) (Ndukupi, 2013). Sampling was also based on the level of involvement in issues related to the research focus (Mitra *et al.*, 2017). The sample size in most evaluations depended on accessibility, such as having a gatekeeper that connected researchers to the residents (UN-Habitat, 2014; Meredith and MacDonald, 2017). Other limitations were that participants did not know anything about KENSUP or preferred an undocumented discussion on the project instead of a recorded interview (Achungo, 2014; Ogundele, 2014).

2.5 Historical reflection and process theory as an evaluation method used in transitional and humanitarian studies

As part of a transitional study, Geels has detailed the importance of building up empirical data to generate the context of the research topic (Geels, 2004). Dr. Kevin O' Sullivan encourages a similar methodology in humanitarian studies, which he calls “*A model for historical reflection in the humanitarian sector*” (O'Sullivan and Ní Chéilleachair, 2019, p. 51). Gulyani and Talukdar's evaluation of Kibera's housing real estate also stated that few large-scale empirical studies systematically document housing quality and its variations (2008). MacDonald

evaluated Kibera’s infrastructure using a similar method stating that it was “*tantamount to understanding the shifting approach to improvement initiatives in slums in general*” (2014, p. 23).

Geels’ approach supports large-scale empirical studies by adopting Long Range Theory (LRT) to identify radical innovations over considerable periods (Freeman and Carlotta, 1998; Geels, 2005a). The transition dynamics were identified using a historical reflection approach (Grin *et al.*, 2010).

A method used in transitional studies to explain a series of events with a theoretical framework is called a process theory or narrative explanation. Process theory explains “*outcomes in terms of event sequences and the timing and conjunctures of event chains*” (Geels, 2011a, p. 34).

Figure 3 illustrates one strategy changing over time as a result of the occurrences of events, activities and choices.

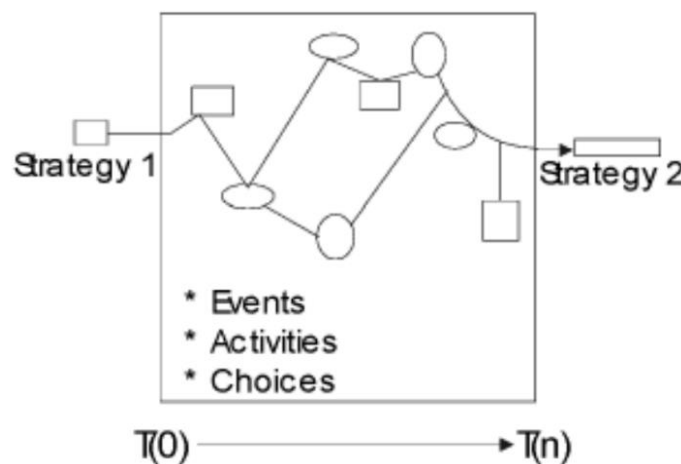


Figure 3. The process theory. Source: (Mohr, 1982) in (Langley, 1999)

These events are presented on a visual called a process chart that “*simultaneous representation of a large number of dimensions*” through a period of time (Langley, 1999, p. 700). Figure 4 on the following page is a process chart from a study of the adoption process of new technology in small manufacturing firms (Langley and Truax, 1994).

The form of the boxes in the figure indicates whether the event described represents a;

- decision (round-cornered rectangles);
- activity (sharp-cornered rectangles), or;
- an event outside the control of the firm (ovals).



Horizontal bands present the issue domain with which the event is associated. Certain boxes cross several bands, indicating the integrative character of that event. The arrows leading from each box to the central band indicate the effect of this event on the technology adoption process (positive effect [+], negative effect [-], precipitating effect [++], no effect [0]) (Langley, 1999). The thickness of the horizontal lines linking the boxes indicates the continuity among linked events. A horizontal time scale allows a rough indication of the duration of an event. The final drawing offers an abstract conceptualization of events and is not to be regarded as a conclusive realistic interpretation of events (Langley, 1999).

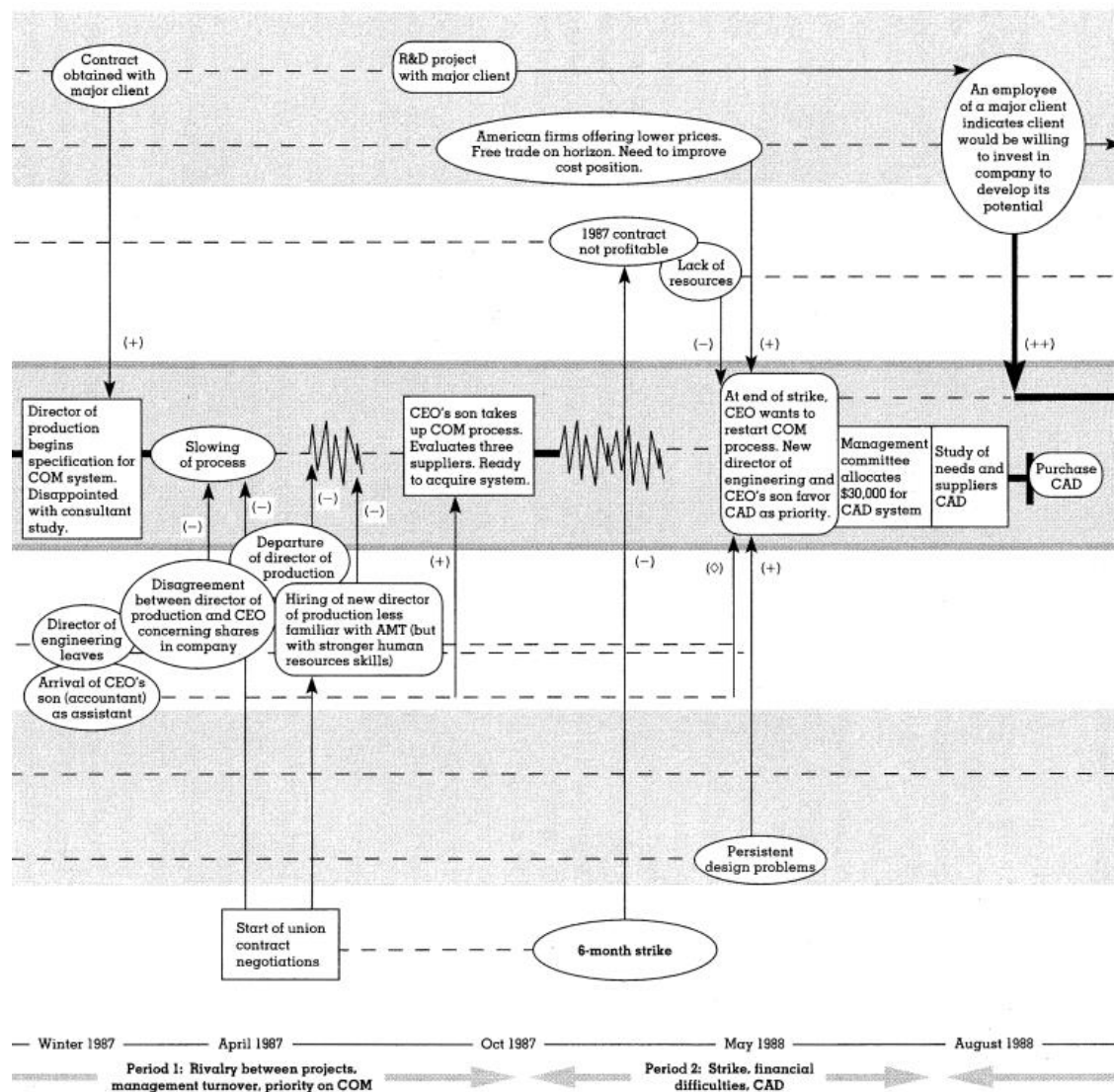


Figure 4. A process flow chart. Source: (Langley, 1999)

2.6 The analysis processes used to study Kibera and transitions

Qualitative data was used in studies of Kibera to analyse thematically, while quantitative data is commonly used in statistical analysis (Ogundele, 2014; UN-Habitat, 2014). Qualitative data analysis uses a coding process, which refers to classifying or categorizing individual pieces of

data to a theme (or subject) (Babbie, 2004; Ogundele, 2014). UN-Habitat used a coding process to investigate the impact of their infrastructure project in Kibera (UN-Habitat, 2014). A mixed analysis approach was used by researchers in cases of unreliable statistical data (Ochieng, 2011). In both analysis processes, data is categorized, arranged and summarized and presented using tabulations, pie charts and bar graphs.

Research conducted in Kibera relied on primary data sources like interviews, administration of surveys, and focused group discussions, among others, to determine the gaps in KENSUP designs, planning, implementation, and monitoring. Another reason for reviewing completed work on Kibera was to create a narrative of the upgrading process (Ndukui, 2013; UN-Habitat, 2014; Agayi and Sağ, 2020). The type of documents analysed by researchers included textbooks, reports, webpages, new and academic articles, and published and unpublished works by the stakeholders and researchers (Ndukui, 2013; Charles, 2018). Brendah Achungo evaluation of the social transformation of KENSUP by creating a table (Unpublished) of events in chronological order with the significant dates and extracts taken from the reviewed documents or their comment on the event (Achungo, 2014). A limitation of this method was having no access to specific sources (Ndukui, 2013). Certain researchers would also regard the data from official documents with “*scepticism*” and use probed questions during interviews to ensure reliable data from participants (Achungo, 2014; Ogundele, 2014).

In most transitional studies, the required data was historical evidence during the transition followed by the latest ongoing technological processes (Geels, 2002), but there was no clear description of the data needed and the appropriate method to obtain it. However, a document review can produce a perspective on the complexity of real-world developments (Geels and Turnheim, 2022). For example, the data used to evaluate the UK’s transition into low-carbon solutions came from primary and secondary sources, such as documentaries, advertisements, posters, and government publications (e.g. cost-benefit assessments and progress reports). These sources focused on energy, buildings, and transport and covered specific dimensions (e.g. actors, strategies, policies) at various points in time (Geels and Turnheim, 2022).

A review of the typed documents from the humanitarian field found them to have specific characteristics to their creation and purpose. For example, the drafting and implementation of strategies in a natural disaster were designed and implemented at a greater pace than those for a poverty crisis (Habitat for Humanity, 2012b; Global Humanitarian Assistance, 2014; Concern Worldwide, 2018). Disaster responses were also structured based on their timescale, where it can take hours, months or years to develop before implementation (Concern Worldwide, 2018).

Organisations drafted reports in often chaotic and intense conditions (Davidson *et al.*, 2007). Timing, pressure, and inadequate access to data can cause an assessment to be incomplete and implemented without further investigation (Trócaire, 2016a; Amnesty International, 2017). Publishing an assessment's information can be risky as sensitive data on vulnerable communities may result in violence. In the case of Haiti's 2010 earthquake, publishing the data on victims took too long. The data became outdated and irrelevant to the formulation of an appropriate disaster response (Patrick, 2011).

A humanitarian housing strategy outlines the actions required to resolve the scenario in the affected areas. Certain organisations avoid a “*one size fits all approach*” and repetition in their housing projects (Dikmen, Elias-Ozkan and Davidson, 2012; ECOSOC, 2018). Organisations criticize these actions as negligent and causing social exclusion, disruptions to the flow of funds, and a misconception of the context in the project's location, (ECHO, 2013; ECOSOC, 2018; Rhea Bhardwaj, 2018). Residents often criticised a housing strategy that has a repeated housing design approach with a lack of design modifications and for ignoring traditional reconstruction methods (Hendriks, 2020).

Evaluation reports are crucial in measuring a project's impact and are regularly conducted in a survey or complaint mechanism system (Renewable World, 2011). For example, Goal's evaluation report on its organisation project in Malawi is an example of how a project can be openly reviewed (Goal, 2019a). However, specific reports may not be as open nor available for public reading. In addition, published evaluation reports can have redacted information, such as survey responses, due to respondents' sensitivity.

2.7 The theories applied to studies of Kibera

Theories and frameworks used to support the development of impoverished countries were identified as part of the literature review. However, an investigation of the theories used in theoretical frameworks to structure development studies was beyond the scope of the research project. Therefore, theories applied to studies of Kibera were reviewed based on their effectiveness and limitations to support the researcher's goal(s). A theoretical framework is a structure that supports the theory applied to a research study. The review of theories and their application in theoretical frameworks to evaluate Kibera were the Stakeholder and Participatory Approach (Mikkelsen, 1995), the Self-Help Approach (Turner, 1972a), Modernisation theory (Rostow, 1959) and the Sustainable Livelihoods Approach (SL) (Stren and Polèse, 2000).

The Stakeholders Approach focuses on having a holistic involvement of stakeholders throughout the different development stages of a project (Mikkelsen, 1995). The level of participation expands to the central government, the local authorities, the private and public sectors, and communities. Each stakeholder is assumed to hold equal importance in the project, so senior stakeholders do not ignore all opinions (Mikkelsen, 1995; Ndukui, 2013). The approach was used in Kibera to analyse stakeholders' perceptions, attitudes and values (Ndukui, 2013). The approach requires a level of trust between stakeholders and effective communication linkages. The limitations of using this approach were unshared and uneven knowledge about the project resulting in decisions being stalled. (Ndukui, 2013).

The self-help approach is focused on the homeowner having the most control over the location, construction, and standards of their home with little to no involvement from the administrators (Turner, 1972a). Turner's work on a locally-led approach influenced an analysis of “*Nairobi's housing crisis*” (Ehresmann, 2004). Turner viewed the mass production of housing as a process “*intrinsically uneconomical as well as socially and ecologically destructive*” (Turner, 1976, p. 105). The success of a self-help programme depends on skilled voluntary assistance, such as a sponsoring organisation that contributes localised and personal resources. Self-Help projects supported by institutional bodies had a mixed review, such as barricading community improvement to housing conditions (Turner, 1976) or being supportive and often misled as the “*villain*” (Ward and Macoloo, 1992, p. 71). The limitation of self-help was the dependency on trained and experienced staff or residents for housing construction (Pugh, 1991) and being suitable primarily for small-scale projects (Turner, 1976).

Modernisation theory is a grand theory of development that states that a development project can be successful by following the development processes applied in established countries (Rostow, 1960). The theory was applied to an anthropological study of the social changes to residents in Kibera during KENSUP (Achungo, 2014). Modernisation theory states that developments require established countries to aid developing countries. The success of a project depends on the reduction of traditional cultural attributes (Rostow, 1959), such as past cultural, social and even economic attributes incompatible with the new lifestyles. The modernisation theory does not support the research exploration of the dynamics between modern, traditional, and hybrid housing projects. For example, modernisation theory suggests radical transformation is needed to improve underdeveloped societies, but most societies survive on traditions that the theory wishes to modernise.

The social sustainability framework offers indicators and measurements for social sustainability. They include governance, employment, transportation and accessibility, land and housing, social and cultural policies, infrastructure, and public services (Stren and Polèse, 2000). The framework explores the importance of understanding the stakeholder structure and their relationship dynamics internally and externally (Stren and Polèse, 2000). The framework analyses the effect of policies and institutions being inclusive of diverse groups and cultural practices (Stren and Polèse, 2000). Anthonia Ogundele used the framework to evaluate the impacts of using a relocation site for residents in Soweto East during KENSUP (Ogundele, 2014). The evaluation offered a new social perspective on redevelopment that, at the time, could not be captured by the Millennium Development Goals (MDGs). Serrat's (2017) review of the framework's discussed how it can underplay the negative effects in altering power-dynamics between stakeholders.

The above theories explained the importance of managing and understanding stakeholders and their perspectives, knowledge, and skills. Table 1 below is a summary of the reviewed theories. The participatory theory was limiting as it did not capture all stakeholders' varied experiences in the upgrading process. The modernisation theory restricted the inclusion of traditional methods in developments compared to the self-help approach which involves radical changes to social, and administrative structures (Mikkelson, 1995). In summary, a development project is a multidimensional process involving reorganising and reorientating entire social systems.

Table 1. Summary of the theories applied in studies of Kibera

Theory	Description	Advantages	Limitations
The Stakeholders Approach	Focused on participants' interactions and roles	Finds stakeholder's perspectives, attitudes and beliefs	Indicators of success are limited to the power and knowledge shared among stakeholders
The self-help approach	Focused on participants having the most control	Understands the importance of local support in developments	Its main and narrow view of success in a project is residential support
Modernisation theory	Repeating the approach of a successful project in underdeveloped location(s)	A recognised grand theory	Unrecognition of traditional methods
The social sustainability framework	A selection of indicators and measurements for social sustainability	Understands stakeholder dynamics	It does not study the effects from power-sharing

2.8 A socio-technical approach and the multi-level perspective (MLP)

Socio-technical refers to a particular analytic perspective, which works from “*several basic assumptions and conceptualizations of technology, human action, and social structure*” (Geels, 2005a, p. 10). Social and technical aspects influence each other during technological transitions. Socio-technical studies explain technological emergences on one single novelty, but they may not explore technological replacements or the emergence of several novelties. Socio-technical studies focus on technical group interactions and perspectives surrounding the novelty, specifically in engineering communities. However, there can be multiple groups and perspectives around the novelty, which led to the creation of a multi-level perspective (MLP).

The MLP originated in socio-technical studies by Rene Kemp on the interaction of technology with its users and similar studies into social and technical dynamics (Kemp, 1994; Van Lente, 1995; Kemp, Schot and Hoogma, 1998; Kemp, Rip and Schot, 2001; Geels and Kemp, 2007). A selection of socio, technical and socio-technical theories were studied as part of the literature review. A review of each theory was beyond the scope of this research project, but they are outlined as follows;

- The technological theories include Large Technical Systems Theory (LTS) (Hughes, 1987) and Complex Products and Systems (CoPS) (Hobday, 1998).
- The social theories include Social Construction of Technology (SCOT) (Pinch and Bijker, 1984; Bijker, 1995) and Socio-cognitive approaches (Simon, 1957; Garud and Rappa, 1994).
- The socio-technical theories include the Actor-Network theory (ANT) (Latour, 1987; Callon, 1998) and Co-evolution (Kemp, Schot and Hoogma, 1998).

Geels combined elements from the aforementioned theories and others to create three levels that structure the MLP. These levels are the macro-level and meso- and micro-level. Figure 5 on the following page displays the positions of each theory and its levels. These three levels are also called the landscape, regime, and niche levels.

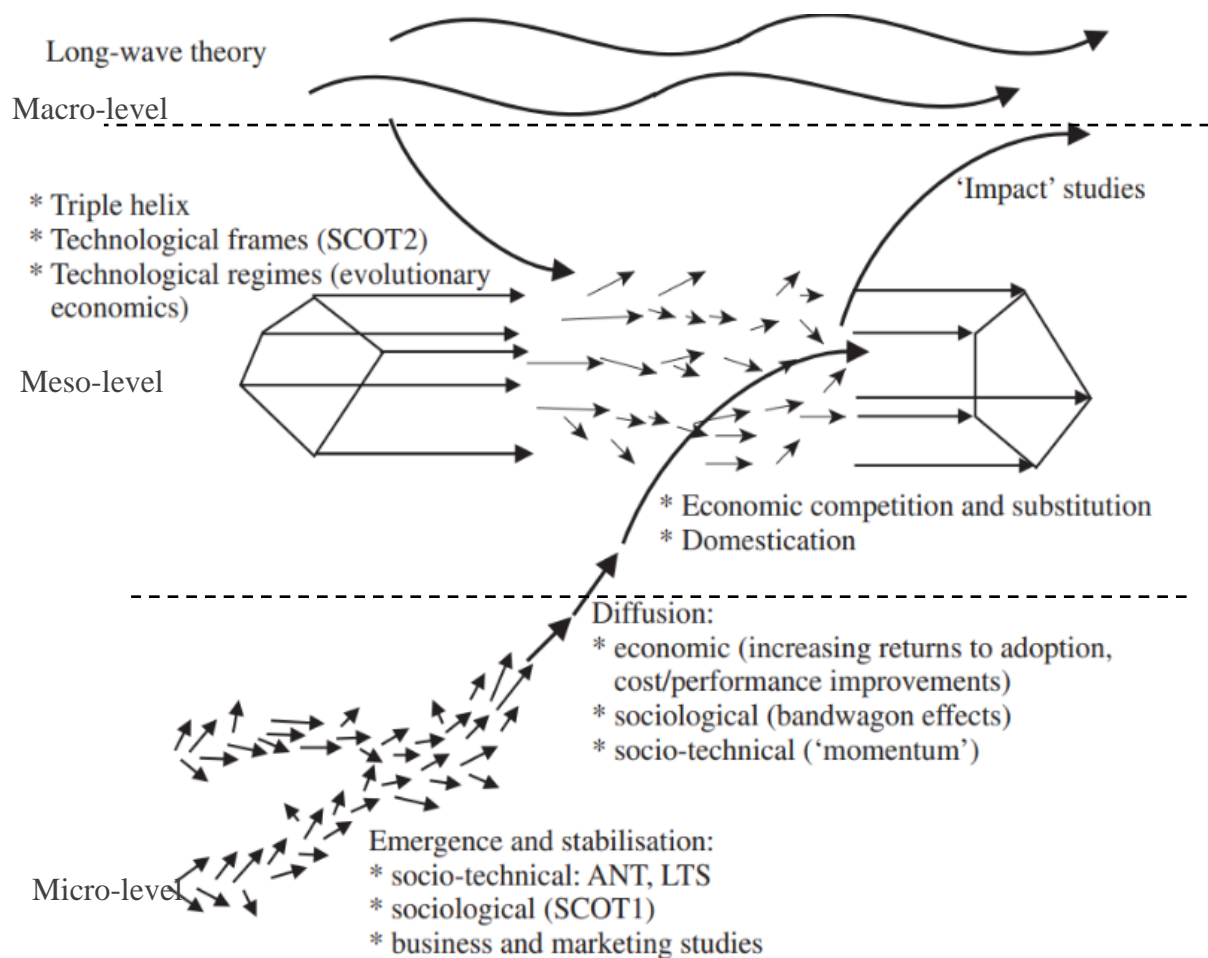


Figure 5. Geels' s integration of theories to produce a refined MLP. Source: Geels 2004,

The MLP is used in transitional studies to understand changes within societies, the emergence and diffusion of new technologies, and the successful or failed transformational change of technologies (Geels, 2005a; Turnheim *et al.*, 2015). Geels' method has been used to study cities and their involvement in transitions at a local, national and global level. The global level explores trajectories in the development of innovation (Marshall Scott Poole and Van de Ven, 2004; Geels and Schot, 2007). In contrast, the local model describes “*the micro ideas, decisions, actions, or events in projects*” (Marshall Scott Poole and Van de Ven, 2004). Figure 6 on the following page illustrates the journeys of a transition at the landscape, regime, and niche levels. The meaning of each is as follows:

Landscape: Background variables such as the material infrastructure, political culture, social values, worldviews, the macro-economy, demography, and the natural environment.

Regimes: Transitions are influenced by engineers, users, policymakers, societal groups, suppliers, scientists, etc. (Utterback and Abernathy, 1975). The type of social groups surrounding the novelty is organised into regimes. For example, engineers may belong to a technical regime, whereas politicians may belong to a governance regime.

Niches: The protective measure for a novelty, mainly where innovation exists and requires support to be effective.

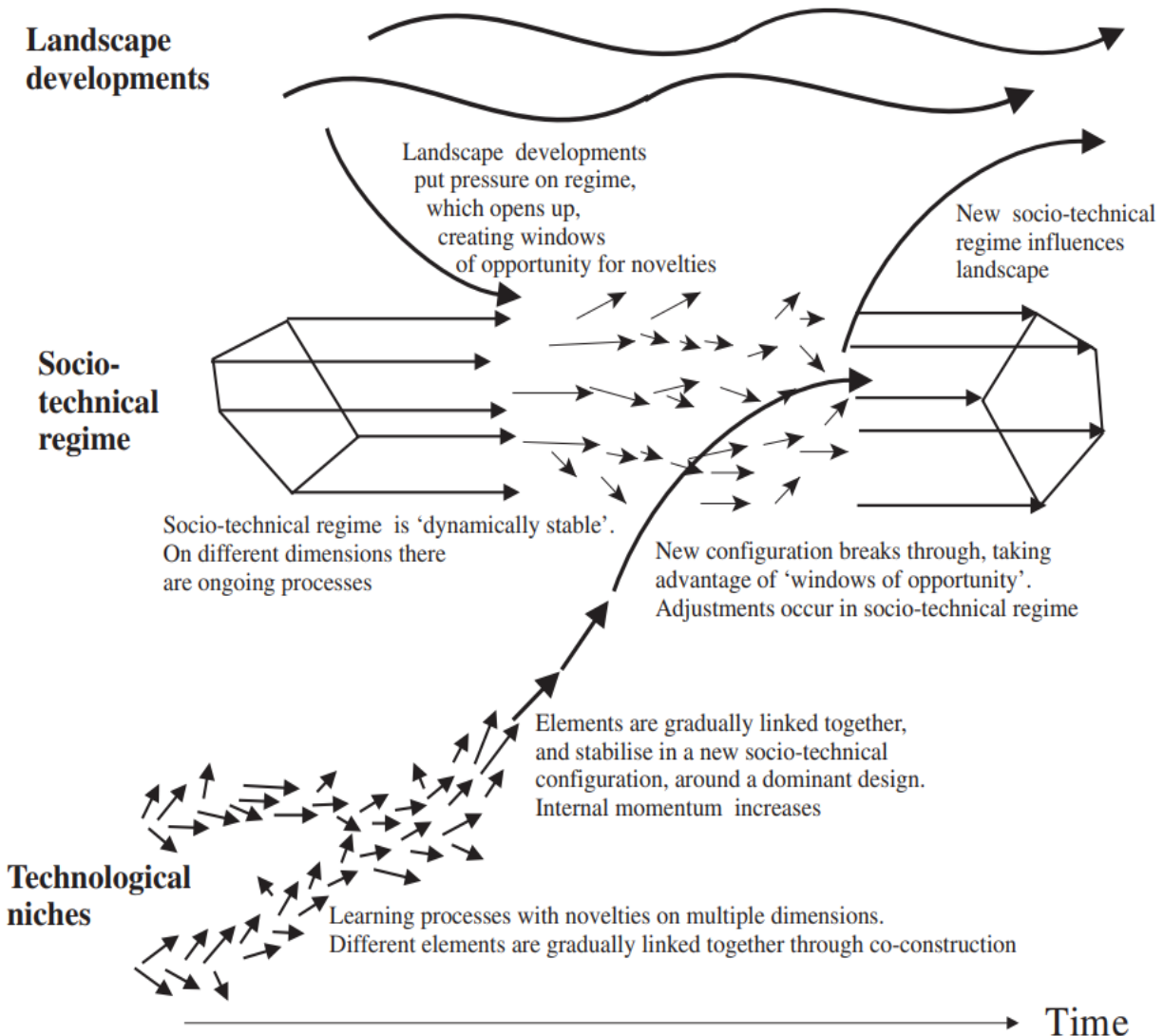


Figure 6. The multi-level perspective. Adapted by Geels. Source:(Geels, 2002)

The characteristics of the landscape, regimes, and niches were explored further to find their context in humanitarian aid and development. The following headings were the results of this research.

2.9 The socio-technical landscape and its context in humanitarian aid and development

A landscape forms the set of deep structural trends external to the regimes, including factors outside the system that have a driving influence. The changes to the landscape can be slow, for example, cultural and demographic changes or political cultures and ideologies. In contrast, rapid landscape changes include war, economic depression, and natural disasters.

In the context of humanitarian aid, a natural disaster can (re) produce and intensify pre-existing conditions in the affected area. The authors of "*Disaster risk and its reduction: an agenda for*

urban Africa” identified these pre-conditions as social (e.g., gender inequality), geographical (e.g., land usage), and political (e.g., governance during a disaster) (Adelekan *et al.*, 2015). These conditions form the landscape of a catastrophe that can amplify the destruction of a catastrophe while equally holding power to reduce its negative impact. These conditions were relevant in humanitarian development because they helped understand a housing project's complex environmental, political, and cultural context (Davidson, Lizarralde and Johnson, 2008; Aleksić *et al.*, 2016). The landscapes identified in the literature review of housing projects in humanitarian aid and development were communities, governments, the economy, and the environment. The meaning and importance of each landscape in housing scenarios were explored.

A community is a collection of individuals residing in a city, village, or town setting. In the humanitarian field, a community refers to the country's population or the beneficiaries in the receivership of aid. Understanding the behavioural patterns or “*search heuristics*” of communities in a housing project can lead to appropriate actions in a housing project (Geels, 2002; Hendriks, 2020). For example, an evaluation of the 2010 Haitian earthquake found that many camps were erected to accommodate Internally Displaced Personnel (IDP) when 80% of IDP sought refuge with extended family members (Patrick, 2011). In contrast, understanding communities prevented such mistakes and produced valuable data to formulate a humanitarian strategy (ECHO, 2013; CHS Alliance, 2015; Plan International, 2016, 2017; Hossain, Spurway, *et al.*, 2017; UN-Habitat, 2020b). Organisations can prevent having negative impacts by understanding the landscape, such as the ancient local or tribal values passed on through generations (Trócaire, 2016a). However, these values differed between countries, villages, and people and resulted in mixed levels of community participation (IOM, NRC and UNHCR, 2015), but there was a shared acknowledgement of the importance of including a solid understanding of the local context in their projects (Patrick, 2011; Dewan, 2015; Aleksić *et al.*, 2016; OCHA, 2018; Hossain *et al.*, 2017a). Future sheltering projects were recommended to incorporate “*the requirements and lifestyle of the beneficiaries*” in a housing design (Dikmen, Elias-Ozkan and Davidson, 2012, p.37). A housing design can have adverse psychological effects, such as causing communities to become more accepting of poor housing designs and overcoming the design's uncomfortable burdens (Sanderson, Sharma and Anderson, 2012; Merrilees, 2015). Housing can also cause social segregation by following standardisation (a repeated design) (Mohtat and Zargar, 2018). For example, a Columbian post-earthquake reconstruction project in 1999 used “*foreign reconstruction*” methods, such as standardised

prefab housing that was unwelcomed by communities whose preference was a traditional design (Lizarralde, 2000, p.69).

A government landscape includes long-established political structures that impact the effectiveness of housing projects. These can be patterns of corruption, leadership, and political elections. For example, Doctors Without Border (MSF) produced a report illustrating the landscape of political protest connected to elections in Kenya (Figure 7) (Raleigh and Wafula, 2022). However, political fraud and corruption were reported to be difficult to identify even if they were rooted in long-established institutional structures (CHS Alliance, 2015; IOM, NRC and UNHCR, 2015). Accountability seeks to reduce fraud and corruption that jeopardises resources away from locals in need, such as OCHA’s aim to increase responsibility in governments that use their financial resources in disaster relief (OCHA, 2018b). Studying the government landscape identified long-establish tensions between governing bodies. For example, the history of the Government of Kenya's agenda to close two refugee camps (Dadaab and Kakuma) against the views of the High Court of Kenya (Tom Maruko, 2017; Cone, 2021; Horowitz and Michelitch, 2021).

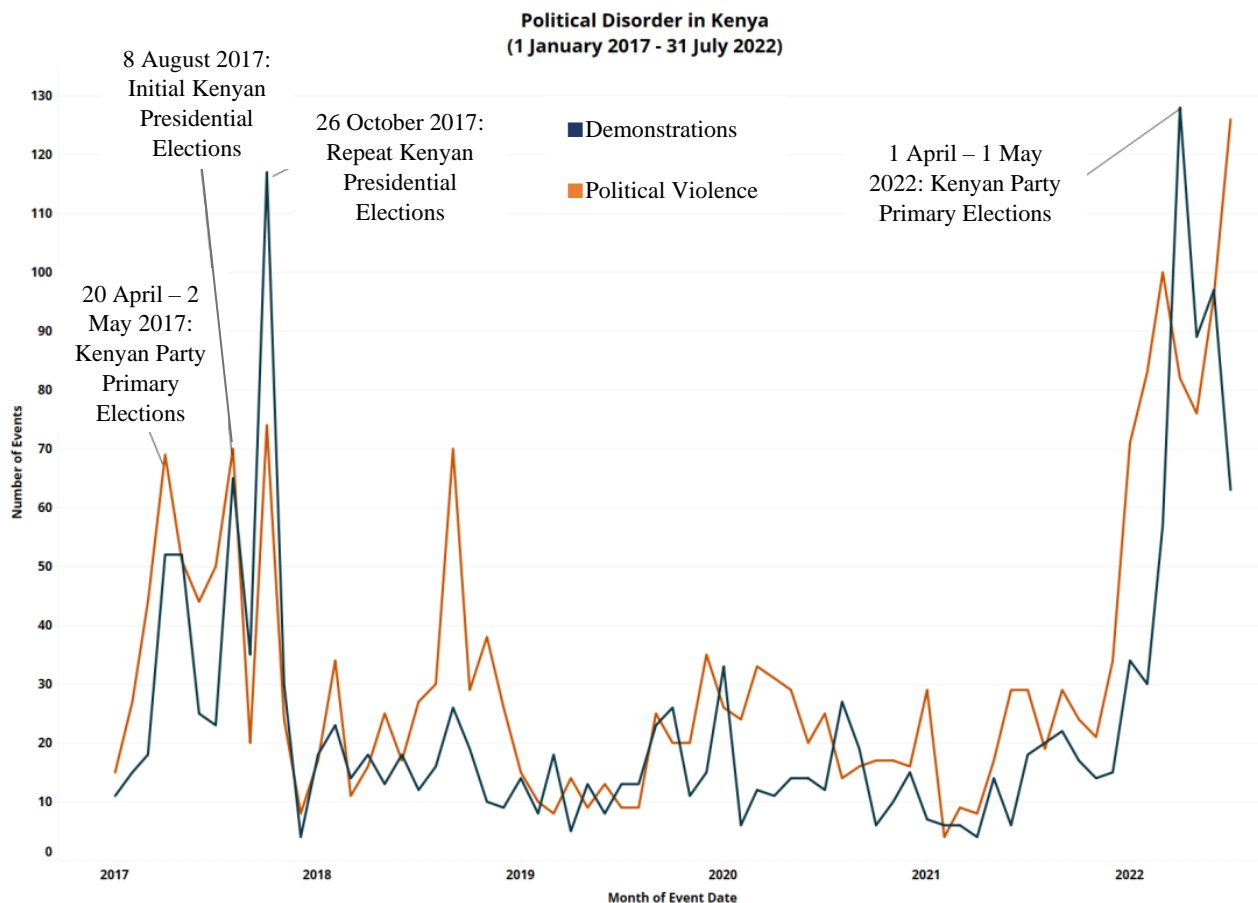


Figure 7. Kenya’s Political Violence Landscape in the Lead-up to the 2022 Elections

Climate change, whether direct or indirect impacts, intensified existing environmentally held hazards that may exist on the environmental landscape (Zyck and Kent, 2014; Aleksić *et al.*, 2016; ECOSOC, 2018; OCHA, 2018a). Studying the effects of climate change was a fundamental requirement in humanitarian action (IASC, 2015b; Goal, 2019; Islamic Relief, 2019). However, climate change was reported not to be related to the growth of informal settlements in locations prone to flooding (UN, 2009; Dodman *et al.*, 2013). In contrast, ECHO's policy document on sheltering states that climate change is causing an increased need for effective and efficient sheltering interventions (DG ECHO, 2013). Pressure from environmental landscape can be African Governments struggling to endorse the Sustainable Development Goals (SDGs) in their strategies and policies because 24 million Africans are being pushed into poverty due to COVID-19 (Mahler *et al.*, 2020; Ncube, 2020; SDSN, 2020). Another forecasted is the effect of climate change in Kenya is the loss of 1.8 million cattle by 2030 as a cause of drought, accumulating to \$630 million in damages (Odoemene, 2017). Slow-onset disasters such as drought, rising sea levels, and insect manifestation may not have a sudden impact compared to an earthquake or rapid flooding, but their effects on the environment and societies can linger and leak across the Global South (Dodman *et al.*, 2013; ECHO, 2013). However, reports on the impact of climate change in Africa, Asia, and parts of Latin America that will be most impacted by climate change have limited real-time data (Intergovernmental Panel on Climate Change [IPCC] *et al.*, 2007; Tanner *et al.*, 2009; Kithiia and Lyth, 2011; Dodman and Brown, 2013; Merrilees, 2015; Development Initiatives, 2021).

The economic landscape consists of residential and national sources of income and expenses, entrepreneurial activities and investments. Pressure on the economic landscape from a disaster has a national financial burden with significant economic effects, such as the day-to-day expense of disasters for supplies of materials and professional humanitarian staff costing an estimated \$2 million (Zyck and Kent, 2014). A catastrophe in Gujarat cost an estimated \$3 billion in recovery (Sanderson, Sharma and Anderson, 2012). Post-disaster projects in Bangladesh, such as disaster reduction measures and prevention, cost an annual \$175 million, consuming the national budget and slowing economic growth. However, conflict disasters remain the most extensive financial burden in humanitarian aid, impacting a total of \$25.4 billion in costs which exceeds 50% of the overall cost (ECOSOC, 2018). In Kenya, an estimated 3.6 million people require assistance from the effects of conflict, displacement, and natural disasters, with a financial cost to recovery estimated at \$255 million (Development Initiatives, 2021). Another pressure on the economics landscape was Governments not having

the resources to supply basic goods and services and depending entirely on external financial support. World Bank, one of the leading financiers of humanitarian aid, financed 46% of Columbia's government's relief projects in 1999 (Lizarralde, 2002). Financial aid providers were funded through donations, such as 95% of ECHO's funding was obtained through voluntary contributions in 2018 (OCHA, 2018b).

2.10 The regimes and their context in humanitarian aid and development

Regimes are the social groups that create the socio-technical system (**Figure 8**). These social groups can be categorised based on shared routines, beliefs, and conditional or unconditional structures. The regimes can be infrastructures, user practices, policies, and organisations. Socio-technical systems become stable if the activities of these different groups are aligned and coordinated and support or prevent the development of new housing. Old and new technologies can co-exist substantially before the old technology is entirely replaced. In these regimes, innovations may fit easily within the existing regime, or the regime may adapt to accommodate the innovation, with structures changing to reflect the innovation's new place in the regime. Alternatively, the innovation might be rejected by the regime and fail.

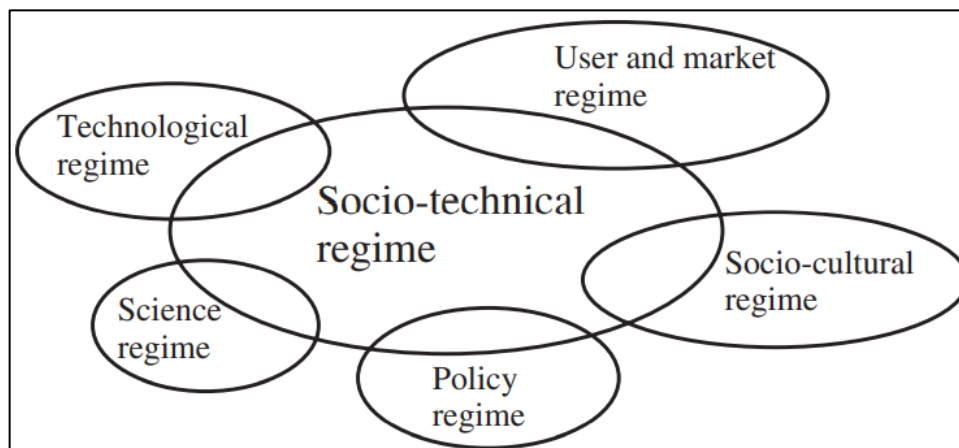


Figure 8. The regimes and their connection to create a socio-technical regime. Source: (Geels, 2004)

The actors in the socio-technical approach are part of the decision-making process and have actions within the frameworks (both formal and informal). Actions to oppose or support housing can result in relationships between social groups shifting over time and new groups emerging, causing regimes to co-exist. Regimes also have internal dynamics, and if these internal developments diverge, it results in tensions, causing linkages to weaken.

Figure 9 on the following page displays Swan's (2013) arrangement of actors to regimes as part of his study into housing development in the UK.

Regime	Actors	Key Functions
Government	<ul style="list-style-type: none"> ● Department of Energy and Climate Change ● Communities and Local Government ● Local Government ● Planning ● Building Control ● Regulators 	The development of policy and appropriate legislation and regulation. Processes to ensure the application and enforcement of regulation. Tax and subsidy frameworks
Infrastructure	<ul style="list-style-type: none"> ● Energy supply companies ● Infrastructure companies 	Provision of effective infrastructure and energy supply
Non-governmental institutions	<ul style="list-style-type: none"> ● Insurance companies ● Valuation companies ● Certification bodies ● Professional bodies ● Warranty providers ● Finance companies ● Energy advisory services 	Development of frameworks to provide insurance and legal cover, protection of standards, consumer advice and financial models
Markets and user practices	<ul style="list-style-type: none"> ● Owner occupiers ● House builders ● Social landlords ● Private landlords ● Residents 	Various markets for products and services to provide energy-efficient new and existing homes
Technical regime	<ul style="list-style-type: none"> ● Equipment manufacturers ● Materials manufacturers 	Development of physical products and materials to be applied to new and existing homes
Knowledge regime	<ul style="list-style-type: none"> ● Universities ● Other research bodies ● Consultants ● Manufacturers ● Training providers 	Development of knowledge with regards to the whole socio-technical regime
Production regime	<ul style="list-style-type: none"> ● Contractors ● Installers ● Manufacturers 	Delivery of products as applied into new and existing homes

Figure 9. Actors arranged in the regime for case in the UK retrofitting Source: (Swan, 2013)

The potential characteristics of regimes in the context of humanitarian aid and development is now outlined.

The community regime's internal dynamics and structure were understood by reviewing Community-Driven Strategies (CDS). A CDS was defined as locals running their projects based on local initiatives such as improving their livelihoods (World Bank, 2002). The other method is to seek community participation. Community participation was a priority for housing developments since it empowers communities with long-term development goals (Lizarralde and Massyn, 2008). However, ignoring local involvement risks disrupting the community's progression (Hendriks, 2020). Identifying potential and existing landscape pressures in the community regime can assist in understanding their dynamics and perspectives. The number of individuals affected by climate change grows, but populations of different socioeconomic conditions are disproportionately affected by climate changes (Trócaire, 2016a; Hossain, A.B., *et al.*, 2017). For example, the effect of COVID-19 and climate change is expected to have an impact on Africa as another 59 million individuals have been into poverty, totalling 514 million Africans (SDSN, 2020).

The government regime can consist of the governmental roles such as elders, politicians, and policy makers. National government were regarded to be the prominent leaders in humanitarian aid and development due to their understanding of the local context (Zyck and Kent, 2014; IASC, 2015a; IOM, NRC and UNHCR, 2015; Hossain, A.B., *et al.*, 2017; Hossain, Spurway, *et al.*, 2017). However, political involvement in humanitarian projects has been reported as diminishing (ECHO, 2013, 2019; Adelekan *et al.*, 2015; ActionAid, 2017). For example, academics report the presence of political corruption and political instability inflicts a higher exposure of risk to a disaster and prolongs a project's completion (Pelling, 2011, 2012; Sanyal, 2011; Hossain, A.B., *et al.*, 2017; Murray, 2017; Goal, 2019; UN-Habitat, 2020b).

An organisation regime was found to be structured by the funds from senior organisations that are often allocated based on an NGO relationship with the beneficiary and their strategies' impact (ECHO, 2013a). The humanitarian aid sector is competitive, such that organisations compete for funds so to remain financially sustainable (Trócaire, 2016a; Mísean Cara, 2018; Goal, 2019). The regime can have internal tensions, such as when the donor's priorities are misaligned with other stakeholders and the beneficiaries (Lyons, Schilderman and Boano, 2010; Habitat for Humanity, 2012a; Dodman *et al.*, 2013). For example, a joint evaluation report on the Indian Ocean tsunami remarked that aid agencies relaying accurate information to a donor was "*haphazard*" where the provided information may be "*intended to promote the agencies brand rather than provide an unbiased and balanced account of their performance*" (Cosgrave, 2007, p.29). In Sri Lanka's 2004 post-tsunami, housing reconstruction projects began with aid agencies and their donor-influenced designs. The projects were not received well locally, and reconstruction was redirected toward locally-driven approaches (McCarton, 2010). The financial agreement between organisations directs a housing and recovery project. For example, Irish Aid's financial support in Haiti's 2010 earthquake was conditional to NGOs who ran active programs in Haiti before the quake (DFA, 2010). Irish Aid created this condition to avoid funding new or inexperienced humanitarian actors responding to the earthquake. Another condition from donors is to provide flexibility with their funds, as this allows organisations the freedom to adapt their responses to changing circumstances (ECHO, 2013; ECOSOC, 2018).

The infrastructure regime can exist of pre- or new infrastructure. Tension with the infrastructure regime may emerge when pre-existing poor infrastructure becomes impassable obstructions in the responses, which was the case in the 2015 Nepal earthquake (Dochas, 2015; Merrilees, 2015). In addition, a high-density populated informal settlement can disrupt the flow

of supplies for a development project and limit the scale of construction due to the infringement of housing settlement.

The environmental regime can include the locations of the socio-technical system. The negative effects of this regime can occur if assessments of the new projects are incorrect, and the individuals may be at risk of being settled in a risk-prone area. In contrast, Oxfam's successful in-depth risk assessment of a Haitian temporary settlement location caused an immediate relocation of shelters and 5000 occupants. A mega landslide destroyed most remaining shelters only days after the relocation was complete, and no injuries were reported (ECHO, 2013).

The housing and sheltering regime consist of stakeholders involved in the design and construction of housing. Certain designs applied in development project were prefabricated housing (Zyck and Kent, 2014; Alsulami, 2016). In a sheltering response, tents are the most common form of emergency accommodation in a natural disaster (Habitat for Humanity, 2012a, 2012b). Tents are easy to transport, lightweight, and quick to erect (thus, arguably, making them invaluable in disaster relief) (Luan, 2019). They are a temporary solution, not a long-term option. There is difficulty in prioritising logistics management in sheltering over with intended occupant's comforts. For example, a poor housing design can cause adverse psychological effects due to low levels of security, general discomfort from lack of privacy, or the lack of utilities such as running water, heat, insulation, or electricity to essential power devices (Luan, 2019).

The interactions between a vast body of stakeholders occurs regularly in humanitarian projects. For example, the International Red Cross and Red Crescent Societies (IFRC) and ECHO have a long history of partnerships in numerous disaster relief projects (ECHO, 2013). Local communities are the first to respond in reconstruction and recovery, but tensions between stakeholders, including communities, are not uncommon (Patrick, 2011; Sphere Association, 2018). Tensions emerge from mixed agendas and confusion between policies and personalities before a holistic agreement of roles and actions is clarified (IOM, NRC and UNHCR, 2015; Gerard, 2018). The ownership of land can cause tension between regimes, such as land division, due to poor ownership documentation and inadequate government land policies (Lizarralde and Massyn, 2008; Ibrahim, 2010). In Netreg, South Africa, a relocation project took 20 years to complete; because it took three years to identify the landowner and achieve a complete transfer of ownership to the community (Lizarralde and Massyn, 2008). In India, 17,000 individuals residing in 11 affected districts did not possess land certificates for living on government-owned land, delaying recovery efforts (Amnesty International, 2017).

2.11 The three rules in regimes

Stakeholders' conditional and unconditional structures in the socio-technical system were reviewed. Geels's referred to these conditions as the rules in regimes (Figure 10). Rules guide the activities of the major stakeholder and other social groups. The rules set in technology are user practices and application domains, symbolic meanings of technology, infrastructures, industry structure, policy, and knowledge. When the rules carried out by different social groups are linked to one another, this results in the coordination of the activities of different social groups. If there are tensions between rules, the activities of different social groups go in different directions, resulting in weakening linkages and possible “*windows of opportunity*” for new housing solutions (Elzen, Geels and Green, 2004, p.37; Geels, 2005a). Rules may need to be modified to suit local practices, such as traditions and social norms. The three types of rules are as follows:

- 1 Regulative: These are the formal rules, such as the standards and laws
- 2 Normative: These are the shared values amount the stakeholders, norms, role expectations, rights, and responsibilities
- 3 Cognitive: These rules constitute the nature of reality and the frames through which meaning and sense are made e.g. signs, gestures, and belief.

	Regulative	Normative	Cognitive
Examples	Formal rules, laws, sanctions, incentive structures, reward and cost structures, governance systems, power systems, protocols, standards, procedures	Values, norms, role expectations, authority systems, duty, codes of conduct	Priorities, problem agendas, beliefs, bodies of knowledge (paradigms), models of reality, categories, classifications, jargon/language, search heuristics
Basis of compliance	Expedience	Social obligation	Taken for granted
Mechanisms	Coercive (force, punishments)	Normative pressure (social sanctions such as ‘shaming’)	Mimetic, learning, imitation
Logic	Instrumentality (creating stability, ‘rules of the game’)	Appropriateness, becoming part of the group (‘how we do things’)	Orthodoxy (shared ideas, concepts)
Basis of legitimacy	Legally sanctioned	Morally governed	Culturally supported, conceptually correct

Figure 10. The three types of rules. Source: (Scott, 1995) in (Geels, 2005)

Humanitarian aid and development followed rules based on global models and standards, such as the Leave No One Behind model. The model's aim is to assist disaster responses in accomplishing an inclusion of all diversities through “*curbing inequalities and confronting discrimination*” (OECD, 2018; Rothe, Brown and Neuschäfer, 2018, p.31; UNDP, 2018). However, an increase in emergencies, limited population access, and shortages in funding results in challenges in adhering to these guides (Rhea Bhardwaj, 2018). In addition, Hendriks (2020) outlined that support tools currently used by humanitarian agencies were sufficiently inadequate to have an immediate and lasting effect on reconstruction practice.

Gender and social classes also acted as a rule in aid distribution and determining who was most at risk or mismatched levels of support, preventing individuals from becoming “*invisible*” (Rothe, Brown and Neuschäfer, 2018, p.13). Certain humanitarian assistances followed rules of impartiality, i.e. when there are “*no distinctions based on nationality, race, gender, religious belief, class or political opinion*” (Trócaire, 2016b, p.4).

The history of a building’s failure or success can be linked to a government’s policies or codes which act as regulative rules (Murray, 2017). Appropriate enforcement of building codes prevented the destruction of local buildings in the 2001 earthquake in India’s city of Ahmedabad (Thiruppugazh, 2008). In contrast, poor enforcement of building codes by the 2001 Bhuj earthquake in Gujarat, India, contributed to the damage and collapse of 150,000 buildings (Theckethil, 2012). Learning from their mistake, the government created the Gujarat Professional Civil Engineers Act 2006, which involves engineers inspecting the earthquake-resistance of housing.

2.12 Niches

Innovations can face challenges throughout the system or fail entirely because most inventions can be crude, costly, and have poor technical performance. Therefore, protective measures need to be in place to ensure success. Niches are in place to provide protection. For example, actors that influence the mobility of resources (e.g., policymakers, users, manufacturers). Existing regimes and the landscape influence the emergence of niches, with regimes having a stronger influence and direction on niches than the landscape. Novelties are produced if they address problems or support existing technologies in a regime but start off as small and grow.

In technical niches, protection is through subsidies or strategic investment firms. The technical niche rules become unstable if there is uncertainty about the design, end-user preferences,

unstable networks in production, property rights, and formal rules (Geels, 2004). Niche actors are willing to sponsor learning activities in networks to ensure stability.

There can be various types of changes caused by niches. One example is a niche-to-system replacement, meaning that niche-innovations substitute particular needs or novels. Niche-to-system hybridisation means that niche-innovations are added to and incorporated into existing systems (Geels, 2002; Raven, 2007; Berkers and Geels, 2011), partially replacing unsustainable components. For example, Dr Sutapa Das reviewed traditional bamboo housing in northeast India. This traditional housing typology was structurally unsound against the increase of flooding and becoming overlooked by “*sporadic interventions of popular modern material and technology*” (Das and Mukhopadhyay, 2018, p.937). Das’s proposal was to modify each traditional design with a high-performing internal bamboo framework and maintain traditional aesthetics. In contrast, Columbian communities on a post-earthquake reconstruction project in 1999 were incentivised to purchase an innovative prefabricated housing solution, but the design was modified to respect traditional typologies in these communities (Lizarralde, 2000, 2002).

There are three processes in developing niches that must reinforce each other if the niche is to expand and become more stable. The first is the building of a social support network to nurture novelties. Second, are learning processes to stimulate the price/performance ratio of new technologies and their alignment in broader socio-technical systems. The third process is the articulation and adjustment of expectations and visions. Expectations fulfil two functions:

- they give direction to the learning processes, and
- they are used to attract attention and enrol more actors to widen the social network.

Co-production in both humanitarian and transitional studies which means having equal involvement of major and minor stakeholders in the project/transition entirety. Geels created the niche-level of the MLP using elements from the theory in co-production. (Elzen, Geels and Green, 2004). Co-production can be a niche because excluding locals from a housing project and using a standardised design causes “*unsustainable consequences, such as social segregation and people's unwillingness to participation*” (Mohtat, 2018, p. 294). It has similar characteristics as the Participatory Approach, such as, for a successful impact, participants must be involved in decision-making and are “*the key to success*” (Cossu *et al.*, 2017, p.1). In contrast, low support from local majorities can diminish such success (Habitat for Humanity, 2012a).

2.13 Changes to the system from incremental and radical innovations

Changes in the system are categorised as incremental and radical based on the innovation. Incremental innovations occur more or less continuously in any industry or service activity depending upon a combination of demand pressures, socio-cultural factors, technological opportunities, and trajectories. Their counterpart is radical innovations which are “*discontinuous events that are unevenly distributed over sectors and over time*” (Geels, 2005a, p.4). The term “*radical*” refers to the scope of change, not to its speed (Geels, 2005a). Radical innovations may be sudden and lead to creative destruction, but they can also be slow or proceed in a step-wise fashion. For example, in 2018, 18.8 million homes were destroyed by climate change globally (ECOSOC, 2018) and has sparked initiatives such as EU grants for aid organisations to prioritise a “*greener*” shelter response to reduce the 40% global carbon footprint from the building sector (GSC and ECHO, 2021).

2.14 The journey and trajectory of new technologies

Geels explains that there are four phases an innovation passes to cause the complete transformation of a system. Figure 11 on the following page displays these four phases on an MLP diagram. The four phases are explained in the context of a housing design as follows;

Phase one: A housing design emerges in existing regimes and the landscape because there is much uncertainty about the best housing design. Experimental design solutions are tested to find the best and identify the resident’s needs. This early phase has no stable design rules, guidelines, standards, policies, or governance structures. Policy support is also expected to be small and uncommitting.

Phase two: After improvements are made to a housing design from lessons learned, the design may become a popular design solution and becomes standardized after showing positive social and technical results (Anderson and Tushman, 1990).

Phase three: The housing design enters the mainstream housing markets, and policy adjustments are made to support the design solution (Geels *et al.*, 2019).

Phase Four: The new socio-technical system is now safely regulated, such as appropriate building codes, tax, and subsidy rules.

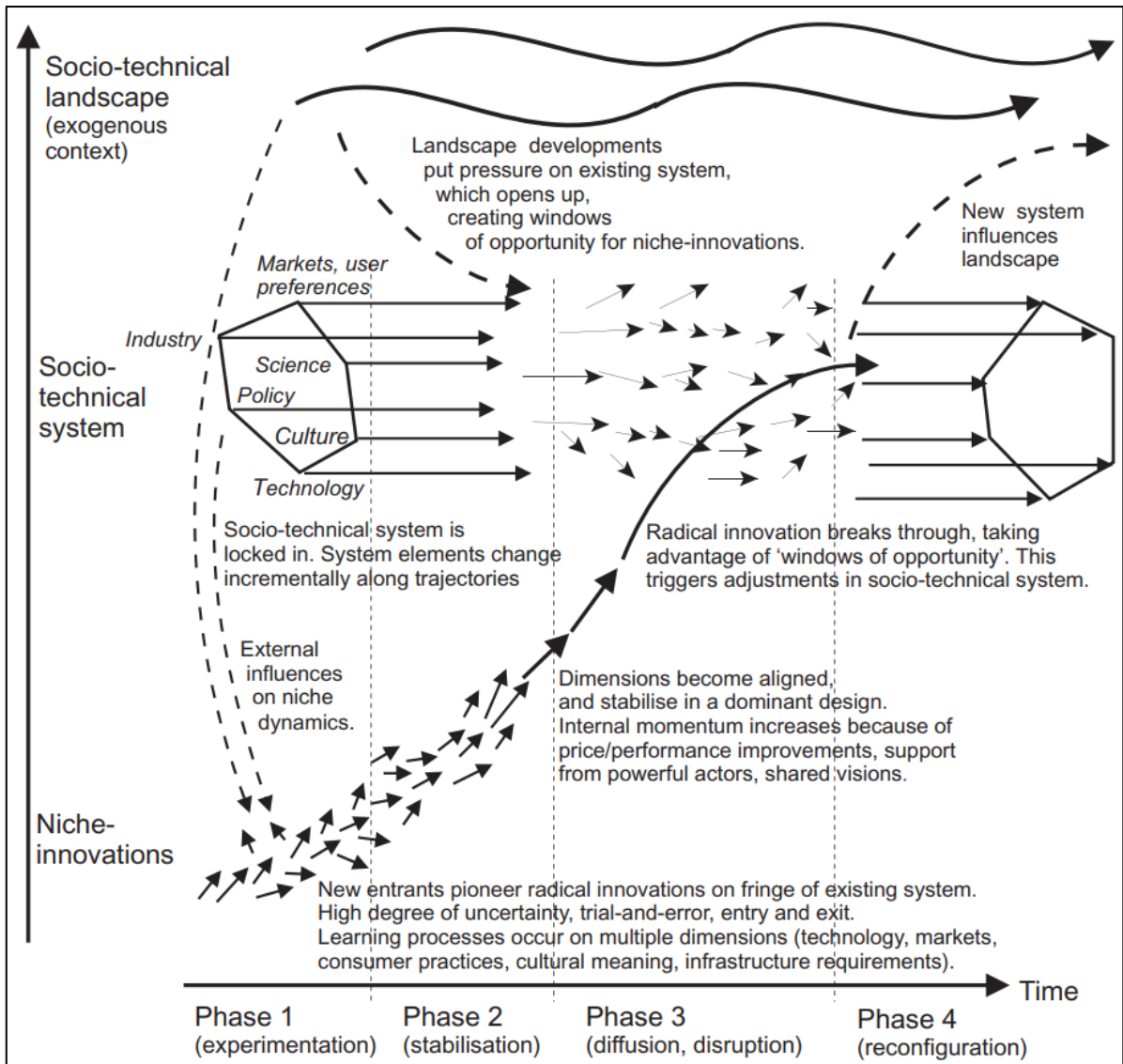


Figure 11. The MLP with the four innovation phases. Source:(Geels, 2002)

Most radical innovations fail to break out of the niche level. When the socio-technical regime is stable, radical novelties usually have little chance. But even when there are tensions in the regime, there is no guarantee that novelties will break through. Organisations may believe their innovation can change a system, even with technical and market niches. However, there is a possibility that the problem will resolve itself. This scenario may occur in projects with a strong owner-driven approach.

2.15 The transition typologies

The type of transitions that occur includes reproduction, transformation, de-/re- alignment, substitution and disruptive. These transitions are outlined below and put into the context of a housing project.

In a reproduction transition, Residents can manage changes to housing without the need for an innovative housing design. The orientation of dominant actors and key technology do not change fundamentally (Geels, Sovacool and Sorrell, 2019). The landscape and niche level also remain unchanged. Radical housing innovations may be present but struggle to enter a regime because they are not needed (Geels and Kemp, 2007). The trajectory of housing design would be predictable and feature only incremental improvements. A stable system exists where there are sunk investments, role expectations in networks, standards, contracts, or cognitive routines (Geels and Kemp, 2006).

For a transformation to occur, there must be some landscape pressure and no innovations to resolve the pressure (Figure 12) (Elzen, Geels and Green, 2004; Geels and Schot, 2007; Grin *et al.*, 2010). Pressure is often from external parties pushing for a change in housing. The result is regime actors modifying the traditional housing design. Regimes start interacting, leading to innovative activities in housing. Regime actors may import external knowledge on how to improve housing design (Geels, 2005a). The rules of the socio-technical system can start to change whenever coordinated actions of regime actors alter because of changes in housing problems (Geels and Kemp, 2006).

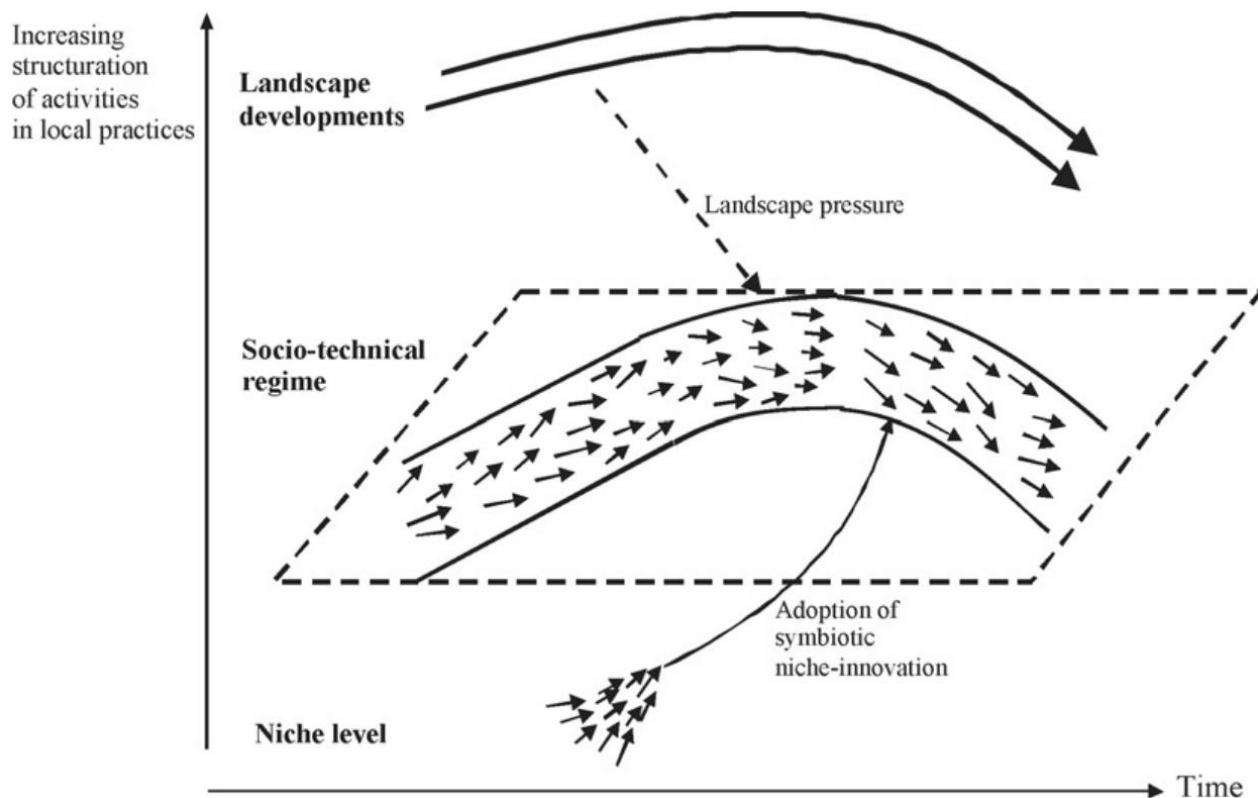


Figure 12. Transformation pathway. Source:(Geels and Schot, 2007)

A de-/re-alignment transition experiences immediate pressure on the landscape (Figure 13). The regimes experience major internal problems over how to manage the housing problem. Regimes can lose resolve and become uncertain about the capabilities of another regime to resolve the housing challenge (Geels and Schot, 2007; Grin *et al.*, 2010). An indication of this resolve are a decreases in development investments or involvement. There is no housing innovation to resolve the issue, which causes the emergence of multiple inventions, carried out by outsiders and diversifying regime actors (Geels and Schot, 2007; Grin *et al.*, 2010). This is pursued by prolonged housing design experimentation and competition for investments and physical resources. Eventually, innovative housing design gains momentum and becomes the new dominant design. This is followed by the re-alignment of a new socio-technical regime (Geels and Schot, 2007; Grin *et al.*, 2010).

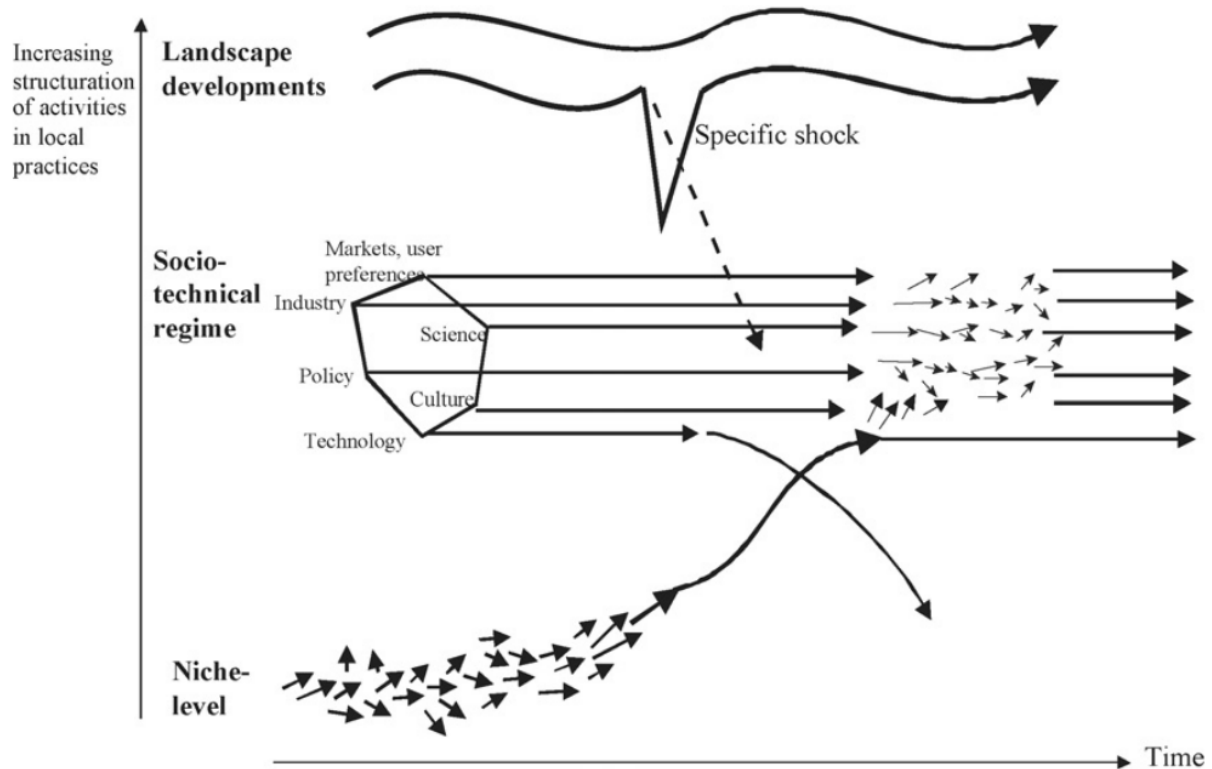


Figure 13. De-alignment and re-alignment pathway. Source:(Geels and Schot, 2007)

In substitution, there may be no need for a new housing design until a ‘*specific shock*’ occurs. This shock leads to major regime tensions and “*windows of opportunity*” for innovative housing designs to enter the socio-technical system (Geels, 2005b). Market competition and power struggles influence the fight between incumbents and newcomers (Geels and Schot, 2007; Grin *et al.*, 2010). If the housing innovation replaces the old design, this leads to knock-on effects and wider regime changes (Geels and Schot, 2007; Grin *et al.*, 2010).

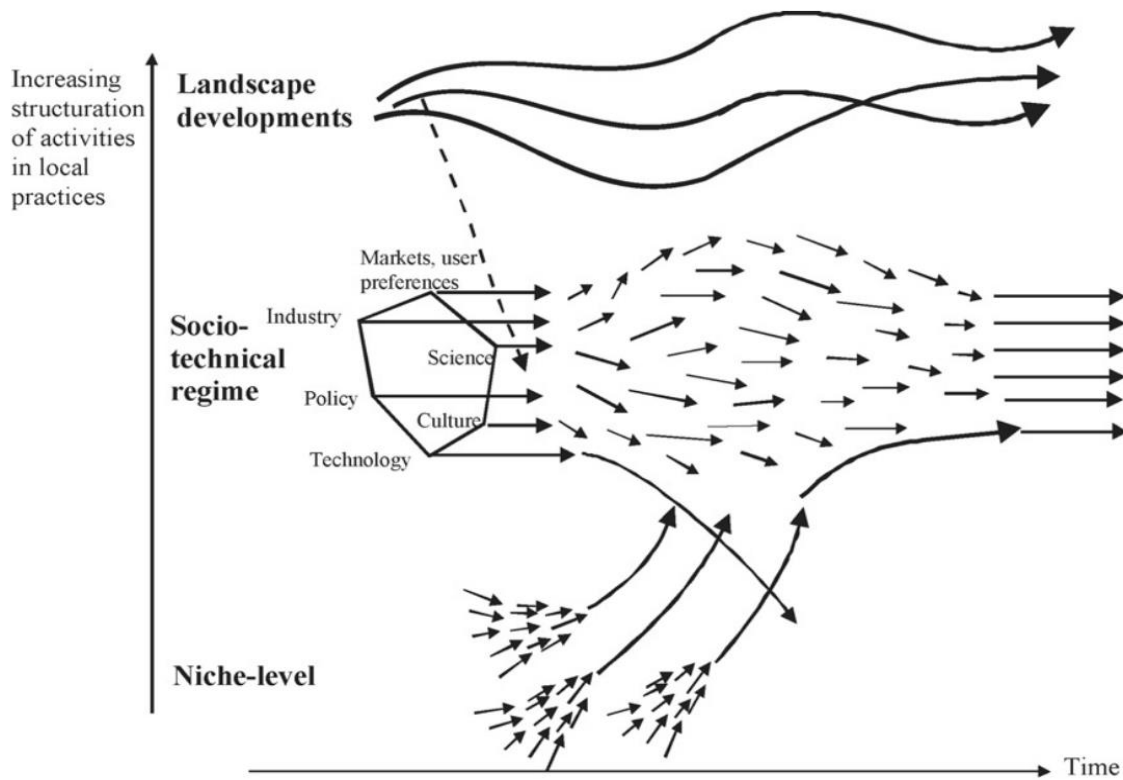


Figure 14. Technological substitution pathway. Source:(Geels and Schot, 2007)

Disruptive change is when a combination of transitional changes exists in housing development. The order of transitions is dynamic (Geels and Schot, 2007; Grin *et al.*, 2010). For example, residents originally manage their housing without support (reproduction) but are followed by a specific shock to the system (substitution) or the need for multiple housing solutions (re-alignment) (Geels and Schot, 2007; Grin *et al.*, 2010). In addition, a disruption innovation challenges existing systems with positive and negative consequences (Geels *et al.*, 2019).

Table 2 on the following page is a summary of the transition typologies outlining their main characteristics, level of pressure from the landscape, main actors, and interactions between the regimes.

Table 2. The transition typologies. Adapted from (Geels and Schot, 2007; Mazur, 2015)

Transition Pathways	Main characteristics	Landscape pressure	Main actors	Interactions between regimes
Reproduction	Stabile regime that slowly reproduces itself	None	Unchanged	Unchanged
Transformation	Incumbent regimes adapt to pressures from regime outsiders	Moderate	Regime actors and social groups	Competing or symbiotic
De-/ re-alignment	Strong pressure destabilises the regime and leads to the appearance of new niches that replaces an old regime	High	New niches actors	Competitive
Substitution	Strong pressures destabilise regime that gets replaced by new firms	High	Incumbents firms vs new firms	Competitive
Disruptive	A combination of transitional typologies	None-High	Any incumbent or new actors	A mix of the above interactions

2.16 Summary of the literature review

The literature review identified the complex scenarios in humanitarian aid and development and the potential benefit of applying a socio-technical evaluation (Labadie, 2008; Lizarralde, Johnson and Davidson, 2010; Zyck and Kent, 2014). The creation of a socio-technical evaluation can illustrate the correct arrangement of stakeholders, including governments and various sectors. The mapping of stakeholders and understanding their dynamics was another challenge in humanitarian projects (Lizarralde, Johnson and Davidson, 2010; IOM, NRC and UNHCR, 2015). A completed evaluation can display the learning and adaption process to a humanitarian project and was a priority in certain development projects (Adikari, Osti and Noro, 2010; Patrick, 2011; Saavedra, 2016). The Core Humanitarian Standards (CHS) shared a similar perspective by suggesting that organisations must learn from previous successes and failures and apply this knowledge to modify their current and future projects (CHS Alliance, 2015). An MLP can help identify mistakes and later create the lessons needed to be become policy and practice (Patrick, 2011).

Dr. Frank Geels was one of the referenced authors who emerged through the study of transitional theory. Geels has produced over a hundred publications exploring transitional theory, of which many were reviewed and screened as part of the research objective to convert a housing scenario into an analytical explanation that follows an explicit theoretical knowledge on transitions (See appendix B). Each case studied in a publication offered insight into the different transitions that unfold and their many complex characteristics. No housing, poverty, or global south cases were found in the reviewed work of Geels. There were omissions in the methodologies used in applying the approach, e.g. a survey. However, Geels continues to improve the socio-technical approach through his own reflections and responses to constructive and destructive criticism (Schot and Geels, 2008; Geels, 2011a, 2019). The approach continues to expand in different research fields, with modifications to each case study.

A review of methods and theories applied to studies of Kibera shows the importance of understanding the dynamics of the stakeholders. There is a need for a cross-disciplinary, mixed-method approach to identify, categorise and analyse stakeholders' perspectives. A review of the MLP has indicated that the framework is suitable for studying patterns in transitions (Elzen, Geels and Green, 2004). It is also an actor-oriented approach, investigating how actors try to navigate transitions, such as the role of various actors. The MLP can be an effective tool for performing such tasks. Figure 15 on the following page summarises the MLP with the landscape, regime, niches and transitions. However, most studies used MLP for large-scale sustainability. An exploratory method of scaling a socio-technical evaluation of housing in Kibera, Soweto East, was developed by the research presented in this thesis and is discussed in the following methodology chapter.

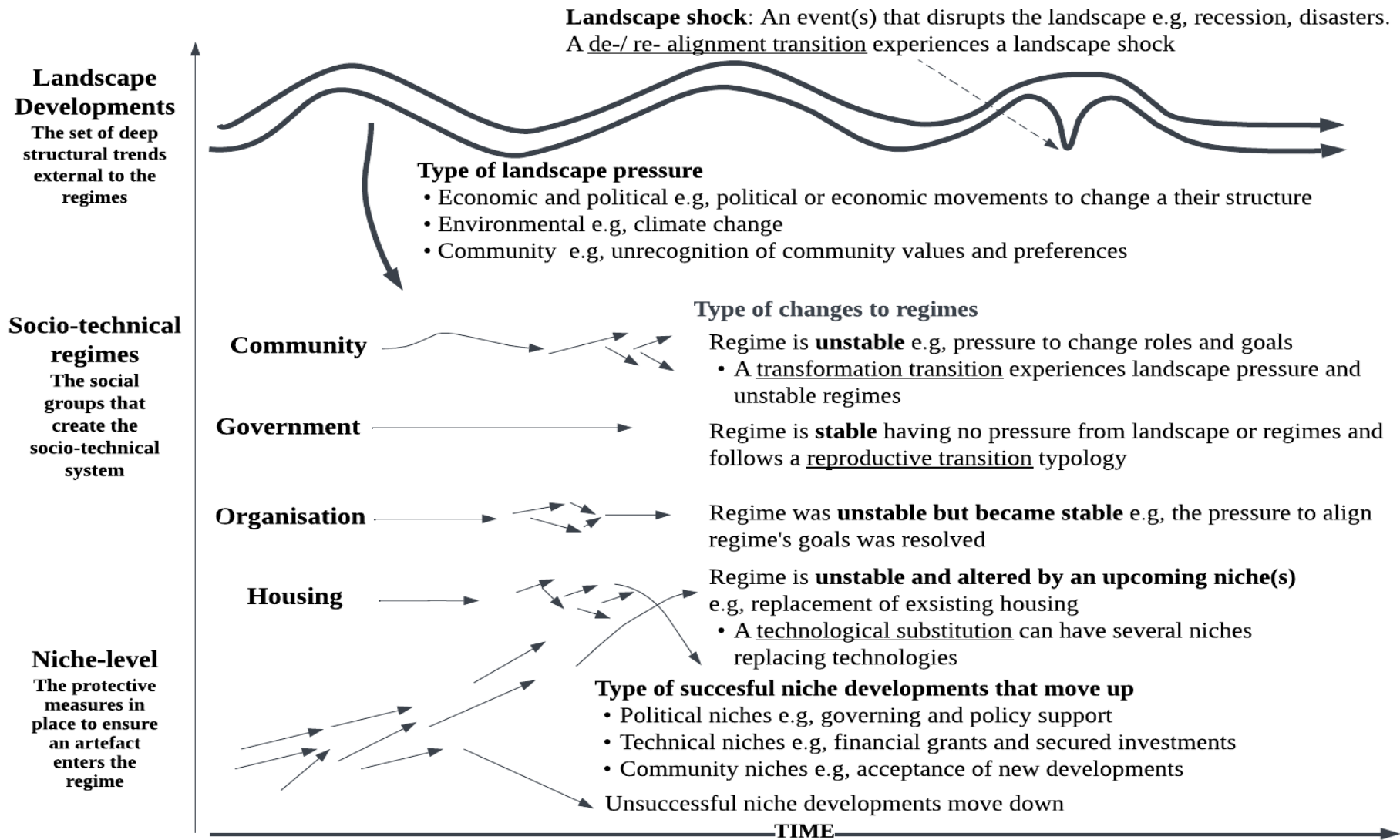


Figure 15. A summary MLP diagram with the landscape, regime, niches, and transitions. Adapted from (Geels, 2002)

Chapter 3. A methodology for a socio-technical evaluation

3.1 Introduction

A novel socio-technical evaluation (STE) method was created to evaluate housing in Kibera, Soweto East. An STE applies a cross-disciplinary dimension to produce integrated outputs of information (Geels, 2002, 2005a; Geels and Kemp, 2007). Figure 16 below is an input-process-output (IPO) diagram to summaries the STE’s main inputs of data and the data-processes used to produce outputs, such as the input of theoretical data on regimes was processed under a stakeholder analysis to create the output of identified regimes and their relationships. A review of Geels’s theory has demonstrated its exceptional usefulness in evaluating complex scenarios (See appendix B). However, its applications were often to sustainable developments scaled at a national or global level. Therefore, modifications to the STE were required to support the scale of the study to a village (i.e. Soweto East), such as creating a screening and analysis process for documents and participants related to KENSUP. See Chapter Five for elaboration on the effects of scaling the study and other modifications applied to the STE. The socio-technical evaluation was not a stringent methodological procedure but a process that adapted to alterations in the methods applied to a dynamic scenario (Hof *et al.*, 2019). For example, the STE was adapted whenever there were similarities in the data requirements in different steps – these steps were then completed concurrently. There was a total of thirteen steps completed in a non-chronological order. Table 3 on the following page describes the steps and their sources of data and applied analysis.

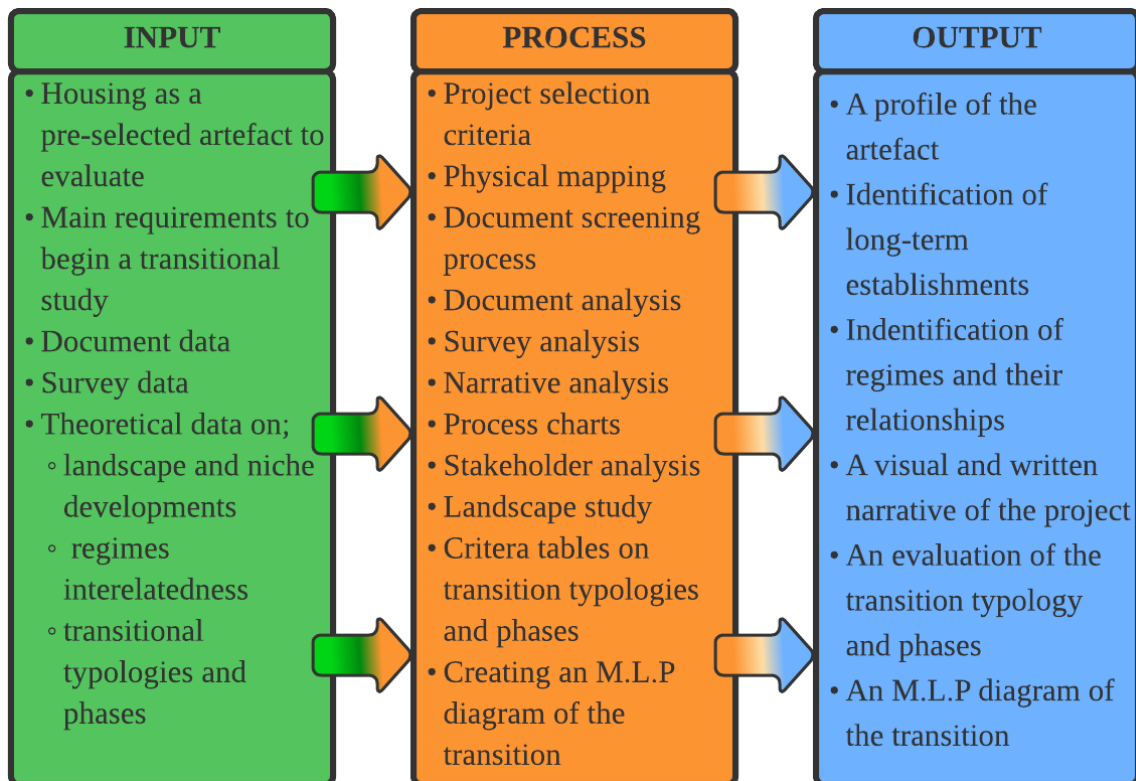


Figure 16. An input-process-output diagram of the evaluation

Table 3. The steps in an STE with their sources of data and applied analysis

Step	Description	Sources of data	Analysis applied
1	Selecting a project or scenario and artefact for socio-technical evaluation.	Projects documents and talks with project members.	A selection criteria table followed by physical mapping.
2	Screening documents to facilitate steps in the evaluation process.	Various documents (e.g.articles, evaluation reports etc.).	A document analysis using coding.
3	Establishing the artefact to study and time scale.	Screened documents with the project's start and end dates.	The researcher chooses the artefact and timescale.
4	Identifying and scaling the regimes.	Screened documents.	Physical mapping.
5	Creating a narrative analysis with process mapping.	Screened documents and a survey created in step 13.	A document analysis using coding, and process mapping.
6	Choosing the focal regime(s) to study and the rules within each regime.	Screened documents.	Document analysis.
7	Studying the landscape's effect on the regimes.	Screened documents and a survey	Document analysis with coding.
8	Analysing the interrelatedness of the regimes.	Screened documents, a survey, and a narrative flowchart.	Relationship coding using Nvivo Pro 12
9	Identify the niches.	Documents and a survey	Reviewing data.
10	Identify shocks/changes to the system.	The data from previous steps.	Reviewing data.
11	Explain the journey of a housing design using the four phases in the transitional theory.	The data from previous steps.	A criteria table on the phases.
12	Determine the transition typology.	The data from previous steps.	Reviewing previous steps.
13	Create a stakeholder selection and survey process to confirm the transition.	The data from previous steps.	Updating steps with this data.

Figure 17 on the following page is a flowchart of the steps listed above and the tasks completed concurrently by assignment of colour. The STE discovered what type of transition occurred (See transition typologies in the literature review). The transition was illustrated on a multi-level perspective (MLP) diagram. Some of the above steps directly contributed to creating an MLP diagram. Specifically, steps 1 to 10 which had the data on the landscape, regimes and niches that form the three levels displayed on an MLP diagram. Figure 18 on the following page depicts the arrangement of the steps to the MLP diagram and uses colour to connect the step(s) to an MLP element.

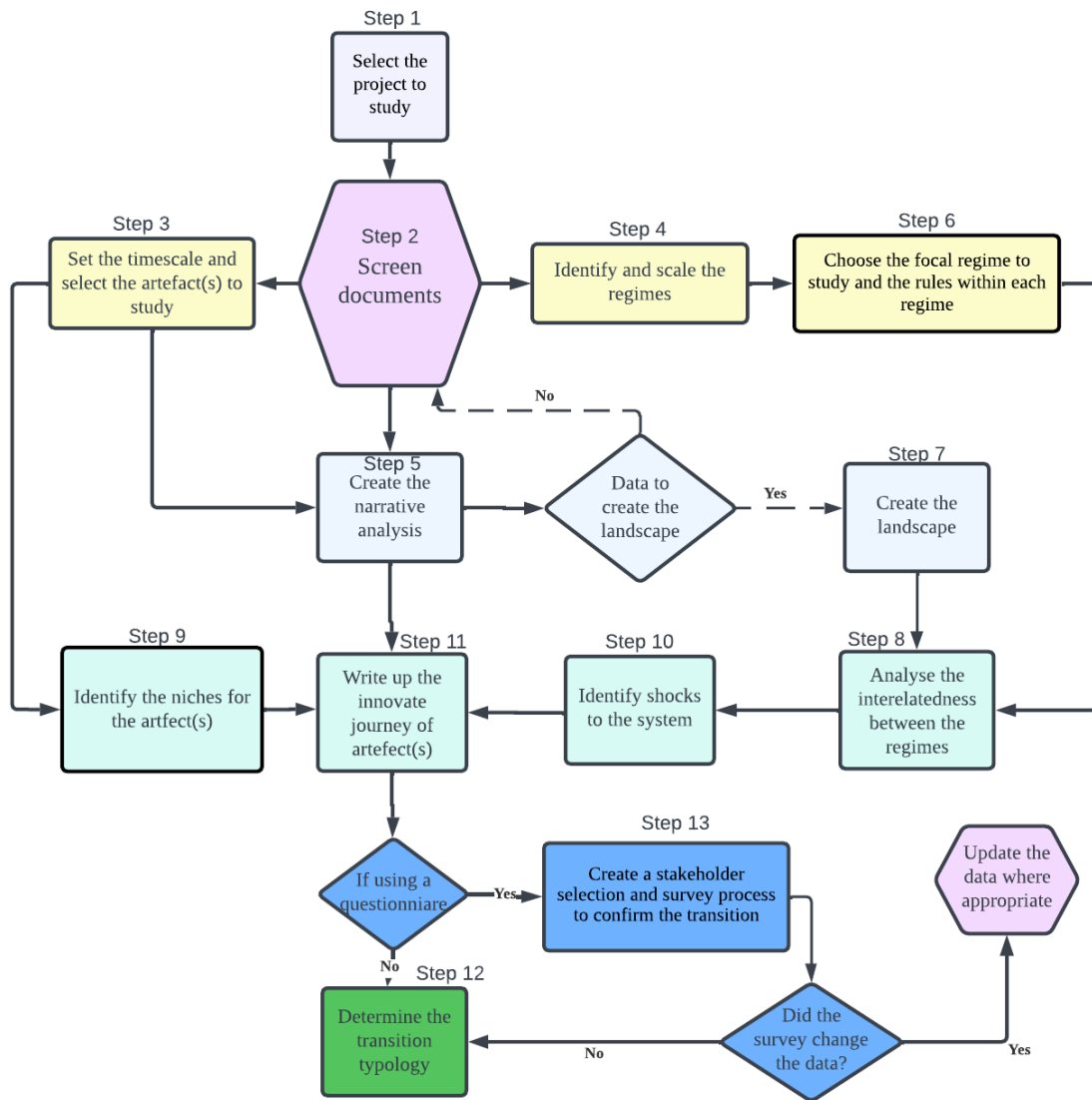


Figure 17. The flowchart of the novel methodology used in the STE

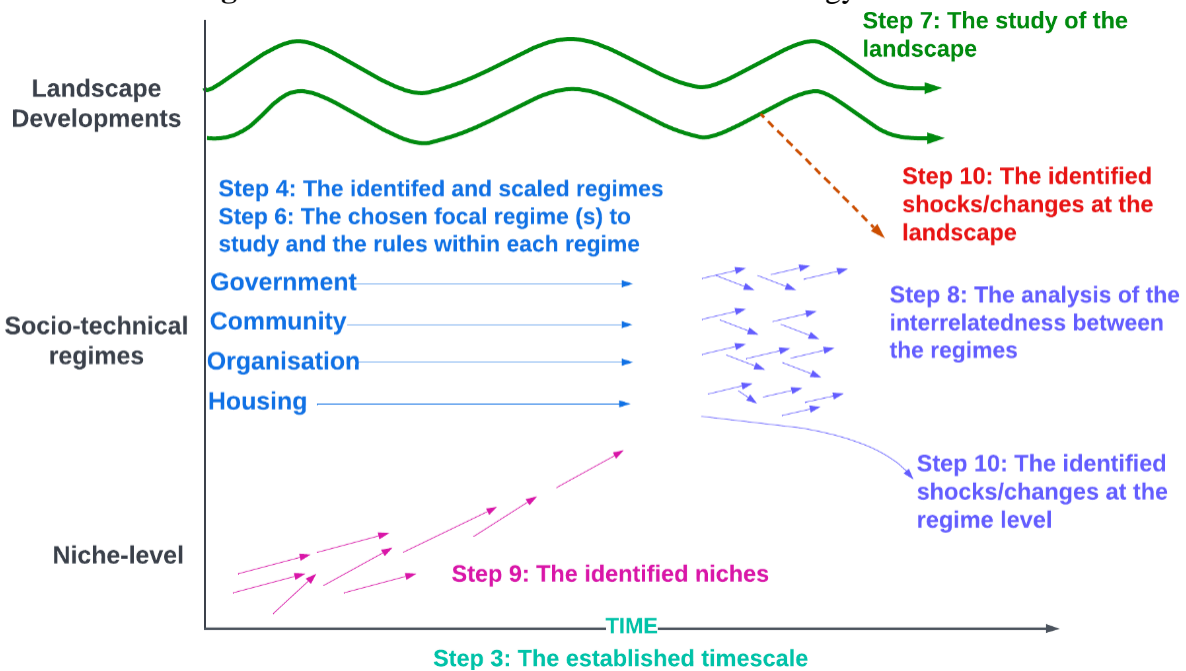


Figure 18. An MLP illustration with the STE steps assigned. Adapted from (Geels, 2002)

3.2 Step one: Selecting a project or scenario for socio-technical evaluation

A project or artefact had to be determined to be suitable for a socio-technical evaluation. Housing was the chosen artefact because it was the focus of enquiry to this research. This step followed published descriptions of the main requirements to identify transitional studies caused by technological changes (Elzen, Geels and Hofman, 2002; Geels, 2002; Hofman and Elzen, 2010). These requirements are outlined below and put into the context of a housing project;

- action and reaction conditions between stakeholders involved in the project;
- potential housing design alternatives not being a practical solution;
- a complete or partial evolution in a housing design; and
- a dominant housing design being challenged for by a replacement.

There were also data requirements such as a large number of sources covering the duration of the project (Geels, 2002). Therefore, a housing project was suitable for an STE if there was;

- publications on the project covering the duration of the project; and
- participants who can be contacted online.

In addition, for access to certain publications and online participants there were to be no major disruptions occurring at the project's location at the time of evaluation (e.g. natural or conflict disasters). Documents with a project summary were sourced based on the conditions above. A physical mapping process assisted in finding the above identifiers. The process adopted Clouette and Wise's (2017) mapping process to review housing development areas to review. Google Earth Pro software captured historical imagery of a housing project from an aerial perspective.

3.3 Step two: Screening documents to facilitate steps in the evaluation process

A screening process was created to find documents on the selected project and use their data to complete steps in the STE. Texts were screened for data on the dynamics of a location and the author(s) perspective of "*reality*" during the period of their study (Bloomfield and Vurdabakis, 1994; Coffey, 2014; Flick, 2014). Documents were also screened for data on the project's development and history, completed analysis and evaluations. The screened documents were organised into a table format (See Table 4 on the following). All screened documents were exported from Mendeley to a qualitative data software called NVivo Pro 12. The software was used to organise the data and use visual graphs to evaluate the documents. For example, a graph was created with the year of publication and reference type (e.g. Journal article, evaluation [thesis], evaluation [article], evaluation [org], thesis, report, petition, project outline, policy, poster, and strategy).

Table 4. The format used to organise screened documents

Title	Author (s)	Year	Publisher	Document Format	Support step(s)
The Kibera Soweto East Project in Nairobi	Rosa Fernandez Bernard Calas	2011	The East African Review	Article journal	3,4,7
The National Slum Upgrading and Prevention Policy	Government of Kenya	2013	Government of Kenya	Policy	8

The data extracted from the variety of documentation listed above varied on the period of the study, scale, methods, and regime authors. For example, a study scaled to a national level during KENSUP’s preparation provided data for the study of Kibera’s landscape and the narrative analysis, such as early events impacting Kibera. Another example is an evaluation published by a researcher on an event during KENSUP, which includes an analyse of the interactions between stakeholders. An evaluation like this provided data for the narrative analysis on the event, the identification of stakeholders and their relationships, and the author/regime’s perspective. Other data sources were added during the reading process or by participant recommendations and concluded when repetitional data was present.

3.4 Step three: Establishing the artefact(s) to study and time scale

Housing remained the selected artefact. However, several artefacts that take a physical form could be studied under a STE, such as housing, vehicles, and infrastructure (Geels, 2005a).

The time scale selected to study housing was determined by seeking out changes to indicators observable through changes in their general trends (Geels and Turnheim, 2022). These indicators can be changes to long establishments which make up the landscape. The physical mapping process provided an indicator of the physical development of housing, whilst the literature review defined their preparatory and completion period. According to Geels and Schot (2010), transitions are long-term processes (40 –50 years); while breakthroughs may be relatively fast (e.g. ten years), whereas gradual technological emergences usually take much longer (20–30 years). The duration of the project could be an indication of the characteristics of a transition. Establishing the timescale creates an element of the MLP graph (See Figure 19 on the following page).

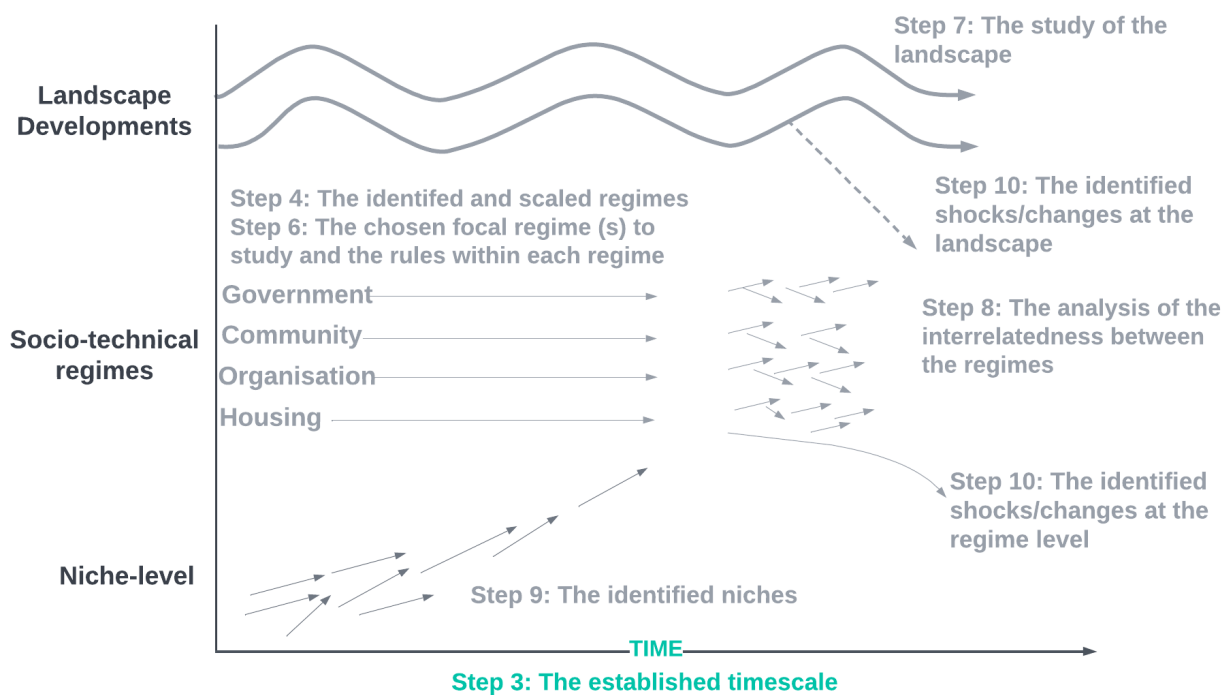


Figure 19. The MLP diagram with highlighted step three. Adapted from (Geels, 2002)

3.5 Step four: Identifying and scaling the regimes

The document analysis provided the data to identify and categorise KENSUP’s stakeholders into regimes. For example, some publications included a study on stakeholder relationships, listings of stakeholders, or mentioned a stakeholder. Further explanations and identification of stakeholders increased during the document analysis. The scale of the regimes was set to stakeholders involved in KENSUP. The scale of regimes mattered **as what may** looks like a major change at a local level may be viewed as an incremental change at a national and global level (Geels, 2010).

The arrangement of stakeholders into regimes was influenced by published tables and illustrations labelling regimes as government, community, organisation, housing, infrastructure, production, and research (Swan, 2013). The STE includes a research regime, similar to Swan’s inclusion of a “*Knowledge Regime*” in thier STE, because the research regime provided “*knowledge to the whole socio- technical system*” (Swan, 2013, p. 43). Stakeholders were also categorised into regimes by their similarities, disagreement on a specific issue, and internal conflict.

The list of screened documents was updated by categorising documents into the identified regime based on the document's origins (Figure 20). For example, a document produced by a research institute was categorised into the research regime. However, categorising the

documents became complex when the topic would be suitable for another regime (See the discussion chapter on the document selection process). The documents in NVivo were also updated by creating the regimes a case, assigning the documents to each regime based on their origin of publication, and comparing regimes by their quantity of publications on a bar chart.

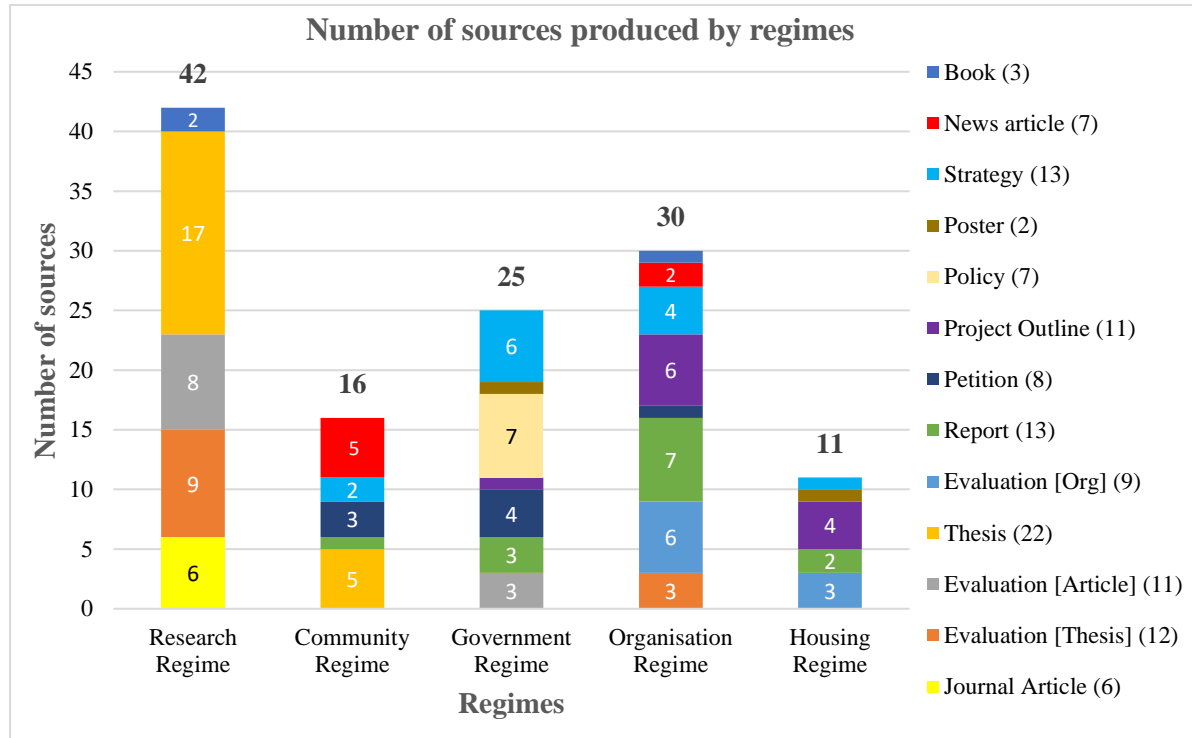


Figure 20. The bar chart format with the number of documents produced per regime

Figure 21 below highlights the process of identifying and scaling the regimes assisted in creating the MLP diagram.

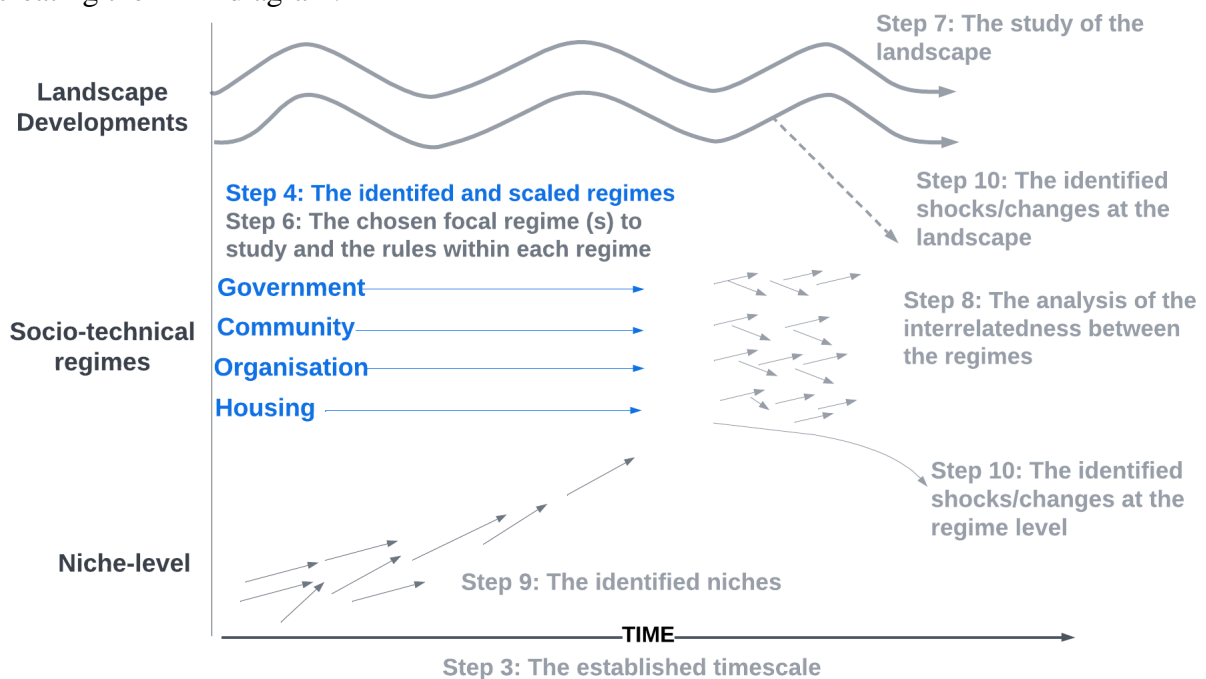


Figure 21. The MLP diagram with highlighted step four. Adapted from (Geels, 2002)

3.6 Step five: A narrative analysis with visual mapping

A narrative analysis was used to quantify events and gather perspectives from stakeholders on such events, like the construction of housing. All screened documents underwent a narrative analysis to study similar or contrasting views of events, activities and decisions. Narrative analysis is a process of understanding the complexities of various stakeholder perspectives and their interactions during a period and at the narrative's location (Esin, Fathi and Squire, 2014). The step followed Maykut and Morehouse's (2005) understanding that a "*portrayal of events is inaccurate if the meaning given to the words is not put into context*". The narrative analysis used NVivo Pro 12, a qualitative data software that helped organise the accumulated data mass into a coding process.

The coding process began with placeholder codes that were titled "*Decision-making*", "*Activities*", and "*Events*", and followed the definition from Langley and Truax's (1994). Decisions- making are the choices made by a regime or regimes, such as the design a house. Activities are the actions of regimes, such as the construction of housing. An event is anything outside the control of the project, such as a fire or strike. The Sub-codes were assigned to each title and represented a documented event, decision or action. The sub-codes were created using a deductive and inductive coding process, i.e. codes were created prior to and during the analysis. Each code was formatted with the year, month, and a sentence about the event, decision, or action. For example, "*2003 April Planning of high-rise building*" was an inductive code assigned to "*activities*". Any excerpts from this activity while reading the screened documents were manually added to the appropriate sub-code. The data in each coded event, decisions, and activities assisted in;

- confirming the date of their occurrence
- exploring their dynamics to other events, decisions and activities;
- analysing the scale and scope of their impacts;
- displaying the author(s) perspective of events or stakeholders; and
- identifying sources with similar or conflicting data.

The output from this process was a complete list of sub-codes in chronological order. Each code had excerpts from documents sharing data on the code. An overview of the project was also created using a visual process map. The map was created following Langley and Truax's (1994) method of building a visual map of the process of events in an organisation.

The map used boxes to represent the following:

- a decision (blue round-cornered rectangles);
- an activity (black round-sided rectangles); and
- an event outside the control of the project (red ovals).



The horizontal bands were the regimes. The location of each box within these bands indicated the involvement of the regime(s) (Figure 22). The type of impact from an event was based on the data from the sub-codes. The impact was presented as a symbol, positive [+], negative [-], or mixed [+/-], and placed above the arrow line extending from an event.

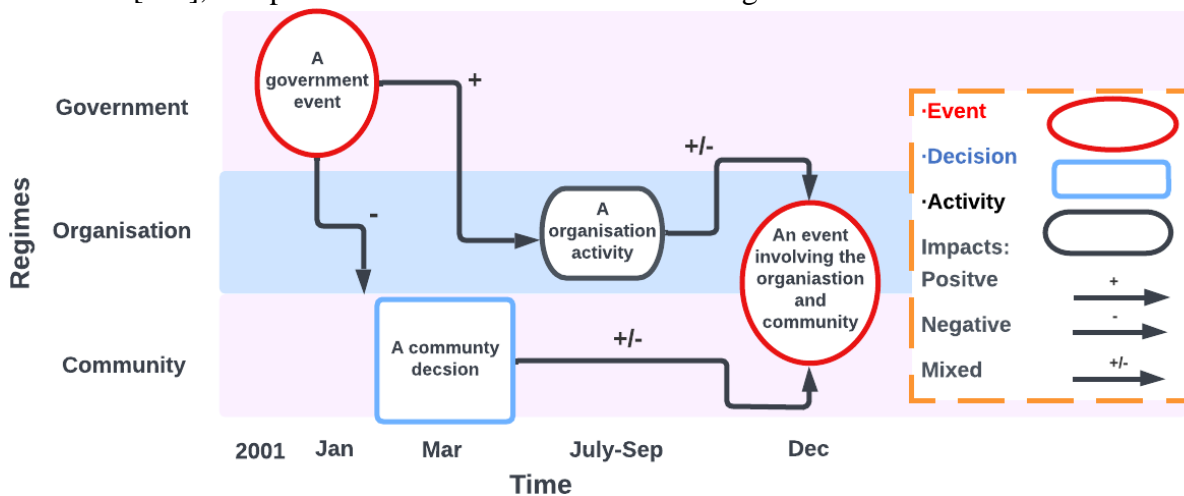


Figure 22. The layout of the narrative flowchart. . Adapted from Langley (1994,1999)

The output from the narrative flowchart is an abstract conceptualization of the entirety of the project being evaluated (Langley, 1999). Linkages between events, decisions and actions were identified, including patterns of negative and positive impacts. The flowchart indicated which regimes were involved in decisions, actions and events. The narrative flowchart supported the analysis of the survey results. For example, results with dates or opinions of an event were cross analysed with the process flowchart for similarities and differences.

3.7 Step six: Choosing the focal regime (s) to study and identifying the rules within each regime

Consideration was given to whether to study a single regime or multiple regimes. It was decided to focus on a single regime, housing, and other regimes' positive and negative influences. The housing regime was also studied for pressures from niche innovations and landscape developments (Grin *et al.*, 2010).

The study of regimes was expanded by defining the rules within each regime. The process followed the three categorisations of rules created by Scott (1995) and applied to transitional studies (Elzen, Geels and Green, 2004). These rules were:

Regulative: The formal rules, such as the standards, policies and laws directly or indirectly associated with housing. Regulative rules had to cause some form of structuring in a regime, such as building codes and a national housing policy.

Normative: The expected norms include shared values around the stakeholders, role expectations, rights and responsibilities. For example, written or verbal agreements between stakeholders on their duties.

Cognitive: The framework applied to create housing. Geels' example is when engineers follow a particular direction over others (Geels, 2004). Cognitive rules were found from the perspectives expressed in the narrative analysis.

Choosing the focal regime to study and the rules within each regime assisted in creating the MLP diagram, as highlighted in **Figure 23** below.

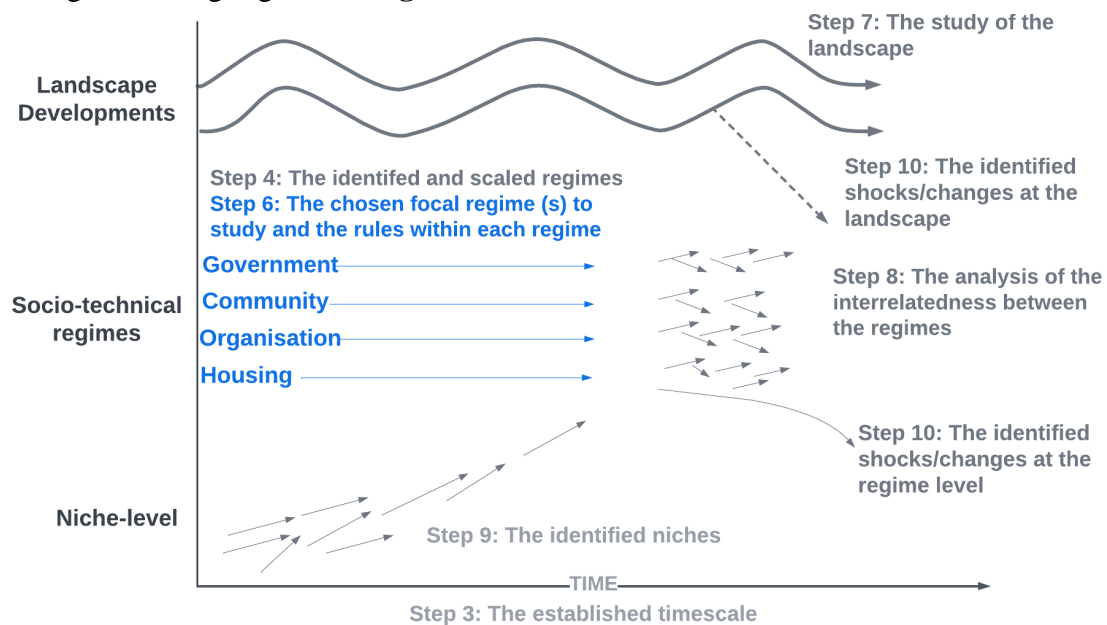


Figure 23. The MLP diagram with highlighted step six. Adapted from (Geels, 2002)

3.8 Step eight: Analysing the interrelatedness between the regimes

The dynamics between regimes were explored to discover tensional and cooperative relationships. The study followed Geels' understanding of a stabilised and destabilised system. A stable system existed when regimes were interacting and networking, resulting in the alignment of activities (Geels, 2005a). In contrast, a destabilized system had tensions between social groups, weakening linkages. Patterns and moments of tension and cooperation were

identified from the narrative analysis. For example, tensions between regimes were found between the government and community regime when a pattern of negative events, decisions or actions appeared in the process chart.

Certain documents shared their perspectives of stakeholders with a regime. These perspectives were organised in NVivo Pro 12 using the software’s “*relationship*” coding process. A relationship code defines the connection between two regimes. For example, one relationship was the “*community regime’s perspective of the government regime*”. This means statements about the community regime from the research regime were manually placed in this relationship code. The output from the coding process was a list of relationships between regimes, and each relationship code would have data describing tensions, cooperations, and opinions of each regime.

The analysis of the interrelatedness between the regimes assisted in creating the MLP diagram, as highlighted in Figure 24 below.

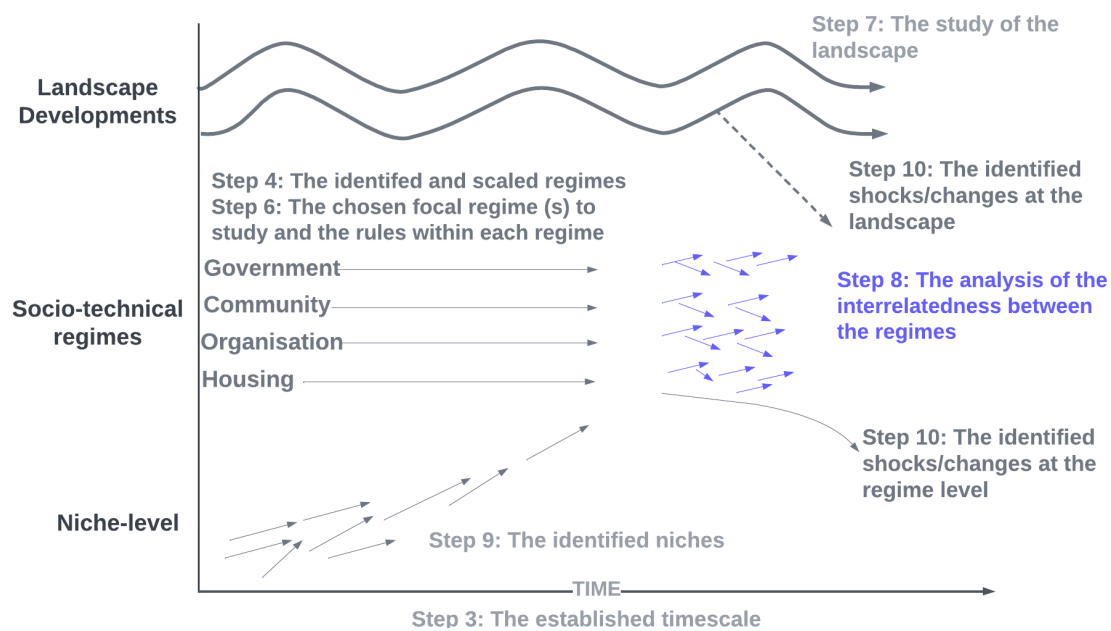


Figure 24. The MLP diagram with highlighted step eight. Adapted from (Geels, 2002)

3.9 Step seven: Studying the landscape’s effect on the regimes

The landscape features a set of deep structural trends, such as cultural and normative values and political conditions. The landscape identified external factors that influenced an event, activity, and decision in the narrative. The landscape also identified the origin of regimes and expanded their characteristics, such as long-established relationships or conflicts built outside

the location. Further analysis of the dynamic relationships between regimes was completed in step eight.

The landscape of the study was pre-determined using Geels's definition that a landscape is made of long-establishments that have incremental change or no change at all (Geels, 2002).

These long establishments existing within and around the location were:

- housing typologies;
- economic structure;
- the political structure, such as;
 - the political interactions in the location's society
 - political motives in housing development
 - housing policies
- cultural and normative values in housing;
- land ownership and tenure;
- previous housing development processes;
- the population's growth and urbanisation;
- environmental conditions; and
- resource scarcities.

Information on each establishment was identified during the narrative analyse. The above establishments were created as codes in NVivo Pro 12, and information from the screened documents was added to each code. The document selection criteria were expanded to include information on establishments linked to events found in the narrative. For example, documents on Kenya's political structure helped identify the reasons for anarchistic damages to Kibera's housing during the 2007 Kenya political elections (Truth Justice and Reconciliation Commission, 2008).

A study of the landscape assisted in creating the MLP diagram, as highlighted in **Figure 25** on the following page.

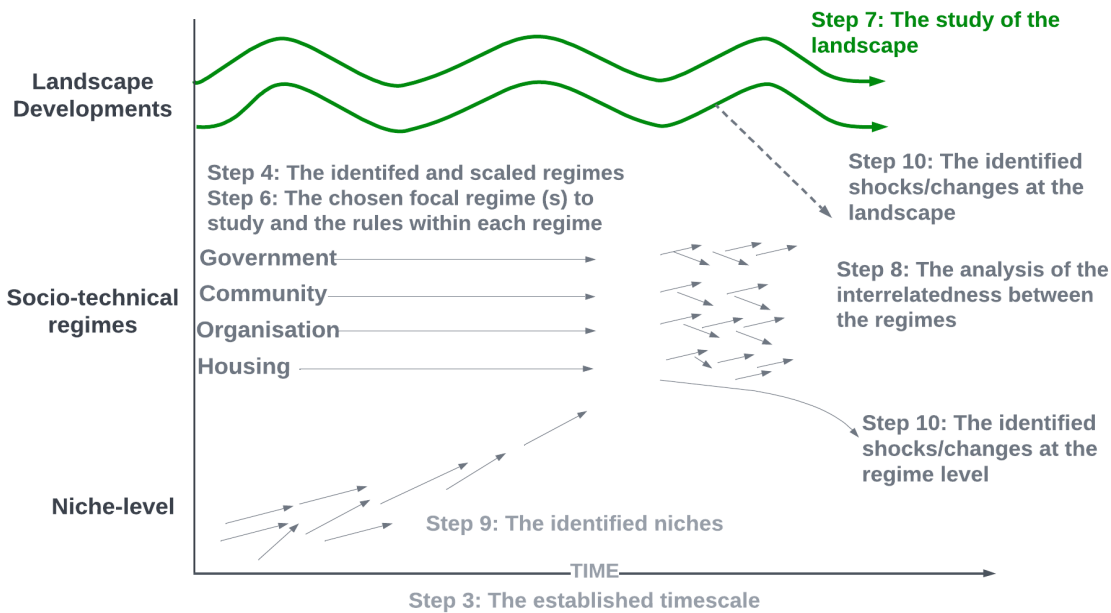


Figure 25. The MLP diagram with highlighted step seven. Adapted from (Geels, 2002)

3.10 Step nine: Identify the niches

Socio-technical niches were the supports and protections to innovative and existing housing typologies. A niche can act as a barrier or opportunity to a housing development project and influences the arrangements of regimes and the landscape (Geels, 2002). The type of niches includes social, technical, financial and political. Niches were identified from examples in the literature review and consisted of;

- a new housing design being supported by a regime(s);
- powerful stakeholders being involved in the housing development;
- stakeholders having shared and specified visions and expectations (if expectations were too general, they offered no guidance);
- multiple stakeholder perspectives;
- learning processes in housing developments;
- price/performance improvements in housing;
- a small market niche, i.e. technology that addresses a small market with different selection criteria; and
- political subsidies and private investments in housing.

Niches were also categorised by their emergence (the start of a niche), diffusion (the spread of a niche), and impacts. The identification of niches assisted in creating the MLP diagram, as highlighted in **Figure 26** on the following page.

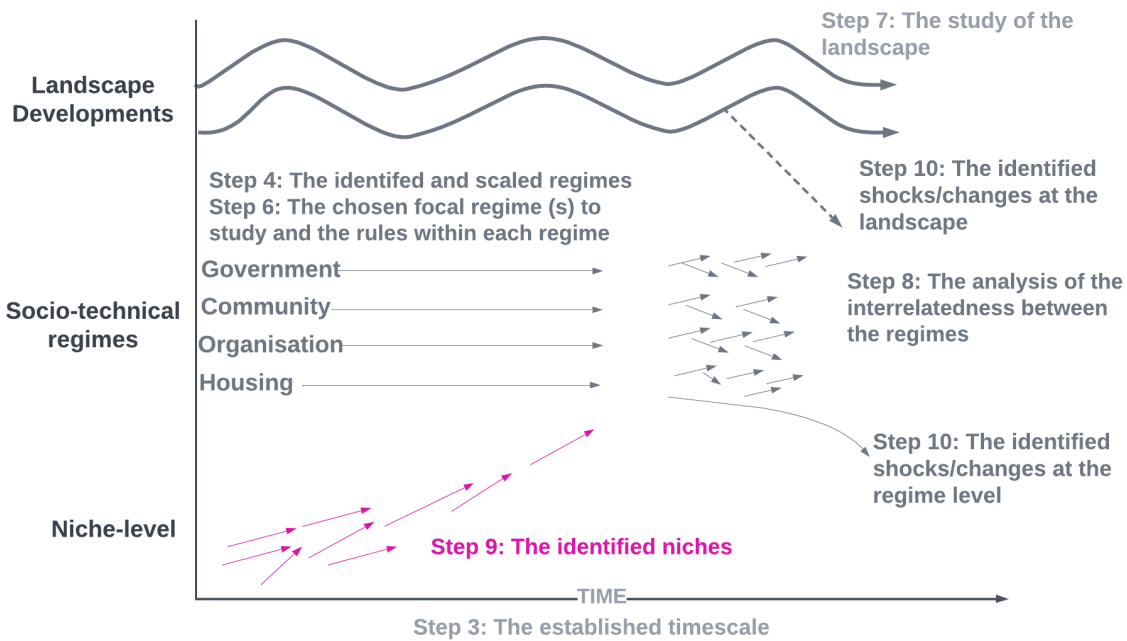


Figure 26. The MLP diagram with highlighted step nine. Adapted from (Geels, 2002)

3.11 Step ten: Identify shocks/changes to the system

The landscape, regime or niche levels can experience different forms of shocks that may have been caused by change. The step followed Suarez and Oliva's (2005) description of the five types of shocks that occur in transitions: regular, hyper-turbulence, specific, disruptive and avalanche shock. A table describing these types of changes was created and is in appendix G. Changes to the landscape were identified by reviewing the coded data on the location's long-establishments. At the regime level, the type of changes was found by reviewing the results from the regime interrelatedness and events in the narrative analysis. The identification of changes at these levels assisted in creating the MLP diagram (**Figure 27**)

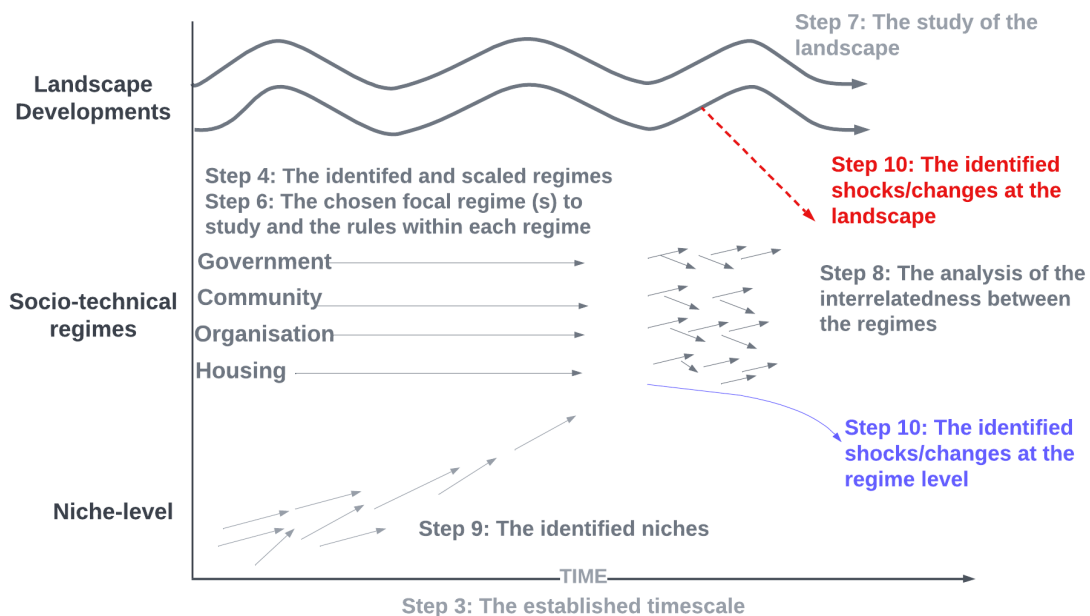


Figure 27. The MLP diagram with highlighted step ten. Adapted from (Geels, 2002)

3.12 Step eleven: Explain the journey of a housing design using the four phases in transitional theory

Geels's explanation of the four phases that cause a transition was used to explain the innovation journey of a housing design. The literature review explained each phase in detail but a restatement of each phase is as follows:

Phase one: The emergence of a solution to a project, but there is much uncertainty about the best solution. Therefore, there are experimental solutions to find the best. The solutions process is unguided by rules, standards, policies, or governance structures.

Phase two: The solution became popular and started to be standardised after showing positive social and technical results (Anderson and Tushman, 1990).

Phase three: The solution enters the mainstream markets, and policy adjustments are made to support the design solution (Geels *et al.*, 2019).

Phase Four: A new or adjusted socio-technical system is created around the solution. The solution is safely regulated and supported by regimes.

The creation of an innovative journey required information from all previous steps and the survey (See step 13). Geels and Turnheim (2022, p. 23) described the four phases as being “*ideal-typical phases*” but did not clarify if all transitions follow the linear stepwise process with respect to time. Therefore, the STE expressed the findings of each phase as non-linear (i.e., each phase may be completed in any order). Their completion was determined from documented moments of challenges and success throughout the set timescale. However, it was difficult matching subject to interpretation knowing Therefore, the theory of the four phases was simplified to a criteria table for each phase (See Table 5). The criteria table is not the survey which was distributed to participants. The researcher completed the criteria based on the data and their knowledge obtained from the previous steps and the survey. The results from completing the criteria table were analysed for gaps and confirmation of the narrative. The results indicated what phases the project succeeded or was challenged in and displayed its strengths and weaknesses. For example, an innovative housing design enters a mainstream market (Succeeded in phase three), but certain regimes reject the solution (Challenged in phase four). The first column of the criteria table had questions based on the phase's theory. The answer to each question was placed in the next column with a “yes”, “no”, or “unknown”. The proportion of “yes” answers (expressed as a fraction and a percentage) identified if the characteristics of a phase were strongly challenged (<40%), moderately challenged with some

aspects of success (40-70%), successful with minor challenges (70-90%). If a phase scoring >90% suggested a successfully completed phase. Another column suggested what steps had the data to answer the question. A comment column was created to explain why the questions were asked and how they determined an innovation's journey.

The questions for phase one explored if the early development of a housing design was challenged or supported by the landscape, regime and niches. The housing design would be determined as being experimental or gaining uncertainty from stakeholders. Table 5 below outlines the questions for phase one.

Table 5. The criteria for a complete first phase of an innovation's journey

Phase one questions/statement	Yes/ no/ unknown	Data is found in steps	Comment
The housing design was experimental/ undergoing " <i>trial and error</i> ".		3 and 7	The answers indicated if the design had a good or bad early development.
Stakeholders had information on the housing design's technical, economic, social, and political performance.		3 and 8	
There were no competing claims and promises from the stakeholders involved in the project.		8	
The stakeholders involved in the project were certain of their roles.		8 and 6 (review the rules)	
The project had financial support and interest from investors/donors.		9	The answers suggest the type of niches that protected the design's early development.
There was a shared vision or goal for the project among stakeholders.		8	
The targets and goals for the project were created at an early stage.		5	
The housing design was " <i>too new</i> " which caused its image to be unfamiliar or strange for future occupants.		3 and 7 (Compared housing typologies)	
The project fitted in with existing societal norms and beliefs.		6 (reviewed the community rules), 7 (found data on traditional housing developments)	

The questions for phase two outlined if the housing design stabilised or continued to be challenged by the regimes. The more yes answers indicated that the housing design was beginning to change the system. Table 6 below outlines the questions for phase two.

Table 6. The criteria for a complete second phase of an innovation’s journey

Phase two questions/statement	Yes/no/ unknown	Data is found in steps
There was strong political support for the project.		9 (Political niches)
There was strong residential support for the project.		9 (Social niches)
The project had no lobbying or petitions against its development.		10 (Regime shocks)
There was an increase in social networks/ stakeholder involvement during the project’s development.		8 (Tensions) Review the socio-technical map and narrative analysis
Residents’ trust in the project increased over time.		9 (Social niches) Review narrative analysis
Policies were created that supported the housing design.		7 (Review policy changes) 9 (Political niches)
The project had increased investments in its development.		9 (Financial niches)
The original goal remained unchanged throughout the project.		6 (The rule of the project)

The questions for phase three outlined if the housing design was diffusing and beginning to challenge the existing system. An increase in competition between industrial stakeholders and resistance from incumbent stakeholders are examples of these challenges. The more yes answers indicated that the housing design was being challenged. Table 7 on the following page outlines the questions for phase three.

Table 7. The criteria for a complete third phase of an innovation’s journey

Phase three questions/statement	Yes/no/ unknown	Data is found in steps
There were public debates over the upgrading process.		10 (Shocks leading to disputes) 9 (Tensions that caused debates)
There was a competition between the development of the housing design and the existing housing conditions.		7 (The landscape of traditional housing) 8 (The influence of regimes on the housing regime)
The design established a foothold in Kibera’s housing market.		9
The housing development process increased employment.		8 (Tensions over finances or income)
Improvements to existing housing occurred to defend against the new housing design.		7 (Traditional housing) 10 (Review changes in traditional housing)
There were struggles over framing problems and solutions throughout the housing development.		6 (Rules) 8 (Tension over rules)

The questions for phase four outlined if the housing design reconfigured the existing system, replacing the previous dominant housing design. The more yes answers indicated that the housing design completed a transition. Table 8 below outlines the questions for phase four.

Table 8. The criteria for a complete fourth phase of an innovation’s journey

Phase four questions/statement	Yes/no/ unknown	Data is found in steps
The new design or similar designs replaced the existing housing typology.		10 11 (Find moments of acceptance, low tensions and cooperation over the housing design)
A new direction for housing development was created.		7 (landscape changes to support housing)
Residents adapted to living in the housing design.		10 (Shocks in the community regime) 8 (The community interaction with the housing design)
The design expanded (or is expanding) to other nearby areas.		1 (Review the physical mapping) 7 (The niches supporting)

3.13 Step twelve: Determine the transition typology

The transition typology was identified by learning what occurred at each phase of the innovation’s journey. This information was combined with Geels’s explanation of the six transition typologies that can explain the trajectory of the artefact under study (See the literature review). This step translated the characteristics of each transition into a criteria table that simplified the process of determining the type of transition occurring. The criteria table is not the survey which was distributed to participants. The researcher completed the criteria based on the data from the previous steps and the survey.

Table 9. The criteria to determine a reproduction transition

<i>Reproduction Transition</i>	Yes/no/ unknown	Data is found in steps
There was no pressure on the landscape.		7 and 10
The orientation of actors managing housing remained unchanged.		4, 6 and 8
The housing design remained unchanged.		3 and 7
Regimes managed housing developments without innovative design solutions, i.e. the regimes were stable.		10 and 4
New housing solutions did not enter the market because there is no demand for them.		9
= Total yes answer		

Table 10. The criteria to determine a transformation transition

<i>A transformation Transition</i>	Yes/no/ unknown	Data is found in steps
There was some pressure on the landscape.		7 and 10
There were no housing solutions to resolve the pressure.		9 and 3
There was external pressure to a change in housing.		10
Regimes changed the design of housing.		6 and 4
The design of housing incorporates designs that were external to the system.		3 and 7
There were changes to the rule in housing design/ development.		6 and 5
= Total yes answer		

Table 11. The criteria to determine a de-/re-alignment transition

<i>A de-/re- alignment Transition</i>	Yes/no/ unknown	Data is found in steps
There was rapid pressure from the landscape.		7 and 10
There was a shock to the socio-technical system.		7, 4, 6 and 8
There was internal pressure among social groups involved in housing.		8
There was a loss of momentum/trust/financing in the leaders in housing development.		9
There was no housing solution to resolve the problem when the problem emerged.		9 and 3
The problem resulted in many solutions emerging, particularly by housing developers external to the original socio-technical system.		10 and 9
There was a period of competitiveness between the housing developers.		10, 9 and 8
A housing development created a design solution, and the system was restored.		9 and 3
= Total yes answers		

Table 12. The criteria to determine a substitution transition

<i>A substitution transition</i>	Yes/no/ unknown	Data is found in steps
There was a shock to the socio-technical system.		10 and 7
There were tensions among social groups involved in housing.		8
The shock or tensions allowed innovative housing designs to become a solution to the housing problem.		8 and 9
There was a period of competitiveness between the housing developers.		8
A housing development created a design solution, and the system was restored.		8 and 9
= Total yes answers		

After each table was complete, the proportion of “yes” answers (expressed as a fraction and a percentage) identified if the characteristics of a transition in the project were limiting or not present (<40%), partial or present (40-70%), near completion or highly present (70-90%). If a transition scored >90%, the researcher decided if a complete or near complete transition occurred with an explanation for this decision. A criteria box with all answers as “Yes” (i.e.

100%) confirmed a complete transition. If there were no clear answers on the type of transition, an investigation into a disruptive transition would begin. A disruptive transition is a mixture of transitions occurring in different sequences.

3.14 Step thirteen: Stakeholder selection and survey process

It was possible to complete a socio-technical evaluation using the data from screened documents. The documents had similarities in the description and sequence of events. However, further investigation was required whenever contrasting perspectives on an event or regime were presented. For example, the narrative analysis found that certain documents had contrasting descriptions of how Soweto East was selected as KENSUP's first housing project and the recognition of residential values. Appendix D outlines the coding process and the method to discover contrasting views from the analysed documents. A survey was necessary to address the contrasting results from the socio-technical evaluation and apply alterations to the data where necessary. For example, statements on residential values and inclusion were expressed in survey as *"The housing project recognised the existing societal norms and beliefs in the Soweto East community"*.

The survey was also created with statements based on extracts from the four phases of an innovation's journey and the typology of a transition and were similar to the questions in steps 10 and 11. The statements focused on confirming the phases and transition typology. For example, a reproduction transition includes residents not requiring external support, the following statement was asked in relation to this typology; *"Residents in Soweto East could have managed to build new housing without KENSUP"*.

The STE results had points of interest, such as the landscape study finding that the residential fear experienced during KENSUP may originate from previous unsuccessful informal settlement upgrades. The survey included statements addressing these anomalies, such as; *"The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project."*

In summary, the survey was focused on supporting the narrative analysis and aimed to find the following:

- confirmation of socio-technical elements;
 - differences in narratives/perspectives from the sources;
 - similarities and differences between regimes and the stakeholders within the regimes;
- and,

- points of interest/anomalies/ gap information.

The validation of the survey was tested by including statements focused on specific highly documented events from the narrative analysis and results from the transition typology criteria tables, such as the legal petitions filed against KENSUP, and elements of a reproduction transition. These statements supported the validation of the survey by having the results from such statements confirm the event's occurrence and aspect of the transition typology (See Appendix I for the survey and Appendix J for the submitted surveys).

Purposive and snowballing sampling was used in the interviewing and survey process. Snowball sampling occurred when the participants shared contacts or forwarded the invite to colleagues. The communication strategy was updated with each new participant. Purposive sampling had a screening process of participants to narrow the sample size to individuals with knowledge, experience, or a unique view of events from the project. Participants were identified using the socio-technical map generated during the creation of regimes. The screened documents also provided information on participants to contact.

A communication strategy was created to organise participants and plan the communication medium. The strategy was formatted as a table with participants categorised into regimes with a bio, contact information and the contact approach as summarised by Table 13 on the next page. The contact approach outlined what information was required from each participant and what medium to use. The strategy was implemented once all participants were assigned a contact approach and approved by the university's research ethics committee following an ethics application process. The strategy was monitored using a column beside each participant with updates on the progress. Participants who agreed to participate would receive an information leaflet outlining the research purpose, ethical approval, and the reason for their involvement. The leaflet also explained the confidentiality of information, and participants were offered to remain anonymous and informed that their data will be in a secure environment. See Appendix I for the information leaflet and consent form.

Table 13. The table format to arrange and contact participants

	Participant's Information			Contact Information			Selected Medium			Contact Plan	Monitoring updates
	Name	Position	Job Description	Email	LinkedIn	Other	Email	Discussion	Survey		Green= submitted Yellow= in progress Red= no contact/declined
Organisation Regime	Joe Bloggs	Project Leader	Formulated the company's strategy		hyperlink				X	Invite for an interview via LinkedIn	A LinkedIn message was sent on [date]. Wait for a reply until [date].
Total	1						0	0	1		

Chapter 4. A Socio-technical Evaluation of Kibera's Informal Settlement.

4.1 Step one: Selecting a project or scenario for socio-technical evaluation

A selection of housing projects in humanitarian aid and development were studied before and during the creation of the STE. A total of eight projects were originally hoped to be part of a study on prioritising housing in humanitarian aid and development. The outbreak of COVID-19 during the time of research prevented any travel to these locations. Therefore, the selection was limited to projects with accessible documents and participants. Chapter 5 discusses the prospects for a meta-analysis that studies multiple local or international housing projects using an STE approach to identify a national or global housing transition. A total of eight projects were assessed under the following selection criteria;

- A. a complete or partial evolution in a housing design;
- B. potential housing design alternatives not being a practical solution;
- C. a dominant housing design being challenged for by a replacement;
- D. action and reaction conditions between stakeholders involved in the project;
- E. high publication of project documents over a long period;
- F. participants who can be contacted online; and
- G. no major disruptions occurring at the project's location (e.g natural or conflict disasters).

Table 14 on the following page describes the eight projects and the verdict of being accepted or rejected for an STE. Rejected projects met less than three of the criteria. Accepted projects met the full criteria. However, projects with a partial fulfilment of the criteria (≥ 4) could be rejected or accepted based on the challenges of completing an STE. The process and result of rejected projects are now explained.

The projects that met the criteria of having a number of publications throughout a project (Criteria E) were identified during the sourcing of documents. An average of five documents per project was reviewed on conditions A-D. See appendix C for the list of reviewed documents and the number of contacted participants per project. Housing projects with limited participants to support the data needed for the STE were rejected (Criteria F). Certain projects were rejected based on a recent disruption (Criteria G). The STE required up-to-date data that was not accessible at the time of selection. In addition, the project's timescale was a factor in the selection process, and this eliminated rapid natural disasters. An exploratory STE on a rapid-onset disaster would be difficult for this experimental STE approach. The reviewed documents found that rapid-onset disaster housing projects were implemented in short periods and pressurised conditions. A longer timescale in a housing project in a less pressurised scenario was preferred so there was no congestion of events.

Table 14. The eight projects and selection criteria

Project number	Organisations involved	Region	Project Description	No of participants contacted	No of documents reviewed	Selection criteria							Verdict
						A	B	C	D	E	F	G	
1	Engineers Without Borders (EWB)	Rural Zambia	Design and supply sustainable housing solutions	1	0	X	X	X	✓	X	X	✓	Reject
2	Engineers Without Borders (EWB)	Rural and urban Guatemala	Local infrastructure and housing developments	1	3	X	X	X	✓	X	X	✓	Reject
3	HRRP Smart Shelter Solutions (SSF)	Rural Nepal	Disaster coordination, reconstruction, and risk reduction	3	8	X	✓	✓	✓	✓	X	✓	Reject
4	IFRC	Sri Lanka	Disaster reconstruction efforts after the 2004 tsunami	2	3	✓	✓	✓	✓	✓	X	X	Reject
5	IFRC	Haiti	Disaster reconstruction after the 2010 earthquake	2	3	✓	✓	✓	✓	✓	X	X	Reject
6	Goal	Rural Ethiopia	Management of shelter and basic services for refugees	1	8	✓	✓	✓	✓	✓	X	X	Reject
7	UNHCR	Rural Kenya	Kakuma refugee camp	0	5	✓	✓	✓	✓	✓	X	X	Reject
8	KDI, Habitat for Humanity, UN-Habitat,	Rural and urban Kenya	Housing developments	2	12	✓	✓	✓	✓	✓	✓	✓	Accept

The Zambia and Guatemala project were rejected because there was not sufficient documentation on the projects, therefore, an STE would require field research. The limited data reviewed gave no indication that the two projects were a complete or partial evolution in a housing design nor having potential housing design alternatives not being a practical solution.

There were ongoing disruptions to four projects, such as the civil war in the Tigra region of Ethiopia in 2019 and an earthquake in Haiti in 2020. In addition, the 2015 Nepal earthquake and the 2004 Sri Lanka tsunami were rejected because of the timescale of the disaster. Sri Lanka was also experiencing a political and economic crisis. These disruptions would have challenges accessing participants and affect the relevancy of a project completed before these disruptions.

Kenya became part of the selection process after studying the country in preparation for to scheduled rural sustainable development project (cancelled due to COVID-19). Participants operating in Kenya were contacted about housing developments by email. Two of Kenya's refugee camps, Kakuma and Dadaab, and one informal settlement Kibera, were three potential projects for the STE. All locations had published documents on their housing developments. A database with 138 documents on the two refugee camps was discovered, and the camps were the original project to undergo an STE. However, a government decision to close the two refugee camps prevented the STE from being commenced. Therefore, Kibera became the prominent project to select for the STE.

The application of Hofman and Elzen's (2010) helped confirm the suitability of Kibera for an STE. The village is subject to housing complications from residential evictions caused by infrastructure projects (e.g. the expansion of the railway) and challenged housing upgrades (Fulfills criteria A, C and D). A preliminary document review of sources classified Kibera as a complex system with various stakeholders operating in the area without a clear demarcation of responsibility (Fulfills criteria D). The document review identified the development of high-rise buildings within and around Kibera (Fulfills criteria A). It was indicated that the high-rise buildings were being replicated with the hope that their design would improve (Ehresmann, 2004; Ochieng, 2011) (Fulfills criteria A and B).

Using Google Earth Pro, Kibera's borders were also studied and followed the diagram displayed in UN-Habitat's vulnerability mapping project (UN-Habitat, 2020a). This process discovered that documented maps of Kibera's borders were highly subjective and changed (See appendix A on Kibera's borders and area). Results from Google Earth Pro identified changes

to Kibera from 1985 to 2022. A visual comparison of each year displayed several locations where informal housing (shacks) was being replaced by apartment blocks (Figure 28). Other identifications were the construction of a highway and the expansion of a railway line.

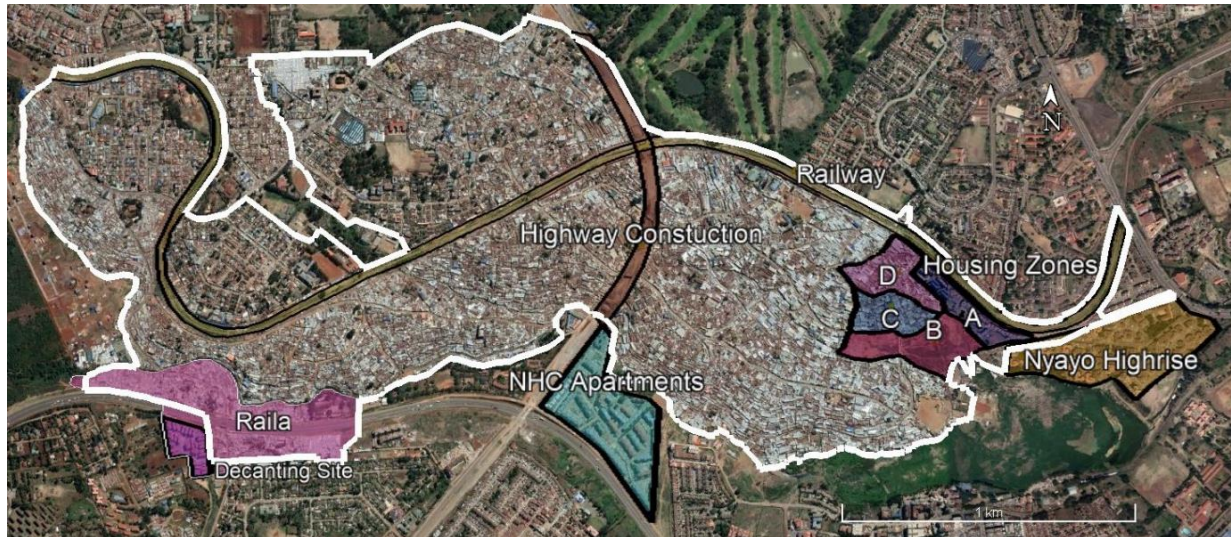


Figure 28. The identified developments in Kibera

Soweto-East was one of eighteen villages located in Kibera, displaying a transition of housing typology. Figure 29 on the following page outlines the changes to Soweto East and the arrangement for development under KENSUP. Such as, the village’s housing development was initiated in four phases, Phase A-D (Figure 29a) (Fernandez, Amelia and Calas, 2011). Kounkuey Design Initiative’s (KDI) free terrain model of Kibera displayed white outlines of housing structures that existed in 2015 (KDI, 2015) (Figure 29b). The white lines confirmed that housing in Soweto East has been removed or replaced since 2015 (Fulfil criteria A). For example, the removal of housing in Zone A and around the Kenya railway. The physical mapping process displayed a transition of informal housing to high-rise buildings in Zone A (Figure 29). The selection process determined that Kibera, Soweto East should undergo an STE focused on the transition from informal housing to a high-rise building in Zone A. Kibera’s infrastructure developments and external high-rise projects were applied to the development of Kibera’s landscape (see step seven)

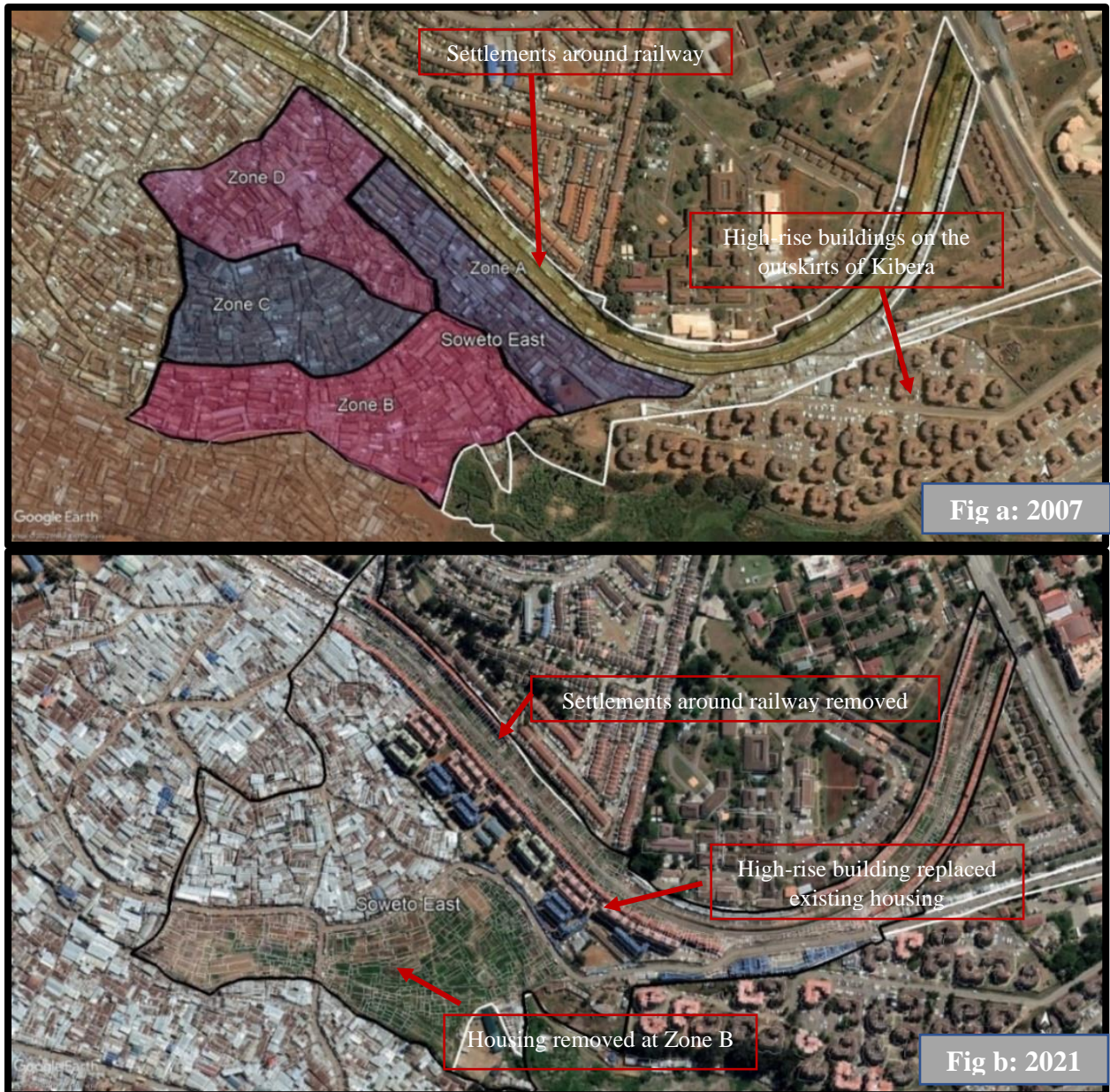


Figure 29. Soweto East project and train expansion 2007 (Top) to 2021 (Bottom) Adapted from KDI, 2015)

4.2 Step two: Screening documents to facilitate steps in the evaluation process

The results from the screening process identified 173 documents which helped detail the evolution of housing in Kibera and to create the socio-technical system's landscape, regime, and niches. Other documents were assigned to identify social and technical complexities in informal housing in Kenya (Davidson *et al.*, 2007; Cuppen, 2010; Dodman and Mitlin, 2013; Mitra *et al.*, 2017; Celentano and Habert, 2021). Documents that focused on other housing initiatives across Kenya and within other villages of Kibera were later analysed in the creation of Kibera's landscape (UN-Habitat, 2005, 2007, 2008b; Anderson and Mwelu, 2013; Kinyua, 2016; Garfias Royo *et al.*, 2018; Carter *et al.*, 2019). The documents were read in order of

publication for a convenient chronological organisation of the narrative, and growth of stakeholders. Research saturation happened when 78% (135/173) of publications were analysed. At this point of saturation, the analysed documents were published up to 2017 which was a year after the completion of the Soweto East project. The remaining 22% of documents were still analysed to support this result of research saturation.

Figure 30 on the following page displays the number of published documents on Soweto-East per year of publication. The legend shows the form and number of documents. An assumption was that a year with many publications had an impactful event occurring in or prior to the same year. For example, 2004 had the highest number of publications (14/173) around the early implementation of the KENSUP-Soweto East project. Between 2009 to 2010 there was an increased number of publications when residents of Soweto East were relocated to the decanting site. The type of documents informed on the narrative, such as the submission of five petitions throughout the project, indicated that legal action was taken. Specifically, between 2014-2015 when four out of the five petitions were filed in court. Table 15 below explains the year, the number of publications and important events.

Table 15. The discovered events related to years with above average publications

Year	Number of publications	Important event(s)
2002	12	A pilot housing project was being decided.
2004	14	The beginning of the planning phase for housing in Soweto East.
2006	10	A communication action plan was created.
2010	12	One year after residents were relocated to temporary housing.
2011	11	A petition over the housing allocation process was filed in court.
2014	12	The housing allocation issue was being managed, and there were delays in constructing the new apartments.
2017	11	One year after the residents moved into new apartments.

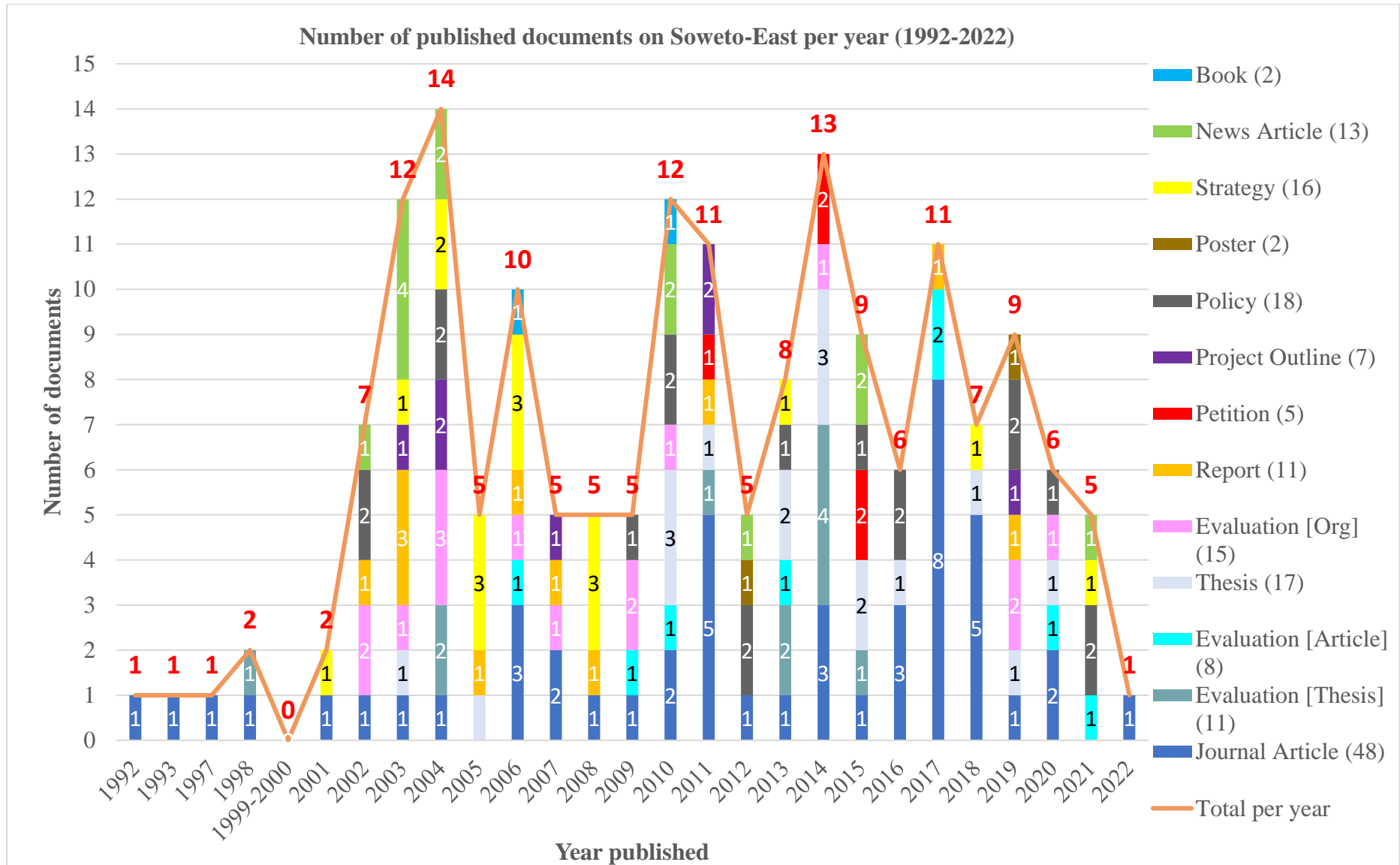


Figure 30. The number of published documents on Soweto-East per year (1992-2022) [Total 173].

The research regime produced the most documents totalling 54.4% (93/173). Academic articles were the highest form of document (48/173). This result indicated that academics were very active in researching the project throughout its development. The government regime created 18% (31/173) of the total number of documents produced; 47% of the documents were policies, indicating that policy creation or alterations may have been made during the project. The organisation regime contributed 22% (38/173), and 40% were their evaluations, indicating some level of monitoring. The community regime at 4% (7/173) and the housing regime at 0.6% (1/173) produced low levels of documentation. There were referenced publications unavailable to the public and were later sourced by contact participants' and organisations. Chapter 5 provides a discussion on the documentation process and its limitations.

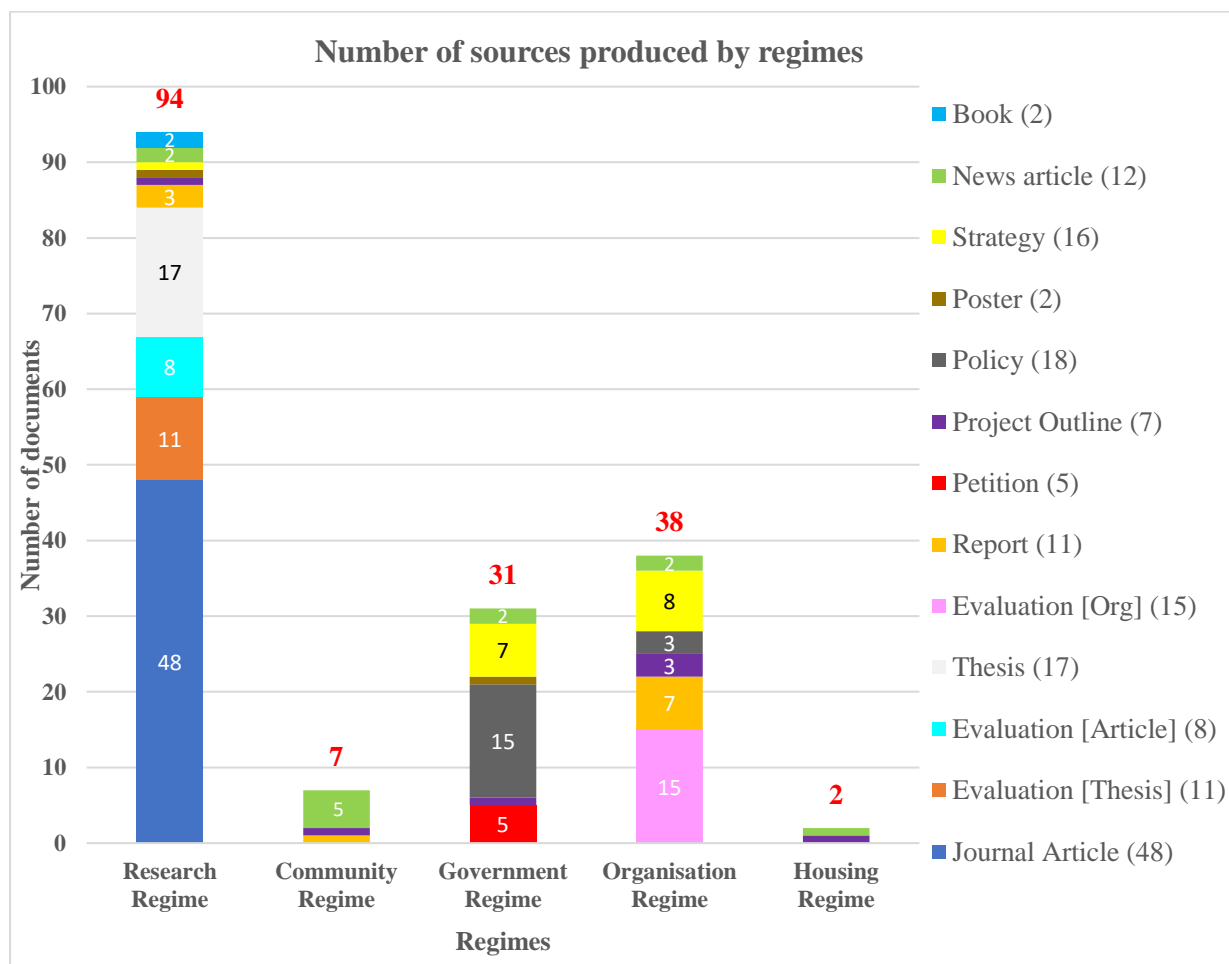


Figure 31. Number of sources produced by regimes

4.3 Step three: Establishing the artefact to study the time scale

The observation view from Google Earth Pro combined with a review of documents with dates on events connected to changes in housing helped determine a suitable timescale to 2004-Present (2022). However, after completing the narrative analysis, this was later adjusted to

2000-2016. This was the period for Phase A of KENSUP in Soweto East. A 16-year duration was an indication that the project may have the characteristics of a breakthrough or nearing the emergence of a housing transition, but it would not be a complete transition (See step 3 in the methodology chapter for the characteristics of transition periods).

The housing typologies within Soweto East during this period were categorised as innovative or traditional. The definitions used in the screened documents varied, making it challenging to create an accurate categorisation process (See discussion chapter section 5.3.3). Swan's (2013) definition of housing was suitable for the categorisation process; Innovative housing was defined as being new to the existing area, and traditional housing existed in the area for an extended time.

4.3.1 Traditional housing in Kibera, Soweto East

At the beginning of the 20th century, Kibera was a minor settlement area surrounded by greenery. Kibera is Swahili for forest or jungle. In 1912, an estimated 100 housing structures accommodated 200 dwellers. Nubian tribes settled on the land after fighting for the British colony. For an average family of five, individual household rooms were three square meters in size (approx. ten square feet). A family of eight or more people usually stay in a 12ft by 12ft structure, costing almost US\$15 per month (Mutisya and Yarime, 2011). Most of the traditional structures in Soweto East were constructed with mud walls supported on a wooden stick frame (widdle). Corrugated galvanised iron sheets (CGI) (also called mabati) were used for the roof or walls, and a minority of structures had concrete floors. Other materials applied for walls were sundried earth blocks (adobes) that eroded in heavy rainfall and flooding. Kiln-fired bricks were more durable but caused deforestation. Interlocking stabilised soil blocks (ISSBs) were designed to create stronger supports in walls and foundations and were created by a mix of compressed soil, water and cement.

Community-based organisations (CBOs or Harambee) built traditional housing for families with or without government or donour support. Labour and supplies were sometimes purchased from Kenya's informal sector (See Kenya's economic structure in step 7). Certain houses kept livestock near the house or served as a shop, garage, barbers, butchers or bar, and provided residents with a main source of income (Figure 32). These homes were often makeshift constructions, with low longevity, high maintenance and poor thermal properties. The housing had social discomforts, such as noise whenever rain fell on the steel roof or wall. These materials were selected for their quick construction and overall cost (e.g. labour and

transportation) compared to more permanent counterparts, such as cement, stone, and fired brick walling.



Figure 32. Residential housing in Kibera. Source: Reuter/Noor Khamis

4.3.2 Innovative housing in Soweto East

KENSUP offered a different housing typology as an upgrade compared to the existing housing typology in Kibera. Such as temporary apartments on the outskirts of Kibera, while permanent housing was built in Kibera.

4.3.2.1 Decanting Site design

A decanting site served as a temporary settlement for residents of the Soweto East, Zone A. The resettlement location was on the southwest borders of Kibera, near the Langata housing estates, approximately 2.6 Km from Zone A (Figure 33). In September 2009, out of the 6,288 Soweto East Zone A residents, 5,000 people (1,200 households) relocated to Langata (Agayi and Sağ, 2020).



Figure 33. The location of the decanting site.

The decanting site consisted of 17 multi-residential apartment buildings that were alphabetically labelled from A-Q. Each of the apartments in the decanting site had the same size and layout and included a kitchen and washroom (See Figure 34 on the following page). The floor space of 50 m² was organised in three rooms, more generous than the standard

established by the Kenyan standard of housing which is 36m² for low-income housing. There were no limits on room occupancies, therefore a family could occupy a room or the entire unit. Apartments were rented at 1000ksh per month (Approx €8.50). The rent was high for most residents who were used to paying an average of 600 KSh (approx. €5) per month for a room in Kibera. The site also featured small shops, a community hall, and an administrative office where residents paid rent and issued complaints and maintenance requests.

The housing blocks experienced decay in less than six years since the resettlement in 2009, such as the buildings' stairs to the lower floors becoming worn out. Other issues were rooms being dark and unventilated, eight floors and no lifts. Residents would hang their clothing on the stairway, which eventually caused them to rust and become an injury risk.

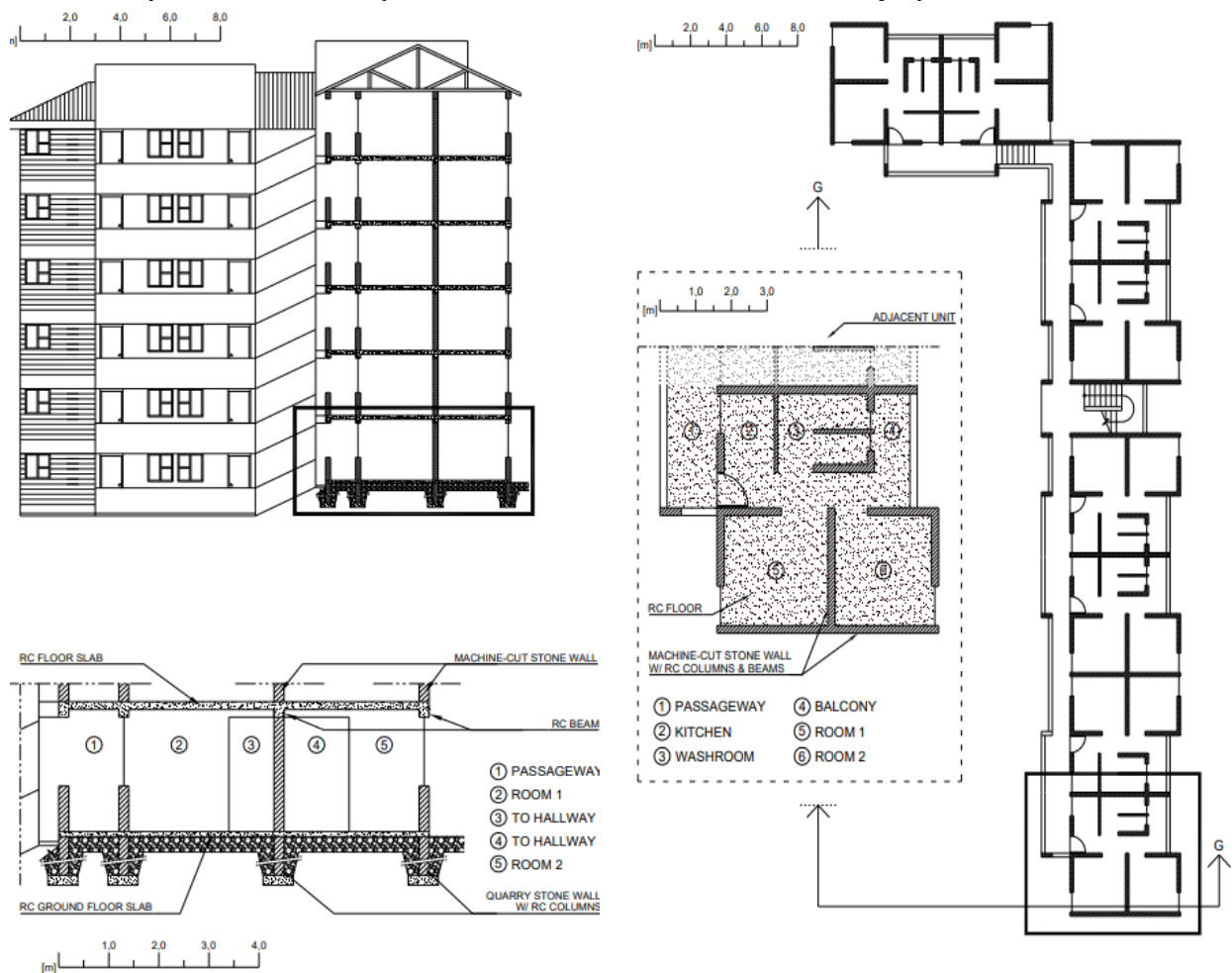


Figure 34. Technical drawings of the decanting site produced by Lins Consult and adapted by kvarnström (2014)



Figure 35. The decanting site buildings in Kibera. Source: Reuters/Noor Khamis

4.3.3 The high-rise building in Soweto East Zone A

In Soweto East Zone A, the new builds shared a similar design to the decanting site, such as having the same facility arrangement. The new five storey high builds had eight 3-roomed blocks, seven 2-roomed blocks and six 1-roomed blocks, comprising 288, 336 and 288 apartments, respectively. The area also featured corner shops, a community hall, a school and a youth centre. The rooms were purchased or rented by their allocated occupants.

The foundation, columns, beams, and floors were all cast reinforced concrete. Machine-cut stones were laid with mortar between the wall columns. The roof was made of timber trusses with iron sheets (Kvarbstrom, 2014). The buildings were documented to have poor thermal performances (Omondi and Zanotto, 2010).

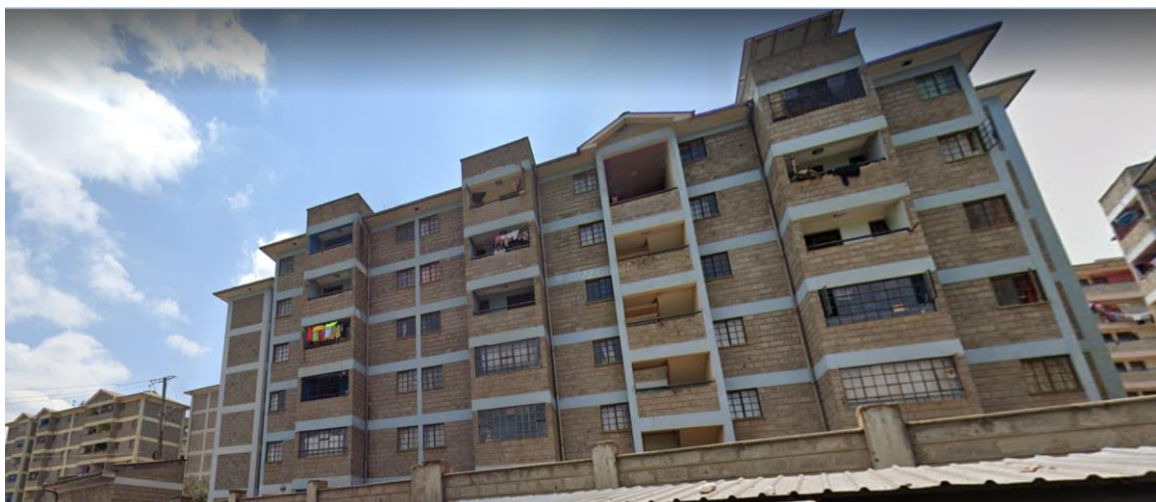


Figure 36. A high-rise building in Soweto East Zone A

At the time of writing, the design of Soweto East Zone B, C, and D was ongoing and had not been implemented.

4.4 Step four: Identifying and scaling the regimes to housing in Kibera, Soweto East

The regimes represent the overall structure of Kibera's informal housing within which elements, such as traditional and innovative housing, exist. This step identified regimes with independent or collective influences or resistance to housing in Soweto East. These influences and resistances had to be scaled to accurately portray the context of Soweto East, confirming Geels's statement that the scale of the regimes matters (Geels, 2010). Therefore, the study was scaled to a local level representing the entire housing system in Soweto East, Kibera. A scaled-down STE combined with a high amount of documents allowed for a preliminary STE before administering a survey. However, selecting this scale meant the STE was not representative of housing in Kibera or Kenya; such representations would require scaled-up STEs of villages and informal settlements, respectively. See Chapter 5 for a discussion on the benefits and limitations of scaling an STE to Kibera, and the potential of similar larger-scale study in future work.

Regimes were created by categorising the social groups involved in housing in Soweto East. The regimes were government, organisation, community, housing, infrastructure, production, and research. This step was accelerated by using documents with an outline or an analysis of the stakeholders involved in KENSUP. These documents and their various publication dates indicated that the project had a growth of stakeholder involvement. Overall, there were an estimated 43 social groups involved in KENSUP. For example, there were several governing bodies, including Community-based organisations (CBOs), housing cooperations, elders, unofficial landlords, councils, and local and national governments (Gulyani and Talukdar, 2008; Kinyua, 2016). There were also stakeholders categorised into more than one regime, such as the Settlement Executive Committee (SEC), which included members from organisations and communities. The prominent stakeholders from each regime are outlined in the rest of this step. A description of all the other stakeholders is found in appendix F. Table 16 on the following page outlines the stakeholders involved in the first phase of KENSUP and their categorised regimes. The two socio-technical maps of housing in Soweto East outlined the regimes and their responsibilities/activities (Figure 37) and the social groups within each regime (**Figure 38**).

Table 16. The stakeholder involved in Phase A of KENSUP

Regime	Stakeholders	Prominent Stakeholders in Soweto East
Government	Government of Kenya	<ul style="list-style-type: none"> • The Informal Settlement Upgrading Department (SUD) • Inter-Agency Coordination Committee (IACC) • Inter-Agency Steering Committee (IASC) • Inter-Agency Technical Working Group (IATWG) • Ministry of Lands, Housing, and Urban Development (MoLHU) • Ministry of Roads, Public Works, and Housing (MoRPWH) • National KENSUP Secretariat • Physical Planning Department of the Ministry of Lands • Settlement Executive Committee (SEC)
	Housing Cooperatives	<ul style="list-style-type: none"> • Cooperative Bank of Kenya
	Local Government and Councils	<ul style="list-style-type: none"> • Nairobi City Council • Settlement Project Implementation Unit (SPIU) • Project Implementation Unit (PIU) • Joint Project Planning Team (JPPT)
	Courts and law facilitators	<ul style="list-style-type: none"> • The High Court of Kenya • The Kenya National Commission on Human Rights (KNCHR)
	Chiefs and Elders	
Organisation	NGOs	<ul style="list-style-type: none"> • Kituo Cha Sheria • Shelter Forum
	Donors	<ul style="list-style-type: none"> • Global Informal Settlement Upgrading Facility (SUF) • French Agency for Development • Swedish International Development Cooperation Agency (SIDA) • Cities Alliance • World Bank
	FBOs	Christ the King Church
	CBOs	Kibera Community Development Agenda (KCODA)
	United Nations	UN-Habitat
Community	Landlords/“ <i>structure owners</i> ”	
	Residents	
	Marketers and entrepreneurs	
	Groups and Forums	<ul style="list-style-type: none"> • The Multi-Stakeholder Support Group (MSSG) • Soweto Residents Forum • Block representative
Technical	Designers and architects	Lins Consult
Infrastructure	Infrastructure/energy companies	<ul style="list-style-type: none"> • Maji na Ufanisi (MnU) • Kenya Railways Authority • Acacia Consultants Ltd
	Water vendor	
Production	Material Manufactures	
	Contractures	
	The private sector in housing	
Research	Universities and academics	

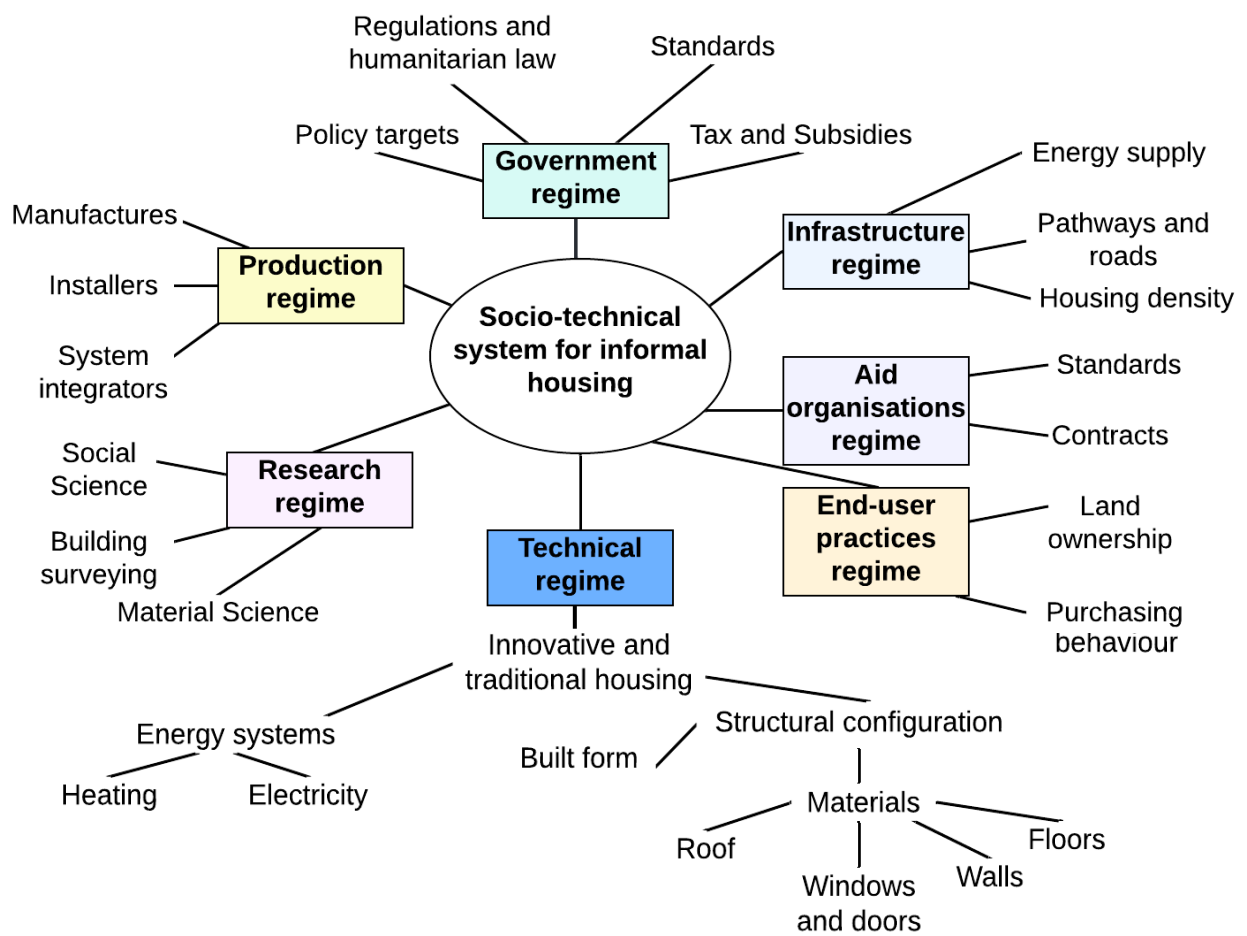


Figure 37. The socio-technical system of Soweto- East with appropriate regimes. Adapted from Swan 2013

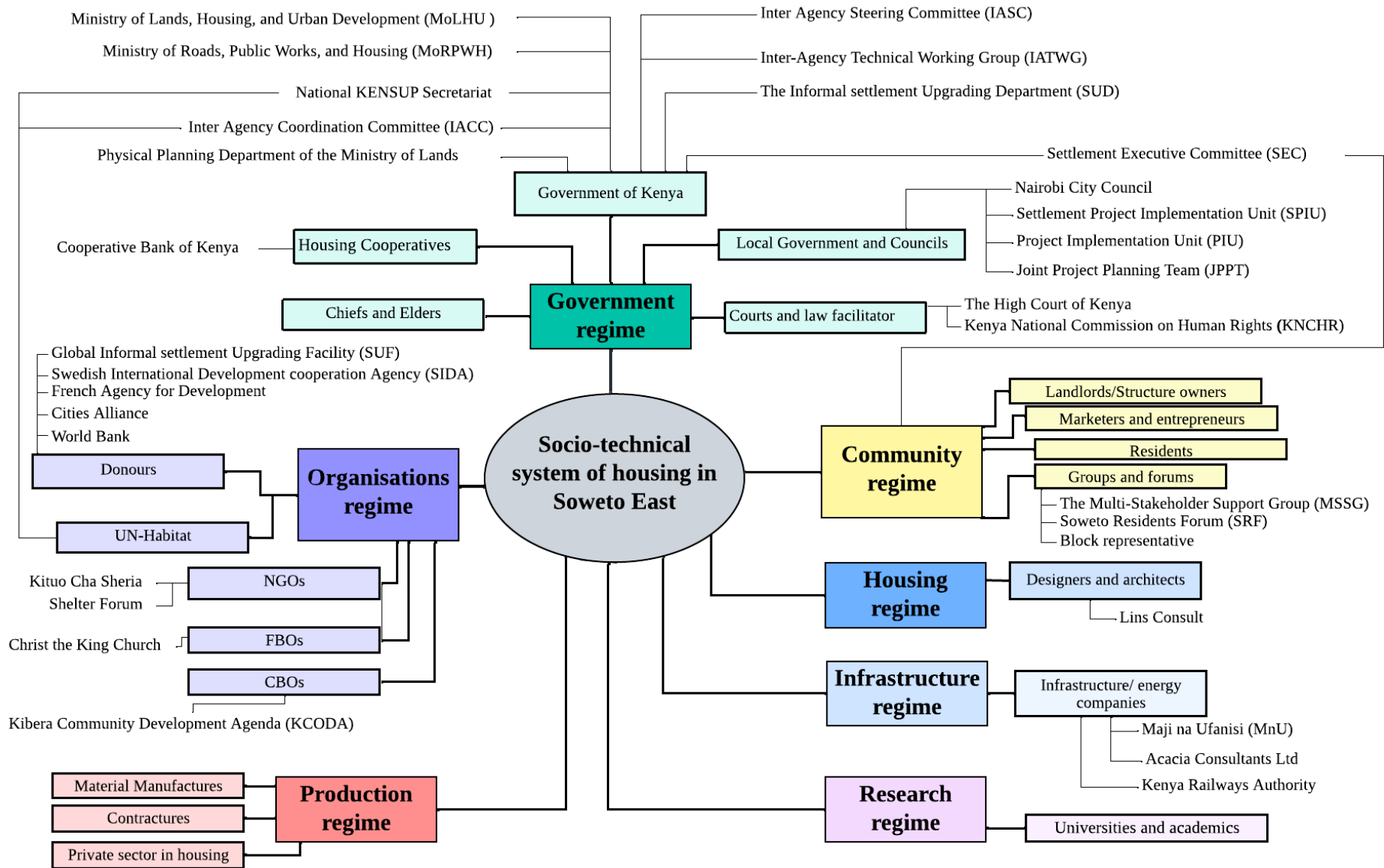


Figure 38. The socio-technical system of Soweto- East with the appropriate regimes and stakeholders.

4.4.1 The government regime

The Kenyan government and its administration had the significant role of leading KENSUP to completion. The Joint Project Planning Team (JPPT) was formed during the creation of KENSUP to assist in the development of an institutional structure (Ehresmann, 2004; MSSG, 2011). At the top of the structure was the president of Kenya. A total of three presidential terms oversaw the Soweto East project. A government ministry managed KENSUP on behalf the GoK. There were three changes to the ministry during KENSUP. The first was the Ministry of Roads, Public Works, and Housing (MoRPWH) which managed and provided financial support for KENSUP, such as a situational analysis of Soweto East (UN-Habitat, 2007). The second was the Ministry of Lands, Housing, and Urban Development (MoLHU), which created cooperatives and encouraged residents to begin saving for housing in Soweto East (Schramm, 2017). The current ministry leading KENSUP is the Ministry of Transport, Infrastructure, Housing, Urban Development and Public Works (KNCHR, 2015).

Encouraging stakeholder engagement was carried out by the National KENSUP Secretariat and the Settlement Executive Committee (SEC), which operated under the Ministry. Both administrations connected UN-Habitat to the GoK, and worked to coordinate and facilitate project planning, implementation, monitoring, and evaluation (Ehresmann, 2004). The SEC also served to connect residents to KENSUP.

The government regime was found to have duplications in roles and structure, such as discovering that the Nairobi City Council's (NCC) role was to lead the project, much like the aforementioned ministries. The NCC had a Project Implementation Unit (PIU) that had a similar role to the SEC to encourage residents to become involved in KENSUP. The step did not identify if the duplication of roles was an indication that the regime did not have clarified roles. In addition, it did not confirm the effect of multiple government stakeholders pursuing residents' engagement. The study of the regime interrelatedness and the survey later served to clarify these discoveries.

There was a growth in stakeholders in the government regime, which indicated a progressive transition. However, the emergence of a stakeholder was found to occur from positive or negative events. For example, protests over the allocation of housing followed by a court order led to the involvement of the Kenya National Commission for Human Rights (KNCHR), which took charge of the allocation process.

4.4.2 The organisation regime

In 2020, 11,624 Non-governmental organisations (NGOs) registered in Kenya, but their funding towards housing and settlements had been below 1% (NGOs Coordination Board, 2019, 2020). NGOs have been around since the 1970s, and many new ones are established continuously. Community-based Organisations (CBOs) (also called Harambees) have existed in Kibera since the 1970s. There is an undetermined number of CBOs and NGOs operating in Kibera; estimates suggest that the number could be in the thousands (Mwaniki and Mwau, 2012). Despite the large number of organisations in Kibera, only a few were identified to be directly involved in KENSUP. The coordination between community organisations and KENSUP was low. Organisations in Kibera competed with one another, resulting in limited knowledge and experience sharing, and overlapping initiatives.

The prominent stakeholders were UN-Habitat and Kibera Community Development Agenda (KCODA). UN-Habitat had a supplementary role in the programme. Its activities focused on providing technical advice, capacity building of the relevant local authorities and communities, providing basic infrastructure, and testing innovative informal settlement upgrading approaches through pilot projects. However, their published strategy document outlined a majority of activities were in providing infrastructure to Soweto East. KCODA emerged when residents of Kibera felt they were not receiving enough information on KENSUP and provided residents with information through a newspaper called *The Kiberan*.

The GoK and UN-Habitat wanted the private sector to be included in KENSUP, but the sector did not become involved because the project was believed to have limited profit-making opportunities. The private sector also expected foreign donors to pay and provide future housing. It is unclear if the private sector was involved in Soweto East and was explored in the survey by asking participants about stakeholders' involvement.

4.4.3 The community regime

Kibera has an informal entrepreneurial society due to a lack of opportunities in the formal sector and became vulnerable when it was not incorporated into KENSUP.

Soweto East was found to be highly entrepreneurial, aside from many documents stating that Kiberans earn a low-income of €1 per person per day. Their sources of income come from within and around Kibera as security guards, house helps, or intensive labouring jobs in the construction sector. The prominent stakeholders were resident owners and a community group called *The Multi-Stakeholder Support Group (MSSG)*. Resident owners rent housing structures

but live on the land and are not so different from the tenants in terms of the incomes they receive. Soweto East was documented as having a large population of resident structure owners compared to other villages. Overall, structure owners in Kibera typically did not invest in improvements to their informal housing either for profit purposes or not having land ownership (Syagga *et al.*, 2001).

MSSG updated its members on the process of KENSUP in Kibera. MSSG was a link to the Soweto East community and facilitated participatory decision-making and information sharing (Ehresmann, 2004). Members include representatives from NGOs, the GoK, development agencies, private organisations, donors, and one Kibera-Soweto community representative.

4.4.4 The housing regime

The evaluators, surveyors, designers and contractors involved in KENSUP were not identified during the evaluation process. Lins Consultants were the only stakeholder found to be involved in KENSUP's housing regime. This organisation provided the ministry's architectural drawings for the Soweto East Zone A (Kvarbstrom, 2014; Lins Consult, 2014).

4.4.5 The infrastructure regime

UN-Habitat and the GoK implemented infrastructure projects in Soweto East during the time of KENSUP. For example, the Kibera Water and Sanitation Project (K-WATSAN) was implemented in 2006. The project completed maintenance work and laid underground piping for water and sanitation. However, water vendors across Kibera often sold cans of water at higher prices when compared to middle-income areas. Most residents in Kibera did not have access to water, making water vendors their main source.

There was a growth in stakeholders involved in the infrastructure regime, such as Maji na Ufanisi (MnU), who completed small-scale upgrading projects around Kibera and was contracted by the ministry to become involved in the Soweto East project. Maji na Ufanisi also partnered with Acacia Consultants Ltd to complete the status report of the various actors operating in Kibera (Acacia Consultants Ltd and Maji na Ufanisi, 2004).

4.4.6 The production regime

The documents analysed stated there was a formal and informal production sector in Soweto East. However, the production sector's role in KENSUP was unclarified in the documents and survey.

4.4.7 *The research regime*

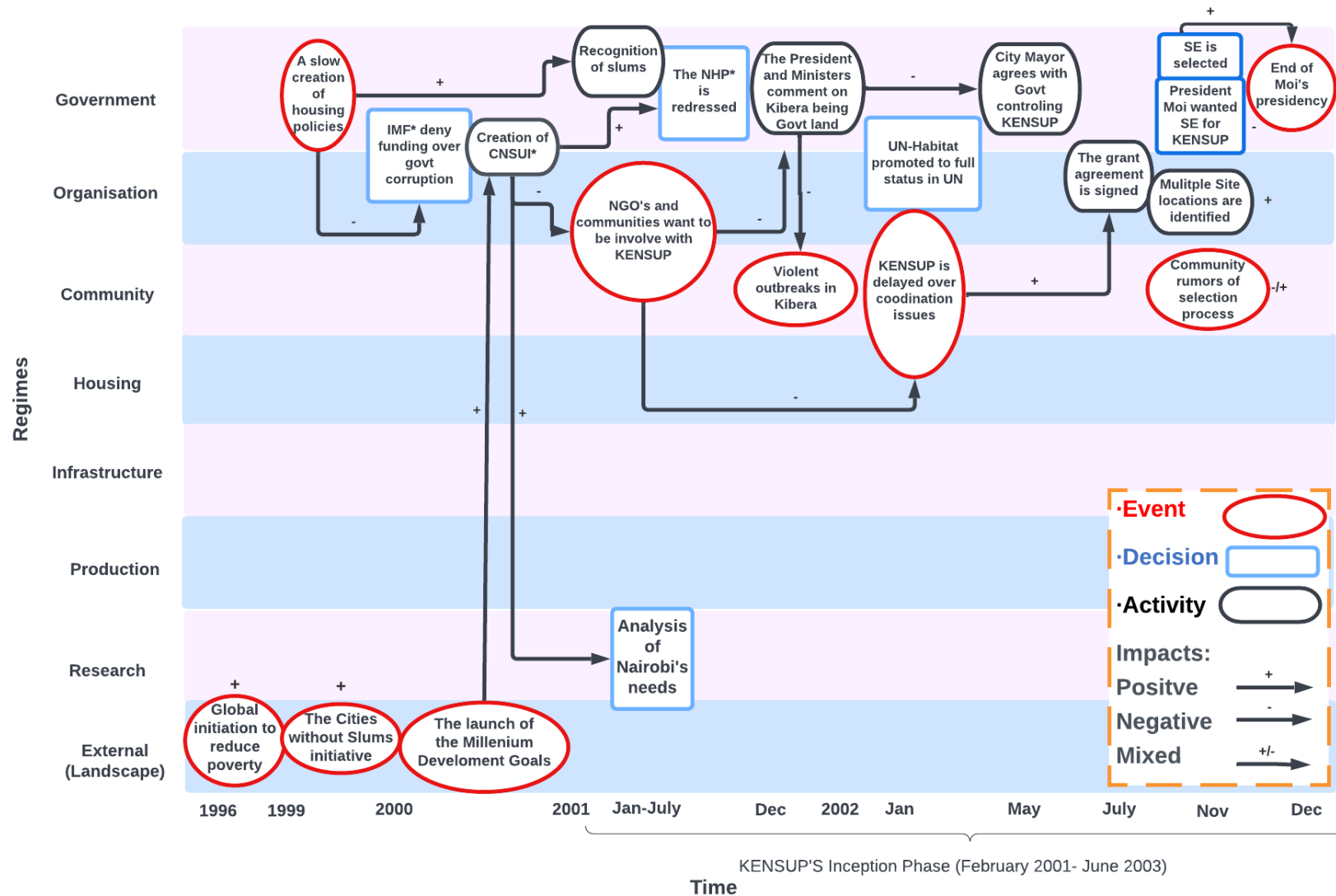
Researchers worldwide have published work focusing on Kibera's many levels of housing. The research regime consisted of universities and academics directly or indirectly involved in KENSUP but provided knowledge of its process. Most researchers explored the impacts of KENSUP using various methodologies outlined in the literature review.

4.5 Step five: A narrative analysis with visual mapping

Figure 31 in step two displays the document type produced per regime from 1992-2022 and highlighted a further investigation of potential narrative points of interest.

A chronological narrative of KENSUP was achieved using the coding and process mapping as explained in step five of the methodology chapter. The process produced over a hundred pages on activities, events and decisions. The data was edited to create a concise chronology of events related to KENSUP. Appendix A has the completed written chronological narrative of KENSUP Soweto East project. The format of a process graph is explained in the methodology chapter. The results from the process chart found links between events, decisions and actions, suggesting a dynamic relationship. An event could be linked to single or multiple events occurring prior to or before its occurrence. The chart also identified the prominent regimes. For example, most decisions occurred on or between the government and community regime. In contrast, there was a low occurrence of events at the housing, infrastructure and housing regimes. This result is discussed further in chapter five. Figures 39-44 are the results of the visual mapping process.

Other indications were the appearance of boxes in a year, suggesting a turbulent period. However, an uneventful period could indicate a delay in the project as a result of a significant event, such as Figure 41, which displays a low occurrence of events during the planning stages of KENSUP but spanned an extended period. Major occurrences could be identified by a cluster of events, decisions and actions, along with their assigned symbol indicating the occurrence being position, negative or mixed based. For example, Figure 42 displays a turbulent period between 2007 and 2009 with a cluster of negative events around the debate on housing designs and the filing of a court case against KENSUP.



*International Monetary Fund (IMF) *The Collaborative Nairobi Slum Upgrading Initiative (CNSUI) that evolved to KENSUP *National Housing Policy (NHP) *Soweto East (SE)

Figure 39. Process chart of KESNUP- Soweto East 1996-2001 Dec

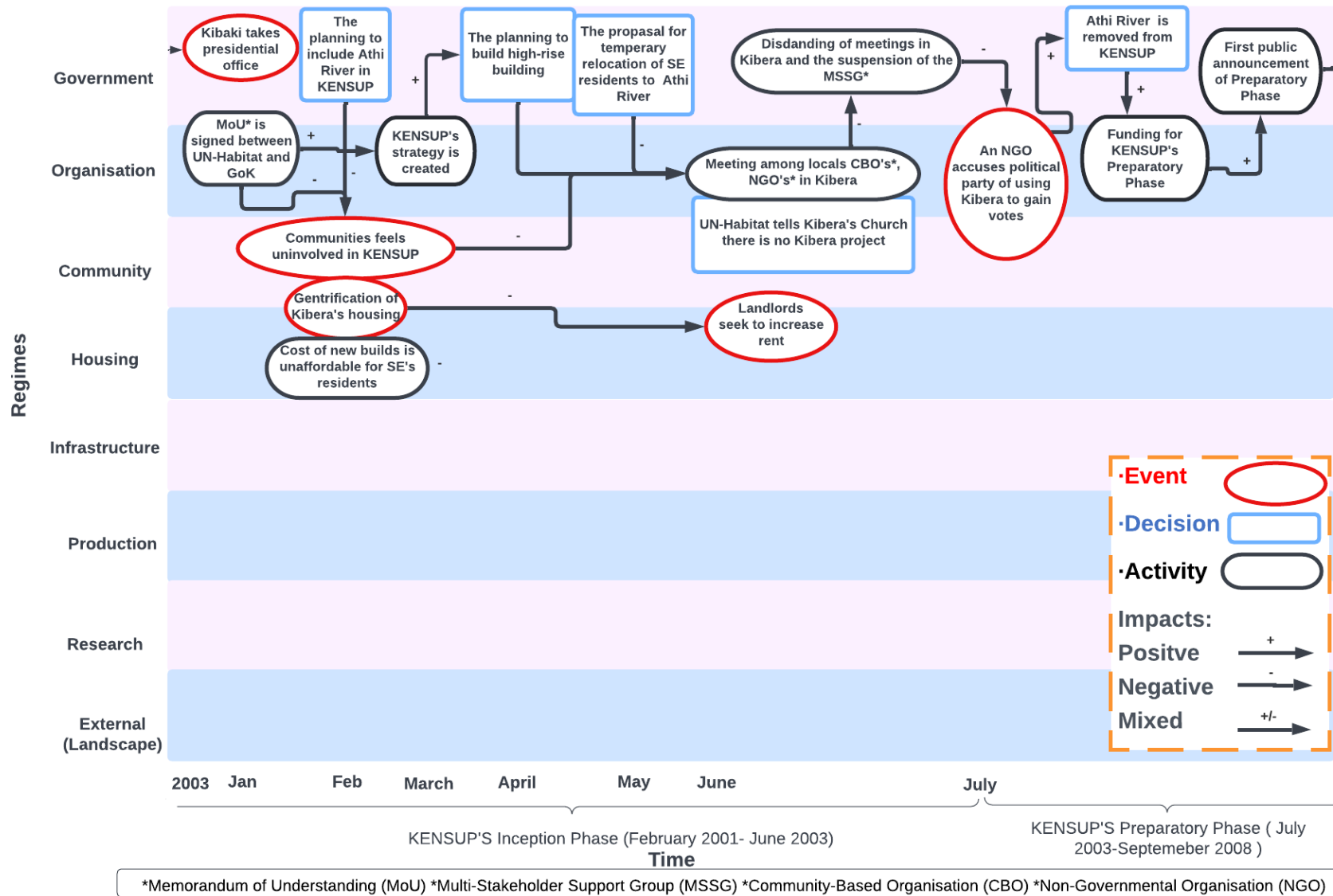


Figure 40. Process chart of KESNUP- Soweto East 2003

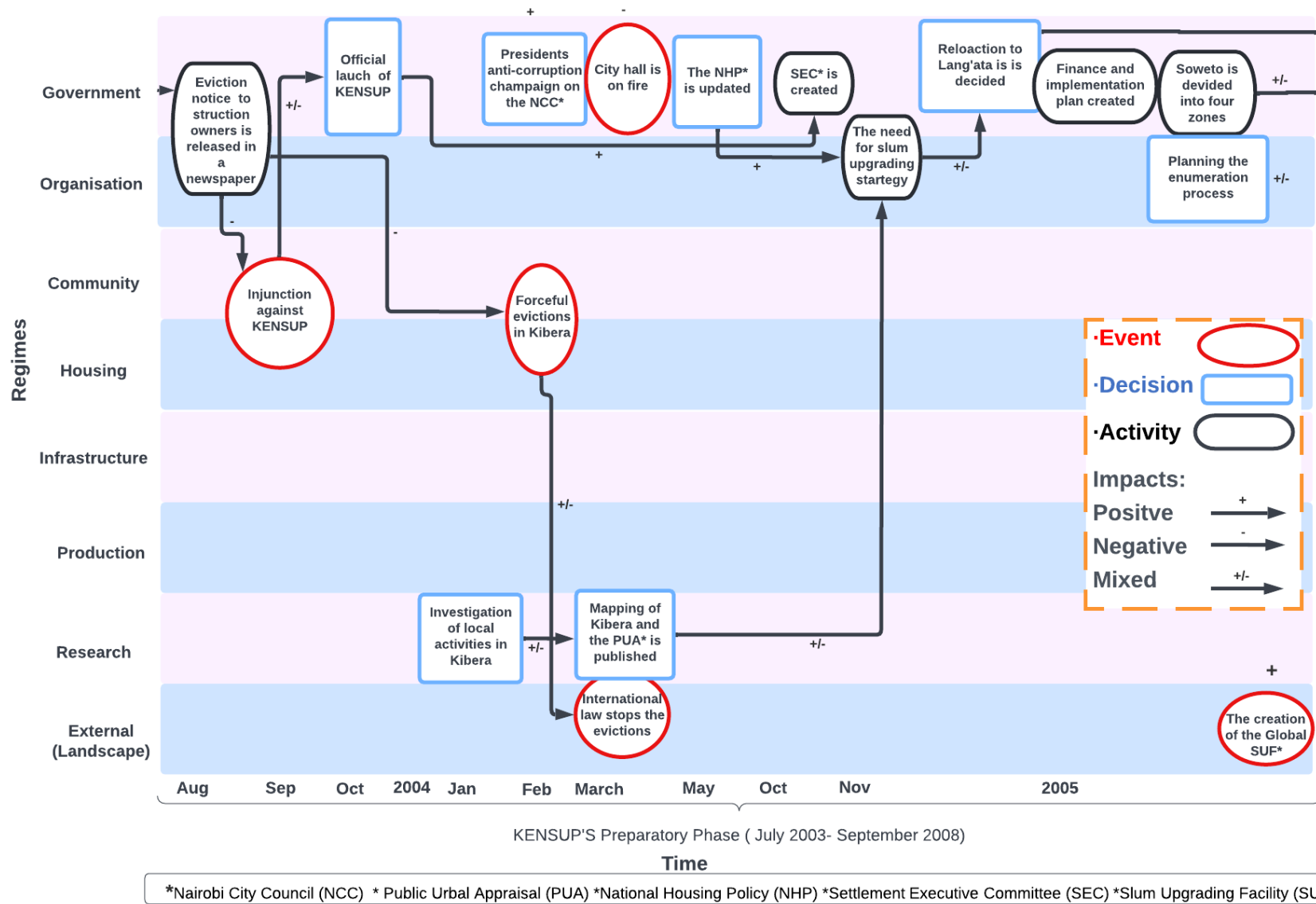


Figure 41. Process chart of KESNUP- Soweto East 2003-2005

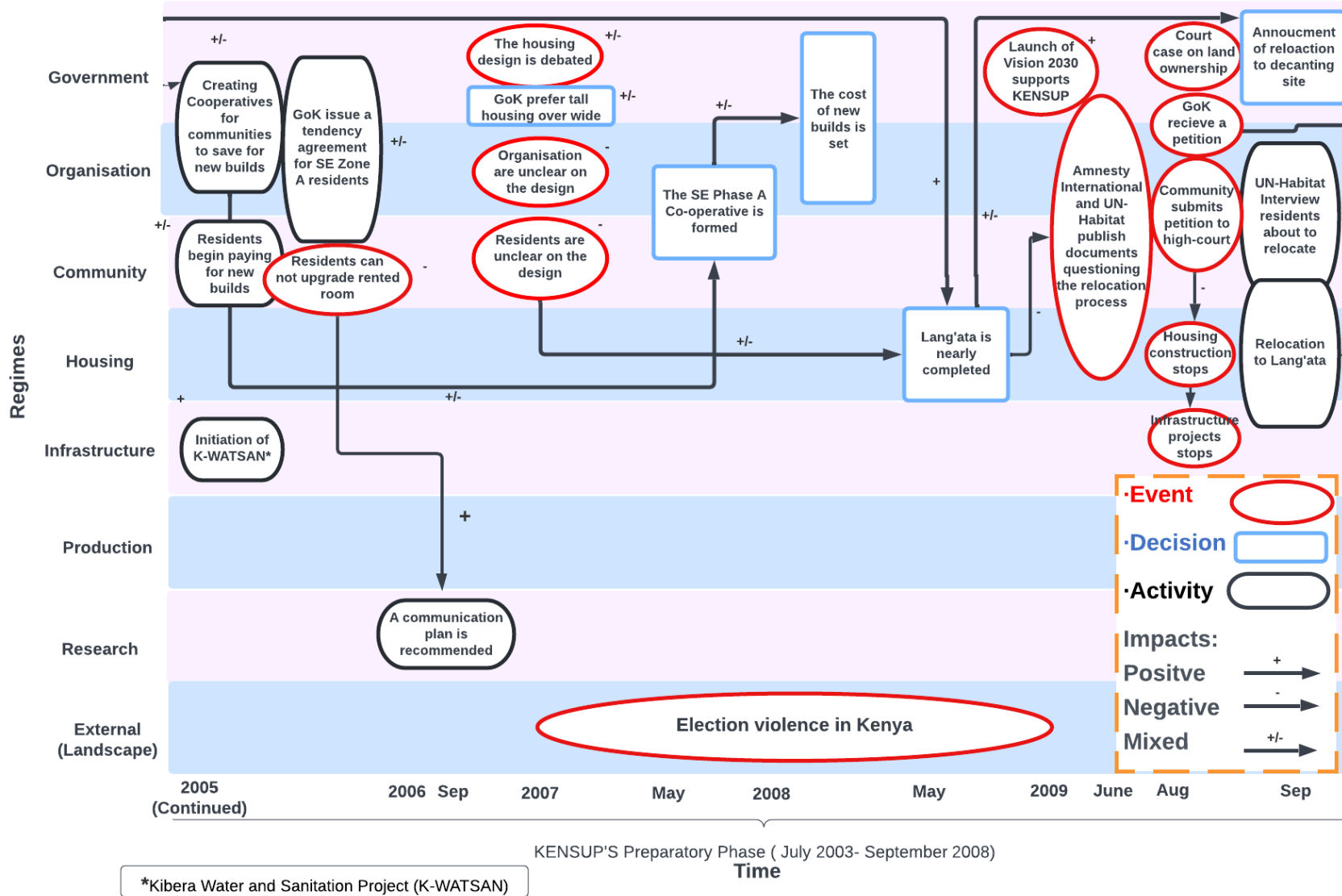


Figure 42. Process chart of KESNUP- Soweto East 2005 (Continued)-2009

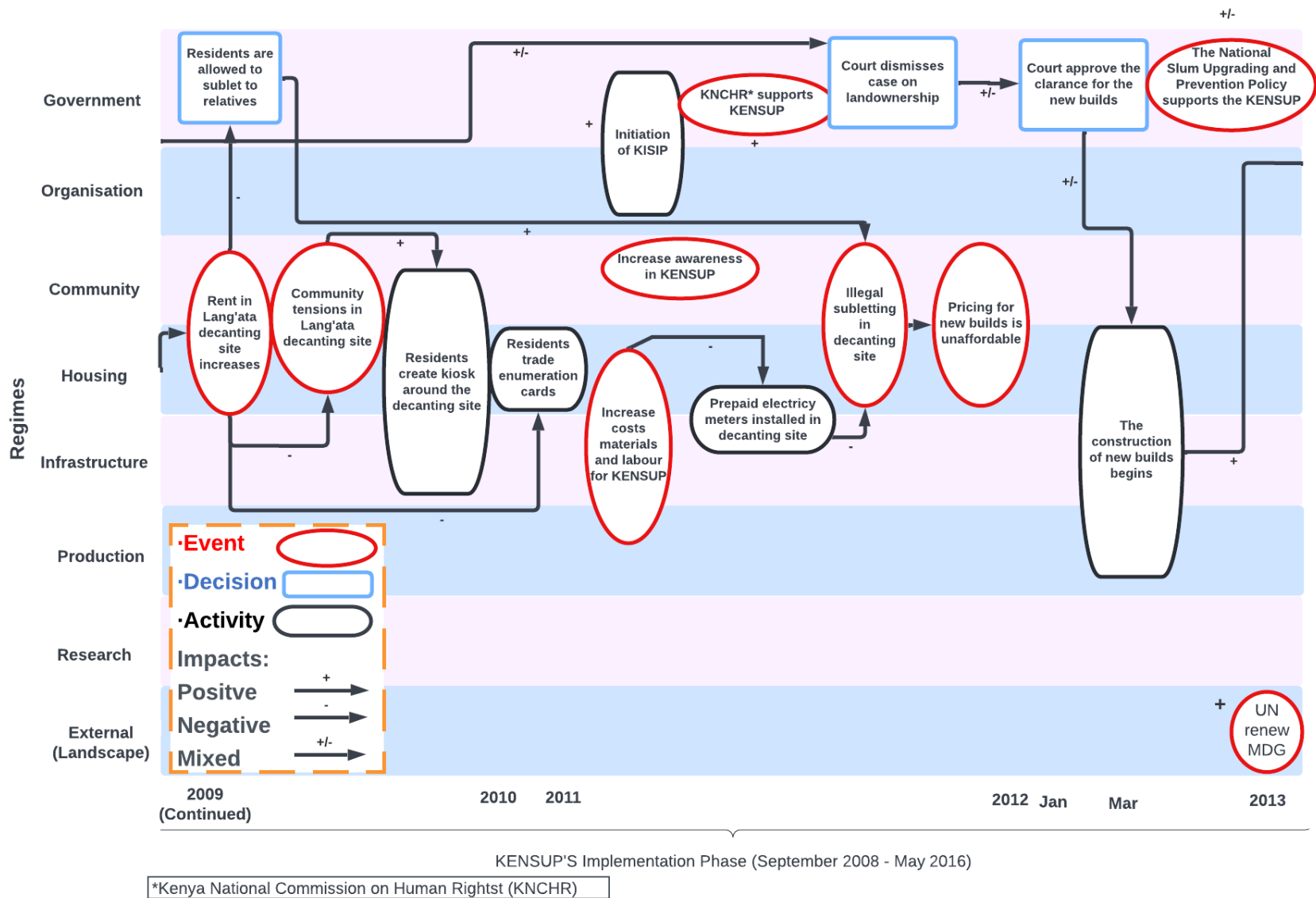


Figure 43. Process chart of KESNUP- Soweto East 2009 (Continued)-2013

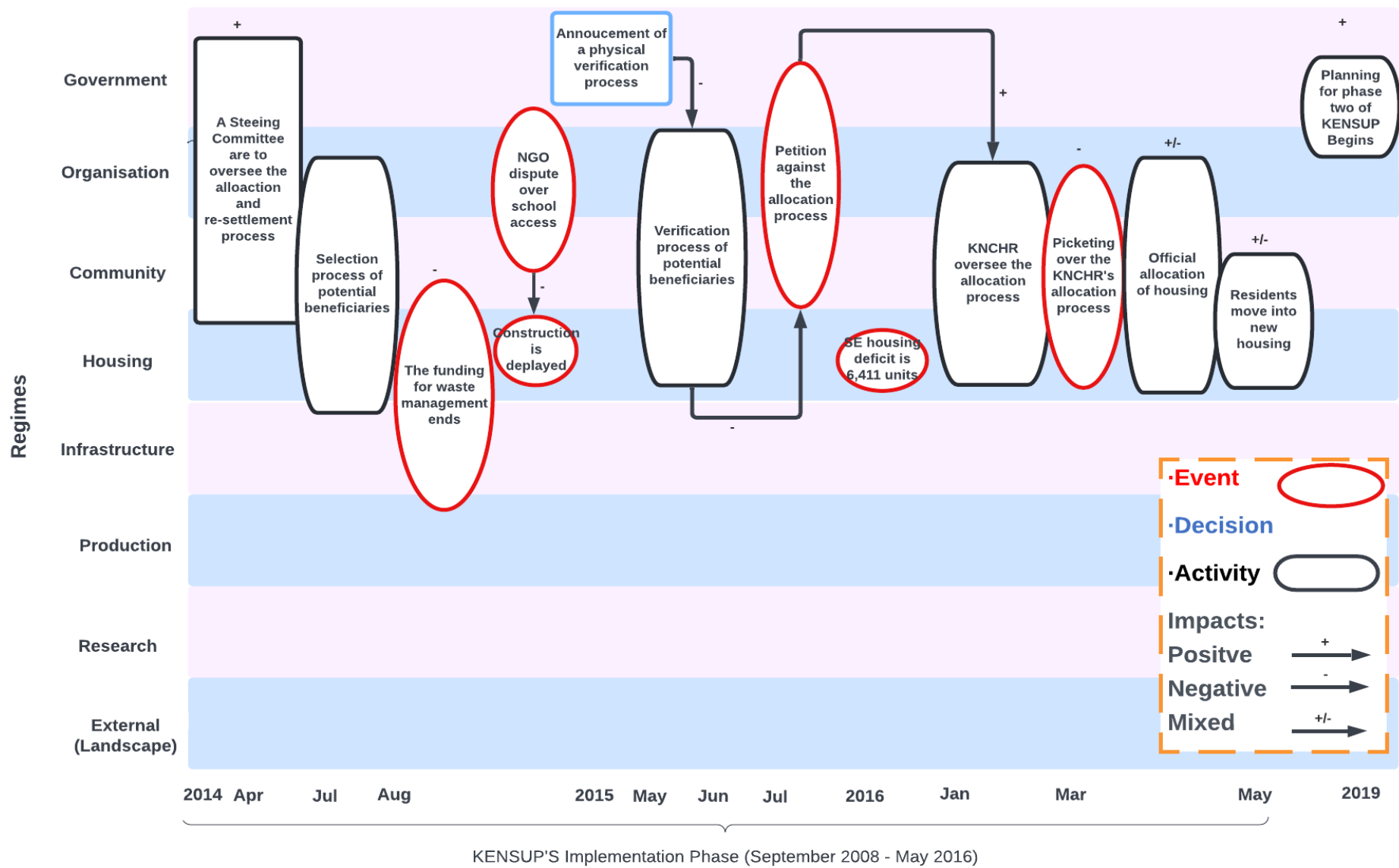


Figure 44. Process chart of KESNUP- Soweto East 20014-2019

4.6 Step six: The rules within each regime

A total of nineteen rules were identified and categorised between each regime. Certain publications discussed the impact rules had on the development of housing in Soweto East. Such as Macdonald's (2014) "*Community perception of slum upgrading initiatives in Soweto East, Kibera (Nairobi, Kenya)*", which assisted in outlining some of Soweto East's normative rules. There were national-level rules, such as government policies to support informal settlements across Kenya. The direct impact of national rules on Soweto East could not be measured due to limited data (See chapter 5 for limitations). The prominent rules in each regime are outlined in the following headings.

4.6.1 Community regime rules

A framework that supports the residents of Kibera was complex, such as there existing over 30 statutory land acts focus on land issues making land ownership "*unnecessarily complex*" (Charles, 2018, p. 47). Residents in Kibera consider housing development a government responsibility, a regulative rule, but most houses were constructed by communities (Meredith and MacDonald, 2017).

There were regulatory rules that supported residents in housing. For example, the General Comment No.4 on the International Covenant on Economic, Social and Cultural Rights (ICESCR) is an international law that gives communities the right to participate in housing projects (ICESCR, 1991).

There were normative rules that supported residents saving for their new apartments using a cooperative. For example, The Soweto East Zone A Housing Co-operative (SACCO) Societies Act of 2008 and the Cooperative Society Act of 2012 promoted the "*welfare and economic interests of its members*" (GoK, 2012a, p. 12; GoK 2019; Ogundele, 2014). The bylaws within the act assisted communities in saving for housing and outlined the expected roles of its members and staff. The act also encouraged the education of its members and staff on the saving process. However, it was unclear if joining the cooperative was mandatory because no other saving mechanisms were identified.

The GoK Tenancy Agreement was another normative rule created for residents living in the decanting site. The agreement outlined the rules and regulations to be followed during residential occupancy. One condition was that no alterations could be made to the rooms, which received mixed expressions from residents because some wanted to redesign their residences.

There were cognitive rules during KENSUP. There were cases of in-laws evicting widows upon the death of their husbands. A widow was expected to return to her parents if she was not a member of the “*clan*” (MacDonald, 2014). Other cognitive rules include a local understanding of political violence, fires and the importance of security that was stated as “*traditional community policing strategies*” (MacDonald, 2014; UN-Habitat, 2014, p. 75). These policies range from “*knowing neighbours, monitoring strangers, and, sometimes, disciplining or publically shaming people who commit crimes*” (MacDonald, 2014; UN-Habitat, 2014, p. 75).

4.6.2 Government regime rules

A published article has analysed the policies and the legal frameworks under which KENSUP was implemented (Solymári *et al.*, 2021). Such as the National Urban Development Policy (GoK, 2016c), the National Land Use Policy (Ministry of Lands, 2009), the National Slum Upgrading and Prevention Policy (GoK, 2013, 2016a), and the National Housing Policy (GoK, 2004, 2016b). Other policies have supported housing development, such as the Kenya Constitution, which gives provisions for the right to accessible and adequate housing and a reasonable standard of sanitation and guarantees citizens the right to a clean and healthy environment (National Council For Law Reporting, 2010). Housing policies have been criticised for their “*lack of inclusion for the provision of low-income housing in the budgetary process*” (Lee-Smith and Lamba, 2000; Muraya, 2006; Amnesty International, 2009, p. 6). However, the GoK stated that they created an institutional structure within KENSUP, so all involved stakeholders have equal representation and opinions on the project. The analyse did not determine the effect of this stated structure. However, other regulatory rules in the government regime associated with Soweto East and its housing development were identified. For example, the Physical Planning Act of 1996 required residents to be involved in the planning process for physical developments of their area (GoK, 2012b).

There was also a national normative rule such as Vision 2030, a long-term development blueprint for making Kenya a middle-income country (GoK, 2018). KENSUP was “*the spirit of Vision 2030*” since it shared the goal of eradicating poverty through informal settlement upgrading (KNCHR, 2015, p.99). Overall, policies that should be supporting Soweto East have been documented as being vague, unaffordable to implement, with unrealistic high standards for infrastructure and housing, and causing a significant setback in housing developments (Lee-Smith and Lamba, 2000; Ogundele, 2014).

4.6.3 Organisation regime rules

A prominent normative rule in the organisation regime was the Post-Judgment Implementation Framework (PJIF). KNCHR used the PJIF to structure the enumeration process for KENSUP. The framework ensured that all “*stakeholders were accountable to each other and their mandates*” (KNCHR, 2015, p. 43).

A Memorandum of Understanding (MoU) was signed between the two leading bodies; Mrs. Anna Tibaijuka, the Executive Director of UN-Habitat, and MP Raila Odinga. The MoU acted as a normative rule because it stated that the GoK had the ultimate responsibility to complete the objectives for the KENSUP and SSUP and to hold the management role to its risks with limited exceptions (UN-Habitat and RoK, 2003). The role of UN-Habitat in KENSUP was limited to project funder and technical supporter. UN-Habitat has displayed a cognitive routine from being involved in several KENSUP projects since 2002, such as the repetition of activities like mapping the target communities through a situation analysis and socio-economic and physical mapping, capacity building of the local authorities and the local communities, and provision of other technical advice to KENSUP partners.

4.6.4 Technical/ housing regime rules

The technical rules in Soweto East focused on the rights to land ownership and housing. For example, the Universal Declaration of Human Rights is a global right to adequate housing and an adequate standard of living. The Kenya Constitution was a regulative rule that defined the form of land ownership and helped resolve land-related issues during the Soweto East project. For example, the KNCHR relied on the constitution during the enumeration process, specifically for provisions of Articles 53 (children), 54 (persons with disabilities), 56 (youth) and 57 (elderly) (KNCHR, 2015).

There were several land ownership rules within the housing regime. For example, under the Kenya Constitution, private land was for individuals with freehold title deeds or government leaseholds. However, there were residency permits from military service or local chiefs: Residency permits were granted to the Nubian veterans of the King’s African Rifle (KAR). Local chiefs also issued land residency in a letter or verbally, and their decision was often unchallenged. A senior political official also issued title deeds. In Kibera, the number of land permits and title deeds spiked after the official launch of KENSUP in 2004. The history of land ownership was studied as part of step seven which explored the landscape of Soweto East.

The housing construction regulations were based on British building codes. The codes require materials and technologies to be applied in housing construction, such as concrete, steel reinforcement, timber, clay tiles, and bricks. Updates to the building codes allowed for stabilised soil blocks. The British Standards were scheduled to be replaced by Eurocodes. However, the codes were not enforced or circulated in Kibera due to unawareness or disregard for the regulations.

The Kenya National Housing Policy was the final prominent rule in the housing regime. The objectives of the policy were to develop principles of involvement of all the target groups in housing development and provide the basis for the participation of the vulnerable groups (GoK, 2004, 2016b). The policy also stated the minimum standard for low-cost housing.

4.7 Step seven: Studying the landscape's effect on Soweto East's regimes

The analyse identified several factors that created Soweto East's landscape. These were Kenya's housing, political and economic structure, cultural and normative values, previous informal settlement upgrading projects, land ownership and tenure, and renting. Each landscape element is outlined in the following headings.

4.7.1 Housing in Kenya that match those in Soweto East

There were similarities in the traditional housing typology found in informal settlements around Kibera. These settlements constructed their housing using similar materials such as wattle and daub, cardboard, and iron sheets. Their limited distinction was using different materials, such as using grass, reeds or palm leaves (also called makuti) for roofing. Informal settlements across Kenya were usually congested with housing sheltering a high population density. There were often no separations from neighbouring structures, resulting in narrow walk lanes and extended rows of attached housing. The housing typology in these settlements was also found in the lower-populated rural and urban areas. The high-rise buildings constructed in KENSUP were used in previous informal settlement upgrading projects across Kenya.

4.7.2 Previous informal settlement upgrading projects

Across Kenyan history, informal settlement upgrading projects did not achieve an overall positive impact from all regimes. Previous initiatives were “*large, centralized projects led by institutions with power and resources*” (Meredith and MacDonald, 2017, p. 2). **Figure 45** on the following page displays three informal settlement housing projects that were identified

during the document analysis and located within 10km of Soweto East. The housing design solution for each project followed a high-rise building design.

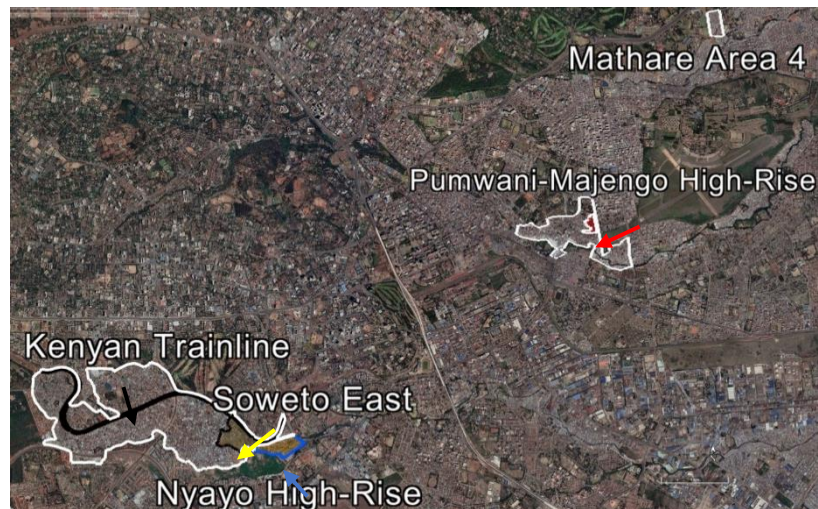


Figure 45. Previous informal settlement upgrading projects near Soweto East.

The 1960s and 70s had a “*low-cost housing program*”, but low-income classes could not afford to rent or purchase the houses (Agayi and Sağ, 2020). A mismanagement of funds was another suspected cause for the program's unsuccessful outcome. Since 1983, Pumwani-Majengo, an informal settlement 6km from Soweto East Project, has undergone several housing upgrading projects. The projects were implemented in partnership with the National Housing Corporation (NHC) and the Kenyan government (National Housing Corporation, 2004; Mgele, 2014; Meredith and MacDonald, 2017). The projects used a four-storey high-rise building to accommodate residents (Figure 46). The project was challenged by residents on rent affordability (Daily Nation, 2021).



Figure 46. A high-rise building constructed in the NHC’s project. Source: Google Maps.

In 1988, housing along the Soweto East railway was demolished as part of a railway expansion line project crossing Soweto East. The affected residents were granted permission to build/rebuild the houses again at a determined distance from the railway lines. Those impacted by the project demonstrated outside the City Hall. In 2004, the Kenya Railway Corporate (KRC) decided to expand the railway line resulting in the mass relocation of residents (Approx 9000 individuals). The relocation project was supported by the World Bank, and Pamoja Trust (an NGO), with administration from the GoK (Charbonneau, 2016). Residents were relocated to new apartment blocks (Figure 47) in Makadara, Kaloleni, and Kibera (Shadrack Mbaka Muungano wa Wanavijiji, 2015). KRC successfully negotiated with residents over issues over land ownership, renting costs and landlord compensation.



Figure 47. A three-story apartment building constructed as part of the KRC's relocation project Source: Muungano wa Wanavijiji, 2015

In the early 1990s, the Nyayo high-rise housing project was another project run by the NHC and GoK. The aim was to construct apartments on the outskirts of Soweto East (Huchzermeyer, 2008). The project aimed to support residents in Kibera, but the demolishing and forced eviction process resulted in the mass displacement of residents (Figure 48). The apartments were unaffordable for their targeted residents, leading to the new builds being occupied by higher-income earners (Mulcahy and Ming-ru, 2002; Huchzermeyer, 2006). In March 1997, the same outcome happened in the Mathare Area 4 project (Primus, 2014) (Figure 49). Adding to this failure was a noticeable rejection of public cooperation in a housing development (Otiso, 2003).



Figure 48. High-rise buildings constructed in Mathare. Source: Primus, 2014



Figure 49. A high-rise building constructed as part of the Nyogo high-rise project

In 2007, the Jamii Bora Kaputei town project was a town upgrading pilot project. The project successfully designed the town and housing for low-income earning to take out affordable housing loans (Belfrage, 2009; Brendah Cece Achungo, 2014). The project provided 2000 homes for an estimated population of 10,000.

Infrastructure projects outside of Soweto East displayed a pattern of mass removal of housing across several villages. The government transport departments aim to improve transportation by constructing a 450km six-lane motorway from Mombasa to Nairobi (KeNHA, 2021). Yet, walking and cycling is the dominant form of transport in Kenya (Khayesi, Monheim and Nebe, 2010; Loo and Siiba, 2018; Okoyo, 2019). Similar government agendas have caused social distress among communities through displacements resulting in criticism from civil-rights organisations (Amnesty International, 2015). Vision 2030 is a long-term government

development to make Kenya a middle-income country with an estimated total of €69 billion of forecasted investments (The Republic of Kenya, 2018). The highest investment in this strategy is infrastructure and housing, which comprise 71% of the budget.



Figure 50. Three aerial photographs of the highway construction through Kibera. Source: Google Earth Pro

In summary, the history of informal settlement upgrading has shown shortcomings in low-income affordability, mismanagement of funds, poor cooperation, and administrative leadership.

4.7.3 *The economic structure within and around Kibera*

Kenya's economy consists of tourism, construction, transport and communications. These were Kenya's fastest-growing areas of the economy since its independence. Their financing comes from private capital and not donor funds. Disasters, both natural and economic, have caused Kenya's economy to collapse, causing an increase in poverty. Kenya is one of the many African countries most at risk whenever there is global instability, such as a recession.

Kibera has a high rate of return for housing investments, with an annual return of 102% or higher, but its economy has yet to thrive (Ehresmann, 2004). One reason is the limited economic support the settlement has received over previous decades. Between 2019 and 2020, 11,624 NGOs were registered in Kenya, but their funding for housing and settlements was below 1% of the total €50 million spent on development and aid projects (NGOs Coordination Board, 2019, 2020). Housing projects are a risky investment for NGOs because of the challenges presented by the complex interactions between stakeholders, governing bodies, infrastructure, and building technology (Hearn, 1998; Reyna and Cassiman, 2012; Mitra et al., 2017).

Kenyans set up their businesses illegally in the informal economic sector. This sector has entrepreneurialism in all trades. Informal businesses were often small, family-run and run close or in the home. The informal economy supported the quality of life in Kenya and contributed to the nation's economy. However, when used in informal settlement upgrading, relocation measures have been shown to impact the informal sector, leading to drastic reductions in income levels for residents.

Rent in informal settlements was often unregulated by the GoK and was a high expense for residents, but the rate was lower compared to accommodation outside the settlement. The cost to rent or purchase a new apartment was a documented reason why residents refused to cooperate in a housing development (Ogundele, 2014; UN-Habitat, 2014). Agayi and Sağ's (2020) evaluation of urban regeneration efforts in Kibera concluded that more than half of the allocated housing from KENSUP was sold, rented, or deserted.

4.7.4 *The impact of Kenya's political system on housing development*

Kenya's political structure has been challenged by strict action and mismanagement of funds, but the nation has resisted these difficulties.

The landscape of Kenya was impacted by former President Daniel arap Moi's twenty-four-year presidency (1979-2003). Moi and his government have been accused of "*exploiting*" Kibera for political advantage (Achungo, 2014; MacDonald, 2014). One accusation was that politicians recruited and trained militias to carry out a political party agenda with extreme force (Ehresmann, 2004). This includes resisting upgrading plans through purposeful miscommunications strategies to turn communities against a project, so the middle-class moves into the new development giving the developers a profit. Uncoordinated slum initiatives spiked under Moi's presidency when he refused his nation's demand for a new constitutional order, which was to include a right to housing (Huchzermeyer, 2006).

President Mwai Kibaki's election win in 2003 gave Kenyans hope for more community support initiatives. However, the unchanged political and administrative structures continued and were reported to have caused the rapid spread of the exploited nature of "*commodification or commercialisation of water, shelter, and sanitation*" (Huchzermeyer, 2008, p. 20).

There were accounts of the mismanagement of funding in Kenya's political system. Political officials, organisations from the private and public sectors, and communities viewed corruption as a "*cancer*" or "*vice*" to the development of Kenyan society (Ehresmann, 2004, p.107). However, the above stakeholders had also been accused of being corrupt (Ehresmann, 2004).

Decades of corruption, such as a misdistribution of funds, have left Nairobi's infrastructure a "mess", causing million-dollar development funds to be cancelled, displacing communities, and causing class distinctions (Wangui and Darkoh, 1992; Ehresmann, 2004, p. 108; Achungo, 2014).

4.7.5 Housing Policy

The policies involved in KENSUP were outlined in step six as part of identifying the rules. The landscape study of policies did not find more data. However, one discovery was the Public Health Act of 1930, which was infamous for legalising the demolishing of informal settlements from the 1930s to the 1970s (MacDonald, 2014; UN-Habitat, 2014). Under the act, informal settlements were demolished to prevent the transmission of diseases, and led to "*Kenya's policy and legislative environment to be historically fragmented*" (UN-Habitat, 2014, p.24). Decades of fear and distrust among residents and unjustified removal of residents in redevelopment projects followed and were present during KENSUP (Amnesty International, 2009).

4.7.6 Cultural and normative values in informal settlements

A culture exists in an informal settlement because traits and knowledge are shared and passed through generations. Ethnicities and tribalism can shape the cultural environment. Ethnicities had a mixed impact on Kenya's development. Kikuyu is the largest ethnic group in Kenya. Other ethnicities are the Luo, Luhya, Kamba, Kisii and Nubian ethnic. All these ethnicities live in Kibera. Such ethnicities determine who makes decisions in land and housing, limiting the inclusiveness of housing initiatives.

Political occurrences, such as general elections, fuelled ethnic conflicts. The perceived rigging of the presidential elections in 2007 triggered violence across Kenya, including Kibera, the spread of conflict in the informal settlement reflected longer-term frustrations and grievances between the Kikuyus and Luos. Soweto is perceived to be a Kikuyu area, whereas Langata is more Luo. There was evidence to suggest ghettoisation by ethnicity, such as in the selection of tenants by informal landlords as a result of the post-election violence and in accusations against Kibera's cooperatives for selecting its members on an ethnic basis.

4.7.7 Land ownership and tenure

Land ownership in Kibera was first identified in step six when exploring the rules in Soweto East. The landscape found land ownership in Kibera was a high priority in housing development because Kibera's land has been subject to decades of debates among residents, landlords and the GoK. Kibera is public land owned by the government, but it was argued to

be a portion of Kenya’s contested lands. The land ownership claim date back to 1912, when the Nubian community settled in Kibera. The Nubians were offered a land permit for serving in the King’s African Rifles during the English colonial period. Various pieces of documentation have emerged since, claiming the right to land, such as title deeds, presidential orders, letters of sale, and others. These documents were used to contest land development, but the regulations to protect homeowners have not successfully resolved such issues. As a result, the issue of land security has stopped residents from investing in their homes over concerns about demolition, displacement and relocation.

4.7.8 Population growth and urbanisation

An increase in Kenya’s population combined with urbanisation has been documented since the nation's independence in 1963 (Figure 51) (UN-Habitat, 2022). Unfortunately, the population of Kibera has not been successfully documented over the same period since multiple sources state conflicting results or research on misinformation about its population (Warah, 2010). The population increased by 14.1 million during the first phase of KENSUP (2003-2016). The population growth was linked to the end of the colonial period, which resulted in a rapid increase in rural-urban migration across Africa (Lee-Smith and Lamba, 2000). Urbanisation increased informal settlement density resulting in a strain on basic provisions and capacity management. Urbanisation also occurred whenever Kenya had a high unemployment rate and an increased rural population. Both of these factors would force the rural areas to move to urban locations, often to informal settlements for work.

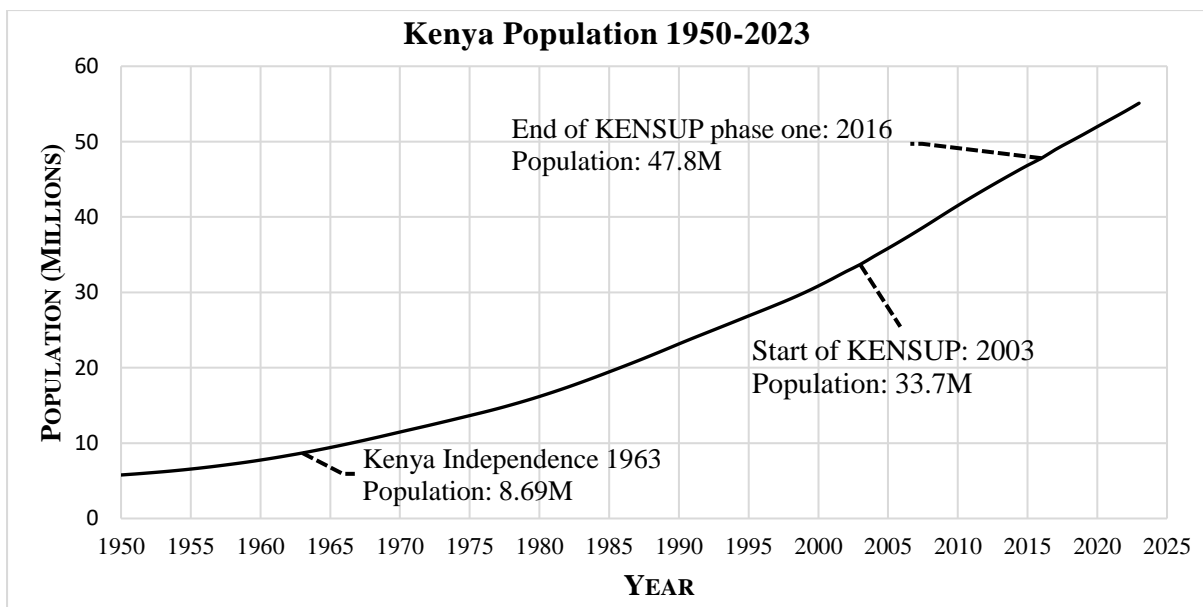


Figure 51. The population of Kenya 1950-2023. Adapted from Marco Trends

4.7.9 Environmental conditions

Kenya has a history of land-related challenges, such as land usage for housing and agricultural development. The land usage issues were connected to a population imbalance in Kenya, with 80% of Kenya’s population being rural (Siu, 2016). Kenya’s agriculture sector remains challenged by poor and long marketing chains, high-cost inputs (e.g., fertilizer), limiting agricultural machinery and high logistics costs (UN, 2018). Kenyans living in rural and urban areas have to resort to unsustainable resources for their essential needs (Raworth, 2012), causing poor agricultural processes, drought, and harsh privatisation of land (Odoemene, 2017).

Most of Kibera’s facilities remain managed by individual owners, such as communal sanitation facilities (e.g., toilets), solid waste management services, and water points. In 2020, the UN reported 60% of Kibera’s residents have access to water points within 50 metres of walking distance, but the water is often rationed at least three days a week (UN-Habitat, 2020a). Figure 52 below displays Kibera’s highly dilapidated solid waste management system, resulting in open dumping on roads, rivers and rails across Kibera.

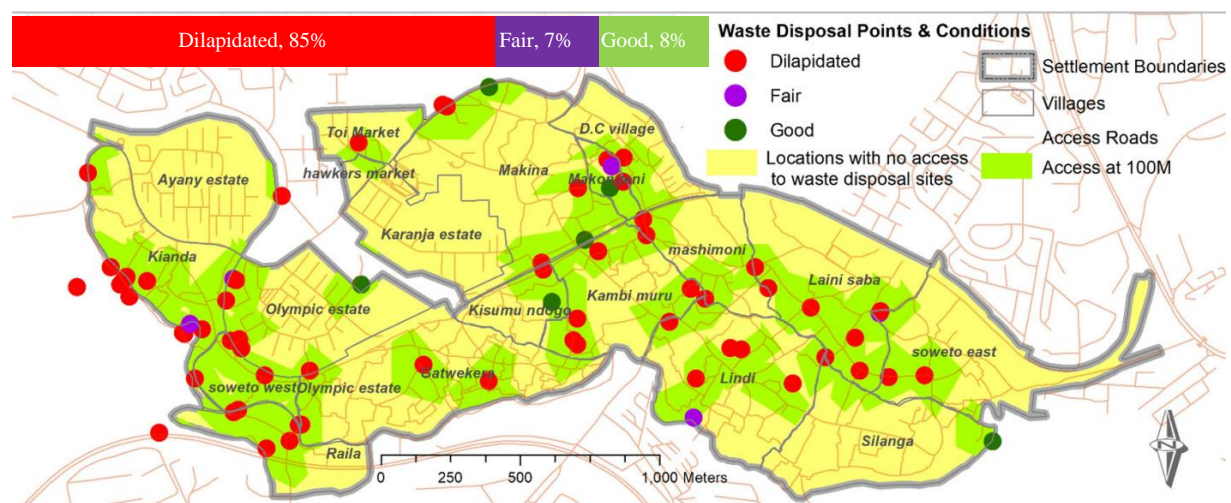


Figure 52. A map with the location and condition of Kibera’s waste management facilities.
Source: (UN-Habitat, 2020)

4.7.10 Summary of Kibera’s landscape

The pre-established conditions in communities do inflict, to an extent, an impact on how regimes formulate their characteristics and actions in response to changes in housing development. The landscape has supported the evaluation process to understand housing by outlining the technical factors, such as materials, size, unit cost, and construction process, and the social factors, such as security, land ownership, accessibility to supports, and renting.

Outlining Kenya's political and economic structure has shown its role as a support and obstacle in housing development. Unsuccessful housing upgrading projects follow a pattern of increased fear and scepticism of future upgrade attempts. There is no proof that KENSUP integrated lessons and recommendations from past housing initiatives.

4.8 Step eight: Analysing the interrelatedness between Soweto East's regimes

A total of 32 relationship codes were manually created using NVivo Pro 12 (See step eight in chapter three for an explanation of this process). The prominent relationships between regimes are outlined with moments of tension and cooperation during KENSUP. Figure 53 below displays the discovered main relationships and their overall type of interactions. Each relationship is now explained.

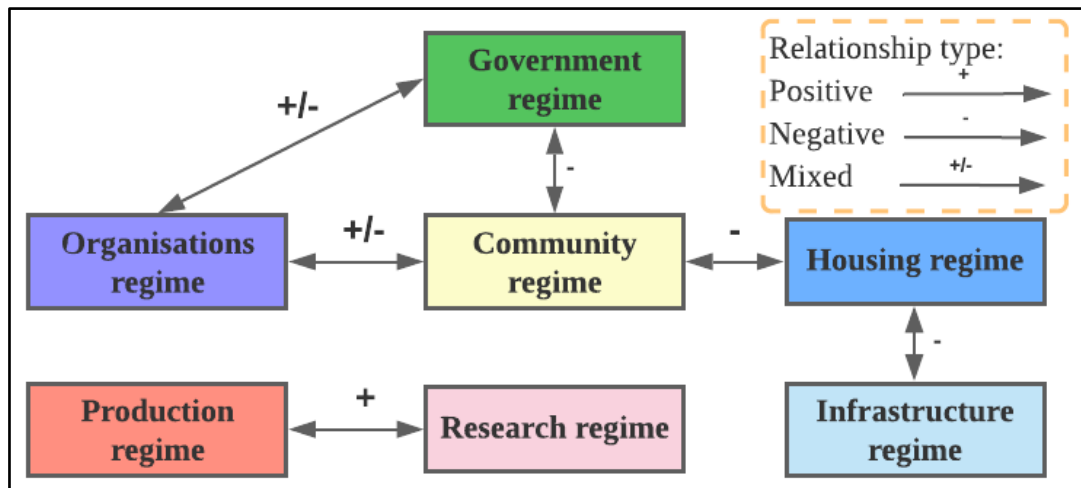


Figure 53. A map of the identified regime relationships

4.8.1 The community-government regime interrelatedness

The community regime had an overall negative relationship with the government regime since the early stages of KENSUP. The initial community perception of KENSUP was negative, such as viewing the project as a threat from the state and expressing minimal hope that the project would improve their livelihood. The community was unsure if the GoK would complete KENSUP.

The government regime viewed the community with great concern because most of Kenya's population was living in poor conditions threatening Kenya's social and economic growth. The Kenyan ministries involved in housing had mixed remarks on participation, such as its intention to be a "hallmark of administration and management" but being "blatant" in the process (Ehresmann, 2004, p.75).

The two regimes had several moments of tension. In 2001, the government questioned the legality of structure owners and claimed Kibera as government land, causing an outbreak of violence in Kibera. Between 2003-2004, there was no communication with Soweto East documented, and certain residents were not aware of KENSUP, adding to the rumours of eviction caused locals and certain structure owners to fear KENSUP. In September 2003, structure owners filed an injunction against KENSUP for alleged government corruption. The community feared that the government would relocate residents to a distant location or the project would affect their income and unemployment. The Ministry of Housing initially intended for residents to relocate to a faraway city. At the same time, the new build was created (See Athi-River controversy appendix E), and forceful evictions did occur in February 2004 with ministry approval before civil rights groups, Pope John Paul II, and Kenya's president halted the process in March.

The relationship between the two regimes has been stressed by poor communication and limited cooperation. For example, during the early development of KENSUP, the goals of the Soweto East project was not clarified nor communicated to the stakeholders resulting in some communities believing that the new builds were free and paid for by the government. The community has expressed its intention to be involved in KENSUP on several occasions. Such as holding community-led meetings and creating a newspaper (The Kiberan) that provided updates on KENSUP when they felt there was no community involvement. There was a mixed perception of GoKs participation with locals. The issues in KENSUP focusing on community participation include the enumeration process, meeting and seminars, supports for information on the project, and pricing for rent.

4.8.2 The organisation-community regime interrelatedness

The organisation and community regime relationship had a mixed relationship based on the type of interaction with specific stakeholders from each regime. The relationship between UN-Habitat and the community was challenged. In 2003, UN-Habitat was unaware of the tensions against upgrading housing in Soweto East. In the early stages of KENSUP's creation, the organisation was also under pressure from donors, the UN General Assembly, and internal pressure for wanting to develop a good reputation. The organisation had mixed reviews on the impact of KENSUP, and certain documents discussed the unsatisfactory result in living standards for the communities throughout KENSUP. In contrast, successful impacts were not in housing but in building schools, roads, and clinics. Organisations like UN-Habitat expressed in their strategy documents that communities need to work independently from external support

to improve their livelihoods and have a relationship with their local authorities and government. The same organisation believed that the success of KENSUP depended on community involvement and trust. In general, the organisation regime views Kibera's communities as strong in their own development but fatigued by the low impacts of KENSUP. Communities believed that a community forum (also called Barrazas) helped increase engagement in the project. Barraza's were accessible to all of the Kiberans (Ogundele, 2014). A KENSUP office also assisted nearby residents in gaining access to information on the project.

4.8.3 The community-housing regime interrelatedness

The community regime had an overall negative relationship with the housing regime since the high-rise buildings created social and commercial challenges for residents but were the only solution when accommodating highly populated areas. The community regime had a mixed reaction when moving into the new apartments. The positive reactions were a sense of entitlement and an improved quality of life. Ownership created a personalised enclosure and a wider living space that offered a sense of freedom. The negative reactions were from residents being angered by the apartment living conditions. In addition, the relocation from Soweto East to Langata affected the income levels of targeted beneficiaries. All residents living in the new-builds and surrounding apartments had an increase in rents as a result of KENSUP.

The community in Soweto East were not applying Kenya's building codes. However, the building regulations were found to not include local cultural preferences, and researchers have highlighted the need for the codes to be adopted in a housing design (Kvarbstrom, 2014).

Governments and local authorities have mainly worked with formal sector builders, ignoring the potential of self-help builders, and community organisations. The supply of materials was a significant expense in any residential construction project (Approx. 68% of the total cost) (Syagga, 1993).

4.8.4 The infrastructure-community regime interrelatedness

The infrastructure regime had an overall mixed relationship with the community regime. Certain residents were documented stating that access to basic provisions such as water and electricity would determine if they felt a change in their livelihood (M'Rabu, 2004; Achungo, 2014). Improvements to Kibera's local roads had mixed reactions. The positive reaction was a boost in local business, access to goods and services, and improved transportation. The negative reactions were the risk of flooding when the roads were not maintained. The community also had tension with the infrastructure regime over issues relating to Kibera having

uneven roads, pathways, and no lighting resulting in a decreased sense of security (Achungo, 2014; UN-Habitat, 2014).

There were mixed tensions over the implementation of council shops. A shop would be a resident's main source of income. However, councils' shops were vandalized, leaving empty land where structures were built to run various businesses out. In both cases, the City Council returned to demolish those structures and rebuild the formal ones.

4.8.5 The housing-infrastructure regime interrelatedness

The housing regime had an overall negative relationship with the infrastructure regime since poor sanitation and drainage systems were increasing the cost for KENSUP as there were too many pit latrines and broken sewage systems. The infrastructure regime understood the provision of basic infrastructures, such as water and sanitation, as a critical component in any upgrading project. The organisation regime's perspective on Kibera's infrastructure noted that these areas needed procedural maintenance following an upgrade in water, waste and sanitary.

The cost of infrastructure was too high, but the use of integrated housing and infrastructure development was to make housing more affordable for the poor. The cost and maintenance of electricity and water were high, with 75% of Kibera's residents accessing water through water vendors who overcharge, making residents pay more for their water than people living in the middle- or high-income areas (Makachia, 2011; Ochieng, 2011).

4.8.6 The organisation-government regime interrelatedness

The organisation and government regime relationship was negative due to coordination challenges in developing KENSUP. A negative time occurred when UN-Habitat was losing the momentum to support KENSUP. One reason was UN-Habitat's "*supporting role*" in KENSUP limiting their decision-making position (Cordaid and IHS, 2004, p. 38; UN-Habitat, 2008b). CBOs and local NGOs believed the functionality of KENSUP's secretariat had decreased, and there were disagreements on the approach to the resettlement (Ogundele, 2014; Kimeto and Somba, 2017). NGOs also did not feel their suggestions to improve KENSUP were being considered by the GoK (Ogundele, 2014; Kimeto and Somba, 2017).

4.8.7 The research-production regime interrelatedness

The research and production regime had a positive relationship. The research regime shared their knowledge through publications to support the growth of the production sector. The research regime understood that soil was the most widely used resource in the construction industry because it was easily sourced, often on the site for building. The soil could also be

used in a manual process, i.e. 400-600 blocks created using a manual press block in an 8-hour work day. The research regime understands that political support is critical when bringing traditional production methods into the formal industry. They understood that ISSBs were a traditional construction brick that the private sector has yet to adopt fully. It was hoped that such a change would increase housing production. The combination of traditional and innovative design solutions (hybridisation) is discussed in chapter five.

4.9 Step nine: Identifying the niches for the high-rise buildings

The process identified the niches protecting the innovative housing design solution in Soweto East i.e. the high-rise design. The design was found to have niches that offered both positive and negative effects.

The high-rise design was protected by powerful groups (e.g. UN-Habitat and the Government of Kenya). Powerful political figures made several decisions on how KENSUP was to be implemented. For example, in 2002, the selection of Soweto East was believed to have been a government decision against the recommendations of a selection committee. This political power in decision-making acted as a niche for developing high-rise buildings in Soweto East. However, the building failed to achieve niche accumulation from the point of view of a low price and performance. The technology niches in KENSUP were the financial investments from the GoK, and its development partners. These partners, such as UN-Habitat, brought in donors that protected the project's agenda. However, there were two events when funding for housing development was denied or delayed based on a lack of a long-term strategy and mismanagement of funds. The first event occurred in 2000, when the International Monetary Fund (IMF) of US\$400 million was denied to Kenya due to a high level of alleged corruption. The second event occurred when the Implementation Phase budget was estimated to be between US\$2.1- 3.5 million, but no donors would support KENSUP until the Implementation Phase began (Ehresmann, 2004). Despite the high-rise building involving powerful stakeholders and funding, the design did not develop a social network between all regimes.

KENSUP also had actors that influenced the mobility of resources (e.g. policymakers, users, manufacturers). The rules in Kibera display a progression in policy, such as the Constitution of Kenya and the National Housing Policy that focused on improving housing across Kenya. However, the perspectives of these policies from the regime's interrelatedness suspect that the implementation of these policies was unsatisfactory. For example, the Kenya National

Commission for Human Rights (KNCHR) became involved in KENSUP to support human rights during the allocation of housing.

KENSUP did not have a shared vision with all the regimes. Although the Soweto East project has social networks to support its development, it was unsuccessful in gaining a holistic outcome. Many stakeholders, particularly from the community regime, displayed the effects of miscommunication of the project's aims, such as not knowing the place for relocation and renting costs. Other expectations from this regime were negative, such as the fear of displacement and mistrust in the government. This confirms that the leading stakeholders did not attract enough awareness of the project during all phases of the high-rise development. A successful niche accumulation could have been achieved if the government had monitored and adapted community expectations.

4.10 Step ten: The shocks/changes to the Soweto East's system

KENSUP experienced pressure in the landscape, such as challenges to its political structure, which may have caused a slow change in the landscape. For example, there was an anti-corruption campaign during the early stages of KENSUP, which ended with a fire being set at Nairobi's city council building (Njeru, Mwaniki and Mugonyi, 2004). The system and network of corruption in its government can be challenging to change. In addition, most previous informal settlement upgrading projects created negative social and financial impacts for its targeted communities. Communities mistrusted housing development projects because they feared their community would be another failed upgrading project and cause displacement and loss of income (Huchzermeyer, 2006). Other potential landscape shocks were in creating or altering Kenya's policy documents. However, the analysed documents suggest they did not impact Soweto East (See step six: Government regime rules). Therefore, it was undetermined whether the impacts of these policies created a shock in the landscape.

The study did not review the potential landscape shocks from the outbreak of COVID-19 since it was outside the established timescale. However, the aftermath of this outbreak was understood to risk 24 million Africans being pushed into poverty (Mahler *et al.*, 2020; Ncube, 2020; SDSN, 2020). Another potential landscape shock for further evaluation was the scheduled closure of two of Kenya's refugee camps, Dadaab and Kakuma.

The regime level did experience shocks during KENSUP, such as the use of forced evictions disrupting all regimes, specifically the community. The most impactful shocks experienced at the regime level were filed petitions. Petitions caused a complete halt to KENSUP, resulting in

an impact on all regimes. For example, a petition for landownership was filed in August 2009 and halted the construction process until its dismissal in December 2011. The same effect occurred when a petition over the enumeration process was filed in July 2015 and was resolved in March 2016. Other shocks at the regime level were experienced by fewer regimes, such as the community regime undergoing several shocks during KENSUP. For example, the relocation to the decanting site, the rent increase, and the changes to their sources of income.

The niche level did experience shocks during KENSUP, specifically whenever the funding for KENSUP was denied. For example, in 2000, the International Monetary Fund (IMF) of US\$400 million was denied to Kenya due to a high level of alleged corruption.

4.11 Step eleven: The innovative journey of KENSUP's housing from the four-phase in transition theory

The innovative journey of KENSUP was determined by following the theory of the four phases and a template explained in Step 11 in the methodology chapter. The researcher answered the questions based on the data gathered from the STE process and the results from the survey. The survey outlined in step 13 was created to help answer and confirm the tables' results. Figure 55 in step 13 displays the list of question (Q1-18) on the survey and their results. All the steps and questions are referenced appropriately under the column "*Main sources of data*". However, some answers were undetermined based on contrasting or limiting data, or requiring a further investigation (See chapter five for a discussion on the STE's limitations)

4.11.1 Summary of phase one: The emergence of a solution to a project

Phase one of an innovations journey focus is on the emergence of a housing solution to KENSUP, and if it was it was unguided by rules, standards, policies, or governance structures. Table 17 below answers the questions that focus on identifying the first phase of KENSUP's innovation journey. Phase one is now summarised in the following paragraphs.

In the first phase, the high-rise buildings were not "*ready-made*" solutions, and there were deep uncertainties about users and their specific preferences. This caused a lack of communication between stakeholders and complicated the structuring of KENSUP's goals. This result was supported by the selection of housing development and the confusion over what villages in Kibera would be supported.

Social groups did experience adverse side-effects from KENSUP by having their sources of income changed, increased fear of relocations, and feeling insufficiently consulted in decision-making. This resulted in social acceptance problems hindering the progression of the project.

There were “*niche advocates*” who attempted to alter wider contexts through political lobbying and institutional entrepreneurship (Raven *et al.*, 2016), but incumbent regime actors actively resisted these changes (Geels, 2014). In Kibera, the niche advocates were Amnesty International, the pope, and the UN and Kenya government departments, who sought changes in the housing development system by lobbying, publishing reports or making public announcements.

Table 17. KENSUP’s phase one criteria results

Statement	Yes	No	Comment	Main sources of data
The Soweto East high-rise building was an experimental design.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The design was used in previous upgrading projects.	Step 7 on Kenyan housing and previous development projects.
Residents in Soweto East were offered information on the housing design used for KENSUP.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	No, the information was limited and caused confusion among villages.	<ul style="list-style-type: none"> • Step 8; the community-government regime interrelatedness. • Step 13: Q14 on the survey.
There were competing claims and promises from the stakeholders involved in KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Residents believed the housing would be free, which was not the case.	<ul style="list-style-type: none"> • Step 8; the community-government regime interrelatedness. • Step 13: Q5 on the survey.
The stakeholders involved in KENSUP were uncertain of their roles.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	UN-Habitat and the GoK’s roles were determined in the signing of the memorandum in 2003.	<ul style="list-style-type: none"> • Step six: Organisation regime rules. • Step 13: Q6 on the survey.
KENSUP had financial support and interest from investors/donors.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The funding was sourced by many stakeholders.	<ul style="list-style-type: none"> • Step 5: The map of stakeholders, including donors, and the narrative analysis had events when funds were received. • Step 13: Q3 on the survey.
There was never a risk of losing financial support for KENSUP .	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The IMF halted their funding, but the project still continued.	<ul style="list-style-type: none"> • Step 5: The map of stakeholders, including donors, and the narrative analysis had events when funds were received. • Step 13: Q3 on the survey

KENSUPs' targets and goals were created at an early stage.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The goals were presented in a KENSUP strategy document in 2004.	Step 5: The narrative analysis documented the goal to support informal settlements since Nov 2000.
An analysis of the locations was conducted before KENSUP's implementation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There were evaluations on the conditions of informal settlements during the site location process in 2002.	Step 5: The narrative analysis found that in November 2002, Soweto East was selected as the first site.
KENSUP was monitored and evaluated throughout its development.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Most documents and survey results suggest that this was limiting.	Step 13: Q4 on the survey.
A high rate of unsuccessful housing upgrading projects happened in and around Kibera.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The landscape indicates this to be true.	<ul style="list-style-type: none"> • Step 7 on Kenyan housing and previous development projects • Step 13: Q15 on the survey.
The high-rise buildings were “ <i>too new</i> ”, which caused their image to be unfamiliar or strange for their future occupants (Geels, 2004).	<input type="checkbox"/>	<input type="checkbox"/>	Undetermined from the evaluation. The question should be answered by Soweto East's residents.	N/A
KENSUP fitted in with existing societal norms and beliefs.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The project did not accommodate the use of homes also acting as shops.	<ul style="list-style-type: none"> • Step 4 for an outline of regimes • Step 7 on Kenyan housing and previous development projects. • Step 8: Relationships involving the community. • Step 13: Q10 on the survey.

4.11.2 Summary of phase two: Stabilisation in Small Market Niches

Phase two of an innovations journey address if the housing solution became popular and started to be standardised after showing positive social and technical results (Anderson and Tushman, 1990). Phase two is now summarised in the following paragraphs, see Table 18 below for an outline of the results of phase two.

In the second phase, radical innovations should break out of protected spaces and establish a foothold in one or more market niches. There is also meant to be a learning process focused on

improving functionality and performance rather than cost (Wilson and Grubler, 2011). The high-rise building for Soweto East did manage to make a foothold in the housing market. This breakthrough was only made possible with political support from the GoK and financial backing from an organisation like UN-Habitat.

Social networks and alliances did become more extensive in the second phase. The participation of more actors increased the resources into niches, but it did not increase the legitimacy of the high-rise building (Schot and Geels, 2008). Dedicated professional groups (e.g. Settlement Executive Commission) emerged with a new body of knowledge. For example, there were several attempts to lobby for more policy support in housing development and an event that prevented the controversial eviction process of residents living in Kibera.

Preventing social interactions between regimes did not help remove uncertainties about KENSUP. According to Geels and Deuten, had social interaction occurred, shared future visions would have been established among all stakeholders. This view is supported by several events of communities seeking involvement throughout KENSUP.

Table 18. KENSUP’s phase two criteria results

Phase two questions:	Yes	No	Comment	Main sources of data
Residents paid a higher rent to live in the high-rise buildings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The cost of renting was increased.	<ul style="list-style-type: none"> • Step 5: The economic structure around Kibera. • Step 13: Q13 on the survey.
KENSUP lived up to the residents’ expectations.	<input type="checkbox"/>	<input type="checkbox"/>	There were mixed statements from the evaluations.	Step 13: Q12 on the survey.
There was strong political support for KENSUP.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The senior stakeholders were from governing bodies.	<ul style="list-style-type: none"> • Step 4: The government regime and the map of stakeholders. • Step 9: government niches. • Step 13: Q1, 2 and 8 on the survey.
There was strong residential support for KENSUP.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residents did not support the project, specifically, organisations managed the residents.	<ul style="list-style-type: none"> • Step 5: Negative events on the narrative chart. • Step 8: relationships involving the community. • Step 9: community niches. • Step 13: Q1, 2 and 9 on the survey.
KENSUP had lobbying and petitions	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Several petitions from landlord and	<ul style="list-style-type: none"> • Step 5: Negative events involving petitions.

against its development.			residents. There was lobbying against the enumeration process.	<ul style="list-style-type: none"> • Step 13: Q11 on the survey.
There was an increase in social networks/ stakeholder involvement during KENSUPs' development.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	It started with UN and GoK to several more stakeholders, as shown in the socio-technical map.	<ul style="list-style-type: none"> • Step 4: The map of stakeholders. • Step 13: Q7 on the survey.
Residents' trust in the project increased over time.	<input type="checkbox"/>	<input type="checkbox"/>	Undetermined if and when this occurred.	Step 5: Mixed impact of events on the process chart.
Policies were created that supported KENSUP.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Several policies around housing were created during the project.	<ul style="list-style-type: none"> • Step 6: Government rules. • Step 7: Housing policy. • Step 13: Q8 on the survey.
The policies had an impact on KENSUP.	<input type="checkbox"/>	<input type="checkbox"/>	Undetermined as their impact has not been monitored.	<ul style="list-style-type: none"> • Step 6: Government rules. • Step 7: Housing policy. • Step 5: Mixed impact of events on the process chart. • Step 13: Q8 on the survey.
KENSUP had increased investments in its development.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The world bank became involved in launching the KISIP. However, the private sector was not documented to be investing in KENSUP.	<ul style="list-style-type: none"> • Step 4: The regimes. • Step 5: The narrative analysis. • Step 13: Q3 and 7 on the survey.
The original goal remained unchanged throughout KENSUP.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	There were alterations to the moving-in process. UN-Habitat completed projects on Kibera's infrastructure.	<ul style="list-style-type: none"> • Step 5: The narrative analysis. • Step 6: The organisation rules. • Step 13: Q5 on the survey.
There was a competition between the development of high-rise buildings and the existing housing conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	There was resistance from landlords who didn't want to lose renting the informal housing, and certain residents decided to continue living in informal housing.	<ul style="list-style-type: none"> • Step 5: Negative events on the narrative chart. • Step 7 on Kenyan housing and previous development projects. • Step 8: Relationships involving the community. • Step 13: Q5, 9 and 16 on the survey.

4.11.1 Summary of phase three: Diffusion and struggles against the existing system

The results of phase three explore if high-rise buildings entered Kibera's mainstream housing market, and policy adjustments to support the housing design solution (Geels *et al.*, 2019). Table 19 on the following page outlines the third phase of KENSUP's innovative journey.

In the third phase, the innovation diffuses into mainstream markets. It competes with the existing technology in terms of performance (Geels, 2002). Widespread diffusion is characterised by “*evident struggles and conflicts between actors associated with niche innovations and existing systems*” (Geels and Turnheim, 2022, p.27). There wasn't equal competition in the construction of high-rise buildings during the first phase. The existing housing typology was not protected when compared to the high-rise buildings. The tensions over land ownership and renting structure weakened the opportunity for traditional housing to compete against KENSUP. To protect their vested interests, incumbent actors resisted or delayed the transition by filing petitions.

During the third phase, radical innovations may fail to build sufficient momentum or suffer setbacks. This was more critical considering that there is an informal market in Kibera. These informal markets, community-based organisations, and small-scale NGOs caused considerable backlashes, such as the filing of petitions and publishing reports condemning housing developments. Even in later developments of KENSUP, these organisations lead to delays, debates and stalemates.

Important drivers of diffusion are cost reductions and performance improvements (Arthur, 1988). The high-rise building did not offer cost reductions due to increased residents' rent payments and the cooperative's saving system. These two events created a burden and stress to residents whose income source changed due to relocating to another village. However, KENSUP did have the number of actors increase rapidly, which assisted in the diffusion phase, yet diffusion did not occur because of limited stakeholder interactions and positive feedback from all regimes (Kanger *et al.*, 2019; Mylan *et al.*, 2019). Positive user experiences and the emergence of new industries and jobs could have assisted in gaining or boosting the support from the community, production, and housing regime (Roberts and Geels, 2018).

Table 19. KENSUP’s phase three criteria results

Phase three questions	Yes	No	Comment	Main sources of data
The high-rise buildings establish a foothold in Kibera’s housing market.	<input type="checkbox"/>	<input type="checkbox"/>	Undetermined.	<ul style="list-style-type: none"> • Step 5: Event around the implementation of housing. • Step 13: Q16, 17 and 18 on the survey.
The upgrading process increased employment in Kibera.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The residents lost their sources of income during the relocation process.	<ul style="list-style-type: none"> • Step 5: Negative events on the process chart. • Step 8: Relationships involving the community. • Step 13: Q9, 10, and 13 on the survey.
Landlords tried to delay the development of the high-rise buildings.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A petition was signed by landlords and submitted to the high court.	<ul style="list-style-type: none"> • Step 5: Events on the process chart. • Step 13: Q11 on the survey.
Improvements to existing housing occurred to defend against high-rise buildings.	<input type="checkbox"/>	<input type="checkbox"/>	Undetermined.	<ul style="list-style-type: none"> • Step 5: Events on the process chart. • Step 7: Landscape on housing. • Step 13: Q16,17 and 18 on the survey.
There were struggles over the framing of problems and solutions throughout KENSUP.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	The UNCHR struggled to create a solution to the enumeration process.	<ul style="list-style-type: none"> • Step 4: The outline of regimes. • Step 8: Moments of tensions between regimes. • Step 13: Q5 on competing claims.
There were public debates over KENSUP.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	International organisation brought public attention on the upgrading process, specifically when evictions started.	<ul style="list-style-type: none"> • Step 5: Events on the process chart. • Step 8: Moments of tensions between regimes.

4.11.2 Summary of phase four: reconfiguration

The results of phase four explored if the socio-technical system changed to support the housing solution by having it safely regulated and accepted by regimes. Table 20 below outlines the fourth phase of KENSUP’s innovative journey.

In the fourth phase, new technologies replace existing ones, which thus decline. This replacement is accompanied by further system reconfiguration, including creating and expanding new infrastructures and industrial supply chains (Hughes, 1994). The high-rise buildings did not replace the existing housing typology in Soweto East. The building typology is expanding into other phases, but these were not part of the scope of this research.

Social networks are meant to expand and stabilise in relation to the new system over a gradual period. There was still tension between regimes, such as issuing land rights between the community and governing regime at the end of the first phase of KENSUP. There were also internal tensions within the community regime between the landlords and tenants.

Table 20. KENSUP’s phase four criteria results

Phase four questions	Yes	No	Comment	Main sources of data
The high-rise building or similar designs will replace the existing housing typology in Soweto East.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	KENSUP completed phase one, and more are scheduled. The railway and NHC use of the same design also supports this claim.	<ul style="list-style-type: none"> • Step 5: The event of planning phase two. • Step 7: The landscape of Kenyan housing and previous housing projects. • Step 13: Q16 on the survey.
KENSUP created a new direction for housing development.	<input type="checkbox"/>	<input type="checkbox"/>	Undetermined from the evaluation.	Same as above i.e steps 5, 7 and 13.
Residents in Soweto East will adapt to living in high-rise buildings.	<input type="checkbox"/>	<input type="checkbox"/>	Undetermined from the evaluation.	Step 13: Q17 on the survey.

4.12 Step twelve: Soweto East transitions’ typology

The answers from the innovative journey assisted in identifying the transition typology by learning what occurred at each phase.

The first table (Table 21) determined that KENSUP did not follow a reproduction transition. The transition scored 0/5 because of pressures and changes at the landscape, regime and niche levels.

Table 21. The criteria to determine a reproduction transition

<i>Reproduction Transition</i>	Yes/no/ unknown	Main sources of data
There was no pressure to the landscape.	No	<ul style="list-style-type: none"> • Step 5: Negative events on the narrative analysis • Step 7: Landscape study • Step 8: Relationships with tensions
The orientation of actors managing housing remained unchanged.	No	<ul style="list-style-type: none"> • Step 4: The regime arrangement map • Step 5: Events when stakeholders were created or removed
The housing design remained unchanged.	No	Step 7: The landscape study on Kenyan housing and previous housing developments
Regimes could manage housing changes without innovative design solutions, i.e. the regimes were stable.	No	<ul style="list-style-type: none"> • Step 8: The relationships with tensions and stability • Step 13: Q18 on the survey.
New housing solutions could not enter the market because there is no demand for them.	No	Step 5: The negative events relating to housing construction and rent
	Total Yes answers: 0/5	

Table 22 below determined if KENSUP was a transformation transition. The score was 5/6, indicating that the project had the characteristics of a transformation. However, a transformation requires there to be no housing solutions in place to resolve the pressure from the landscape. KENSUP had the high-rise building as a solution. Therefore, it was not a complete transformation.

Table 22. The criteria to determine a transformation transition

A transformation Transition	Yes/no/ unknown	Main sources of data
There was some pressure to the landscape.	Yes	<ul style="list-style-type: none"> • Step 5: The negative events from the narrative analysis that some pressure • Step 7: Landscape study • Step 8: Relationships with tensions

There were no housing solutions to resolve the pressure.	No	<ul style="list-style-type: none"> • Step 3: Kibera’s housing typology • Step 7: The landscape study on Kenyan housing and previous housing developments
There is external pressure to change housing.	Yes	Step 5: The events from the narrative analysis that suggested pressure to the system
Regimes begin to change the design of housing.	Yes	<ul style="list-style-type: none"> • Step 3: Kibera’s housing typology • Step 7: Landscape Kenyan housing and previous housing developments • Step 8: Relationships around the housing design
The design of housing incorporates designs external to the system.	Yes	<ul style="list-style-type: none"> • Step 3: Kibera’s housing typology • Step 7: Landscape Kenyan housing and previous housing developments
There were changes to the rule in housing design/ development.	Yes	Step 6: Housing rules
	Total Yes answers:5/6	

Table 23 below determined if KENSUP was a de-/re-alignment transition. The transition scored 5/8, indicating that the project had the characteristics of a de-/re-alignment. The transition included the loss of momentum, trust, and finance, which did occur during KENSUP. However, similar to a transformation, the transition required no housing solutions to resolve the pressure from the landscape. KENSUP’s solution to housing was high-rise buildings. In addition, the high-rise buildings were the only emerging design solution during the first phase. Therefore, KENSUP was not a complete de-/re-alignment transition.

Table 23. The criteria to determine a de-/re-alignment transition

A de-/re- alignment Transition	Yes/no/ unknown	Main sources of data
There is rapid pressure from the landscape.	Yes	<ul style="list-style-type: none"> • Step 5: The events from the narrative analysis that suggested rapid pressure to the system • Step 7: Landscape • Step 8: Relationships with tensions
There is a shock to the socio-technical system.	Yes	<ul style="list-style-type: none"> • Step 5: Events on narrative analysis that involved multiple regimes • Step 10: Shocks and changes to the system

There is internal pressure among social groups involved in housing.	Yes	Step 8: Relationships with tensions
There is a loss of momentum/trust/financing in the leaders in housing development.	Yes	<ul style="list-style-type: none"> • Step 5: Studied events on narrative analysis that involved finances • Step 8: Relationships with tensions
There is no housing solution to resolve the problem when the problem emerged.	No	<ul style="list-style-type: none"> • Step 3: Understanding the existing housing solutions in Kibera • Step 4: Identified the regimes involved in creating housing solutions • Step 8: Identified the relationships with alignments to develop housing
The problem resulted in many solutions emerging. Particularly by housing developers external to the original socio-technical system.	No	<ul style="list-style-type: none"> • Step 4: Identified the regimes involved in creating housing solutions Step 8: Relationships with alignment to develop housing
There was a period of competitiveness between the housing developers.	Yes	Step 8: Relationships with tensions
A housing development created a design solution, and the system was restored.	No	<ul style="list-style-type: none"> • Step 4: Regimes • Step 8: Relationships with alignment to develop housing • Step 10: Shocks and changes to the system
	Total Yes answers: 5/8	

Table 24 below determined if KENSUP was a substitution transition. The transition scored 3/5, indicating that the project had the characteristics of a substitution. The transition focused on the regime's shocks and tensions, which occurred in KENSUP. However, there was no known competition between housing developers because KENSUP was the leading developer of a housing solution during the set timescale. In addition, the design solution did not restore the system after its completion because residents expressed dissatisfaction with the final design, and UN-Habitat sought to improve the housing process in the second phase of KENSUP.

Table 24. The criteria to determine a substitution transition

A substitution transition	Yes/no/unknown	Main sources of data
There was a shock to the socio-technical system.	Yes	<ul style="list-style-type: none"> • Step 5: Events from the narrative analysis with large impacts

		<ul style="list-style-type: none"> • Step 7: The landscape study • Step 10: Shocks and changes to the system
There were tensions among social groups involved in housing.	Yes	Step 8: Relationships with tensions
The shock or tensions allowed innovative housing designs to become a solution to the housing problem.	Yes	<ul style="list-style-type: none"> • Step 8: Relationships with tensions • Step 10: Shocks and changes to the system
There was a period of competitiveness between the housing developers	Unknown	Step 8: Relationships with tensions
A housing development created a design solution, and the system was restored	No	<ul style="list-style-type: none"> • Step 4: Regimes • Step 8: Relationships with alignment to develop housing
	Total Yes answers:3/5	

4.12.1 Soweto East's transition typology

Table 25 below has a summary of the transition typology scores and results. A transformation transition scored the highest (83%), indicating that many of its characteristics were present during KENSUP. In contrast, a reproduction transition scored the lowest (0%), indicating that this specific type of transition did not occur. However, the mixed presence of three transitions (i.e. transformation, de-/re- alignment, and substitution) suggests that the first phase of the Soweto East project underwent a disruptive transition. See the summary of the STE at the end of this chapter for a further evaluations of results.

Table 25. Summary of transition typology results

Transition Typology	Total score of Yes answers	% Score	Result
Reproduction	0/5	0%	The transition was not present
Transformation	5/6	83%	A highly present transition
De-/re-alignment	5/8	62%	A present transition
Substitution	3/5	60%	A present transition

4.13 Step thirteen: Survey results

A total of 158 participants met the screening criteria of having knowledge, experience, or a unique view of the events of KENSUP. Most participants were found, screened and contacted using the contact details in the analysed documents or by networking websites like LinkedIn and ResearchGate. However, 18 participants could not be found or had expired contact details (e.g. an inactive email). Certain regimes were inaccessible by email, such as the residents living in Soweto East. Therefore, the total number of individuals involved in KENSUP was undetermined. The participants were initially organised into regimes for a cross-analysis of results. **Figure 54** below displays the number of participants per regime. The chart has a similar pattern to figure 31 from step two which shows the number of sources produced per regime. For example, the research regime had the highest number of sourced participants (n=100) and produced documents (93). This result suggested there was an increased presence of academic personnel during KENSUP. In summary, 40 participants replied, but 27 declined to complete the survey because their involvement and perspectives were “*limited*” or “*outdated*”. For example, participants that declined were researchers who had publications on KENSUP dating to the early stages of its development (2002-2010). In addition, certain participants preferred to discuss KENSUP by email and shared their resources and contacts. The data from these participants suggested that the period of involvement or document publication reflected the occurrences of events around KENSUP.

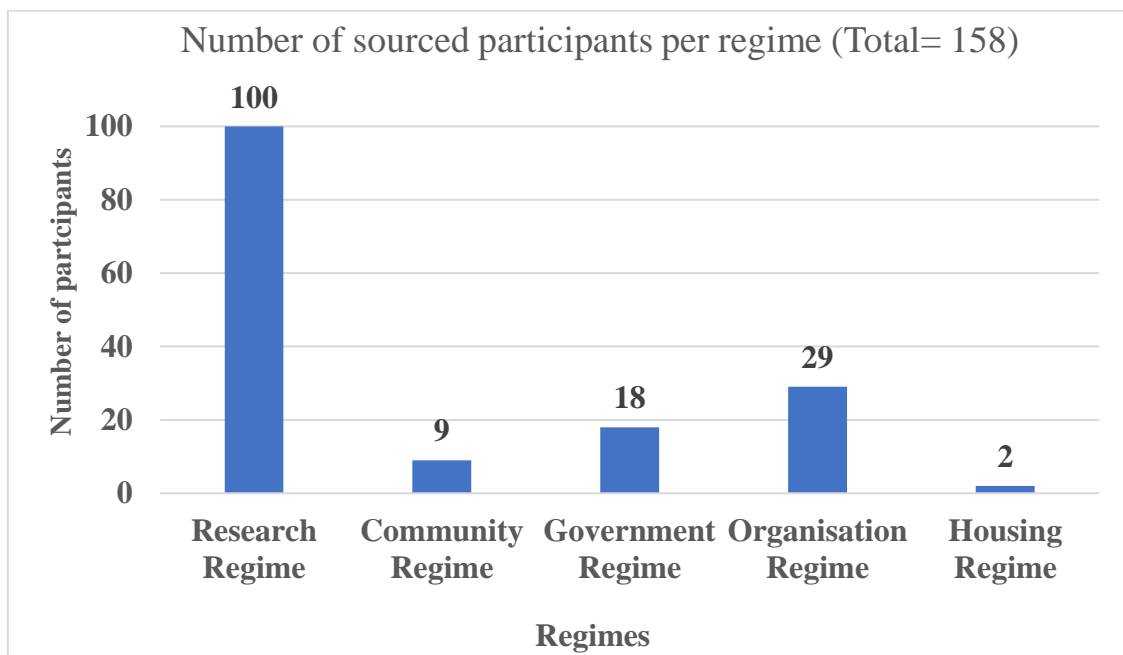


Figure 54. Number of sourced participants per regime (Total= 158)

A total of 20 surveys were submitted. The research regime submitted the most survey (19/20), which were the primary authors of a publication. The other survey submission came from an employee in the organisation regime. A cross-regime analysis was not possible due to the low submission numbers. However, the survey successfully addressed data gaps from all completed steps. Specifically, steps 11 and 12 on the innovative journey of KENSUP's housing and its transition typology. See chapter 5 for a discussion on the survey process and limitations.

Figure 51, at the end of this section, displays the results from the survey. There was 90% agreement from respondents that the government led the project, supporting the political niches outlined in step nine. The main comments were how the government fast-tracked the project, but issues from all stakeholders delayed the project. 75% of participants agreed that UN-Habitat and GoK had a strong partnership, but those who disagreed commented that their partnership was “*challenged*” or “*damaged*” during the project. One discovery was that UN-Habitat declined the project near the end. Most responses were uncertain if the project's goals and roles were clear or conflicting among stakeholders. Participants who strongly disagreed commented that the signing of the memorandum in 2003 outlined roles. 70% agreed that stakeholders had conflicting agendas, such as structure-owners' interests and the GoK over land ownership and compensation.

The mapping process outlined in step four indicated a growth in stakeholders. However, an even 50% agreement and disagreement from responses that more stakeholders got engaged as implementation continued. Comments were about the increased engagement resulting in tensions and challenges, such as issues over the cost to rent and the distance for relocation. These challenges were also identified in step nine. 65% of participants agreed that the project harmed residents' income sources, such as;

“It changed the sources of income and mostly geographically as ‘landlordism’ is further amongst the largest sources of income in Kibra.”- Survey no. 1

In contrast, 55% of the respondents agreed that the residents supported the project, compared to a 15% disagree response, and the remaining 30% being neutral. This result conflicts with the statements made in the document analysis. It was commented that a promise of better living conditions made residents support the project. In contrast, the community resisted the project over resettlement and the project's overall implementation. The comments were that KENSUP ignored street vending and home livestock as two important sources of income and lifestyle. Other comments were the project separated neighbours during the allocation of apartments.

There were no clear response that the project recognised the existing social norms in Soweto East.

There was much uncertainty over residents being given information on the design of the new apartments based on participants not having access to sufficient data. The comments were that the design process was based on poor communication between the project implementors and the community because it was not public-driven. In contrast, it was commented that workshops were held in the community. The workshops included a KENSUP design team who presented the preliminary designs, and the community offered their feedback and signed an approval. The design was then sent to an architectural consultancy. Further investigation into these comments could not confirm their accuracy. Some documents mentioned community workshops for K-WATSON that explained the infrastructure project, but none were believed to be held by KENSUP.

The final results and comments from the survey matched those produced from the criteria table on a reproduction transformation typology (See Table 21 in step twelve). This result was based on 75% of responses disagreeing that participants could have managed to build housing without KENSUP. Participants also expressed disagreement in the comment boxes of the survey, such as stating their own conditions for a reproduction transition;

“First: The land ownership would not allow. Second: the economic level would not allow it. Third: Most of them [the residents] are tenants, and fourth: Kibera offers a transition home to most households until their economic level improves or as they invest back in their rural homes.” - Survey no. 19

The survey also supported the study of Kibera’s landscape, which identified a pattern of upgrading projects causing residents to be fearful of initiations, and 65% of participants agreed with this assumption.

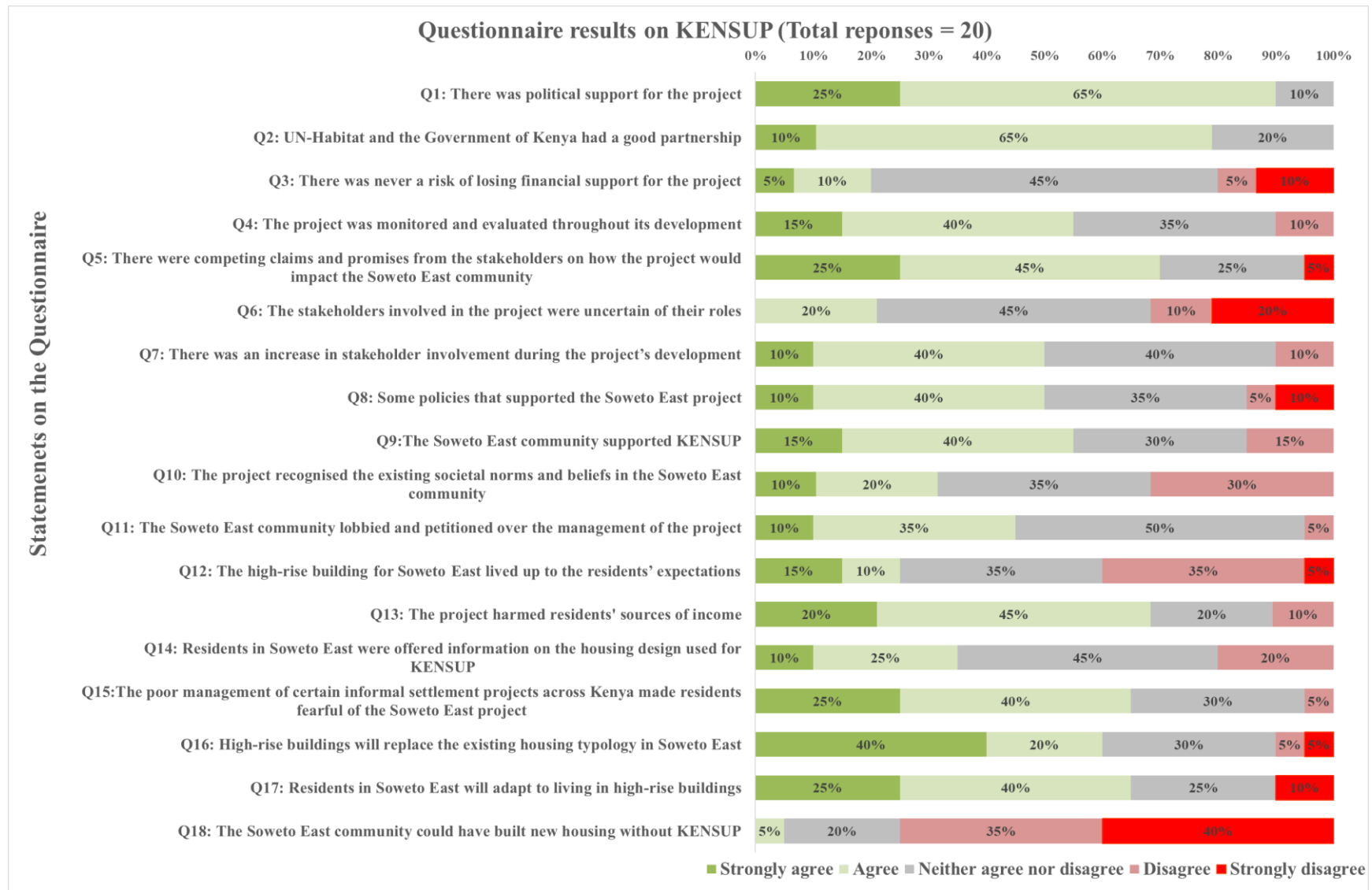


Figure 55. Survey results from researchers of KENSUP (N=20)

4.14 Summary of socio-technical evaluation of housing in Kibera

There was no clear answer on the type of transition that occurred in Soweto East during the first phase of KENSUP, leading to the conclusion of a disruptive transition. A disruptive transition is a mixture of transitions occurring in different sequences. **Figure 56** on the following page illustrates the disruptive transition and its characteristics are explained below.

A disruptive transition is the result of pressure building on the landscape when the Millennium Development Goals (MDGs) and new perspectives on informal settlements emerged in the early 2000s. The landscape gradually became more disruptive when there was a national demand to end Moi's presidential regime and the creation of a new Kenyan constitution. Initially, actors perceived moderate landscape change, which caused some regime problems. The problem, in this case, was the management of housing in Kibera. The regime actors attempted to address these problems with internal resources, such as the construction of high-rise buildings across Nairobi. However, since the housing problem was not solved, the transition did not follow a transformation path. The landscape pressure increased over the role and management of KENSUP. Other pressures included a campaign to end financial corruption in Nairobi's City Council (NCC). The government and organisation regime actors accepted the incorporation of a high-rise building solution for Soweto East. This development caused the socio-technical regime in Kibera to adjust to the technical changes in housing. If high-rise buildings offered a complete housing solution, the result would have been a reconfiguration path. The landscape pressures and regime problems continued throughout KENSUP, worsening the regime problems and causing stakeholders to lose faith in the project. High-rise buildings provided by KENSUP were the only major housing development occurring in Soweto East during the first phase. No other innovation was developed sufficiently to resolve the housing problem or create a competitive housing market in Soweto East. High-rise buildings had a window of opportunity, resulting in technological substitution. The political support and powerful stakeholder acting as a niche for KENSUP brought the high-rise buildings to completion, but the project may have been completed without delay had the community regime supported KENSUP. In addition, strong community support would have resulted in a de-alignment and re-alignment transition, with multiple niche innovations emerging and co-existing for a while, eventually followed by one option becoming dominant.

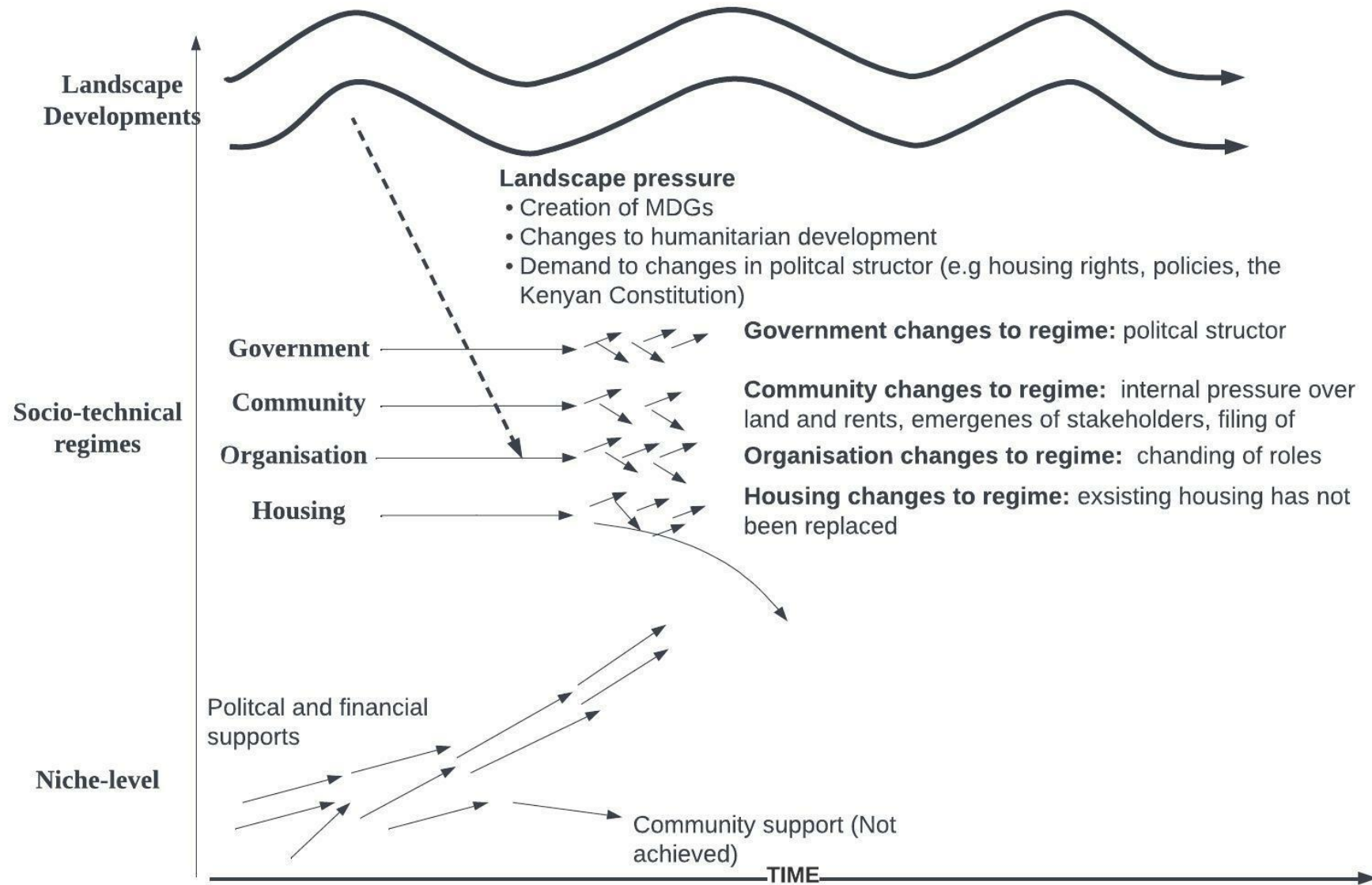


Figure 56. Soweto East's disruptive housing transition. Adapted from: Geels and Schot (2006)

Chapter 5. Discussion

5.1 Introduction

The research question outlined in chapter one was “*How can housing in Soweto East, Kenya, be evaluated from a socio-technical perspective?*”. This study took a cross-disciplinary, mixed methods approach to produce detailed and reliable quantitative and qualitative data. To support this approach, the literature review in chapter two explored studies both with a technical scope and outside the technical field to build a richer and deeper analysis. This study also included a review of the methods and theories applied in transitional and humanitarian studies. The result of this cross-disciplinary approach led to the creation of the novel Socio-Technical Evaluation (STE) procedure detailed in chapter 3.

This discussion chapter explores how the STE addressed the research question and objectives outlined in chapter one with an overview of the evaluation’s main outputs. The STE’s methodology and findings, presented in chapters 3 and 4, are compared to other evaluations in the humanitarian and transitional field. The discussion concludes with how the STE can be improved and expanded, such as a method for comparing multiple housing projects across Kenya.

5.2 An overview of the modified outputs of a socio-technical evaluation of housing in Soweto East, Kenya

The research objective was to convert the narrative of Kibera’s Soweto East housing scenario into an analytical explanation that follows Geels’s explicit theoretical knowledge of transitions. The literature review detailed that most transitional studies were scaled to a national or global level, required national or global data, and studied the authoritative stakeholders involved in critical decisions. Therefore, Geels’s method required modifications to be suitable for small-scale STE and included:

- altering the document screening process to sources with data on the village-level project, reducing the need for national or global data found in transitional studies at these respected scales;
- narrowing the landscape study to long-term establishments within and around Soweto East and the study of global or national developments in housing to those directly connected to KENSUP;
- expanding the stakeholder analysis to include those with limited decision-making authority or participation between regimes. In contrast, a national STE would have focused on KENSUP’s major stakeholders (i.e. UN-Habitat and GoK); and;
- a systems thinking approach to expertly discuss the results of positive and negative impacts on scale since a major change at a small-scale may be minor at a larger scale.

The main output from the STE was a detailed narrative of KENSUP’s provision of housing in Soweto East from 2003-2016. The STE presented the project’s many events, decisions, and activities involving specific stakeholders on a modified process chart (See Langley, 1999 for original format) (Figure 57). The process chart and other methods are discussed in the next heading.

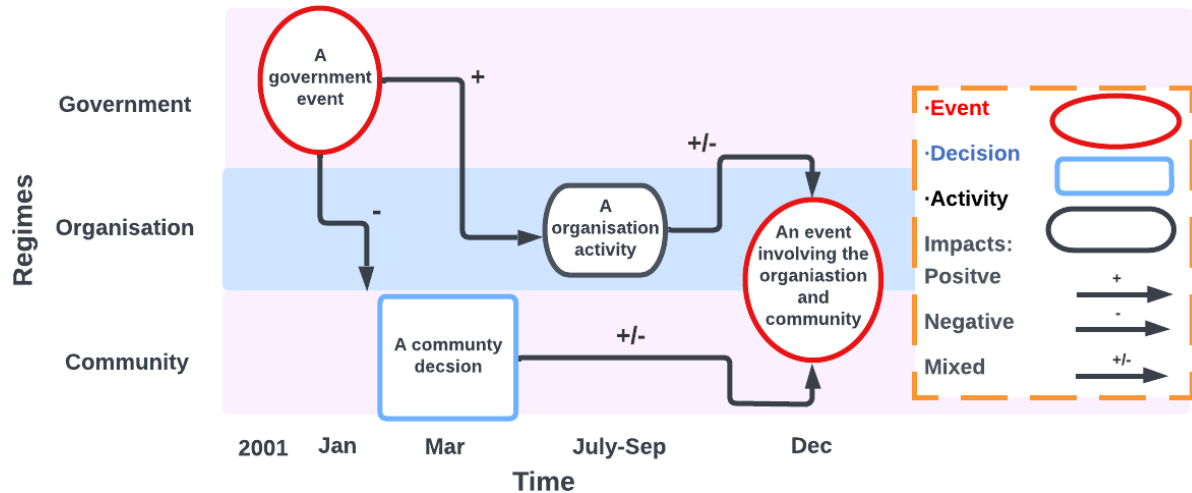


Figure 57. The layout of the narrative flowchart. Adapted from Langley (1994,1999)

The stakeholder analysis and landscape study results identified sensitive issues among social, political, organisational, and housing regimes. These issues can be complex to resolve, such as long-established tensions between stakeholders over land ownership. See Chapter four for the results from a landscape study on Kenya’s housing, political and economic structure, cultural and normative values, and previous informal settlement upgrading projects. The evaluation can inform decision-making on complex matters in current or scheduled housing developments in Soweto East.

The STE’s methodology used a combinations of methods from the humanitarian and transitional studies reviewed in Chapter two. For example, the STE applied a physical mapping process applied in certain evaluations of KENSUP and a stakeholder map used in transitional studies (UN-Habitat, 2020a; Clouette and Wise, 2017). Certain methods were expanded, such as including a modified qualitative coding analysis to support documenting KENSUP’s events and stakeholders.

The evaluation applied transitional theory to explain the complexity of accomplishing a humanitarian housing project in Soweto East. The explanations include how technology evolves based on factors such as communities, technology, policy, and economic structure. Transitional theory offered a new perspective to evaluate housing in Soweto East compared to the reviewed evaluations. The methods and results from the reviewed evaluations are now compared to the STE.

5.3 A discussion of the methodology procedure and results

The creation and implementation of the methodology and its findings are compared to published evaluations on KENSUP and reviewed transitional studies. The steps are discussed on their strengths, limitations, improvements, and support to the research objectives.

5.3.1 *The effect of scaling the STE to a housing development project in Soweto East*

Kibera had the characteristics of a complex transition in housing, such as experiencing an evolution in a house's design. The results of a project selection process in chapter four outlines the transitional characteristics found in Kibera and several projects. The evaluation was scaled to a section of a village, Soweto East, in Kibera following Geels's suggestion that the "best" scale of analysis depends on "the debate and research questions" (Geels, 2004). This was a small-scale evaluation compared to the reviewed transitional studies, meaning it excluded housing from being evaluated at a global, city (Nairobi) or national (Kenya) level. A small-scale evaluation was created because the narrative was focused on housing development in Soweto East during KENSUP. The decision benefitted the evaluation process with a reduced management of participants and documents to those relating to KENSUP. The further work section of this chapter explores the idea of scaling the evaluation to other scales.

5.3.2 *The effect of including physical mapping in the project selection process*

The physical mapping process was an effective and quick method to identify periods of housing developments. Google Earth's timelapse feature provided provisional data on the stages of housing development by observing the visual changes over time in housing. The full results of the mapping process on Soweto East are in Chapter 4, Step 1. Figure 58 below is one of the results that outlined changes in Soweto East's housing.



Figure 58. A satellite image of Soweto East with highlighted changes to housing

Evaluations of Kibera have used maps, such as mapping out Kibera facilities (UN-Habitat, 2020a) and monitoring the borders and population of the settlement (Ojwang, 2009; Kanjir, Veljanovski and Kovačić, 2012). Ojwang's (2009) spatial analysis found the cause of changes to Kibera's borders between 1976-2009 by analysing satellite images and maps. The STE also found alterations to the Kibera's borders between 2019-2020 using similar resources. However, the STE did not explore the causes of Kibera's border changes since the scope of the research was focused on housing developments in Soweto East (See appendix A).

The mapping process was limited to a visual display of changes and their period of occurrence. Kounkuey Design Initiative's (KDI) terrain model of Kibera outlined housing structures, but it did not count nor profile housing (KDI, 2015) (Figure 58). The STE did create a housing profile as part of its methodology, but there was no mapping software to count these housing profiles at the time of research. The further work section of the discussion chapter explores improvements to the mapping process. The effect of profiling housing as part of the STE is now discussed.

5.3.3 The effect of profiling housing for an STE

The literature review uncovered alternating definitions and characteristics of “*innovation*” and “*traditional*” housing in humanitarian development studies, which challenged the profiling of housing (Gann, 2003; Sexton and Barrett, 2003). The document analysis also uncovered similar discrepancies in the descriptions of housing in Kenya (Fernandez and Calas, 2011; Mitra *et al.*, 2017; Smits, 2020). Transitional studies had a similar challenge in defining the artefacts (Geels and Verhees, 2011; Swan, 2013). It was decided to follow Swan's profiling of housing being “*innovative*” if it is new to the location being evaluated (Swan, 2013). Step three in the methodology chapter defines and characterises housing typology in Soweto East.

5.3.4 The narrative analysis

The narrative analysis effectively created an overall view of events, activities, and decisions during KENSUP provision of housing in Soweto East. Similar methods were reviewed in Chapter two, such as Brendah Achungo's discussion on impact events to Kibera's residents during KENSUP (Achungo, 2014). In contrast to reviewed evaluations on KENSUP, the STE accounted KENSUP's events in a chronological narrative and process chart from 1996-2019 (Figure 57). The inclusion of qualitative data software supported the written chronological narrative and process graphs by condensing large data extracts into concise points of information.

5.3.5 The effect of using a document screening process and analysis

Some evaluations of Kibera and the STE used the data from documents to describe the context of the study, highlight data gaps, or supplement a survey (Achungo, 2014; Ogundele, 2014; Charles, 2018). These evaluations and the STE were challenged by the difficulty of obtaining access to internal documents. The STE was passive and external, meaning the researcher was not involved in KENSUP (Mack *et al.*, 2005). Other external evaluations had limited access to internal documents (Ogotu, 2013; Obare, 2015; Agayi and Sağ, 2020). In contrast, an active internal assessment may offer access to internal documents, participants, and other forms of data, such as observing the stakeholders' meetings.

In contrast to other evaluations of KENSUP, the STE demonstrated a document screening process and used a graph to present the reviewed publications over time or per regime (Figure 59) (Ogotu, 2013; Obare, 2015; Agayi and Sağ, 2020). Chapter 4 presents the number of published documents on Soweto-East per year (1992-2022) (Figure 30). Chapter 3, Step 2 explains how the STE categorised documents by regimes (Figure 59). The categorisation process was complicated when a study included multiple perspectives. For example, several documents produced by the research regime expressed the government regime's attitudes to events during KENSUP (Nabutola, 2004; Eberhard, Gratwick and Kariuki, 2018; Agayi and Karakayaci, 2020; Solymári *et al.*, 2021). Categorising documents per regime ensured a regime's perspective was sourced from the regime's document. Chapter 3, step 8 explained how the opinions of regimes from the documents were used to study the stakeholders' interrelatedness.

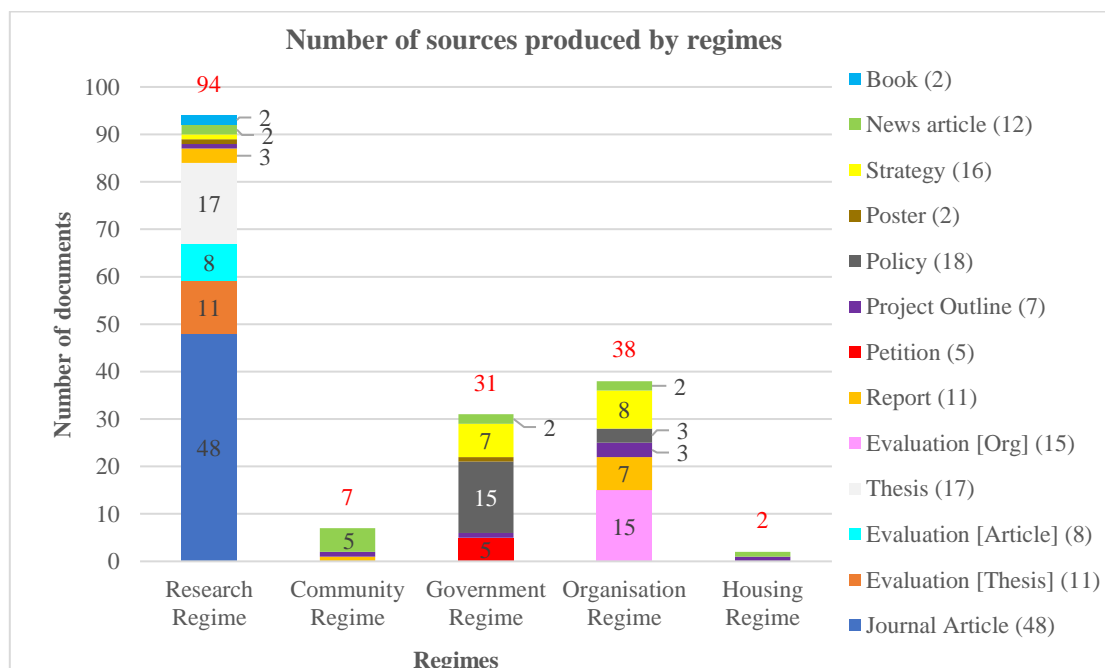


Figure 59. The format of the graph used to present the reviewed publications of Soweto East

The document analysis and survey discovered that the publication date reflected the authors' view of events that occurred at that time. Some contacted authors declined to participate in the survey on accounts that their views were “*outdated*” or “*changed since the date of publication*”.

This was an important discovery as this means that opinions at different periods should not be taken as a representative of the project's entirety. This discovery supports Maykut and Morehouse's (2005) statement that the author's perspective can be inaccurate without context. The STE valued the opinions from recent and archaic publications and the supplementary survey to create a chronological narrative of KENSUP. The views from these sources were used to evaluate the impacts of events, decisions, and actions.

5.3.6 The effect of mapping Soweto East's regimes

The regimes did not adapt and stabilise to the construction of high-rise buildings. This result matches the characteristics of a disruptive transition described at the end of Chapter 4. The result was by outlining the stakeholders involved in KENSUP. The stakeholder mapping process outlined 43 social groups involved in KENSUP, the highest recorded number of stakeholders compared to other evaluations and identified an increase of stakeholders during the provision of housing in Soweto East Zone A (2003-2016) (Cordaid and IHS, 2004; Ehresmann, 2004; Lamba, 2005; COHRE, 2006; Achwoka, 2018).

Other evaluations often described stakeholders using a table or listed paragraphs. In contrast, the STE added a visual stakeholder map used in transitional studies (Swan, 2013; Auvinen *et al.*, 2015). The map provided a visual overview of the stakeholders involved in housing in Soweto East and their associated regimes. The stakeholder maps are displayed in Chapter 4 in Figure 37 and Figure 38.

5.3.7 Analysing the regime interrelatedness

The STE applied relationship coding feature from NVivo Pro 12 to support the regime interrelatedness analysis. Chapter 3, step 8 has a complete explanation of this analysis process. Most publications discussed how Kibera's residents were not included nor consulted over decisions in KENSUP's housing design, planning and overall implementation process (Mwau, 2013; Kvarbstrom, 2014; Meredith and MacDonald, 2017). The government and organisation approach to monitoring and evaluating KENSUP was commented as being “*Top-down*”, and having “*No big attempts were made to include local people into such tasks.*” (Survey no. 1). Similarly, the results of the interrelationship between regimes succeeded in identifying moments of tension and cooperation between regimes that concurred with the findings in previous studies. For example, the organisation regime attempted to establish a link with the

community regime by holding public meetings in Kibera, but the government regime disbanded the interaction (Ehresmann, 2004).

5.3.8 Studying the landscape's effect on Soweto East's regimes

A successful transition from existing housing typologies to high-rise buildings was not achieved, matching the characteristics of a disruptive transition. The result was found by studying Soweto East's landscape which involved exploring certain conditions outside of Soweto East over lengthy periods of time. Similar reviewed studies focused on the historical context of Kenya, such as;

- the origin of the Nubians in Kibera (Parsons, 1997; Adriaan de Smedt, 2011; Balaton-Chrimes, 2017);
- long-established dynamic relations between organisations, political institutions, and communities (Huchzermeyer, 2006; Brass, 2010; Mutisya and Yarime, 2011); and
- Kenya's housing development (Amnesty International, 2015; Meredith and MacDonald, 2017; Agayi and Sağ, 2020).

The STE analysed these publications as part of the landscape study. The landscape study found that relationships between KENSUP's stakeholders correlate with the issues outlined in the above studies of Kenya. For example, the documents and surveys analysed as part of the landscape study found that a history of non-inclusive housing developments in informal settlements generated fear and mistrust between the government and the community regime.

“The project idea [informal upgrading] is really great. However, corruption, poor management of the process and lack of clear public consultations and engagement have hurt repeated efforts by the poor residents who needed good affordable houses”- Submitted survey no. 5

The landscape study clarified perspectives and complex events, such as the emotive force from residents to reject evictions over an alleged right to the land (Adriaan de Smedt, 2011; Mutisya and Yarime, 2011; Amnesty International, 2015).

The landscape study offered a comparison of housing developments around Kibera. Certain evaluations compared several housing projects with the same level of analysis, such as having a similar numbers of reviewed project documents and surveyed participants (Kvarbstrom, 2014; Clouette and Wise, 2017). The STE did review housing projects around Soweto East to find similarities in housing design and strategies, but the number of documents reviewed and participants surveyed were lower than in other studies (Kvarbstrom, 2014; Clouette and Wise,

2017). The further work section explores the idea of studying several housing projects in Kenya as part of a meta-analysis.

5.3.9 *The rules within each regime*

The study of the rules within the regime uncovered similar findings to those published by policy analysts. For example, the STE found most rules were implemented and shared among regimes, such as the standard for urban housing being created under former president Moi's government and implemented in the housing regime.

The STE and published evaluations outlined the policies, standards, contracts, and bylaws involved in KENSUP (Nabutola, 2004; Eberhard, Gratwick and Kariuki, 2018; Agayi and Karakayaci, 2020; Solymári *et al.*, 2021). The published evaluations addressed the impact of government policies at a national or city level. Publications on the impacts of policies on Soweto East or KENSUP were limited, thus preventing an accurate depiction of their impacts during KENSUP (Mwau, 2013; Solymári *et al.*, 2021). Surveyed participants commented that certain policies lacked "*a coherent and comprehensive policy position on slums, and what to be done with them*" (Survey no.13) or had "*good intentions, but [their] execution may not be to the letter*" (Survey no. 14) . Further work should involve a policy analysis scaled to Soweto East that would support reviewing rules within regimes.

5.3.10 *Identifying the niches for the high-rise buildings*

Evaluating KENSUP for niches was not performed in previous evaluations. Identifying niches supported the research objective by highlighting that achieving niche accumulation can be challenging in humanitarian projects when housing is developed by external organisations unfamiliar with the location or political structure. A surveyed participant agreed that *KENSUP "was led by the government and had good political support that fast-tracked the implementation process, although stakeholder issues undermined the pace of implementation."* (Survey no. 6). This comment and the results from studying the niches detailed the form of support and resistance to the high-rise building received during their development. Other published evaluations discussed stakeholders, scenarios and artefacts that matched the characteristics of the niche results but did not utilise transitional theory for their analysis, such as discussions on KENSUP's strong political support (Maina, 2013).

5.3.11 *The effect of using a criteria table to study the innovative journey of KENSUP's housing and Soweto East transitions' typology*

The complex process of comparing the data from the STE to transitional theory was simplified by creating a criteria table. The criteria table asked questions based on transitional theory to identify and compare transitional typologies. Table 26, on the following page, details the

format of the criteria table. Other transitional studies did not use a table format to study a transition’s four phases and identify the transition typology (Elzen, Geels and Green, 2004; Swan, 2013; Geels and Turnheim, 2022).

Table 26. The format of a criteria table

The questions/statements relating to the transitional theory	Yes/ no/ unknown	Data is found in steps	Comment
E.g., The housing design was experimental/ undergoing “ <i>trial and error.</i> ”		3 and 7	The answers indicated if the design had good or bad early development.

The results from the criteria table discovered that KENSUP did not follow one transition typology (e.g., transformation or reproductive), but that it was a disruptive transition (i.e., a combination of transition typologies) (Elzen, Geels and Hofman, 2002). The STE was limited to studying six types of transitions outlined in the literature review. Several transitional studies stated that more transition typologies should be discovered to explain transitions (Kemp, Rip and Schot, 2001; Grin, Rotmans and Schot, 2011).

5.3.12 *The participant screening process and survey results*

The research attempted to gather perspectives from all regimes (via survey and documents), but responses from the technical, community and political regimes were limited compared to the research and organisation regime. Chapter four, step thirteen, details the number of participants contacted per regime and the results from the survey. The residents in Soweto East were contacted by a Kenyan researcher who wished to support the research. Unfortunately, there were complications in accessing local participants, a challenge and limitation experienced by other researchers due to time constraints and times of tension (Ogutu, 2013; Obare, 2015; Agayi and Sağ, 2020). See Chapter Two for a detailed review of the various methodologies applied in Kibera and their limitations. Further research should use fieldwork to gain access to communities and local technical and political offices.

The results from the survey successfully supported the research objectives by addressing gaps in the narrative analysis or providing supportive or conflictive data from the documents analysed. The STE chose not to follow the recommendation from a transitional study to limit participants to those taking part in the decision-making process (Elzen, Geels and Green, 2004). Accepting this recommendation would have reduced the number of participants to major stakeholders and not the 43 social groups outlined in the stakeholder map. The results from the interrelatedness analysis, the landscape study and the process charts suggested that locals were

not involved in the decision-making process. However, the STE included those not involved in the decision process to understand their perspectives and role in KENSUP.

5.4 Recommendations for conducting an STE of housing development

The following headings are recommendations based on documented challenges during KENSUP and the data gathered from the literature review and STE.

5.4.1 Participation

Facilitating a participatory process between regimes and carrying out residents' priorities should reduce people's mistrust and accelerate the transition (Geels, 2014). The GoK, UN-Habitat and Kibera's communities had moments when their relationship was challenged because of poor organisation, such as when establishing a structure to represent the residents in Kibera (Ehresmann, 2004). The interrelatedness analysis and survey results found that misinformation resulted from competing interests, lack of coordination and a relay of the projects' details among stakeholders, such as;

“[The] GoK and UN-Habitat had their roles generally agreed in the project document, [but]the role of the community was not clear. Identification of the community was blurred. Who would be the beneficiaries [and] what role would they play during construction and occupation?”- Survey no.14

Holistic strategies with representation or invitation by all regimes should result in clarifications of objectives and a shared vision, since these are elements required for a progressive transition (Geels, 2002).

5.4.2 Conduct a landscape study before construction

The study of Soweto East's rule and landscape uncovered the need to simplify the complexity of building permits and other application processes. KENSUP suffered due to the long-established issues over land ownership. The landscape study assisted in understanding the root causes of these disputes over lands and the security of land tenure, as a survey comment explains;

“Residents were concerned about the potential of future evictions and questions surrounding the security of tenure after their settlement. In the past, informal settlement projects have disrupted people's ways of life and, in some cases, eviction without prior notification.”- Survey no. 17

The landscape study discovered that the Nubians were granted land ownership during the English colonial period helped explain why there were protests over forced evictions. In this case, further analysis into the issue of landownership should have been conducted before

construction. The analysis can focus on understanding how people perceive land rights and what these rights mean (Ward and Macoloo, 1992). A landscape study should inform the decisions on implementing a housing development project.

5.4.3 Cross-disciplinary monitoring by cooperating with the research regime

The results from the document analysis discovered that the research regime produced the most publications on KENSUP, including evaluations in the form of a thesis or article. Collaborating with the research regime is encouraged in housing development to assist in more evaluation and monitoring measures. The narrative and document analysis identified moments of collaboration between the research, organisation, and government regime when a document was to be produced, and such documents were the Nairobi Situation Analysis (NSA) and the Participatory Urban Appraisal (PUA). Monitoring a housing development must take a cross-disciplinary, mixed-methods approach to produce reliable quantitative and qualitative data. The collaboration between regimes will support the creation of an integrated approach to housing development.

5.4.4 Explore hybridisation design options for temporary relocation and the design of high-rise buildings

The literature review has explored the concept of hybrid housing in humanitarian and disaster reconstruction. Further housing developments should explore hybrid housing as a design option, since it includes both innovative and traditional features in its design or construction approach. Michiel Smits' has demonstrated the positive effects of constructing hybrid housing for a rural community in Kenya using traditional Interlocking Stabilised Soil Bricks (ISSB) with a modern support framework (Smits, 2020). The comments from the survey mentioned that the high-rise buildings did not support most residents who used their homes as a shop and to store livestock. The result of not accommodating these social norms impacted the income of residents being harmed, such comments were as follows;

“Livelihood coping mechanisms were not appreciated. Some residents kept chicken, cats and dogs as well as small businesses that could not be transferred to 4th-floor levels”-Survey

no.14

5.4.5 Explore the creation of a theoretical framework when managing complex scenario.

The literature review outlined the theoretical frameworks applied in evaluations of Kibera. The review of the theoretical framework suggested they can support and guide an evaluation if used alongside a methodological structure. Transitional evaluations and their theories, such as process theory and the M.L.P diagram, offered a unique perspective on a complex housing scenario. The methodology structure detailed in Chapter Three is an example of combining Geels's theory with several methods, such as the process charts and coding analysis, to convert

the narrative of Kibera's Soweto East housing scenario into an analytical explanation. It is recommended to explore the use of an STE to explain varying complex scenarios, especially humanitarian aid and development projects providing other physical forms of aid (i.e. an artefact) in different contexts (e.g., natural or conflict disaster). STEs applied in humanitarian contexts will be exploratory and should be refined after studying each application.

5.5 Further work

The STE should be applied and improved in the context and method of the study. In the case of Kibera, another STE should focus on housing developments in Soweto East after KENSUP's first phase. The timescale will then include the years from 2017-2023 and have a landscape study that details the impacts of COVID-19 in Soweto East. This STE should also expand the identification and analysis of the stakeholders involved, such as the role of scheduled private sector-driven housing construction. Other further work methods are now discussed.

5.5.1 Applying an STE in a disaster or conflict context

The STE focus was on KENSUP, which was a humanitarian development project. The literature review explored evaluations and projects from natural disasters, but an STE focused on a natural or conflict disaster should be explored and adapted to the context.

5.5.2 Applying a meta-analysis to increase the scale of the STE to a city, national or global level

The book "*Cities and Low Carbon Transitions*" explored using an STE at the city scale and found that a city can be "*a primary actor leading the transition*" or "*have a limited role*" (Bulkeley *et al.*, 2011; Geels, 2011b, p.7). However, Kibera is not an "*informal city*" but a settlement on the outskirts of Nairobi (Celentano *et al.*, 2020). Therefore, this STE was not conducted at a city level. However, transitional studies have stated the need for evaluations to study broader impacts (Turnheim, Kivimaa and Berkhout, 2018; Geels *et al.*, 2019). A meta-analysis comparing transitional patterns from several STEs should be explored (Raven *et al.*, 2016). For example, a meta-analysis of several housing developments across Kenya at a city or national level. The evaluation can follow the recommendations from Geels and Turnheim, such as keeping the evaluation to one country to simplify the "*comparability and the identification of variations*" (Geels and Turnheim, 2022, p. 47). A national-level STE could identify a housing trajectory in Soweto East and Kenya based on the stable patterns in housing developments in various locations (Deuten, 2003; Geels and Deuten, 2006; Geels and Raven, 2006).

Creating a global meta-analysis was attempted by studying the projects listed in Chapter 4, step one. However, the scope of research at this time was to study the prioritisation of humanitarian aid and development.

5.5.3 *Developing software for the physical mapping process*

The STE mapping process should be improved with software that can count the dense numbers and types of housing in Kibera over time. The research would support the creation of a detailed map of Kibera (Hagen, 2017). The quantitative data can be used to monitor the emergence of a housing typology (Geels, 2002). The presentation of results can be similar to Geels' illustration of the emergence of steamships in the transport of coal to the UK (Figure 60) (See Geels, 2002)

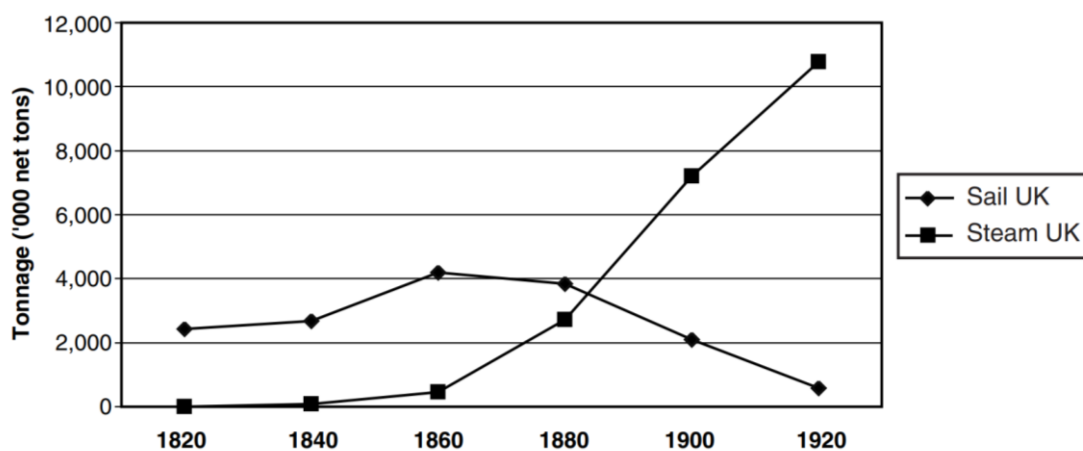


Figure 60. The transition from sail ships to steamships. Source: Geels 2002

5.5.4 *Applying more methods*

An observational study was not included in the STE due to the impact of travel restrictions from COVID-19 at the time of conducting the evaluation process. Hence, an observational structure that follows transitional theories was not created. This creation should be explored in future work. Applying an STE to focus groups and workshops should also be examined, similar to published workshop methods on transitional evaluations (de Geus, Silvestri and Wittmayer, 2022; SI Network, 2022).

5.6 Limitations

The literature review first identified potential limitations in the methodology and evaluation process, such as Geels's publications on the criticism of his socio-technical approach (Schot and Geels, 2008; Geels, 2011a, 2019). The literature review and the document analysis of the methods and theories in studies of Kibera also identified potential limitations. For example, the literature review discovered that access to participants such as Kibera's residents was a challenge and limitation experienced by most researchers (Maina, 2013; Ogundele, 2014;

Kibera, 2016). The STE faced similar challenges and limitations during implementation, such as limited internal documentation and participants. The above limitations and others are discussed in the following headings.

5.6.1 Limited documents and survey responses from the community, production, and technology regime

The results from the screening of documents identified a few sources from the community, production, and technology regime (See Figure 31). The narrative and document analysis uncovered that Kibera's community received information from the news media, such as newspapers and television (East African Standard, 2004; Muraguri, 2011). It was challenging to source relevant broadcasts and newsletters on Kibera.

The documents analysed did not discuss the stakeholders responsible for the physical construction of housing, such as contractors, surveyors, and engineers. For example, the Genesis organisation was identified as the architect of the decanting site from a close examination of a referenced construction diagram (See **Figure 34**). This result offered a direction for a further investigation into the regimes with limited documentation. In this case, information on the organisation was sourced to understand the stakeholder and their relationship with other regimes.

Another limitation was grey literature, such as non-peer-reviewed documents or writings suited to a regime's intentions. For example, a degree of bias was in documents with project proposals or an intention to attract financial support. However, Coffey (2013, p. 372) stated that such writing "*develops and displays a working knowledge of the register(s) professions, organisational setting, or cultural activity*". Certain publications on KENSUP stated that grey literature was reviewed with scepticism (Achungo, 2014; Ogundele, 2014). The document analysis method ensured documents displaying biased opinions on KENSUP's events or stakeholders were compared to peer-reviewed sources.

The methodology chapter explained the purpose of an STE survey, such as comparing its results to findings from the document analysis. Invitations to participate in a survey were distributed across all regimes. However, the submitted surveys came from participants in the research regime, preventing a planned cross-regime comparison of survey results, and the presence of potential bias in results. A careful cross-examination of the data obtained from the survey and the documents remedied this limitation.

5.6.2 The data for the STE was primarily from desk research

Other evaluations on KENSUP also relied primarily on desk research to conduct studies (Ndukui, 2013; Charles, 2018; Mutuku, 2021; Solymári *et al.*, 2021). The outbreak of COVID-19 prevented any travel to Soweto East. The outbreak halted any field research, which would have helped gather real-time data to compare the desk research. The administration of a survey was a partial remedy to this limitation, but interviews may have provided more data from participants. Based on the communication strategy, participants selected for an interview were invited by email to complete the survey or be interviewed but were either unresponsive or preferred the survey. This outcome prevented testing a created interview analysis that applied a coding process to compare the data to the document analysis and survey.

Chapter 6. Conclusion

6.1 Conclusion

The research created a socio-technical approach to address the research question of “*How can housing in Soweto East, Kenya, be evaluated from a socio-technical perspective?*”. A review of the literature explored the variable evaluation processes applied in both humanitarian aid and development contexts and compared the use of theories and methods in evaluations of Soweto East. The literature review discovered that housing in Soweto East was described as a complex system by researchers leading to a review of publications on transitional theory. Specifically, Dr. Frank Geels’s knowledge of transitions and applications of the multi-level perspective (MLP) (Kemp, Schot and Hoogma, 1998; Geels, 2005a) were reviewed for their potential application to a humanitarian evaluation process. An examination of how Geels and other researchers used his approach identified its limitations and benefits. One limitation was the absence of a specific methodology, such as the selection process of documents and participants. In addition, there are challenges in scaling an evaluation to a local context and the number of actors in the study. Therefore, the research aimed to create a framework that produced and used a novel methodological procedure to convert this narrative into an analytical explanation that follows Geels’s explicit theoretical knowledge on transitions.

The research successfully generated a narrative of housing in Soweto East by creating a methodological procedure to scale and produce a socio-technical evaluation. The methodological procedure demonstrated its strength to adapt to data-gathering challenges and opportunities, such as the discovery of an abundance of documents focused on KENSUP having the data required to complete the evaluation. The creation of a novel coding process reduced the difficulties in managing the data necessary to complete the evaluation. The STE was different compared to reviewed transitional studies, such as being scaled to a local level instead of a national or global one. Therefore, the STE had to be modified by limiting the main sources of data to project-related documents instead of national or global data. Another modification was expanding the analysis of stakeholders beyond authoritative stakeholders involved in critical decisions to include minor stakeholders. The above modifications had a positive impact on the study since the findings were appropriately related to the scale of the study.

The evaluation process should be cautiously reviewed before being applied to other field research areas. Travel restrictions were in place at the time of research due to the outbreak of COVID-19, which limited data-sources to documents and an online survey, and prevented any field research, such as participants with no internet access. Online respondents were primarily researchers and academics who preferred a survey over an interview, thus preventing the implementation of a planned interview coding analysis and cross-regime comparison of results

from surveys and interviews. Therefore, the evaluation reviewed the data from all sources for potential bias using the coding process for cross-data examination.

The research has demonstrated that an STE is suitable to evaluate housing but remains an exploratory form of research until similar evaluations are tested in variable humanitarian aid and development projects. Therefore, the following recommendations are encouraged based on the experience gained from completing an STE on housing in Soweto East;

- facilitate a participatory process between regimes and carry out residents' priorities;
- conduct a landscape study before practical measures to prevent the emergence of stakeholder tensions or resistance;
- encourage cross-disciplinary monitoring by cooperating with the research regime;
- in the context of housing, explore hybridisation design options for temporary relocation and the design of high-rise buildings; and;
- explore the creation of a theoretical framework when managing complex scenarios.

The STE presented in this research hopes to support the planning and implementation of evaluations of humanitarian sector developments. A continuous application of STEs in this sector can contribute to professional practice in projects by having the knowledge and explanations of complex scenarios to plan, implement and complete a project without delay. An STE offers a unique perspective of the narrative related to the selected artefact. However, an STE must be conducted with an understanding of systems thinking philosophy to evaluate the multiple levels of perspectives in the project.

The STE was particularly useful in highlighting KENSUP's transitions. The results from the socio-technical evaluation concluded that KENSUP went through a disruptive transition. The regimes did not adapt and stabilise to the construction of high-rise buildings. A successful transition from existing housing typologies to high-rise buildings was not achieved. For example, Kibera's landscape identified a generation of fear and mistrust between the government and community regimes from a history of non-inclusive housing developments in informal settlements. Internal tension in a regime, such as disputes between landlords and tenants, and tensions between regimes stalled the transition. Petitions and lobbying are proven tensions and are one of the reasons that KENSUP has been delayed. The recommendation is to establish more bodies that connect regimes. The housing regime requires more rules, such as improved building codes and the implementation of existing housing policies. It is encouraging that the next phases of KENSUP learn from the past and use this evaluation to support their efforts to improve the quality of life for the residents of Kibera.

References

- Acacia Consultants Ltd and Maji na Ufanisi (2004) *Investigation of actors operating in Kibera - Volume I. Analytical Report*. Unpublished.
- Achungo, B.C. (2014) *The Social Transformation of the People Living in Kibera Slum following the Kenya Slum Upgrading Programme*. Master's Thesis, University of Nairobi.
- Achwoka, J.W. (2018) *Recognition of Informal Norms in Creating Resilient Water Management Structures : The Case of Soweto East*. Doctoral Dissertation, Université Michel de Montaigne - Bordeaux III.
- ActionAid (2017) *Action for Global Justice: Strategy 2028*. Available at: https://actionaid.org/sites/default/files/strategy_2028_lr.pdf (Accessed: 20 June 2023).
- Adelekan, I., Johnson, C., Manda, M., Matyas, D., Mberu, B.U., Parnell, S., Pelling, M., Satterthwaite, D. and Vivekananda, J. (2015) 'Disaster risk and its reduction: An agenda for urban Africa', *International Development Planning Review*, 37(1), pp. 33–43. Available at: <https://doi.org/10.3828/idpr.2015.4>.
- Adikari, Y., Osti, R. and Noro, T. (2010) 'Flood-related disaster vulnerability: An impending crisis of megacities in Asia', *Journal of Flood Risk Management*, 3(3), pp. 185–191. Available at: <https://doi.org/10.1111/j.1753-318X.2010.01068.x>.
- Adriaan de Smedt, J.V. (2011) *The Nubis of Kibera: A social history of the Nubians and Kibera slums*. Doctoral Dissertation, Leiden University.
- AFD (2022) *French Agency for Development (AFD) homepage*. Available at: <https://www.afd.fr/en> (Accessed: 30 September 2022).
- Agayi, C. and Sağ, N. (2020) 'An Evaluation of Urban Regeneration Efforts in Kibera, Kenya through Slum Upgrading', *IDA: International Design and Art Journal*, 2, pp. 176–192.
- Agayi, C.O. and Karakayaci, Ö. (2020) 'The Role of Changing Housing Policies in Housing Affordability and Accessibility in Developing Countries: The Case of Kenya.', *Journal of Contemporary Urban Affairs*, 4(2), pp. 49–58. Available at: <https://doi.org/10.25034/ijcua.2020.v4n2-5>.
- Aleksić, J., Kosanović, S., Tomanović, D., Grbić, M. and Murgul, V. (2016) 'Housing and Climate Change-related Disasters: A Study on Architectural Typology and Practice', *Procedia Engineering*, pp. 869–875. Available at: <https://doi.org/10.1016/j.proeng.2016.11.786>.
- Alsulami, N. (2016) *Finite Element Analysis of Carbon Fiber Reinforced Polymer Emergency Shelters By Nawaf Alsulami*. Master's Thesis, The University of Toledo.
- Amnesty International (2009) *The Unseen Majority: Nairobi's Two Million Slum-Dwellers*. Amnesty International Publications. Available at: <https://www.amnesty.org/en/documents/afr32/005/2009/en/> (Accessed: 20 June 2023).
- Amnesty International (2015) *Driven Out for Development: Forced Evictions in Mombasa, Kenya*. Amnesty International Publications. Available at: <https://www.amnesty.org/en/documents/afr32/2467/2015/en/> (Accessed: 20 June 2023).
- Amnesty International (2017) *Building Inequality: The Failure of the Nepali Government to Protect the Marginalised in Post-Earthquake Reconstruction Efforts*. Amnesty International Publications. Available at: <https://www.amnesty.org/en/documents/asa31/6071/2017/en/> (Accessed: 20 June 2023).
- Anderson, M. and Mwelu, K. (2013) 'Kenya Slum Upgrading Programs: KISIP & KENSUP'.

Available at: <http://healthycities.berkeley.edu/uploads/1/2/6/1/12619988/kenya.pdf> (Accessed: 20 June 2023).

Anderson, P. and Tushman, M.L. (1990) 'Technological Discontinuities and Dominant Designs: A Cyclical Model of Technological Change.', *Administrative science quarterly*, 35(4), pp. 604–633.

Arnold, R.D. and Wade, J.P. (2015) 'A definition of systems thinking: A systems approach', *Procedia Computer Science*, 44(C), pp. 669–678. Available at: <https://doi.org/10.1016/j.procs.2015.03.050>.

Arthur, W.B. (1988) 'Competing technologies: An overview', in *Technical Change and Economic Theory*. London, pp. 590–607.

Aubry, P. and Hivon, F. (no date) 'Stratégie d'intervention au Maghreb; cadre de suivi et evaluation: Concept et méthodologie.', *APOR International (Unpublished)* [Preprint].

Auvinen, H., Ruutu, S., Tuominen, A., Ahlqvist, T. and Oksanen, J. (2015) 'Process supporting strategic decision-making in systemic transitions', *Technological Forecasting and Social Change*, 94, pp. 97–114. Available at: <https://doi.org/10.1016/j.techfore.2014.07.011>.

Babbie (2004) *The Practice of Social Research*. Bemont: Wadsworth.

Balaton-Chrimes, S. (2017) 'Recognition, coloniality and international development: A case study of the nubians and the Kenya slum upgrading project', *Postcolonial Studies*, 20(1), pp. 51–67. Available at: <https://doi.org/10.1080/13688790.2017.1355878>.

Balog, S., Deparday, V., Soden, R., Harvey, M., Sen, S., Willox, A., Chua, J.J., Ali, J. and Saavedra, R. (2018) *Design for Impact Framework: Integrating Open Data and Risk Communication for Decision Making*. The World Bank. Available at: <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/764201563524064005/design-for-impact-framework-integrating-open-data-and-risk-communication-for-decision-making> (Accessed: 20 June 2023).

Bashawri, A., Garrity, S. and Moodley, K. (2014) 'An Overview of the Design of Disaster Relief Shelters', *Procedia Economics and Finance*, 18(September), pp. 924–931. Available at: [https://doi.org/10.1016/s2212-5671\(14\)01019-3](https://doi.org/10.1016/s2212-5671(14)01019-3).

Berkers, E. and Geels, F.W. (2011) 'System innovation through stepwise reconfiguration: The case of technological transitions in Dutch greenhouse horticulture (1930-1980)', *Technology Analysis and Strategic Management*, 23(3), pp. 227–247. Available at: <https://doi.org/10.1080/09537325.2011.550392>.

Bijker, W.E. (1995) *Of Bicycles, Bakelites, and Bulbs: Toward a Theory of Sociotechnical Change*. Cambridge, MA and London, UK: MIT Press.

Bloomfield, B.P. and Vurdabakis, T. (1994) 'Re-presenting technology: IT consultancy reports as textual reality constructions', *Sociology*, 28(2), pp. 455–478. Available at: <https://www.jstor.org/stable/42857702> (Accessed: 20 June 2023).

Brass, J.N. (2010) *Surrogates for Government? NGOs and the State in Kenya*. Doctoral Dissertation, University of California.

Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77–101. Available at: <https://doi.org/10.1191/1478088706qp063oa>.

Braun, V. and Clarke, V. (2021) 'One size fits all? What counts as quality practice in (reflexive) thematic analysis?', *Qualitative Research in Psychology*, 18(3), pp. 328–352. Available at: <https://doi.org/10.1080/14780887.2020.1769238>.

- Bryman, A. (2016) *Social Research Methods*. 5th edn. Oxford University Press.
- Bulkeley, H., Broto, V.C., Hodson, M. and Marvin, S. (2011) *Cities and Low Carbon Transitions*. London: Routledge. Available at: <https://doi.org/https://doi.org/10.4324/9780203839249>.
- Callon, M. (1998) ‘Actor-Network Theory-The Market Test’, *The Sociological Review*, 46(S), pp. 181–195. Available at: <https://doi.org/10.1111/1467-954x.46.s.10>.
- Carter, S., Steynor, A., Vincent, K., Visman, E. and Waagsaether, K.L. (2019) *Co-production in African weather and climate services*. Second edn. Manual, Cape Town: Future Climate for Africa and Weather and Climate Information Services for Africa. Available at: <https://futureclimateafrica.org/coproduction-manual> (Accessed 20 June 2023).
- Celentano, G., Göswein, V., Magyar, J. and Habert, G. (2020) ‘The informal city as a socio-technical system: Construction management and money distribution in the informal and upgraded communities of Bangkok’, *Journal of Cleaner Production*, 256. Available at: <https://doi.org/https://doi.org/10.1016/j.jclepro.2020.120142>.
- Celentano, G. and Habert, G. (2021) ‘Beyond materials: The construction process in space, time and culture in the informal settlement of Mathare, Nairobi’, *Development Engineering*, 6(October 2020). Available at: <https://doi.org/10.1016/j.deveng.2021.100071>.
- Centre on Housing Rights and Evictions [COHRE] (2006) *Listening to the Poor? Housing rights in Nairobi, Kenya*. Revised Ed. Geneva, Switzerland. Available at: <https://www.muungano.net/publicationslibrary/2017/4/6/listening-to-the-poor-housing-rights-in-nairobi> (Accessed: 20 June 2023).
- Charbonneau, A. (2016) ‘Managing conflicts in slums within a relocation project. Case study of Soweto East, Kibera, Nairobi’, *HAL Open Science* [Preprint]. Available at: <https://shs.hal.science/halshs-01315397> (Accessed: 20 June 2023).
- Charles, N.P. (2018) *The Role of International Organizations in Slum Upgrading in Africa: a Case Study of Un-Habitat in Kibera’s Soweto East Village Slums, Nairobi, Kenya (2005-2018)*. Master’s Thesis, The University of Nairobi.
- Christ the King Church (2003) *Memorandum, Proposed Upgrading In Soweto Village in Kibera to His Excellency Archbishop Giovanni Tonucci*. Unpublished.
- CHS Alliance (2015) *Core Humanitarian Standards [CHS] Guidance Notes and Indicators*. First Edit. Available at: <https://corehumanitarianstandard.org/files/files/CHS-Guidance-Notes-and-Indicators.pdf> (Accessed: 20 June 2023).
- Cities Alliance (2013) ‘Cities alliance for cities without slum: Action plan for moving slum upgrading to scale’, p. 23. Available at: <https://web.mit.edu/urbanupgrading/sponsor/ActionPlan.pdf> (Accessed: 20 June 2023).
- Clouette, B. and Wise, M. (2017) ‘Forms of aid: Architectures of humanitarian space’, *Forms of Aid: Architectures of Humanitarian Space*, pp. 1–170. Available at: <https://doi.org/10.1515/9783035608267>.
- Coffey, A. (2014) ‘Analysing Documents’, in F. Uwe (ed.) *The SAGE Handbook of Qualitative Data Analysis*. CA: SAGE Publications Ltd, pp. 367–379.
- Concern Worldwide (2018) *Approach to Emergencies*. Available at: <https://www.concern.net/knowledge-hub/concern-worldwides-approach-emergencies> (Accessed: 20 June 2023).
- Cone, D. (2021) *Proposed Closure of Kenya’s Dadaab and Kakuma Refugee Camps*

'Reckless'. Available at: <https://reliefweb.int/report/kenya/proposed-closure-kenya-s-dadaab-and-kakuma-refugee-camps-reckless> (Accessed: 20 June 2023).

Cordaid and IHS (2004) *Process Mapping: Disclosing Actors and Citizen Participation in Nairobi*. Available at: https://www.cordaid.org/nl/wp-content/uploads/sites/2/2014/08/PM_Awassa_Ethiopia_1.pdf (Accessed 20 June 2023).

Cosgrave, J. (2007) *Synthesis Report: Expanded Summary. Joint evaluation of the international response to the Indian Ocean tsunami*, Tsunami Evaluation Coalition. London, UK. Available at: <https://www.alnap.org/help-library/joint-evaluation-of-the-international-response-to-the-indian-ocean-tsunami-synthesis> (Accessed: 20 June 2023).

Cossu, M., Lizarralde, G., Fayazi, M. and Kikano, F. (2017) *On-line debate: Is public participation really the key to success for urban projects and initiatives aimed, Vulnerability, Resilience, and Post-Disaster Reconstruction International Debates*. Available at: <https://oddebates.com/4-fourth-debate/> (Accessed: 20 June 2023).

Cuppen, E.H.W.J. (2010) *Putting Perspectives into Participation: Constructive Conflict Methodology for problem structuring in stakeholder dialogues*. Doctoral Dissertation, Vrije Universiteit Amsterdam. Uitgeverij BoxPress. Available at: <https://research.vu.nl/en/publications/putting-perspectives-into-participation-constructive-conflict-met> (Accessed 20 June 2023).

Daily Nation (2021) *Kenya: Pumwani Residents Up in Arms Over NHC Eviction Notice*. Available at: <https://allafrica.com/stories/202109240072.html> (Accessed 20 June 2023).

Das, S. and Mukhopadhyay, P. (2018) 'Multi-hazard disaster resilient housing with bamboo-based system', *Procedia Engineering*, 212, pp. 937–945. Available at: <https://doi.org/10.1016/j.proeng.2018.01.121>.

Davidson, C., Johnson, C., Lizarralde, G., Dikmen, N. and Sliwinski, A. (2007) 'Truths and myths about community participation in post-disaster housing projects', *Habitat International*, pp. 100–115. Available at: <https://doi.org/10.1016/j.habitatint.2006.08.003>.

Davidson, C., Lizarralde, G. and Johnson, C. (2008) 'Myths and Realities of Prefabrication for Post- disaster Reconstruction', in *Fourth International i-Rec, 30 April – 2 May 2008, Christchurch, New Zealand*.

Desgroppes, A. and Taupin, S. (2011) 'Kibera: The Biggest Slum in Africa?', *Les Cahiers d'Afrique de l'Est*, (44), pp. 23–33. Available at: <https://doi.org/10.4000/estafrica.521>.

Deuten, J.J. (2003) *Cosmopolitanising Technology: A Study of Four Emerging Technological Regimes*. Doctoral Dissertation, Enschede: Twente University Press.

Development Initiatives (2021) *Global humanitarian assistance report 2021, GHA Annual Report*. Available at: <https://devinit.org/resources/global-humanitarian-assistance-report-2021/> (Accessed: 20 June 2023).

Dewan, T.H. (2015) 'Societal impacts and vulnerability to floods in Bangladesh and Nepal', *Weather and Climate Extremes*, 7, pp. 36–42. Available at: <https://doi.org/10.1016/j.wace.2014.11.001>.

DFA (2010) *Review of Irish Aid's Emergency Response to the Haiti Earthquake in 2010*. Dublin: Department of Foreign Affairs and Trade. Available at: <https://irishaid.ie/news-publications/publications/publicationsarchive/2019/july/review-of-irish-aids-emergency-response-to-the-haiti-earthquake-in-2010.html> (Accessed 20 June 2023).

DG ECHO (2013) *Thematic Policy Document No. 9: Humanitarian Shelter and Settlements Guidelines*. Available at:

https://ec.europa.eu/echo/files/policies/sectoral/shelter_and_settlement_guidelines.pdf
(Accessed: 20 June 2023).

Dikmen, N., Elias-Ozkan, S.T. and Davidson, C. (2012) 'Comparison of Post-Disaster Housing Procurement Methods in Rural Areas of Turkey', *Open House International*, 37(1), pp. 28–39. Available at: <https://doi.org/10.1108/OHI-01-2012-B0004>.

Dochas (2015) *Nepal Earthquake: Lessons learnt from responding to earth*. Available at: <https://www.dochas.ie/resources/> (Accessed: 20 January 2020).

Dodman, D., Brown, D., Francis, K., Hardoy, J., Johnson, C. and Satterthwaite, D. (2013) *Understanding the nature and scale of urban risk in low- and middle-income countries and its implications for humanitarian preparedness, planning and response*. London, UK: International Institute for Environment and Development (IIED). Available at: <https://www.iied.org/10624iied> (Accessed: 20 June 2023).

Dodman, D. and Mitlin, D. (2013) 'Challenges for community-based adaptations: Discovering the potential for transformation.', *Journal of International Development*, 25(5), pp. 640–659. Available at: <https://doi.org/10.1002/jid.1772>.

Donohoe, M. (2019) *GOAL is helping over 58,000 displaced refugees in Ethiopia*. Available at: <https://www.goalglobal.org/stories/> (Accessed: 20 June 2023).

East African Standard (2004) 'Eviction notice and consultancy ad in East African Standard August 8th 2003', in *Appendix 1-2, Nairobi's Housing Crisis: An Analysis of the Kenya Slum Upgrading Programme*, pp. 184–185.

Eberhard, A., Gratwick, K. and Kariuki, L. (2018) 'Kenya's lessons from two decades of experience with independent power producers', *Utilities Policy*, 52(September 2016), pp. 37–49. Available at: <https://doi.org/10.1016/j.jup.2018.04.002>.

ECHO (2013) *Thematic Policy Document no 5: Disaster Risk Reduction: Increasing resilience by reducing disaster risk in humanitarian action*. Available at: https://ec.europa.eu/echo/files/policies/prevention_preparedness/DRR_thematic_policy_doc.pdf (Accessed: 20 June 2023).

ECHO (2019) *European Civil Protection and Humanitarian Aid Operations: Disaster Preparedness*. Available at: https://civil-protection-humanitarian-aid.ec.europa.eu/what/humanitarian-aid/disaster-preparedness_en (Accessed 16 July 2020).

ECHO (2020) *Multi-sector needs assessment. Kakuma Refugee Camp October 2020*. Available at: <https://reliefweb.int/report/kenya/multi-sectoral-needs-assessment-kakuma-refugee-camps-turkana-county-kenya-october-2020> (Accessed: 20 June 2023).

ECOSOC (2018) *ECOSOC Humanitarian Affairs Segment*. Available at: [https://www.unocha.org/sites/unocha/files/ECOSOC HAS 2018 SYNTHESIS_final.pdf](https://www.unocha.org/sites/unocha/files/ECOSOC_HAS_2018_SYNTHESIS_final.pdf) (Accessed: 20 June 2023).

Ehresmann, P. (2004) *Nairobi's Housing Crisis: An Analysis of the Kenya Slum Upgrading Programme*. Honors Thesis 1963 - 2015, College of Saint Benedict and Saint John's University.

Elzen, B., Geels, F. and Hofman, P. (2002) *Sociotechnical Scenarios: Development and evaluation of a new methodology to explore transitions towards a sustainable energy supply*. Report. Enschede, The Netherlands. Available at: <https://research.utwente.nl/en/publications/sociotechnical-scenarios-stsc-development-and-evaluation-of-a-new> (Accessed 20 June 2023).

Elzen, B., Geels, F.W. and Green, K. (2004) *System Innovation and the Transition to*

Sustainability Theory, Evidence and Policy. Cheltenham: Edward Elgar.

Engleson, E. (2011) *Improving Informal Settlements, Kibera: using and developing existing knowledge*. Master's Thesis, Chalmers Architecture. Available at: <https://publications.lib.chalmers.se/records/fulltext/178100/178100.pdf> (Accessed: 20 June 2023).

Esin, C., Fathi, M. and Squire, C. (2014) 'Narrative Analysis: The Constructionist Approach', in *The SAGE Handbook of Qualitative Data Analysis*. London, UK: SAGE Publications Ltd, pp. 203–216. Available at: <https://doi.org/10.4135/9781446282243>.

EWB (2013) *EWB-USA Sample Evaluation of Completed Projects in Guatemala*. Available at: <https://www.ewb-usa.org/latest-news/ewb-usa-monitoring-and-evaluation-guatemala-report-released/> (Accessed: 20 June 2023).

EWB (2015) *EWB Strategic Plan 2015-2020*. Available at: <https://www.ewb-usa.org/latest-news/ewb-usas-new-2015-2020-strategic-plan/> (Accessed: 20 June 2023).

Fayazi, M., Arefian, F., Gharaati, M., Johnson, C., Lizarralde, G. and Davidson, C. (2017) 'Managing institutional fragmentation and time compression in postdisaster reconstruction', *International Journal of Disaster Risk Reduction*, 21, pp. 340–349. Available at: <https://doi.org/10.1016/j.ijdr.2017.01.012>.

Fernandez, R.A.F. and Calas, B. (2011) 'The Kibera Soweto East Project in Nairobi', *Les Cahiers d'Afrique de l'Est*, (44), pp. 129–145. Available at: <https://doi.org/10.4000/eastafrica.536>.

Flick, U. (2014) *The SAGE Handbook of Qualitative Data Analysis*. London, UK: SAGE Publications Ltd.

Fredriksen, A. (2014) 'Emergency shelter topologies: Locating humanitarian space in mobile and material practice', *Environment and Planning D: Society and Space*, pp. 147–162. Available at: <https://doi.org/http://dx.doi.org/10.1068/d17912>.

Freeman, C. and Carlotta, P. (1998) 'Technical change and economic theory', in *Technical change and economic theory*. Burns and Oates, pp. 38–66. Available at: <https://doi.org/10.2307/2234048>.

Gann, D.M. (2003) 'Guest editorial: innovation in the built environment', *Construction Management and Economics*, 21(6), pp. 553–555. Available at: <https://doi.org/10.1080/0144619032000134084>.

Garfias Royo, M., Parikh, P., Mutwiri, F., Harper, J., Bukachi, V. and Mulligan, J. (2018) 'Using Future Scenario Planning as a tool for informed decision making on infrastructure interventions in Kibera, Nairobi in Kenya', *Habitat International*, 79(July), pp. 30–41. Available at: <https://doi.org/10.1016/j.habitatint.2018.07.009>.

Garud, R. and Rappa, M.A. (1994) 'A Socio-Cognitive Model of Technology Evolution: The Case of Cochlear Implants.', *Organization Science*, 5(3), pp. 344–362. Available at: <https://doi.org/10.1287/orsc.5.3.344>.

Gay and Airasian (2003) *Educational Research: Competencies for Analysis and Applications*. 7th edn. Upper Saddle River, NJ: Merrill/Prentice Hall.

Geels, F.W. (2002) 'Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study', *Research Policy*, 31(8–9), pp. 1257–1274. Available at: [https://doi.org/10.1016/S0048-7333\(02\)00062-8](https://doi.org/10.1016/S0048-7333(02)00062-8).

Geels, F.W. (2005a) *Technological Transitions and System Innovations: A Co-Evolutionary*

and *Socio-Technical Analysis*, Edward Elgar. Cheltenham, UK and Northampton, MA: Edward Elgar Publishing. Available at: <https://doi.org/10.4337/9781845424596>.

Geels, F.W. (2005b) 'Understanding system innovations: a critical literature review and a conceptual synthesis', in *System Innovation and the Transition to Sustainability: Theory, Evidence and Policy*. Cheltenham, UK and Northampton, MA: Edward Elgar.

Geels, F.W. (2010) 'Ontologies, socio-technical transitions (to sustainability), and the multi-level perspective', *Research Policy*, 39(4), pp. 495–510. Available at: <https://doi.org/10.1016/j.respol.2010.01.022>.

Geels, F.W. (2011a) 'The multi-level perspective on sustainability transitions: Responses to seven criticisms', *Environmental Innovation and Societal Transitions*, 1(1), pp. 24–40. Available at: <https://doi.org/10.1016/j.eist.2011.02.002>.

Geels, F.W. (2011b) 'The role of cities in technological transitions: analytical clarifications and historical examples', in H. Bulkeley, V.C. Broto, M. Hodson, and S. Marvin (eds) *Cities and low carbon transitions*. Routledge.

Geels, F.W. (2013) 'Reconceptualising the co-evolution of firms-in-industries and their environments: Developing an inter-disciplinary Triple Embeddedness Framework', *Research Policy*, 43(2), pp. 261–277. Available at: <https://doi.org/10.1016/j.respol.2013.10.006>.

Geels, F.W. (2014) 'Regime Resistance against Low-Carbon Transitions: Introducing Politics and Power into the Multi-Level Perspective', *Theory, Culture & Society*, 31(5), pp. 21–40. Available at: <https://doi.org/10.1177/0263276414531627>.

Geels, F.W. (2018) 'Disruption and low-carbon system transformation: Progress and new challenges in socio-technical transitions research and the Multi-Level Perspective', *Energy Research and Social Science*, 37(September), pp. 224–231. Available at: <https://doi.org/10.1016/j.erss.2017.10.010>.

Geels, F.W. (2019) 'Socio-technical transitions to sustainability: a review of criticisms and elaborations of the Multi-Level Perspective', *Current Opinion in Environmental Sustainability*, 39, pp. 187–201. Available at: <https://doi.org/10.1016/j.cosust.2019.06.009>.

Geels, F.W. (2020) 'Micro-foundations of the multi-level perspective on socio-technical transitions: Developing a multi-dimensional model of agency through crossovers between social constructivism, evolutionary economics and neo-institutional theory', *Technological Forecasting and Social Change*, 152(119894). Available at: <https://doi.org/10.1016/j.techfore.2019.119894>.

Geels, F.W., Berkhout, F. and Van Vuuren, D.P. (2016) 'Bridging analytical approaches for low-carbon transitions', *Nature Climate Change*, 6(6), pp. 576–583. Available at: <https://doi.org/10.1038/nclimate2980>.

Geels, F.W. and Deuten, J.J. (2006) 'Local and global dynamics in technological development: a socio-cognitive perspective on knowledge flows and lessons from reinforced concrete.', *Science and Public Policy*, 33(4), pp. 265–275. Available at: <https://doi.org/10.3152/147154306781778984>.

Geels, F.W. and Kemp, R. (2006) 'Transitions, Transformations, and Reproductions: Dynamics in Socio-Technical Systems', in M. McKelvey and M. Holmen (eds) *Flexibility and Stability in the Innovating Economy*. Oxford University Press. Oxford, UK, pp. 227–256.

Geels, F.W. and Kemp, R. (2007) 'Dynamics in socio-technical systems: Typology of change processes and contrasting case studies', *Technology in Society*, 29(4), pp. 441–455. Available at: <https://doi.org/10.1016/j.techsoc.2007.08.009>.

- Geels, F.W., McMeekin, A. and Pfluger, B. (2020) ‘Socio-technical scenarios as a methodological tool to explore social and political feasibility in low-carbon transitions: Bridging computer models and the multi-level perspective in UK electricity generation (2010–2050)’, *Technological Forecasting and Social Change*, 151(February). Available at: <https://doi.org/10.1016/j.techfore.2018.04.001>.
- Geels, F.W. and Raven, R. (2006) ‘Non-Linearity and Expectation in Niche Development trajectories: Ups and Downs in Dutch Biogas Development (1973-2003)’, *Technology Analysis and Strategic Management*, 18(3–4), pp. 375–392. Available at: <https://doi.org/10.1080/09537320600777143>.
- Geels, F.W., Sareen, S., Hook, A. and Sovacool, B.K. (2021) ‘Navigating implementation dilemmas in technology-forcing policies: A comparative analysis of accelerated smart meter diffusion in the Netherlands, UK, Norway, and Portugal (2000-2019)’, *Research Policy*, 50. Available at: <https://doi.org/10.1016/j.respol.2021.104272>.
- Geels, F.W. and Schot, J. (2007) ‘Typology of sociotechnical transition pathways’, *Research Policy*, 36(3), pp. 399–417. Available at: <https://doi.org/10.1016/j.respol.2007.01.003>.
- Geels, F.W., Schwanen, T., Sorrell, S., Jenkins, K. and Sovacool, B.K. (2018) ‘Reducing energy demand through low carbon innovation: A sociotechnical transitions perspective and thirteen research debates’, *Energy Research and Social Science*, 40(June), pp. 23–35. Available at: <https://doi.org/10.1016/j.erss.2017.11.003>.
- Geels, F.W., Sovacool, B.K. and Sorrell, S. (2019) ‘Of emergence, diffusion and impact. A sociotechnical perspective on researching energy demand’, in K.E.H. Jenkins and D. Hopkins (eds) *Transitions in Energy Efficiency and Demand: The Emergence, Diffusion and Impact of Low-Carbon Innovation*. Oxon, UK: Taylor & Francis.
- Geels, F.W. and Turnheim, B. (2022) *The Great Reconfiguration*, Cambridge University Press. Cambridge, UK: Cambridge University Press. Available at: <https://doi.org/10.1017/9781009198233>.
- Geels, F.W., Turnheim, B., Asquith, M., Kern, F. and Kivimaa, P. (2019) *Sustainability transitions: policy and practice*. European Environment Agency. Available at: <https://doi.org/10.2800/641030>.
- Geels, F.W. and Verhees, B. (2011) ‘Cultural legitimacy and framing struggles in innovation journeys: A cultural-performative perspective and a case study of Dutch nuclear energy (1945-1986)’, *Technological Forecasting and Social Change*, 78(6), pp. 910–930. Available at: <https://doi.org/10.1016/j.techfore.2010.12.004>.
- George, A., Boxiong, S., Arowo, M., Ndolo, P., Chepsaigutt-Chebet and Shimmon, J. (2019) ‘Review of solar energy development in Kenya: Opportunities and challenges’, *Renewable Energy Focus*, 29(June), pp. 123–140. Available at: <https://doi.org/10.1016/j.ref.2019.03.007>.
- Gerard, P. (2018) *Aid Policy, Aid Projects and Aid Practitioners The role of agency, actors and interfaces in ‘pro-poor development’ projects in post-apartheid South Africa and post-communist Baltic States*. Doctoral Dissertation, National University of Ireland Galway.
- de Geus, T., Silvestri, G. and Wittmayer, J. (2022) *Designing participatory transformative processes for just & climate-neutral cities: Methodological guidelines for using transition management*. Deliverable report. Brussels. Available at: <https://www.citiesoftomorrow.eu/resources/toolbox/guidelines/methodological-guidelines-designing-participatory-processes-just-and/> (Accessed: 20 June 2023).
- Gioia, D.A., Corley, K.G. and Hamilton, A.L. (2012) ‘Seeking Qualitative Rigor in Inductive Research: Notes on the Gioia Methodology’, *Organizational Research Methods*, 16(1), pp. 15–

31. Available at: <https://doi.org/10.1177/1094428112452151>.

Global Humanitarian Assistance (2014) *Global Humanitarian Assistance Report 2014*. Available at: <https://devinit.org/resources/gha-report-2014/> (Accessed: 20 June 2023).

Goal (2019) *Strategy 2019-2021: Alliance, Ambition, Action*. Available at: <https://www.goalglobal.org/strategy/> (Accessed: 15 July 2020).

GoK (2004) *Sessional Paper No.3: National Housing Policy For Kenya*. Nairobi, Kenya. Available at: <https://repository.kippra.or.ke/handle/123456789/1370> (Accessed: 20 June 2023).

GoK (2005) *Kenya Slum Upgrading Programme (KENSUP): The Financing Strategy (2005-2020)*. Unpublished.

GoK (2008) *Nairobi Metro 2030: A Vision for a World Class Metropolis*.

GoK (2010) *Model bylaws for housing Co-operatives*. Available at: <https://ushirika.go.ke/wp-content/uploads/2020/06/Model-Housing-By-Laws.pdf> (Accessed: 20 June 2023).

GoK (2012a) *Co-operative Societies Act*. Available at: <http://kenyalaw.org/kl/fileadmin/pdfdownloads/Acts/Co-operativeSocietiesActCap490.pdf> (Accessed: 20 June 2023).

GoK (2012b) *Physical Planning Act No. 6 of 1996*. National Council for Law Reporting. Available at: <https://www.kpda.or.ke/documents/Policies/Physical Planning Act 6 of 1996.pdf> (Accessed: 20 June 2023).

GoK (2013) *Background Document: The National Slum Upgrading and Prevention Policy*. Available at: http://healthycities.berkeley.edu/uploads/1/2/6/1/12619988/kenya_slum_upgradeprevent_policy_may_2013.pdf (Accessed: 20 June 2023).

GoK (2016a) *Sessional Paper No. 2: National Slum Upgrading and Prevention Policy*. Available at: <https://www.urbanagendaplatform.org/sites/default/files/2022-04/National Slum Upgrading %26 Prevention Policy.pdf> (Accessed: 20 June 2023).

GoK (2016b) *Sessional Paper No. 3: National Housing Policy for Kenya*. Available at: <http://repository.kippra.or.ke/handle/123456789/589> (Accessed: 20 June 2023).

GoK (2016c) *The National Urban Development Policy*. Available at: <https://repository.kippra.or.ke/bitstream/handle/123456789/4109/National Urban Development Policy.pdf?sequence=1&isAllowed=y> (Accessed: 20 June 2023).

GoK (2018) *Kenya Vision 2030: Third Medium Term Plan (2018-2022): Transforming Lives : Advancing socio-economic development through the 'Big Four'*. Available at: <https://vision2030.go.ke/wp-content/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf> (Accessed: 20 June 2023).

GoK (2019) *The SACCO Societies Act of 2008*. Available at: <https://www.sasra.go.ke/download/the-sacco-societies-act/> (Accessed: 20 June 2023).

Gonzalo, L. and Verdouw, J. (2016) 'The invisible houses: re-thinking and designing low-cost housing in developing countries', *Housing Studies*, 31(6), pp. 752–753. Available at: <https://doi.org/10.1080/02673037.2016.1195100>.

Grin, J., Rotmans, J. and Schot, J. (2011) 'On patterns and agency in transition dynamics: Some key insights from the KSI programme', *Environmental Innovation and Societal Transitions*, 1(1), pp. 76–81. Available at: <https://doi.org/10.1016/j.eist.2011.04.008>.

- Grin, J., Rotmans, J., Schot, J., Geels, F.W. and Loorbach, D. (2010) *Transitions to Sustainable Development: New Directions in the Study of Long Term Transformative Change*, Routledge, Oxon, Uk.
- GSC and ECHO (2021) *Presentation: Greening the shelter response*. Available at: <https://sheltercluster.org/global-shelter-cluster/documents/gsc-echo-project-presentation-2021-greening-shelter-response> (Accessed: 20 June 2023).
- Gulyani, S. and Talukdar, D. (2008) ‘Slum Real Estate: The Low-Quality High-Price Puzzle in Nairobi’s Slum Rental Market and its Implications for Theory and Practice’, *World Development*, 36(10), pp. 1916–1937. Available at: <https://doi.org/10.1016/j.worlddev.2008.02.010>.
- Habitat for Humanity (2011) *Habitat for Humanity International Annual Report 2011*. Available at: <https://www.habitat.org/about/annual-reports-990s> (Accessed: 20 June 2023).
- Habitat for Humanity (2012a) *Disaster response Shelter Catalogue*. Available at: <https://www.humanitarianlibrary.org/resource/disaster-response-shelter-catalogue-0> (Accessed: 20 June 2023).
- Habitat for Humanity (2012b) *Disaster Risk Reduction and Response: Pathway to Permanence*. Available at: <https://www.habitat.org/sites/default/files/pathways-to-permanence.pdf> (Accessed: 20 June 2023).
- Habitat for Humanity (2020) *Habitat for Humanity International Annual Report 2020*. Available at: <https://www.habitat.org/about/annual-reports-990s> (Accessed: 20 June 2023).
- Habitat for Humanity Kenya (2021a) *Mt.Elgon Housing Project*. Available at: <https://hfhkenya.org/mt-elgon-housing-project/> (Accessed: 20 June 2023).
- Habitat for Humanity Kenya (2021b) *What we do: Settlement-Based Practice*. Available at: <https://hfhkenya.org/settlement-based-practice/> (Accessed: 20 June 2023).
- Hagen, E. (2017) *Open mapping from the ground up: learning from Map Kibera, Making All Voices Count Research Report*. Brighton: IDS. Available at: <http://www.makingallvoicescount.org/publication/open-mapping-ground-learning-map-kibera/>.
- Handa, C. (2006) *A Communication Action Plan: September – October, 2006 (for K-WATSAN in Soweto east)*. (Unpublished) Retrieval from Nairobi Habitat Office.
- Hendriks, E. (2020) *Assessing knowledge adoption in post-disaster reconstruction*. Doctoral Dissertation, Technische Universiteit Eindhoven.
- Hobday, M. (1998) ‘Product complexity, innovation and industrial organisation’, *Research Policy*, 26(6), pp. 689–710. Available at: [https://doi.org/10.1016/S0048-7333\(97\)00044-9](https://doi.org/10.1016/S0048-7333(97)00044-9).
- Hof, A.F., van Vuuren, D.P., Berkhout, F. and Geels, F.W. (2019) ‘Understanding transition pathways by bridging modelling, transition and practice-based studies: Editorial introduction to the special issue’, *Technological Forecasting and Social Change*, 151. Available at: <https://doi.org/10.1016/j.techfore.2019.05.023>.
- Hofman, P.S. and Elzen, B. (2010) ‘Exploring system innovation in the electricity system through sociotechnical scenarios’, *Technology Analysis and Strategic Management*, 22(6), pp. 653–670. Available at: <https://doi.org/10.1080/09537325.2010.496282>.
- Hong, Y. (2017) ‘A study on the condition of temporary housing following disasters: Focus on container housing’, *Frontiers of Architectural Research*, pp. 374–383. Available at: <https://doi.org/10.1016/j.foar.2017.04.005>.

- Horowitz, J. and Michelitch, K. (2021) 'Kenya might expel refugees to their home countries', *The Washington Post*, 25 June.
- Hossain, S., A.B., Z., Huq, N.L., Mamun, R., Islam, R., Nowrin, I., Ether, S., Bonnitcha, J., Dahal, N. and Alayne, M.A. (2017) *Urbanisation and natural disaster: implications of evidence for South Asia*. London: EPPI-Centre, Social Science Research Unit, University College London (UCL), Institute of Education, University College London. Available at: <https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3707> (Accessed: 20 June 2023).
- Hossain, S., Spurway, K., Zwi., A.B., Huq, N.L., Mamun, R., Islam, R., Nowrin, I., Ether, S., Bonnitcha, J., Dahal, N. and Alayne, M.A. (2017) *What is the impact of urbanisation on risk of, and vulnerability to, natural disasters? What are the effective approaches for reducing exposure of urban population to disaster risks?* London, UK: EPPI-Centre, Social Science Research Unit, UCL Institute of Education, University College London. Available at: <https://eppi.ioe.ac.uk/cms/Default.aspx?tabid=3707> (Accessed: 20 June 2023).
- HRRP (2018a) *Housing typologies: Earthquake Affected Districts*. Available at: https://www.hrrpnepal.org/uploads/media/SWBxIbZt3oNpyhLRaEUD_2018_09_27.pdf (Accessed: 20 June 2023).
- HRRP (2018b) *Temporary Shelter Research Report*. Available at: <https://www.hrrpnepal.org/hrrp-reference-library/research-products> (Accessed 20 June 2023).
- HRRP (2019a) *HRRP About Us*. Available at: <https://www.hrrpnepal.org/about> (Accessed: 20 June 2023).
- HRRP (2019b) *Reconstruction Facilitators at Local Level*. Available at: <http://www.jboss.org/contribute> (Accessed: 12 October 2021).
- HRRP (2020) *The Path to Housing Recovery: Nepal Earthquake 2015: Housing Reconstruction*. Available at: https://www.hrrpnepal.org/uploads/media/HRRPtimelinebooklet-December2020_final_SM_min_20201218155954.pdf (Accessed: 20 June 2023).
- Huchzermeyer, M. (2006) 'Slum upgrading initiatives in Kenya within the basic services and wider housing market: A housing rights concern', *Centre on Housing Rights and Evictions (COHRE)*, (1), pp. 1–28. Available at: https://issuu.com/cohre/docs/cohre_slumupgradinginitiatives_keny (Accessed: 20 June 2023).
- Huchzermeyer, M. (2008) 'Slum upgrading in Nairobi within the housing and basic services market: A housing rights concern', *Journal of Asian and African Studies*, 43(1), pp. 19–39. Available at: <https://doi.org/10.1177/0021909607085586>.
- Hughes, N. (2013) 'Towards improving the relevance of scenarios for public policy questions: A proposed methodological framework for policy relevant low carbon scenarios', *Technological Forecasting and Social Change*, 80(4), pp. 687–698. Available at: <https://doi.org/10.1016/j.techfore.2012.07.009>.
- Hughes, T.P. (1987) 'The evolution of large technological systems', in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge: MIT Press, pp. 51–82.
- Hughes, T.P. (1994) 'Technological momentum', in *Does Technology Drive History? The Dilemma of Technological Determinism*. Cambridge, MA: MIT Press, pp. 101–113.
- IASC (2015a) *Reference Module for Cluster Coordination at Country Level*. Available at: <https://interagencystandingcommittee.org/iasc-transformative-agenda/iasc-reference-module-cluster-coordination-country-level-revised-july-2015> (Accessed: 20 June 2023).

IASC (2015b) *Reference Module for the Implementation of the Humanitarian Programme Cycle*. Available at: <https://interagencystandingcommittee.org/iasc-transformative-agenda/iasc-reference-module-implementation-humanitarian-programme-cycle-2015> (Accessed: 20 June 2023).

Ibrahim, M. (2010) *Post-disaster housing reconstruction in a conflict affected district , Batticaloa , Sri Lanka : Reflecting on the Climate Management Approach, Strengthening Climate Resilience Discussion Paper 6*. Available at: <https://assets.publishing.service.gov.uk/media/57a08b1140f0b652dd000a9c/SCR-DiscussionPaper6-Sri-Lanka.pdf> (Accessed: 20 June 2023).

IFRC (2007) *Tsunami Semi-annual Report Sri Lanka 2004-2007*. Available at: <https://reliefweb.int/report/sri-lanka/tsunami-semi-annual-report-2004-2007-sri-lanka-appeal-no-282004> (Accessed: 20 June 2023).

IFRC (2011a) *An Evaluation of the Haiti Earthquake 2010 Meeting Shelter Needs: Issues, Achievements and Constraints*. Available at: <https://www.ifrc.org/docs/evaluations/evaluations2011/global/htshelterclusterreview11.pdf> (Accessed: 20 June 2023).

IFRC (2011b) *Reponse to the Evaluation of the Haiti Earthquake 2010 Meeting Shelter Needs: Issues, Achievements and Constraints*. Available at: www.ifrc.org.

IFRC (2012) *Sri Lanka Tsunami 2004 Lessons Learned*. Available at: <https://www.ifrc.org/media/13794> (Accessed: 20 June 2023).

IFRC (2013a) *Emergency appeal final report Asia : Earthquake and Tsunamis*. Available at: <https://www.ifrc.org/docs/Appeals/04/2804fr.pdf> (Accessed: 20 June 2023).

IFRC (2013b) *Post-disaster shelter: Ten designs*. Available at: <https://www.shelterprojects.org/tshelter-8designs/10designs2013/2013-10-28-Post-disaster-shelter-ten-designs-IFRC-lores.pdf> (Accessed: 20 June 2023).

IFRC (2018) *Shelter and Settlements Technical Competency Framework*. Available at: <https://go.ifrc.org/deployments/catalogue/shelter> (Accessed: 20 June 2023).

IFRC, UNHCR and UN-Habitat (2012) *Shelter Projects 2010*. Available at: <https://shelterprojects.org/shelterprojects2010/ShelterProjects2010-lores.pdf> (Accessed: 20 June 2023).

International Convention on Economic social and cultural Rights [ICESCR] (1991) *General Comment No. 4 on Right to Adequate Housing*. Available at: <https://www.refworld.org/pdfid/47a7079a1.pdf> (Accessed: 20 June 2023).

IOM, NRC and UNHCR (2015) *Camp Management Toolkit*. Available at: https://www.iom.int/sites/g/files/tmzbdl486/files/our_work/Shelter/documents/Camp-Management-Toolkit_2015_Portfolio_compressed.pdf (Accessed: 20 June 2023).

IPCC (2007) *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden, and C.E. Hanson. Cambridge, UK: Cambridge University Press.

Islamic Relief (2019) *Climate change policy*. Available at: <https://islamic-relief.org/wp-content/uploads/2022/05/Climate-Change-Policy-2019-REDUCED-003.pdf> (Accessed: 20 June 2023).

Jacinta, J. (2010) *Analysis of Changing Positions and Interests of Stakeholders: The case of Soweto East, Kibera Pilot Project*. Master's Thesis, University of Nairobi.

- Johnson, C. (2007) 'Impacts of prefabricated temporary housing after disasters: 1999 earthquakes in Turkey', *Habitat International*, 31(1), pp. 36–52. Available at: <https://doi.org/10.1016/j.habitatint.2006.03.002>.
- Johnson, C. and Lizarralde, G. (2012) *Post-disaster housing and reconstruction*, *International Encyclopedia of Housing and Home*. Elsevier Ltd. Available at: <https://doi.org/10.1016/B978-0-08-047163-1.00046-1>.
- Kanger, L., Geels, F.W., Sovacool, B. and Schot, J. (2019) 'Technological diffusion as a process of societal embedding: Lessons from historical automobile transitions for future electric mobility', *Transportation Research Part D: Transport and Environment*, 71(November), pp. 47–66. Available at: <https://doi.org/10.1016/j.trd.2018.11.012>.
- Kanjir, U., Veljanovski, T. and Kovačič, P. (2012) 'Using VHR satellite imagery to estimate populations in informal settlements', *Proceedings of the 4th GEOBIA*, (May), pp. 566–571. Available at: <https://doi.org/10.13140/2.1.5154.6240>.
- KDI (2015) *Open Data*. Available at: https://www.kounkuey.org/about/open_data (Accessed: 4 May 2022).
- Kemp, R. (1994) 'Technology and the transition to environmental sustainability. The problem of technological regime shifts', *Futures*, 26(10), pp. 1023–1046. Available at: [https://doi.org/10.1016/0016-3287\(94\)90071-X](https://doi.org/10.1016/0016-3287(94)90071-X).
- Kemp, R., Rip, A. and Schot, J. (2001) 'Constructing Transition Paths Through the Management of Niches', in *Path Dependence and Creation*. Mahwah, NJ, pp. 269–299.
- Kemp, R., Schot, J. and Hoogma, R. (1998) 'Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management', *Technology Analysis and Strategic Management*, 10(2), pp. 175–198. Available at: <https://doi.org/10.1080/09537329808524310>.
- KeNHA (2021) *Kenya National Highways Authority Strategic Plan 2020/2021 – 2022/2023*. Nairobi. Available at: https://kenha.co.ke/wp-content/uploads/2021/09/Revised-Strategic-Plan-for-2020-2021-2022-2023_Revised-2020-2021-to-2022-2023.pdf (Accessed: 20 June 2023).
- Kenya National Bureau of Statistics [KNBS] (2019) *2019 Kenya Population and Housing Census: Volume III Distribution of Population by Age, Sex, and Administrative Units*. Available at: <https://www.knbs.or.ke/download/2019-kenya-population-and-housing-census-volume-iii-distribution-of-population-by-age-sex-and-administrative-units/> (Accessed: 20 June 2023).
- Khayesi, M., Monheim, H. and Nebe, J.M. (2010) 'Negotiating “streets for all” in urban transport planning: The Case for Pedestrians, cyclists and Street vendors in Nairobi, Kenya', *Antipode*, 42(1), pp. 103–126. Available at: <https://doi.org/10.1111/j.1467-8330.2009.00733.x>.
- Kibere, F.N. (2016) *The Capability of Mobility in Kibera 'Slum', Kenya: An Ethnographic Study of How Young People Use and Appropriate New Media and ICTs*. Doctoral Dissertation, University of Leicester.
- Kimeto, L. and Somba, A. (2017) 'Application of the principles of participatory communication in the design and implementation of the Kenya slum upgrading program (KENSUP)', *Mara International Journal of Social Sciences Research Publications*, 1(1), pp. 7–20. Available at: <https://doi.org/10.13140/RG.2.2.32081.22882>.
- Kinyua, M. (2016) *Restructuring the upgrading process of Kibera Soweto East, Zone A, through a practice of Co-Production*. University of Sheffield. Available at: https://issuu.com/maureenmuthoni/docs/arc6982_kinyua_maureen (Accessed: 21 February 2023).

2022).

Kiprotich, A. and Mugo, W. (2004) 'Kenya: Kibaki Gives Kibera a New Face', *East African Standard*, 5 October. Available at: <https://allafrica.com/stories/200410050591.html> (Accessed: 20 June 2023).

Kitha, J. and Lyth, A. (2011) 'Urban wildscapes and green spaces in Mombasa and their potential contribution to climate change adaptation and mitigation', *Environment and Urbanization*, 23(1), pp. 251–265. Available at: <https://doi.org/10.1177/0956247810396054>.

Kivimaa, P., Kangas, H.L. and Lazarevic, D. (2017) 'Client-oriented evaluation of "creative destruction" in policy mixes: Finnish policies on building energy efficiency transition', *Energy Research and Social Science*, 33(September), pp. 115–127. Available at: <https://doi.org/10.1016/j.erss.2017.09.002>.

KLA (2003) 'Land Update: A Newsletter of Kenya Land Alliance January- March Vol 2 No.1'. Available at: <https://landportal.org/ru/library/resources/mokoro5481/land-update-newsletter-volume-2-number-1> (Accessed: 20 June 2023).

KNCHR (2015) *A Report Submitted To the High Court of Kenya (Nairobi) By the Kenya National Commission on Human Rights on the Implementation of Petition No . 304 of 2015: Allocation of Housing Units in Kibera Soweto East Zone A*. Available at: <https://www.knchr.org/Our-Work/Displacement-and-Forced-Evictions/Kibera-Soweto-East-Zone-A-Redevelopment-Project> (Accessed: 20 June 2023).

Kusienya, C.M. (2010) *Relocation action planning in slum upgrading: The case of Kibera's Soweto-east informal settlement in Nairobi, Kenya*. Master's Thesis, University of Nairobi.

Kvarbstrom, D. (2014) *Construction of low cost houses in informal settlements A case study of the Nairobi region*. Master's Thesis, Chalmers University of Technology.

Labadie, J.R. (2008) 'Auditing of post-disaster recovery and reconstruction activities', *Disaster Prevention and Management: An International Journal*, 17(5), pp. 575–586. Available at: <https://doi.org/10.1108/09653560810918612>.

Lamba, A.O. (2005) *Land Tenure Management Systems in Informal Settlements: A case Study in Nairobi*. Master's Thesis, ITC.

Langley, A. (1999) 'Strategies for Theorizing from Process Data', *The Academy of Management Review*, 24(4), pp. 691–710. Available at: <https://doi.org/10.2307/259349>.

Langley, A. and Truax, J. (1994) 'A Process Study of New Technology Adoption in Smaller Manufacturing Firms', *Journal of Management Studies*, 31(5), pp. 619–652. Available at: <https://doi.org/10.1111/j.1467-6486.1994.tb00632.x>.

Latour, B. (1987) *Science in Actions: How to follow scientists and engineers through society*, Harvard University Press. Cambridge, MA.

Lee-Smith, D. and Lamba, D. (2000) 'Social Transformation in a Post-colonial City: The Case of Nairobi', in M. Polese and R. Stren (eds) *The Social Sustainability of Cities: Diversity and the Management of Change*. Toronto: University of Toronto Press, pp. 250–279.

Van Lente, H. (1995) 'The rise of technology studies in the Netherlands', in *Similar Concerns, Different Styles? Technology Studies in Western Europe*. Luxembourg: Office for Official Publications of the European Communities, pp. 297–325.

Leoto, R. and Lizarralde, G. (2019) 'Challenges in evaluating strategies for reducing a building's environmental impact through Integrated Design', *Building and Environment*, pp. 34–46. Available at: <https://doi.org/10.1016/j.buildenv.2019.03.041>.

- Lie, M. and Sørensen, K.H. (1996) *Making Technology Our Own?: Domesticating Technology into Everyday life*. Oslo: Scandinavian University Press.
- Lins Consult (2014) ‘Soweto East – Zone “A” architectural drawing set’, in *Construction of low cost houses in informal settlements*, pp. 34–35.
- Lizarralde, G. (2000) *Reconstruction management and post-disaster low-cost housing; the case for social reconstruction*. Master’s Thesis, McGill University.
- Lizarralde, G. (2002) ‘Organisational Design, Performance and Evaluation of Post-Disaster Reconstruction Projects’, *Proceedings of the i-Rec Confence, Improving Post-disaster Reconstruction in Developing Countries, Université de Montréal, Canada, 23-25 May 2002* [Preprint]. Available at: http://www.grif.umontreal.ca/pages/i-rec_papers/gonzalo.PDF (Accessed: 20 June 2023).
- Lizarralde, G., Johnson, C. and Davidson, C. (2010) *Rebuilding After Disasters: From emergency to sustainability*. London and New York: Taylor & Francis.
- Lizarralde, G. and Massyn, M. (2008) ‘Unexpected negative outcomes of community participation in low-cost housing projects in South Africa’, *Habitat International*, 32(1), pp. 1–14. Available at: <https://doi.org/10.1016/j.habitatint.2007.06.003>.
- Loo, B.P.Y. and Siiba, A. (2018) ‘Active transport in Africa and beyond: towards a strategic framework’, *Transport Reviews*, 39(2), pp. 181–203. Available at: <https://doi.org/10.1080/01441647.2018.1442889>.
- Luan, S.T. (2019) ‘The Hidden Dimensions of Human–Technology Relations’, *Philosophy and Technology* [Preprint]. Available at: <https://doi.org/10.1007/s13347-019-00349-8>.
- Luederitz, C. *et al.* (2017) ‘Learning through evaluation – A tentative evaluative scheme for sustainability transition experiments’, *Journal of Cleaner Production*, 169, pp. 61–76. Available at: <https://doi.org/10.1016/j.jclepro.2016.09.005>.
- Lyons, M., Schilderman, T. and Boano, C. (2010) *Building Back Better: Delivering people-centred housing reconstruction at scale*. Warwickshire, UK: Practical Action Publishing.
- M’Rabu, R. (2004) *Women and sustainable slum upgrading: a case study of Kibera Soweto slums*. Master’s Thesis, University of Nairobi. Available at: <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/21374> (Accessed: 20 June 2023).
- MacDonald, M. (2014) *Community perception of slum upgrading initiatives in Soweto East, Kibera (Nairobi, Kenya)*. Master’s Thesis, McGill University. Available at: <https://escholarship.mcgill.ca/concern/theses/76537412d> (Accessed: 20 June 2023).
- Mack, N., Woodsong, C., MacQueen, K.M., Guest, G. and Namey, E. (2005) *Qualitative Research Methods: A Data Collector’s Field Guide*. North Caroline, USA: FLI and USAID.
- Magee, C.L. and de Weck, O.L. (2002) *An Attempt at Complex System Classification, ESD Working Papers Series*. Available at: <http://hdl.handle.net/1721.1/102730> (Accessed: 20 June 2023).
- Magnani, N. and Cittati, V.-M. (2022) ‘Combining the Multilevel Perspective and Socio-Technical Imaginaries in the Study of Community Energy’, *Energies*, 15(5), p. 1624. Available at: <https://doi.org/10.3390/en15051624>.
- Mahler, D., Lakner, C., Aguilar, A. and Wu, H. (2020) *The impact of COVID-19 (Coronavirus) on global poverty: Why Sub-Saharan Africa might be the region hardest hit*, World Bank. Available at: <https://blogs.worldbank.org/opendata/impact-covid-19-coronavirus-global->

poverty-why-sub-saharan-africa-might-be-region-hardest (Accessed: 20 June 2023).

Maina, M. (2013) *Challenges in policy transition: In situ upgrading of informal settlements in Johannesburg and Nairobi*. Master's Thesis, University of the Witwatersrand, Johannesburg.

Makachia, P. (2011) 'The Influence of the Tenure System to the Physical Environments in Nairobi's Human Settlements', *Les Cahiers d'Afrique de l'Est*, (44), pp. 77–101. Available at: <https://doi.org/10.4000/eastafrica.530>.

Mandela, D. (2021) *Kenya to commence phase two upgrade of Kibra slum*, *Construction Review Online*. Available at: <https://constructionreviewonline.com/news/kenya/kenya-to-commence-phase-two-upgrade-of-kibra-slum/> (Accessed: 6 January 2022).

Map Kibera (2008) *Map Kibera Project- Maps and Statistics*. Available at: <http://mapkiberaproject.yolasite.com/maps-and-statistics.php> (Accessed: 30 July 2022).

Markard, J., Suter, M. and Ingold, K. (2016) 'Socio-technical transitions and policy change - Advocacy coalitions in Swiss energy policy', *Environmental Innovation and Societal Transitions*, 18, pp. 215–237. Available at: <https://doi.org/10.1016/j.eist.2015.05.003>.

Marshall Scott Poole and Van de Ven, A.H. (2004) *Handbook of Organizational Change and Innovation*. New York: Oxford University Press.

Martindale, T. (2017) *2016 ICP Monitoring Report: Reported status of 190 completed projects in 139 communities*. Available at: <https://www.ewb-usa.org/wp-content/uploads/2016-ICP-Monitoring-Report-1.pdf> (Accessed: 20 June 2023).

Maykut, P. and Morehouse, R. (2005) *Beginning Qualitative Research: A Philosophic and Practical Guide*, *The Falmer Press*. London and Washington, D.C. Available at: <https://doi.org/10.4324/9780203485781>.

Mazur, C., Contestabile, M., Offer, G.J. and Brandon, N.P. (2015) 'Assessing and comparing German and UK transition policies for electric mobility', *Environmental Innovation and Societal Transitions*, 14(March), pp. 84–100. Available at: <https://doi.org/10.1016/j.eist.2014.04.005>.

McCarton, L. (2010) 'Rebuilding after Disaster: Engineering lessons from the 2004 tsunami', *The Engineers Journal*, 64(2). Available at: <https://doi.org/https://doi.org/10.21427/D70320>.

McDowall, W. and Geels, F.W. (2017) 'Ten challenges for computer models in transitions research: Commentary on Holtz et al.', *Environmental Innovation and Societal Transitions*, 22, pp. 41–49. Available at: <https://doi.org/10.1016/j.eist.2016.07.001>.

Memon, M.A., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F. and Cham, T.H. (2020) 'Sample Size for Survey Research: Review and Recommendations', *Journal of Applied Structural Equation Modeling*, 4(2), pp. 1–20. Available at: [https://doi.org/10.47263/JASEM.4\(2\)01](https://doi.org/10.47263/JASEM.4(2)01).

Meredith, T. and MacDonald, M. (2017) 'Community-supported slum-upgrading: Innovations from Kibera, Nairobi, Kenya', *Habitat International*, 60, pp. 1–9. Available at: <https://doi.org/10.1016/j.habitatint.2016.12.003>.

Merrilees, K. (2015) 'Natural disasters: an engineer's perspective in Nepal', *Municipal Engineer*, 169(2), pp. 65–73. Available at: <https://doi.org/10.1680/jmuen.14.00018>.

Mgele, V.O. (2014) *Evaluation of Slum Upgrading and Redevelopment in Promoting Sustainable Urban Human Settlements: A Case Study of Pumwani-Majengo Housing Project, Nairobi City*. Master's Thesis, Kenyatta University. Available at: <http://ir-library.ku.ac.ke/handle/123456789/12922> (Accessed: 20 June 2023).

- Mikkelson, B. (1995) *Methods for Development work and research*. New Delhi: SAGE.
- Ministry of Lands (2008) *Kibera (Soweto East) Local Physical Development Plan*. Nairobi: Government of Kenya. Unpublished. Retrieval from Nairobi, Kenya: Government Printer.
- Ministry of Lands (2009) *Sessional Paper No. 3 of 2009 on National Land Policy*. Available at: <http://repository.kippira.or.ke/handle/123456789/1283> (Accessed: 20 June 2023).
- Misean Cara (2018) *Facilitating the Journey to Transformation: Findings and Lessons from a Meta-Evaluation of Misean Cara Project Evaluations*. Available at: <https://www.miseancara.ie/learning-briefs/> (Accessed: 20 June 2023).
- Mitra, S., Mulligan, J., Schilling, J., Harper, J., Vivekananda, J. and Krause, L. (2017) 'Developing risk or resilience? Effects of slum upgrading on the social contract and social cohesion in Kibera, Nairobi', *Environment and Urbanization*, 29(1), pp. 103–122. Available at: <https://doi.org/10.1177/0956247816689218>.
- Mohtat, N. and Zargar, A. (2018) 'Sustainability evaluation of post-disaster housing reconstruction after 55 years Rudak village, Iran', *International Journal of Disaster Resilience in the Built Environment*, 9(4), pp. 294–316. Available at: <https://doi.org/10.1108/IJDRBE-08-2017-0050>.
- MSSG (2011) *Multi-Stakeholder Support Group Forum- 2010 meeting report*. Unpublished.
- Mulcahy, M. and Ming-ru, C. (2002) 'Kibera Soweto East: A case study in slum upgrading', *Journal of the Department of City & Regional Planning, University of Pennsylvania*, pp. 10–19. Available at: https://www.design.upenn.edu/new/cplan/02b_KiberaMulcahy.pdf (Accessed: 24 August 2022).
- Mulligan, J., Bukachi, V., Clause, J.C., Jewell, R., Kirimi, F. and Odbert, C. (2020) 'Hybrid infrastructures, hybrid governance: New evidence from Nairobi (Kenya) on green-blue-grey infrastructure in informal settlements', *Anthropocene*, 29(100227). Available at: <https://doi.org/10.1016/j.ancene.2019.100227>.
- Muraguri, L. (2011) 'Kenyan Government Initiatives in Slum Upgrading', *The East African Review*, 44, pp. 119–127. Available at: <https://doi.org/10.4000/estafrica.534>.
- Muraya, P.W.K. (2006) 'Failed top-down policies in housing: The cases of Nairobi and Santo Domingo', *Cities*, 23(2), pp. 121–128. Available at: <https://doi.org/10.1016/j.cities.2005.08.002>.
- Murphy, M. (2019) *GOAL's Refugee Manager, Mary T Murphy Speaks out about the Refugee Crisis this World Refugee Day*, GOAL. Available at: <https://www.goalglobal.org/stories/goals-refugee-manager-mary-t-murphy-speaks-out-about-the-refugee-crisis-this-world-refugee-day/> (Accessed: 20 June 2023).
- Murphy, M. (2020) *Life in an Ethiopian Refugee Camp during the COVID-19 Pandemic*, GOAL. Available at: <https://www.goalglobal.org/stories/life-in-an-ethiopian-refugee-camp-during-the-covid-19-pandemic/> (Accessed: 20 June 2023).
- Murray, N. (2017) *Urban disaster risk governance: A systematic review*. Available at: <https://eppi.ioe.ac.uk/cms/Publications/Systematicreviews/Urbandisasterriskgovernance/tabid/3686/Default.aspx> (Accessed: 20 June 2023).
- Mutisya, E. and Yarime, M. (2011) 'Understanding the grassroots dynamics in Nairobi: The dilemma of Kibera informal settlements', *International Transaction Journal of Engineering, Management, and Applied Sciences and Technologies*, 2(2), pp. 197–213. Available at: <http://tuengr.com/V02/197-213.pdf> (Accessed: 20 June 2023).

- Mutisya, E. and Yarime, M. (2014) 'Moving towards urban sustainability in Kenya: A framework for integration of environmental, economic, social and governance dimensions', *Sustainability Science*, 9(2), pp. 205–215. Available at: <https://doi.org/10.1007/s11625-013-0223-7>.
- Mutuku, D. (2021) *A simple guide to urban land regularization in the informal settlements in Kenya*. Available at: <https://library.fes.de/pdf-files/bueros/kenia/18910.pdf> (Accessed: 20 June 2023).
- Mwaniki, D. and Mwau, B. (2012) *The civil society in slum upgrading in Kenya: still civil?, Muungano wa Wanavijiji*. Available at: <https://www.muungano.net/browseblogs/2012/08/10/the-civil-society-in-slum-upgrading-in-kenya> (Accessed: 2 October 2022).
- Mwau, D.M. (2013) *A Critical Analysis of the Implementation of the Slum Upgrading Policies in Kenya*. University of Kwazulu- Natal, South Africa. Available at: <http://hdl.handle.net/10413/10627> (Accessed: 20 June 2023).
- Mylan, J., Morris, C., Beech, E. and Geels, F.W. (2019) 'Rage against the regime: Niche-regime interactions in the societal embedding of plant-based milk', *Environmental Innovation and Societal Transitions*, 31(November 2018), pp. 233–247. Available at: <https://doi.org/10.1016/j.eist.2018.11.001>.
- Nabutola, W. (2004) 'Affordable Housing in Kenya: A Case Study of Policy on Informal Settlements', in *3rd FIG Regional Conference Jakarta, Indonesia, October 3-7, 2004*. Available at: https://www.humanitarianlibrary.org/sites/default/files/2013/07/ts_01_2_nabutola.pdf (Accessed: 20 June 2023).
- National Council For Law Reporting (2010) *The Kenya Constitution, 2010*. Available at: <http://kenyalaw.org/lex/actview.xml?actid=Const2010> (Accessed:20 June 2023).
- National Housing Corporation (2004) *Pumwani housing project report*. Unpublished.
- Ncube, D. (2020) 'The Importance of Contract Farming to Small-scale Farmers in Africa and the Implications for Policy: A Review Scenario', *The Open Agriculture Journal*, 14(1), pp. 59–86. Available at: <https://doi.org/10.2174/1874331502014010059>.
- Ndukui, C. (2013) *Challenges of Slum Upgrading for Urban Informal Settlements; Case of Soweto East Village in Kibera Informal Settlements, City Of Nairobi*. Masters Dissertation, University of Nairobi.
- Ndung'u, M. (2011) *An evaluation of slum upgrading programme (KENSUP): A case study of Mavoko sustainable neighbourhood programme in Machakos county*. Masters Dissertation, University of Nairobi.
- NGOs Coordination Board (2019) *Annual NGO Sector Report 2018/19*. Available at: https://ngobureau.go.ke/?page_id=633#1575469043278-5ec22081-55b5 (Accessed: 20 June 2023).
- NGOs Coordination Board (2020) *Annual NGO Sector Report 2019/2020*. Available at: https://ngobureau.go.ke/?page_id=633#1575469043278-5ec22081-55b5 (Accessed: 20 June 2023).
- Njeru, M., Mwaniki, M. and Mugonyi, D. (2004) 'Six held after fire raid', *Daily Nation*, 3 March. Available at: <https://ifrapressarch.nakalona.fr/items/browse?collection=31> (Accessed: 20 June 2023).
- O' Dwyer, S. (2021) *Exploring patients' experience of dental implant surgery with or without*

intravenous conscious sedation: A qualitative study. Doctoral Thesis, University College Cork, Ireland. Available at: <https://hdl.handle.net/10468/11904> (Accessed: 20 June 2023).

O’Sullivan, K. and Ni Chéilleachair, R. (2019) ‘Past Practice into Future Policy’, *Journal of Humanitarian Affairs*, 1(2), pp. 51–55. Available at: <https://doi.org/10.7227/JHA.018>.

Obare, M. (2015) *An Evaluation of Slum Upgrading Schemes in Nairobi County: The Case of Kibera Slums*. Kenyatta University. Available at: <https://doi.org/10.13140/RG.2.2.23110.01602>.

OCHA (2017) *The Business Case: A study of private sector engagement in humanitarian action*. Available at: <https://www.unocha.org/publication/business-case-study-private-sector-engagement-humanitarian-action> (Accessed: 20 June 2023).

OCHA (2018a) *Global Humanitarian Overview 2019, Global Humanitarian Overview*. United Nations. Available at: <https://doi.org/10.18356/9789214030768>.

OCHA (2018b) *OCHA 2018-2021 Strategic Plan*. Available at: <https://www.unocha.org/publication/strategic-framework/ocha-strategic-plan-2018-2021> (Accessed: 20 June 2023).

Ochieng, E. (2011) *Factors Influencing the Implementation of Kenya Slums Upgrading Programme: A Case Of Kibera Slums in Nairobi County*. Masters Dissertation, University of Nairobi.

Odoemene, A. (2017) ‘Climate change and land grabbing’, in M.J. Angelo and A. Du Plesis (eds) *Research Handbook on Climate Change and Agricultural Law*. Edward Elgar Publishing, pp. 423–449. Available at: <https://doi.org/10.4337/9781784710644>.

OECD (2018) *Development Co-operation Report 2018*. Paris: OECD. Available at: <https://doi.org/10.1787/dcr-2018-en>.

Ogundele, A. (2014) *Decanting and Social Sustainability: Kenya Slum Upgrading Programme (A Case Study)*. Masters Dissertation, University of Waterloo. Available at: <http://hdl.handle.net/10012/8386> (Accessed: 20 June 2023).

Ogutu, T.O. (2013) *An evaluation of the impact of tenant satisfaction on rent arrears in public housing: A case of Kibera decanting site*. Masters Thesis, University of Nairobi. Available at: <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/58810> (Accessed: 20 June 2023).

Ohlson, S. and Melich, R. (2014) ‘Designing and developing sustainable housing for refugee and disaster communities’, *Proceedings of the 4th IEEE Global Humanitarian Technology Conference, GHTC 2014*, pp. 614–619. Available at: <https://doi.org/10.1109/GHTC.2014.6970347>.

Ojwang ’, I.O. (2009) *Spatial analysis of informal settlement sprawl and its environmental impact: A case study of Kibera*. Master’s Thesis, University of Nairobi. Available at: <http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/20710> (Accessed: 20 June 2023).

Okoyo, O.E. (2019) *Analysis of factors influencing the changes in the use of transport modes in kisumu, kenya*. Master’s Thesis, University of Twete. Available at: <https://purl.utwente.nl/essays/83787> (Accessed: 20 June 2023).

Omondi, O. and Zanotto, V. (2010) ‘Slum Upgrading : Assessment of the Kibera Decanting Site Building Typologies’, in *Proceedings: W110 - Special Track 18th CIB World Building Congress, May 2010, Salford, UK*, pp. 108–118. Available at: <https://www.irbnet.de/daten/iconda/CIB18962.pdf> (Accessed: 20 June 2023).

- Onyango, L. (2003) 'The Kibera Community Development Agenda (KCODA)', *The Kiberan*, November.
- Otieno, C. (2004) 'Dawn fire guts down Nairobi City Hall', *East African Standard*, 2 March. Available at: <https://allafrica.com/stories/200403020387.html> (Accessed: 20 June 2023).
- Otiso, K.M. (2003) 'State, voluntary and private sector partnerships for slum upgrading and basic service delivery in Nairobi City, Kenya', *Cities*, 20(4), pp. 221–229. Available at: [https://doi.org/10.1016/S0264-2751\(03\)00035-0](https://doi.org/10.1016/S0264-2751(03)00035-0).
- Park, B., Cho, J. and Jeong, Y. (2019) 'Thermal Performance Assessment of Flexible Modular Housing Units for Energy Independence Following Disasters', *Sustainability*, 11(20). Available at: <https://doi.org/10.3390/su11205561>.
- Parsons, T. (1997) "'Kibra Is Our Blood": The Sudanese Military Legacy in Nairobi's Kibera Location, 1902-1968', *The International Journal of African Historical Studies*, 30(1), pp. 87–122. Available at: <https://doi.org/10.2307/221547>.
- Patrick, J. (2011) 'Haiti Earthquake Response: Emerging Evaluation Lessons', *Evaluation Insights*, (1), pp. 1–14. Available at: <https://www.oecd.org/dac/evaluation/48432995.pdf> (Accessed: 20 June 2023).
- Pedersen, M.B. and Nygaard, I. (2018) 'System building in the Kenyan electrification regime: The case of private solar mini-grid development', *Energy Research & Social Science*, 42(July 2017), pp. 211–223. Available at: <https://doi.org/10.1016/j.erss.2018.03.010>.
- Pelling, M. (2011) 'Urban governance and disaster risk reduction in the Caribbean: the experiences of Oxfam GB', *Environment and Urbanization*, 23(2), pp. 383–400. Available at: <https://doi.org/10.1177/0956247811410012>.
- Pelling, M. (2012) *The Vulnerability of Cities*. London: Routledge. Available at: <https://doi.org/10.4324/9781849773379>.
- Pinch, T.J. and Bijker, W.E. (1984) *The Social Construction of Facts and Artefacts: Or How the Sociology of Science and the Sociology of Technology might Benefit Each Other*, *Social Studies of Science*. Available at: <https://doi.org/10.1177/030631284014003004>.
- Plan International (2016) *Disaster risk management Capacity Statement*. Available at: <https://plan-international.org/publications/#> (16 August 2022).
- Plan International (2017) *Disaster risk management implementation framework 2017-22*. Available at: <https://plan-international.org/publications/disaster-risk-management-implementation-framework-2017-22> (Accessed: 20 June 2023).
- Primus (2014) *Mathare Demographic., Mapping: (No) Big Deal. Making the Invisible Visible*. Available at: <https://mappingnobigdeal.com/2014/07/31/mathare-demographic/> (Accessed: 20 June 2023).
- Pugh, C. (1991) 'Housing policies and the role of the world bank', *Habitat International*, 15(1–2), pp. 275–298. Available at: [https://doi.org/10.1016/0197-3975\(91\)90020-L](https://doi.org/10.1016/0197-3975(91)90020-L).
- QDatatraining (2012) *Defining the Constant Comparison Method*. Available at: <https://qdatatraining.com/defining-the-constant-comparison-method/#:~:text=Qualitative research seeks to access,the perspective of study participants.> (Accessed: 9 October 2022).
- Raleigh, C. and Wafula, C. (2022) *Kenyas Political Violence Landscape in the Lead-Up to the 2022 Elections, ACLED*. Available at: <https://acleddata.com/2022/08/09/kenyas-political-violence-landscape-in-the-lead-up-to-the-2022-elections/> (Accessed: 20 June 2023).
- Ramos-Mejía, M., Franco-Garcia, M.-L. and Jauregui-Becker, J.M. (2018) 'Sustainability

transitions in the developing world: Challenges of socio-technical transformations unfolding in contexts of poverty’, *Environmental Science & Policy*, 84(June 2018), pp. 217–223. Available at: <https://doi.org/10.1016/j.envsci.2017.03.010>.

Raven, R. (2007) ‘Niche accumulation and hybridisation strategies in transition processes towards a sustainable energy system: An assessment of differences and pitfalls’, *Energy Policy*, 35(4), pp. 2390–2400. Available at: <https://doi.org/10.1016/j.enpol.2006.09.003>.

Raven, R., Kern, F., Verhees, B. and Smith, A. (2016) ‘Niche construction and empowerment through socio-political work. A meta-analysis of six low-carbon technology cases’, *Environmental Innovation and Societal Transitions*, 18(March), pp. 164–180. Available at: <https://doi.org/10.1016/j.eist.2015.02.002>.

Raworth, K. (2012) *A safe and just space for humanity: Can we live within the doughnut?*. OXFAM Discussion Papers. Available at: <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/210490/dp-a-safe-and-just-space-for-humanity-130212-en.pdf?sequence=13&isAllowed=y> (Accessed: 20 June 2023).

Renewable World (2011) *Sustainability in Action: A Practitioner’s Toolkit*. Available at: <https://renewable-world.org/wp-content/uploads/2019/08/RW-Sustainability-Toolkit.pdf> (Accessed: 20 June 2023).

Rhea Bhardwaj (2018) *Leave no one behind in humanitarian programming: An approach to understanding intersectional programming*. Islamic Relief Worldwide. Available at: https://reliefweb.int/sites/reliefweb.int/files/resources/Learning-paper-1-Leave-no-one-behind-in-humanitarian-programming-An-approach-to-understanding-intersectional-programming_web.pdf (Accessed: 20 June 2023).

Roberts, C. and Geels, F.W. (2018) ‘Public Storylines in the British Transition from Rail to Road Transport (1896–2000): Discursive Struggles in the Multi-Level Perspective’, *Science as Culture*, 27(4), pp. 513–542. Available at: <https://doi.org/10.1080/09505431.2018.1519532>.

Roelfsema, M., Harmsen, M., Olivier, J.J.G., Hof, A.F. and van Vuuren, D.P. (2018) ‘Integrated assessment of international climate mitigation commitments outside the UNFCCC’, *Global Environmental Change*, 48(January), pp. 67–75. Available at: <https://doi.org/10.1016/j.gloenvcha.2017.11.001>.

Rostow, W.W. (1960) *The Stages of Economic Growth: A Non-communist Manifesto*. Cambridge, UK: Cambridge University Press.

Rothe, M., Brown, D. and Neuschäfer, O. (2018) *Saving Lives and Leaving no One Behind: The Gaibandha Model for Disability-Inclusive Disaster Risk Reduction*. Available at: https://www.cbm.org/fileadmin/user_upload/DRR_Booklet_FINAL_-_Online_10MB.pdf (Accessed: 20 June 2023).

Saavedra, L. (2016) *Learning from exposure: How decades of disaster and armed conflict have shaped Colombian NGOs*. Available at: <https://resourcecentre.savethechildren.net/document/learning-from-exposure-how-decades-of-disaster-and-armed-conflict-have-shaped-colombian-ngos/> (Accessed: 20 June 2023).

Sanderson, D., Sharma, A. and Anderson, J. (2012) ‘NGO permanent housing 10 years after the Gujarat earthquake: revisiting the FICCI–CARE Gujarat rehabilitation programme’, *Environment and Urbanization*, 24(1), pp. 233–247. Available at: <https://doi.org/10.1177/0956247811431218>.

Sanyal, R. (2011) ‘Squatting in Camps: Building and Insurgency in Spaces of Refuge’, *Urban Studies*, 48(5), pp. 877–890. Available at: <https://doi.org/10.1177/0042098010363494>.

- Schibline, A. (2021) *Modular: Homes of Future's Past? How Prefabricated Residential Buildings Become the Standard in Sustainable Housing*. Master's Thesis, Technische Universität Berlin. Available at: <https://doi.org/10.13140/RG.2.2.24639.84640>.
- Schildkamp, M. and Araki, Y. (2019) 'Cost analysis of mountain schools in nepal: Comparison of earthquake resistant features in rubble stone masonry vs. Concrete block masonry', *Frontiers in Built Environment*, 5(April). Available at: <https://doi.org/10.3389/fbuil.2019.00055>.
- Schot, J. and Geels, F.W. (2008) 'Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy', *Technology Analysis & Strategic Management*, 20(5), pp. 537–554. Available at: <https://doi.org/10.1080/09537320802292651>.
- Schramm, S. (2017) 'People's room for manoeuvre in a fragmented city: state housing in Kibera, Nairobi', *Transformation: Critical Perspectives on Southern Africa*, 93(1), pp. 116–141. Available at: <https://doi.org/10.1353/trn.2017.0005>.
- Schwartz-Cowan, R. (1987) 'The consumption junction: a proposal for research strategies in the sociology of technology', in *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*. Cambridge, MA: MIT Press, pp. 261–80.
- Scott, W.R. (1995) *Institutions and Organizations. Ideas, Interests and Identities*. SAGE Publications.
- SDSN (2020) *Africa SDG Index and Dashboards Report 2020*. Available at: sdgindex.org/reports/sustainable-development-report-2020/ (Accessed: 20 June 2023).
- Serrat, O. (2017) 'The Sustainable Livelihoods Approach', in *Knowledge Solutions: Tools, Methods, and Approaches to Drive Organizational Performance*. Singapore: Springer, pp. 21–26. Available at: <https://doi.org/10.1007/978-981-10-0983-9>.
- Sexton, M. and Barrett, P. (2003) 'A literature synthesis of innovation in small construction firms: insights, ambiguities and questions', *Construction Management and Economics*, 21(6), pp. 613–622. Available at: <https://doi.org/10.1080/0144619032000134147>.
- Shadrack Mbaka Muungano wa Wanavijiji (2015) *Railway relocation-a collaborative development approach, Muungano wa Wanavijiji*. Available at: <https://www.muungano.net/browseblogs/2015/06/05/railway-relocation-a-collaborative-development-approach> (Accessed: 20 June 2023).
- SI Network (2022) *Systems Innovations Network Homepage*. Available at: <https://www.systemsinnovation.network/feed> (Accessed: 2 November 2022).
- Simon, H.A. (1957) *Administrative Behavior: A Study of Decision Making Processes in Administrative Organization*. 2nd edn. New York: MacMillan.
- Siu, K.W.M. (2016) 'CARE: Public Post-Disaster Emergency Aid Facilities for Victims', *SAGE Open*, 6(1), pp. 1–10. Available at: <https://doi.org/10.1177/2158244015623594>.
- Sminia, H. (2009) 'Process research in strategy formation: Theory, methodology and relevance', *International Journal of Management Reviews*, 11(1), pp. 97–125. Available at: <https://doi.org/10.1111/j.1468-2370.2008.00253.x>.
- Smith, A. (2009) *ReLife : Transitional housing for victims of natural disaster*. Master's Thesis, University of South Florida. Available at: <https://digitalcommons.usf.edu/etd/21/> (Accessed: 20 June 2023).
- Smits, M.W.M. (2020) *Towards an Architecture of Self-reliance Developing and Testing a*

Support Tool for Inhabitants and Practitioners in Mt-Elgon , Kenya. A+BE | Architecture and the Built Environment. Available at: <https://doi.org/10.7480/abe.2020.19>.

Solymári, D., Mangera, J., Czirják, R. and Tarrósy, I. (2021) ‘Overview of Kenyan Government Initiatives in Slum Upgrading: The Case of KENSUP and KISIP Projects’, *Afrika Tanulmányok / Hungarian Journal of African Studies*, 15(3), pp. 37–59. Available at: <https://doi.org/10.15170/AT.2021.15.3.3>.

Sphere Association (2018) *The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response*. 4th edn, CHS Alliance, Sphere Association and Groupe URD. 4th edn. Geneva, Switzerland. Available at: <http://www.spherestandards.org/handbook> (Accessed: 20 June 2023).

SSF (2015a) *SSF Finished Projects*. Available at: <https://www.smartshelterfoundation.org/projects/32-building-manuals-for-nepal/#> (Accessed: 20 June 2023).

SSF (2015b) *SSF Our Techniques*. Available at: <https://www.smartshelterfoundation.org/26-eqr-schools-in-cement-blocks/#>.

SSF (2018) *Smartnet Introduction*: Available at: https://torino-nice.weebly.com/uploads/6/6/2/0/66208885/smartnet_1page_tnr.pdf (Accessed: 20 June 2023).

SSF (2021) *SSF About Us*. Available at: <https://www.smartshelterfoundation.org/what-we-do/> (Accessed: 20 June 2023).

Stren, R. and Polèse, M. (2000) ‘Understanding the New Sociocultural Dynamics of Cities: Comparative Urban Policy in a Global Context’, in M. Polese and R. Stren (eds) *The Social Sustainability of Cities*. Toronto: University of Toronto Press, pp. 1–38. Available at: <https://doi.org/10.3138/9781442682399-004>.

Suarez, F.F. and Oliva, R. (2005) ‘Environmental change and organizational transformation’, *Industrial and Corporate Change*, 14(6), pp. 1017–1041. Available at: <https://doi.org/10.1093/icc/dth078>.

Swan, W. (2013) ‘Retrofit innovation in the UK social housing sector: A socio-technical perspective’, in W. Swan and P. Brown (eds) *Retrofitting the Built Environment*. Oxford: John Wiley & Sons, pp. 36–52. Available at: <https://doi.org/10.1002/9781118273463.ch4>.

Sweeney, L.B. and Sterman, J.D. (2000) ‘Bathtub dynamics: Initial results of a systems thinking inventory’, *System Dynamics Review*, 16(4), pp. 249–286. Available at: <https://doi.org/10.1002/sdr.198>.

Syagga, P.M. (1993) ‘Promoting the use of appropriate building materials in shelter provision in Kenya’, *Habitat International*, 17(3), pp. 125–136. Available at: [https://doi.org/10.1016/0197-3975\(93\)90021-4](https://doi.org/10.1016/0197-3975(93)90021-4).

Syagga, P.M., Winnie, M., Gitau, S.K. and GoK (2001) *Nairobi Situation Analysis: Government of Kenya and UNCHS Collaborative Nairobi Slum Upgrading Initiative, Nairobi*. Available at: <https://www.semanticscholar.org/paper/Nairobi-Situation-Analysis.-Government-of-Kenya-and-Syagga-Mitullah/e322f285a077a774078016d00272ff3b3e9ff2b6> (Accessed: 12 August 2021).

Tanner, T., Mitchell, T., Polack, E. and Guenther, B. (2009) ‘Urban Governance for Adaptation: Assessing Climate Change Resilience in Ten Asian Cities’, *IDS Working Papers*, (315), pp. 1–47. Available at: https://doi.org/10.1111/j.2040-0209.2009.00315_2.x.

The High Court of Kenya (2015a) *Petition 304 of 2015*. Available at:

<http://kenyalaw.org/caselaw/cases/view/117266> (Accessed: 20 June 2023).

The High Court of Kenya (2015b) *Petition 498 of 2009*. Available at: <http://kenyalaw.org/caselaw/cases/view/81175> (Accessed: 20 June 2023).

The Sentinel Project (2021) *Closing Kenya's Kakuma and Dadaab refugee camps: Thoughts from the ground*. Available at: <https://thesentinelproject.org/2021/06/29/closing-kenyas-kakuma-and-dadaab-refugee-camps-thoughts-from-the-ground/> (Accessed: 20 June 2023).

Theckethil, R. (2012) *Earthquake rehabilitation and vulnerability reduction: Urban planning in a western Indian town*. Doctoral Thesis, Cornell University. Available at: <https://hdl.handle.net/1813/31136> (Accessed: 20 June 2023).

Thiruppugazh, V. (2008) 'Urban vulnerability reduction: Regulations and beyond', in R. Jha (ed.) *The Indian Economy Sixty Years after Independence*. London: Palgrave Macmillan UK, pp. 200–212. Available at: <https://doi.org/10.1057/9780230228337>.

Tom Maruko (2017) *MSF (Doctors Without Borders) welcome Kenyan High Court ruling against closure of Dadaab refugee camps, MSF*. Available at: <https://www.doctorswithoutborders.org/latest/msf-welcomes-kenyan-high-court-ruling-against-closure-dadaab-refugee-camps#:~:text=GENEVA%2FNEW YORK%2CFEBRUARY 9,Kenya's Department of Refugee Affairs.> (Accessed: 20 June 2023).

Trist, E.L. and Bamforth, K.W. (1951) 'Some Social and Psychological Consequences of the Longwall Method of Coal-Getting', *Human Relations*, 4(1), pp. 3–38. Available at: <https://doi.org/10.1177/001872675100400101>.

Trócaire (2016a) *Humanitarian Handbook*. Available at: https://www.trocaire.org/sites/default/files/resources/policy/humanitarian-handbook-english_0.pdf (Accessed: 20 June 2023).

Trócaire (2016b) *Humanitarian Policy & Strategy 2016–2020*. Available at: <https://www.trocaire.org/sites/default/files/resources/policy/humanitarian-strategy-2016-2020.pdf> (Accessed: 20 June 2023).

Truth Justice and Reconciliation Commission (2008) 'Commissions of Inquiry - CIPEV Report (Waki Report)', *Government Documents and Regulations*, 9(5). Available at: https://digitalcommons.law.seattleu.edu/tjrc-gov/5/?utm_source=digitalcommons.law.seattleu.edu%2Ftjrc-gov%2F5&utm_medium=PDF&utm_campaign=PDFCoverPages (Accessed: 20 June 2023).

Turner, J.C. (1967) 'Barriers and Channels for Housing Development in Modernizing Countries', *Journal of the American Institute of Planners*, 33(3), pp. 167–181. Available at: <https://doi.org/10.1080/01944366708977912>.

Turner, J.C. (1968) 'Housing Priorities, Settlement Patterns, and Urban Development in Modernizing Countries', *Journal of the American Institute of Planners*, 34(6), pp. 354–363. Available at: <https://doi.org/10.1080/01944366808977562>.

Turner, J.F.C. (1968) 'Architecture of Democracy: Cover and Introduction', *The Standard Catalogue Company Ltd*, 38(8), pp. 1–2. Available at: <http://www.communityplanning.net/JohnFCTurnerArchive/pdfs/ADAug1968Intro.pdf> (Accessed: 20 June 2023).

Turner, J.F.C. (1969) 'Uncontrolled urban settlement: problems and policies', *The City in Newly Developing Countries: Readings on Urbanism and Urbanization*, (1), pp. 107–128. Available at: <http://www.communityplanning.net/JohnTurnerArchive/pdfs/UncontrolledUrbanSettlement.p>

df (Accessed: 20 June 2023).

Turner, J.F.C. (1972a) 'Housing as a Verb', in J.F.C. Turner and F. Robert (eds) *Freedom to Build, dweller control of the housing process*. New York: MacMillan, pp. 149–175.

Turner, J.F.C. (1972b) 'The Reeducation of a professional', in J.F.C. Turner and F. Robert (eds) *Freedom to Build, dweller control of the housing process*. New York: MacMillan, pp. 123–147.

Turner, J.F.C. (1976) *Housing by People: Towards Autonomy in Building Environments*. London, UK: Marion Boyars.

Turnheim, B., Berkhout, F., Geels, F.W., Hof, A., McMeekin, A., Nykvist, B. and van Vuuren, D. (2015) 'Evaluating sustainability transitions pathways: Bridging analytical approaches to address governance challenges', *Global Environmental Change*, 35(2015), pp. 239–253. Available at: <https://doi.org/10.1016/j.gloenvcha.2015.08.010>.

UN-Habitat (2004) *A study to conduct Kibera socio-economic mapping Participatory Urban Appraisal (PUA) report on main findings Soweto East village*. Unpublished.

UN-Habitat (2005) *United Nations Human Settlements Programme: Situation Analysis of Informal Settlements in Kisumu*. Available at: <https://unhabitat.org/situation-analysis-of-informal-settlements-in-kisumu> (Accessed: 20 June 2023).

UN-Habitat (2007) *UN-Habitat and the Kenya Slum Upgrading Programme*. Available at: [https://unhabitat.org/sites/default/files/download-manager-files/UN-HABITAT and Kenya Slum Upgrading Programme %28KENSUP%29.pdf](https://unhabitat.org/sites/default/files/download-manager-files/UN-HABITAT%20and%20Kenya%20Slum%20Upgrading%20Programme%28KENSUP%29.pdf) (Accessed: 20 June 2023).

UN-Habitat (2008a) *Soweto East Redevelopment Proposal*. Unpublished.

UN-Habitat (2008b) *UN-Habitat and the Kenya Slum Upgrading Programme: Strategy document*. Available at: <https://unhabitat.org/un-habitat-and-the-kenya-slum-upgrading-programme-strategy-document> (Accessed: 20 June 2023).

UN-Habitat (2013) *Kibera Integrated Water, Sanitation and Waste Management Project Post-Project Intervention Evaluation*. Unpublished.

UN-Habitat (2014) *Kibera Integrated Water Sanitation and Waste Management Project: Progress and Promise: Innovation in Slum Upgrading*. UNON, Publishing Services Section, Nairobi. Available at: [https://unhabitat.org/sites/default/files/download-manager-files/Kibera Evaluation Report FINAL.pdf](https://unhabitat.org/sites/default/files/download-manager-files/Kibera%20Evaluation%20Report%20FINAL.pdf) (Accessed: 20 June 2023).

UN-Habitat (2020a) *Informal settlements' vulnerability mapping in Kenya: Facilities and Partners' Mapping in Nairobi and Kisumu Settlements*. Available at: https://unhabitat.org/sites/default/files/2021/08/the_case_of_kibera_edited.pdf (Accessed: 20 June 2023).

UN-Habitat (2020b) 'The Strategic Plan 2020-2023'. Available at: https://unhabitat.org/sites/default/files/documents/2019-09/strategic_plan_2020-2023.pdf (Accessed: 20 June 2023).

UN-Habitat (2022) *Revision of World Population Prospects*. Available at: <https://population.un.org/wpp/> (Accessed: 12 July 2023).

UN-Habitat and RoK (2003) *Memorandum of Understanding between the United Nations Human Settlement Programme and the Government of Kenya*. Unpublished.

UN (1976) *International Covenant on Economic, Social, and Cultural Rights*. Available at: <https://www.ohchr.org/sites/default/files/cescr.pdf> (Accessed: 20 June 2023).

- UN (2002) *UN General Assembly Resolution A/56/206*. Available at: <https://documents-dds-ny.un.org/doc/UNDOC/GEN/N01/493/27/PDF/N0149327.pdf?OpenElement> (Accessed: 20 June 2023).
- UN (2009) *2009 Global Assessment Report on Disaster Risk Reduction: Risk and poverty in a changing climate*. Available at: https://www.undp.org/sites/g/files/zskgke326/files/migration/asia_pacific_rbap/APRC-CPR-2009-GAR-DRR.pdf (Accessed: 20 June 2023).
- UN (2018) *United Nations Development Assistance Framework for Kenya: 2018-2022*. Available at: <https://kenya.un.org/en/15983-common-country-assessment-2018-2022> (Accessed: 20 June 2023).
- UNDP (2018) *What does it Mean to Leave No One Behind?* Available at: https://www.undp.org/sites/g/files/zskgke326/files/publications/Discussion_Paper_LNOB_EN_lres.pdf (Accessed: 20 June 2023).
- UNHCR (2000) *Situation Report: Africa Fact Sheet May 2000*. Available at: <https://reliefweb.int/report/angola/africa-fact-sheet-may-2000> (Accessed: 20 June 2023).
- UNHCR (2020) *Operational Update: Kenya September 2020*. Available at: <https://data.unhcr.org/en/documents/details/83118> (Accessed: 20 June 2023).
- UNHCR (2021) *Joint statement by the Government of Kenya and the United Nations High Commissioner for Refugees: Dadaab and Kakuma Refugee Camps Roadmap*. Available at: <https://www.unhcr.org/news/news-releases/joint-statement-government-kenya-and-united-nations-high-commissioner-refugees> (Accessed: 20 June 2023).
- Utterback, J.M. and Abernathy, W.J. (1975) 'A dynamic model of process and product innovation', *Omega*, 3(6), pp. 639–656. Available at: [https://doi.org/10.1016/0305-0483\(75\)90068-7](https://doi.org/10.1016/0305-0483(75)90068-7).
- Verbong, G.P.J. and Geels, F.W. (2010) 'Exploring sustainability transitions in the electricity sector with socio-technical pathways', *Technological Forecasting and Social Change*, 77(8), pp. 1214–1221. Available at: <https://doi.org/10.1016/j.techfore.2010.04.008>.
- Wangui, E.E. and Darkoh, M.B.K. (1992) 'A Geographical Study of Kibera as an Example of an Uncontrolled Settlement', *Journal of Eastern African Research & Development*, 22, pp. 75–91. Available at: <https://www.jstor.org/stable/24326228> (Accessed: 20 June 2023).
- Warah, R. (2010) 'How numbers game turned Kibera into “the biggest slum in Africa”'.
- Ward, P. and Macoloo, C. (1992) 'Articulation Theory and Self-Help Housing Practice in the 1990s', *International Journal of Urban and Regional Research*, 16(1), pp. 60–80. Available at: <https://doi.org/10.1111/j.1468-2427.1992.tb00465.x>.
- Wilkinson, O. (2015) *Faith and resilience after disaster: The case of Typhoon Haiyan*. Dublin: Misan Cara. Available at: <https://www.misancara.ie/wp-content/uploads/2022/02/Faith-Resilience-After-Disaster.pdf> (Accessed: 20 June 2023).
- Wilson, C. and Grubler, A. (2011) 'Lessons from the history of technological change for clean energy scenarios and policies', *Natural Resources Forum*, 35(3), pp. 165–184. Available at: <https://doi.org/10.1111/j.1477-8947.2011.01386.x>.
- WISER (2020) *Project Summary: Developing Risk Awareness through Joint Action [DARAJA]*. Available at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/business/international/wiser/daraja-project-summary.pdf> (Accessed: 20 June 2023).

WISER, Resurgence, UK, M.O., Climate-KIC, KDI, TMA and CCI (2019) 'DARAJA: Developing Risk Awareness through Joint Action Information Flyer'.

WISER, Resurgence, UK, M.O., Climate-KIC, KDI, TMA and CCI (2020) 'DARAJA Endline Data Analysis: Learning and Outcome Workshop', (September). Available at: [https://www.metoffice.gov.uk/about-us/what/working-with-other-organisations/international/projects/wiser/daraja#:~:text=The purpose of the DARAJA,\) and Kenya \(Nairobi\).](https://www.metoffice.gov.uk/about-us/what/working-with-other-organisations/international/projects/wiser/daraja#:~:text=The purpose of the DARAJA,) and Kenya (Nairobi).) (Accessed: 10 October 2021).

World Bank (2002) *Kenya community driven development: Challenges and opportunities*. Available at: <https://openknowledge.worldbank.org/entities/publication/34565f42-d9ee-56aa-a4fc-63f2534e457a> (Accessed: 20 June 2023).

World Bank (2011) *Project Appraisal Document to the Republic of Kenya for the Kenya Informal Settlements Improvement Programme (KISIP)*. Available at: <https://documents1.worldbank.org/curated/en/601011468273684250/text/582670PAD0P1135420IDA1R20111004611.txt> (Accessed: 20 June 2023).

Zyck, S.A. and Kent, R. (2014) *Humanitarian crises, emergency preparedness and response: The role of business and the private sector final report*. Available at: <https://odi.org/en/publications/humanitarian-crises-emergency-preparedness-and-response-the-role-of-business-and-the-private-sector-final-report/> (Accessed: 20 June 2023).

Appendices

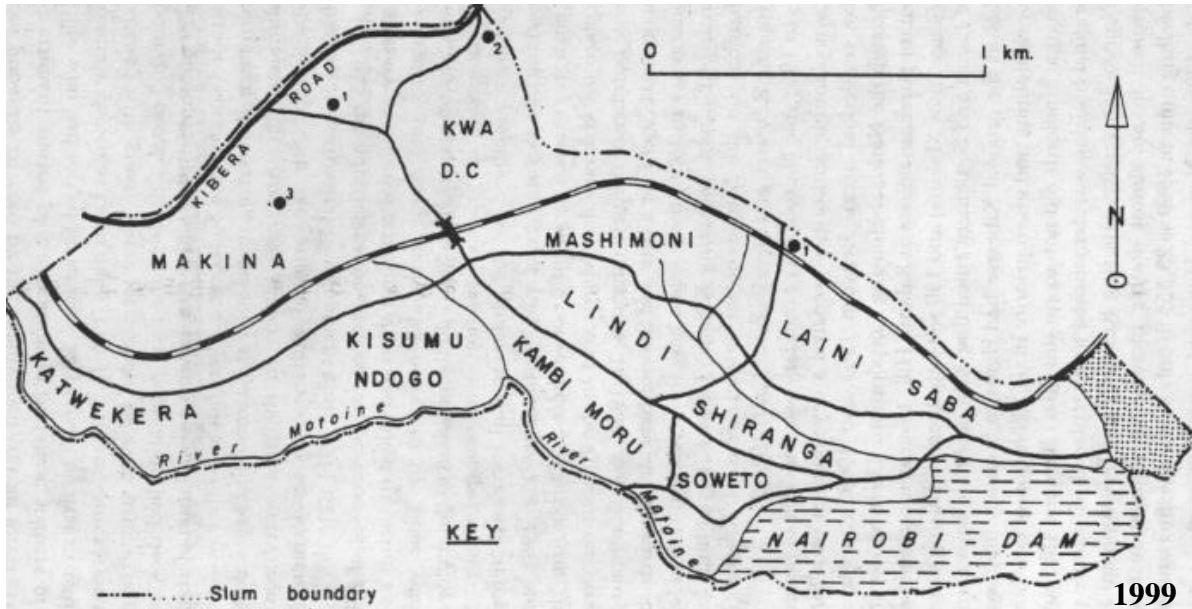
Appendix A

Kibera's boundary perimeter and area

Kibera's borders and area are undefined. Documents that were studied as part of literature review and the STE would use a map to display Kibera. However, these maps and their descriptions displayed differences in boundary lines and area. Some of the eighteen villages were also included or excluded entirely, see Table 27 for the full list of villages. The three estates of Ayany, Karanja and Olympic were excluded from certain maps and studies because they were identified as being formal villages (Kanjir, Veljanovski and Kovačić, 2012; UN-Habitat, 2020a). The boundaries and names between villages were also different, such as, Kicchinijo appearing as one village or being as two villages called D.C village and Makongeni (Figure 61). In 1992, a geographical study created a map with ten villages (Wangui and Darkoh, 1992). A similar study in 2008 labelled Kibera with 13 villages (Map Kibera, 2008) while a different mapping project identified eighteen villages (UN-Habitat, 2020a). One examined cause of this increase is due to a spatial expansion of Kibera borders since its initial setup (Ojwang, 2009). Using Google Earth Pro custom boundary drawing tool, Kibera's village areas and perimeters were measured and placed in the table below. Kibera's area was measured to be around 3.2 -3.8 km², compared to other measurements being 1.2-4.5 km² (Desgroppes and Taupin, 2011; Achungo, 2014).

Table 27. Villages located in Kibera and their border's perimeter and area

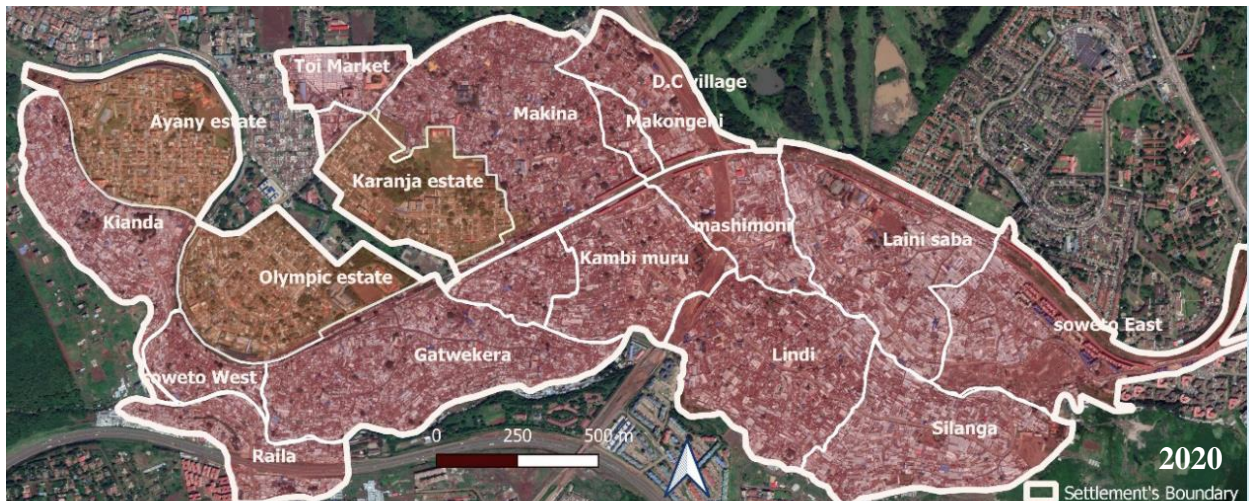
Village	Perimeter (km)	Area (km ²)
Kianda	2.375	0.176804
Ayany Estate*	1.788	0.190932
Olympic Estate*	1.915	0.202059
Soweto West	1.345	0.069698
Raila	2.650	0.193392
Gatwekera	2.840	0.306623
Kisumu Ndogo	1.847	0.169955
Makina	3.393	0.314924
Toi Market*	1.277	0.079621
Karanja Estates*	1.930	0.161406
Makongeni	0.870	0.029252
Kichinjio	1.899	0.116317
Mashimoni	1.648	0.124717
Kambi Muru	1.233	0.716460
Laini Saba	2.439	0.275313
Lindi	2.319	0.271500
Silanga	2.346	0.241463
Soweto East	3.600	0.233977
Total	37.714	3.874413
Total Excl *	30.804	3.240395



1999



2008



2020

Figure 61. A map of Kibera's boundaries and villages from 1999 (Top), 2008 (Middle), and 2020 (Bottom) Sources: Wangui and Darkoh (1992), Map Kibera (2008), UN-Habitat (2020)

Appendix B

Geels's reviewed published work

Geels' publications are estimated to be 140, according to Research Gate. These publications were screened on the following basis:

1. Explained, in detail, the socio-technical approach (Articles that repeated the methodology were not studied further);
2. Featured case studies that offered a new/different transition typology;
3. Expanded on the theories that created/influenced the socio-technical approach.
4. Offered improvements, reflections, challenges and responses to criticism of the approach;
5. Provided examples of the methodologies used in applying the approach. E.g interviews and computer modelling, and;
6. The topic of the publication was relevant to this research project e.g housing, poverty, third world, engineering.

29 references made it to the final reading list and are displayed in the table below.

Table 28. Reading list of Dr. Franks Geels' publications in order of publication

Year	Title	Criteria Met	Notes
2002	Technological transitions as evolutionary reconfiguration processes: an MLP and a case-study	1,2,3	An article that was part of Geels' 2005 thesis on transportation
2004	System innovation and the transition to sustainability	1,2,3,4,5	Collection works of early applications of the ST approach.
2005	Technological transitions and system innovations	1, 2, 3	Geels' thesis. Best source for criteria 1 and 3.
2006	Flexibility and stability in the innovating economy	1	Geels wrote chapter 9 on defining the types of changes.
2006	Local and global dynamics in technological development: a socio-cognitive perspective on knowledge flows and lessons from reinforced concrete	2,6	An engineering ST evaluation. Explores knowledge aggregation
2006	Non-Linearity and Expectation in Niche Development trajectories: Ups and Downs in Dutch Biogas Development (1973-2003)	3,4	First intro to SNM. Relevant to went

			studying multiple scenarios.
2007	Dynamics in socio-technical systems: Typology of change processes and contrasting case studies	1,2	A combination of the works in documents 3 and 4
2007	Typology of socio-technical transition pathways	2	Outlines typologies
2008	Strategic niche management and sustainable innovation journeys: theory, findings, research agenda, and policy	3,4	More info on SNM
2010	Ontologies, socio-technical transitions (to sustainability), and the MLP	3,4	Geels first response to criticism
2010	The dynamics of transitions: A socio-technical perspective	1,2,3,4,5	A deeper analysis of ST.
2011	Cities and low carbon transitions	1, 2	Applies ST in cities
2011	The multi-level perspective on sustainability transitions: Responses to seven criticisms	4	Geels' second response to criticism
2011	On patterns and agency in transition dynamics: Some key insights from the KSI programme	4	A reflection piece on the ST application in field research
2011	Cultural legitimacy and framing struggles in innovation journeys: A cultural-performative perspective and a case study of Dutch nuclear energy (1945-1986)	1,5	Adds local/ cultural acceptance his theory
2013	Reconceptualising the co-evolution of firms-in-industries and their environments: Developing an inter-disciplinary Triple Embeddedness Framework	4	Geels discusses the method called the triple embeddedness framework
2015	Evaluating sustainability transitions pathways: Bridging analytical approaches to address governance challenges	4	Initiative-based approaches match field methods in aid.
2016	Bridging analytical approaches for low-carbon transitions	4	Similar to the above article
2017	Ten challenges for computer models in transitions research: Commentary on Holtz et al.	4,5,6	The first article on using computer modelling as a method in ST transitions
2018	Disruption and low-carbon system transformation: Progress and new challenges in socio-technical transitions research and the MLP	4	Discussion on the challenges
2018	Reducing energy demand through low carbon innovation: A socio-technical transitions perspective and thirteen research debates	4	Discussion on the challenges
2019	Transitions in Energy Efficiency and Demand	1	A chapter on ST terms

2019	Socio-technical transitions to sustainability: a review of criticisms and elaborations of the MLP	4	Geels' third response to criticism
2019	Sustainability transitions: policy and practice	1,2,3,4,5	A collection of applications of the ST approach.
2020	Understanding transition pathways by bridging modelling, transition and practice-based studies: Editorial introduction to the special issue	4	An overview of the challenges of using computer modelling
2020	Micro-foundations of the MLP on socio-technical transitions: Developing a multi-dimensional model of agency through crossovers between social constructivism, evolutionary economics and neo-institutional theory	1,2	An additional feature to the ST approach
2020	Socio-technical scenarios as a methodological tool to explore social and political feasibility in low-carbon transitions: Bridging computer models and the MLP in UK electricity generation (2010–2050)	2,5	Similar to reference 13, i.e. on using computer modelling in transitions studies.
2021	Navigating implementation dilemmas in technology-forcing policies: A comparative analysis of accelerated smart meter diffusion in the Netherlands, UK, Norway, and Portugal (2000-2019)	2,3,5	Explained the types of implementations. Explained 4 cases individually and collectively.
2022	The Great Reconfiguration: A Socio-Technical Analysis of Low-Carbon Transitions in UK Electricity, Heat, and Mobility Systems	1,2,3,4	Expanded on the phases in STT

Table 29. Source related to Geels's publications

Year	Title	Criteria Met	Notes
1998	Regime shifts to sustainability through processes of niche formation: The approach of strategic niche management		SNM
2015	Evaluating sustainability transitions pathways: Bridging analytical approaches to address governance challenges		ST and Governance
2016	Socio-technical transitions and policy change – Advocacy coalitions in Swiss energy policy		ST and Governance
2016	Niche construction and empowerment through socio-political work. A meta-analysis of six low-carbon technology cases		SNM

Appendix C

The documents reviewed during step one: The selection of a project or scenario

Table 30. Reviewed documents for the project selection criteria

Project number	Organisation	Region	Documents
1	Engineers Without Borders (EWB)	Rural Zambia	No documents were found. Data was sourced from a participant involved in the project.
2	EWB	Guatemala	Strategic plan 2015-2020 (EWB, 2015)
			International Community Programme (ICP) monitoring report (Martindale, 2017)
			Guatemala Evaluation report (EWB, 2013)
3	Housing Recovery and Reconstruction Platform (HRRP)	Nepal	HRRP Homepage(HRRP, 2019a)
			The Path to Housing Recovery: Nepal Earthquake 2015:(HRRP, 2020)
			Reconstruction Facilitators at Local Level (HRRP, 2019b)
			Temporary Shelter Research Report (HRRP, 2018b)
	Smart Shelter Solutions (SSF)	Nepal	Housing typologies: Earthquake Affected Districts (HRRP, 2018a)
			SSF webpages [About us, Our Techniques, and Finished Projects] (SSF, 2015b, 2015a, 2021)
			SmartNet research platform introduction (SSF, 2018)
4	International Federation of Red Cross and Red Crescent Societies (IFRC)	Haiti	Cost analysis of mountain schools in Nepal (Schildkamp and Araki, 2019)
			Shelter and Settlements Technical Competency Framework (IFRC, 2018)
			An Evaluation of the Haiti Earthquake 2010 Meeting Shelter Needs (IFRC, 2011a)a
			Responses to the Haiti Earthquake 2010 Meeting Shelter Needs Report (IFRC, 2011b)
5	IFRC	Sri Lanka	Shelter Projects 2010 (IFRC, UNHCR and UN-Habitat, 2012)
			Tsunami Semi-annual Report Sri Lanka 2004-2007 (IFRC, 2007)
			Emergency appeal final report Asia: Earthquake and Tsunamis (IFRC, 2013a)

			Sri Lanka Tsunami 2004 Lessons Learned (IFRC, 2012)
6	Goal	Ethiopia	Goal is helping over 58,000 displaced refugees in Ethiopia (Donohoe, 2019)
			Goal's Refugee Manager, Mary T Murphy Speaks out about the Refugee Crisis this World Refugee Day (Murphy, 2019)
			Life in an Ethiopian Refugee Camp during the COVID-19 Pandemic (Murphy, 2020)
			Goal Strategy 2019-2021: Alliance, Ambition, Action (Goal, 2019)
7	UNHCR and ECHO	Rural Kenya	Operational Update, Kenya September 2020 (UNHCR, 2020)
			Situation Report: Africa Fact Sheet May 2000 (UNHCR, 2000)
			Multi-sector needs assessment. Kakuma Refugee Camp (ECHO, 2020)
			Joint statement by the Government of Kenya and the United Nations High Commissioner for Refugees: Dadaab and Kakuma Refugee Camps Roadmap (UNHCR, 2021)
			Closing Kenya's Kakuma and Dadaab refugee camps: Thoughts from the ground(The Sentinal Project, 2021)
8	Kounkuey Design Initiative (KDI)	Kenya	Impact framework: Integrating open data and risk communication for decision making (Balog <i>et al.</i> , 2018)
			DARAJA: Information flyer and Endline Data Analysis (WISER <i>et al.</i> , 2019, 2020)
			Developing Risk Awareness through Joint Action [DARAJA] (WISER, 2020)
	Habitat for Humanity	Kenya	DRR and Response: Pathway to Permanence (Habitat for Humanity, 2012b)
			Disaster response Shelter Catalogue (Habitat for Humanity, 2012a)
			International Annual Report for 2011 and 2020 (Habitat for Humanity, 2011, 2020)
			Mt.Elgon Housing Project (Habitat for Humanity Kenya, 2021a)
	UN-Habitat	Kenya	What we do: Settlement-Based Practice(Habitat for Humanity Kenya, 2021b)
			Nairobi's Housing Crisis: An Analysis of KENSUP (Ehresmann, 2004)
			Habitat and the Kenya Slum Upgrading Programme (UN-Habitat, 2007)
			The Kibera Soweto East Project in Nairobi (Fernandez and Calas, 2011)

The screening documents to facilitate step two in the evaluation process

Table 31. Documents sourced from the government regime

Title	Year	Document Format
Poverty Reduction Strategy Paper for the period 2000 to 2003	2001	Strategy
Eviction notice and consultancy ad in East African Standard August 8th 2003	2003	News article
An interview with Minister Raila in a Kenya Land Alliance (KLA) article, April-June 2003	2003	News article
Sessional Paper No. 3 On Housing Policy For Kenya	2004	Policy
Terms of Reference (ROF) and roles for the Settlement Executive Committee (SEC)	2004	Strategy
KENSUP: The Communication Strategy. Government Printers.	2005	Strategy
KENSUP: The Financing Strategy (2005-2020). Government Printers	2005	Strategy
KENSUP: The Strategic Plan (2005-2020). Government Printers	2005	Strategy
KENSUP: A Communication Action Plan. Government Printers	2006	Strategy
Kibera (Soweto East) Local Physical Development Plan	2008	Strategy
Nairobi Metro 2030: A Vision for a World Class Metropolis	2008	Strategy
Integrated national transport policy	2009	Policy
Model bylaws for housing Co-operatives	2010	Policy
The Constitution of Kenya	2010	Policy
KISIP Operations Manual, Government Press, Nairobi, Kenya	2011	Project Outline
Petition 164, The High Court of Kenya, Government of Kenya	2011	Petition
Urban Areas and Cities Act 2011	2011	Policy
The Physical Planning Act 1996	2012	Policy
Background Document: The National Slum Upgrading and Prevention Policy	2013	Policy
Petition 239, The High Court of Kenya, Government of Kenya	2014	Petition
Petition 498, The High Court of Kenya, Government of Kenya	2014	Petition
Petition 304, The High Court of Kenya, Government of Kenya	2015	Petition
The Implementation of Petition No . 304 of 2015 - Allocation of Housing Units in Kibera Soweto East Zone A	2015	Petition
National Slum Upgrading & Prevention Policy Sessional Paper no.2 of March 2016	2016	Policy
Sessional Paper No. 3 On Housing Policy For Kenya	2016	Policy
The Kenya Gazette Number 110	2019	Policy
The Kenya National Quality Infrastructure Policy	2019	Policy
The SACCO Societies Act of 2008 (2019 Revised Edition)	2019	Policy
The Kenya Gazette Number 142	2020	Policy
Public Health Act 1986	2020	Policy
Urban Streets and Road Design Manual for Non-Motorized Transport	2020	Strategy
Total sources:31		

Table 32. Documents sourced from the organisation regime

Title	Year	Document Format
International Covenant on Economic, Social and Cultural Rights (ICESCR)	1976	Policy
Housing Rights Legislation	2002	Policy
Kenya Community Driven Development: Challenges and Opportunities	2002	Evaluation
UN General Assembly Resolution A/56/206	2002	Policy
Memorandum of Understanding between the United Nations Human Settlement Programme and the Government of Kenya.	2003	MoU
Rental Housing An essential option for the urban poor in developing countries	2003	Report
Security of Tenure- Best Practices	2003	Report
The Challenges of Slums: Global Report on Human Settlements	2003	Evaluation
The Kenya Slum Upgrading Programme (Daily Nation)	2003	Newspaper
A study to conduct a socio-economic mapping Participatory Urban Appraisal report on main findings Soweto East Village	2004	Evaluation
Investigation of actors operating in Kibera e Volume I. Analytical Report.	2004	Evaluation
Kenya Slum Upgrading Strategy Volume I Implementation Strategy 2005 – 2020	2004	Strategy
Process Mapping: Disclosing Actors and Citizen Participation in Nairobi	2004	Evaluation
Forced Evictions - Towards Solutions	2005	Report
The Kenya Slum Upgrading Programme (KENSUP) Executive Brief	2005	Strategy
KENSUP capacity building assessment report and work plan: November 2006-June 2009	2006	Report
Kenya Inside Informality: Poverty, Jobs, Housing and Services in Nairobi's Slums	2006	Report
Listening to the Poor: Housing rights in Nairobi, Kenya	2006	Evaluation
Briefing Note on GOK/UN-HABITAT Kenya Slum Upgrading Programme (KENSUP)	2007	Evaluation
Forced Evictions - Towards Solutions Second Report of the Advisory Group on Forced Evictions to the Executive Director of UN-HABITAT	2007	Report
United Nations Human Settlement Programme~ UN-Habitat and the Kenya Slum Upgrading Programme	2007	Project outline
UN-Habitat Activities in Kibera Slums, Nairobi, Kenya	2008	Evaluation
UN-Habitat and the Kenya Slum Upgrading Programme~ Strategy document	2008	Strategy
Amendment to the Agreement Of Cooperation between United Nations Human Settlements Programme and Maji na Ufanisi, February, 2009.	2009	Evaluation
The Unseen Majority: Nairobi's Two Million Slum-Dwellers	2009	Evaluation
Infrastructure Constraints and dev in Kenya an analytical review	2010	Article org
UN-Habitat and the Kibera Slum Upgrading Initiative 2011.	2011	Project outline
Cities alliance for cities without slum: action plan for moving slum upgrading to scale	2013	Strategy

Kibera Integrated Water , Sanitation and Waste Management Project Post-Project Intervention Evaluation	2014	Evaluation
Botswana delegation attend slum upgrading orientation workshop in Nairobi	2015	Webpage
Universal Declaration of Human Rights	2015	Policy
United Nations Development Assistance Framework for Kenya: 2018-2022	2018	Strategy
Annual NGO Sector Report 2018/19	2019	Report
Assessing Effective Infrastructure Access and Quality	2019	Article Org
Kenya Informal Settlements Improvement Project 2; Combined Project Information Documents /Integrated Safeguards Datasheet (PID/ISDS)	2019	Project outline
Kenya Population and Housing Census	2019	Report
Informal settlements' vulnerability mapping in Kenya~ The Case of Kibera	2020	Evaluation
A simple guide to urban land regularization in the informal settlements in Kenya	2021	Strategy
Total sources: 38		

Table 33. Documents sourced from the community regime

Title	Year	Document Format
Fresh fears over slums project	2002	Newspaper article
Proposed Upgrading In Soweto Village in Kibera to His Excellency Archbishop Giovanni Tonucci.	2003	Report
The Kibera Community Development Agenda (KCODA)	2003	Project outline
Dawn fire guts down Nairobi City Hall	2004	News article
Kenya: Kibaki Gives Kibera a New Face	2004	News article
Six held after fire raid	2004	News article
Myth Shattered: Kibera numbers fail to add up	2010	News article
Total sources: 7		

Table 34. Documents sourced from the housing regime

Title	Year	Document Format
Langata Decanting Site Housing Floor Plan	2004	Technical drawing
Construction industry to adopt Eurocodes	2015	Newspaper Article
Total sources: 2		

Table 35. Documents sourced from the research regime

Title	Year	Document Format
The socio-cultural aspects of the housing typology, Nairobi, Kenya	1974	Thesis
Squatters or Tenants The Commercialization of Unauthorized Housing in Nairobi	1984	Article
A Geographical Study of Kibera as an Example of an Uncontrolled Settlement	1992	Journal Article
Promoting the Use of Appropriate Building Materials in Shelter Provision in Kenya	1993	Article
"Kibra Is Our Blood": The Sudanese Military Legacy in Nairobi's Kibera Location, 1902-1968	1997	Journal Article
Settlement upgrading in Kenya: The case for environmental planning and management strategies	1998	Evaluation
The ' NGO-Isation ' of Kenyan Society: USAID & the Restructuring of Health Care	1998	Article
Upgrading housing settlements in developing countries: The impact of existing physical conditions	2001	Article
Kibera soweto east a case study in slum upgrading	2002	Article
Nairobi Situation Analysis Supplementary Study: A Rapid Economic Appraisal of Rents in Slums and Informal Settlements.	2002	Evaluation
Urban Slums Reports The case of Nairobi Kenya	2002	Report
Informal Labour in the Construction Industry in Kenya	2003	Thesis
State, voluntary and private sector partnerships for slum upgrading and basic service delivery in Nairobi City, Kenya	2003	Article
Affordable Housing in Kenya: A Case Study of Policy on Informal Settlements	2004	Journal Article
Nairobi's Housing Crisis - An Analysis of the Kenya Slum Upgrading Programme	2004	Thesis
Women and sustainable slum upgrading- a case study of Kibera Soweto slums	2004	Thesis
Land tenure management systems in informal settlements	2005	Thesis
A Communication Action Plan: September – October, 2006	2006	Strategy
Capacity Building Assessment Report and Work Plan: November 2006-June 2009 *Published with SIDA	2006	Evaluation
Failed top-down policies in housing: The cases of Nairobi and Santo Domingo	2006	Journal Article
Informal settlements: a perpetual challenge?	2006	Article
Slum upgrading initiatives in Kenya within the basic services and wider housing market: A housing right concern	2006	Article
The dynamics and implications of residential segregation in Nairobi	2007	Article
Slum Upgrading in Nairobi within the housing and Basic Services Market	2008	Journal Article
'No Raila, No Peace!' Big Man Politics And Election Violence At The Kibera Grassroots	2009	Journal Article

Spatial analysis of informal settlement sprawl and its environmental impact: a case study of Kibera	2009	Thesis
Alternative approaches to slum upgrading in Kibera, Nairobi	2010	Journal Article
Analysis of changing positions and interests of stakeholder	2010	Thesis
How numbers game turned Kibera into "the biggest slum in Africa"	2010	Blog
In Their Own Words: Assessment of Satisfaction with Residential Location among Migrants in Nairobi Slums	2010	Journal Article
Nairobi Today The Paradox of a fragmented city	2010	Book
Relocation action planning in slum upgrading: The case of Kibera's Soweto-east informal settlement in Nairobi, Kenya	2010	Thesis
Slum Upgrading ~ Assessment of the Kibera Decanting Site Building Typologies	2010	Journal Article
Surrogates for Government? NGOs and the State in Kenya	2010	Thesis
Factors Influencing the Implementation of Kenya Slums Upgrading Programme~ A Case Of Kibera Slums in Nairobi County	2011	Thesis
High Density Buildings in Kibera	2011	Report
Improving Informal Settlements Kibera using and developing existing knowledge	2011	Thesis
Kenyan Government Initiatives in Slum Upgrading	2011	Article
Kibera- The Biggest Slum in Africa	2011	Journal Article
The Influence of the Tenure System to the Physical Environments in Nairobi's Human Settlements	2011	Journal Article
The Kibera Soweto East Project in Nairobi	2011	Journal Article
The Nubis of Kibera : a social history of the Nubians and Kibera slums	2011	Thesis
Triggers and Characteristics of the 2007 Kenyan Electoral Violence	2011	Article
Understanding the grassroots dynamics in Nairobi~ The dilemma of Kibera informal settlements	2011	Journal Article
Slum Upgrading in Kibera, Nairobi - Identifying Optimal Spaces for the Construction of Decanting Sites for Temporary Dwelling	2012	Poster
The Civil Society In Slum Upgrading In Kenya: Still Civil	2012	Blog
The NGOs vs. the State in Kibera	2012	Journal Article
A Critical Analysis of the Implementation of the Slum Upgrading Policies in Kenya	2013	Thesis
An evaluation of the impact of tenant satisfaction on rent arrears in public housing: a case of Kibera decanting site	2013	Evaluation (Thesis)
Challenges in policy transition: in situ upgrading of informal settlements in Johannesburg and Nairobi	2013	Thesis
Challenges of Slum Upgrading for Urban Informal Settlements; Case of Soweto East Village in Kibera Informal Settlements, City Of Nairobi	2013	Thesis
Factors influencing sustainability of slum upgrading programs, Kibera Soweto east upgrading program, Langata county, Nairobi, Kenya	2013	Thesis
Kenya Slum Upgrading Programs~ KISIP & KENSUP	2013	Report

Water in Nairobi: Unveiling inequalities and its causes	2013	Article
A tale of two cities: A multi-dimensional portrait of poverty and living conditions in the slums of Dakar and Nairobi	2014	Journal Article
Building Local Governance: Participation and Elite Capture in Slum-upgrading in Kenya	2014	Journal Article
Community perception of slum upgrading initiatives in Soweto East, Kibera (Nairobi, Kenya)	2014	Thesis
Construction of low cost houses in informal settlements A case study of the Nairobi region	2014	Thesis
Decanting and Social Sustainability~ Kenya Slum Upgrading Programme (A Case Study)	2014	Thesis
Moving towards urban sustainability in Kenya	2014	Article
Settlements in Transformation : Impacts of the emerging housing typologies on slums in Nairobi, a case of Mukuru Kwa Njenga settlement	2014	Thesis
The Social Transformation of the People Living in Kibera Slum in Nairobi county following the Kenya slum upgrading programme.	2014	Thesis
“Go back and tell them who the real men are!” gendering our understanding of Kibera’s post-election violence	2015	Journal Article
An Evaluation of Slum Upgrading Schemes in Nairobi County~ The Case of Kibera Slums.	2015	Evaluation (Thesis)
An investigation into the role of socioeconomic factor in slum management programmes; A case of Kibera-Soweto east Nairobi Kenya	2015	Thesis
Struggling for the ‘right to the city’: In situ informal settlement upgrading in Kibera, Nairobi	2015	Thesis
Infrastructure in Africa	2016	Journal Article
Infrastructure in informal settlements: coproduction of public services for inclusive governance	2016	Journal Article
Learning from the Slums for the Development of Emerging Cities	2016	Book
Managing conflicts in slums within a relocation project. Case study of Soweto East, Kibera, Nairobi	2016	Article
The Capability of Mobility in Kibera 'Slum', Kenya: An Ethnographic Study of How Young People Use and Appropriate New Media and ICTs	2016	Thesis
A White Elephant ~ A Critical Look at the Usefulness of the Communication Channels used by the Kibera Slum Residents , Kenya	2017	Journal Article
Application of the principles of participatory communication in the design and implementation of the Kenya slum upgrading program (KENSUP)	2017	Journal Article
Community-responsive adaptation to flooding in Kibera, Kenya	2017	Journal Article
Community-supported slum-upgrading~ Innovations from Kibera, Nairobi, Kenya	2017	Journal Article
Developing risk or resilience~ Effects of slum upgrading on the social contract and social cohesion in Kibera, Nairobi	2017	Journal Article
Forms of aid: Architectures of humanitarian space	2017	Report

Housing Policy as an Agenda for Elections 2017	2017	Journal Article
Life in a slum: understanding living conditions in Nairobi's slums across time and space	2017	Journal Article
People's room for manoeuvre in a fragmented city~ state housing in Kibera, Nairobi	2017	Journal Article
Recognition, coloniality and international development: a case study of the Nubians and the Kenya Slum Upgrading Project	2017	Journal Article
The Role Played by Settlement Executive Committee in the Design and Implementation of the KENSUP Communication Strategy in Kibera, Kenya	2017	Journal Article
Active transport in Africa and beyond towards a strategic framework	2018	Journal Article
Recognition of Informal Norms in Creating Resilient Water Management Structures: The Case of Soweto East, Nairobi	2018	Thesis
The role of international organizations in slum upgrading in Africa: A case study of UN-habitat in Kibera's Soweto East Village Slums, Nairobi, Kenya (2005-2018)	2018	Thesis
Urban public transport in informal settlements Kisumu	2018	Article
Urban Slum Morphology and Socioeconomic Analogies: A Case Study of Kibera Slum, Nairobi, Kenya	2018	Article
Using Future Scenario Planning as a tool for informed decision making on infrastructure interventions in Kibera, Nairobi in Kenya	2018	Journal Article
Mainstreaming "Adaptive Standards for Multi-Purpose Interior Design" In Low-Cost Housing Projects: A Case Study of the Kibera Soweto East Housing Project in Nairobi, Kenya	2019	Thesis
Transport Infrastructure development in Kenya	2019	Article
An Evaluation of Urban Regeneration Efforts in Kibera, Kenya through Slum Upgrading	2020	Journal Article
Hyrid Infrastructure hybrid governance	2020	Journal Article
The Paradox of Kenyan Slum Upgrading Programme	2020	Thesis
The Role of Changing Housing Policies in Housing Affordability and Accessibility in Developing Countries: The Case of Kenya	2020	Article
Overview of Kenyan Government Initiatives in Slum Upgrading~ The Case of KENSUP and KISIP Projects	2021	Journal Article
Post-, pre- and non-payment Conflicting rationalities in the digitalisation of energy access in Kibera, Nairobi	2022	Article
Total: 96		

Appendix D

The Coding Process

The methodology chapter provided information on the coding process that used a data management tool known as NVivo Pro 12 to support the creation of the narrative analysis, the study of Kibera's regime interrelatedness and landscape. A further explanation of the coding process used in the STE is now provided, such as;

- formatting, exporting and categorising documents from Mendeley to NVivo Pro 12;
- creating and defining placeholder codes using NVivo Pro 12 and explored literature, respectively;
- creating and formatting inductive codes;
- extracting data from documents to the codes; and
- analysing the data in a code to determine the perspectives of events and stakeholders.

This explanation aims to detail the “*rigor*” in inductive research and transparency in the origins of results from the STE's coding process (Gioia, Corley and Hamilton, 2012). The creation of the coding process was influenced by publications that defined and implemented coding in their studies (Braun and Clarke, 2006, 2021; Wilkinson, 2015; O' Dwyer, 2021). For example, Braun and Clarke (2006) defined coding as a process where meaning and relationships between categories (e.g. themes, stakeholders, events) are derived from the data through an inductive process. The goal of the coding process was for perspectives to be integrated into a model that seeks to describe and explain the narrative of KENSUP, the relationships between stakeholders, and Kibera's landscape. The coding process began after Step Two of the STE once documents were sourced and screened to facilitate steps in the evaluation process, categorised into a regime folder, and imported to Mendeley. The following headings explain the process of coding used in STE.

Step 1: Importing and familiarisation the data

Each regime folder from Mendeley was exported and saved as a Research Information Systems (RIS) file type. A created RIS file was imported to NVivo Pro 12 by opening the “*Import*” tab and selecting the Mendeley icon. Figure 62 on the following page displays the layout of NVivo Pro 12 and some of the documents imported from Mendeley.

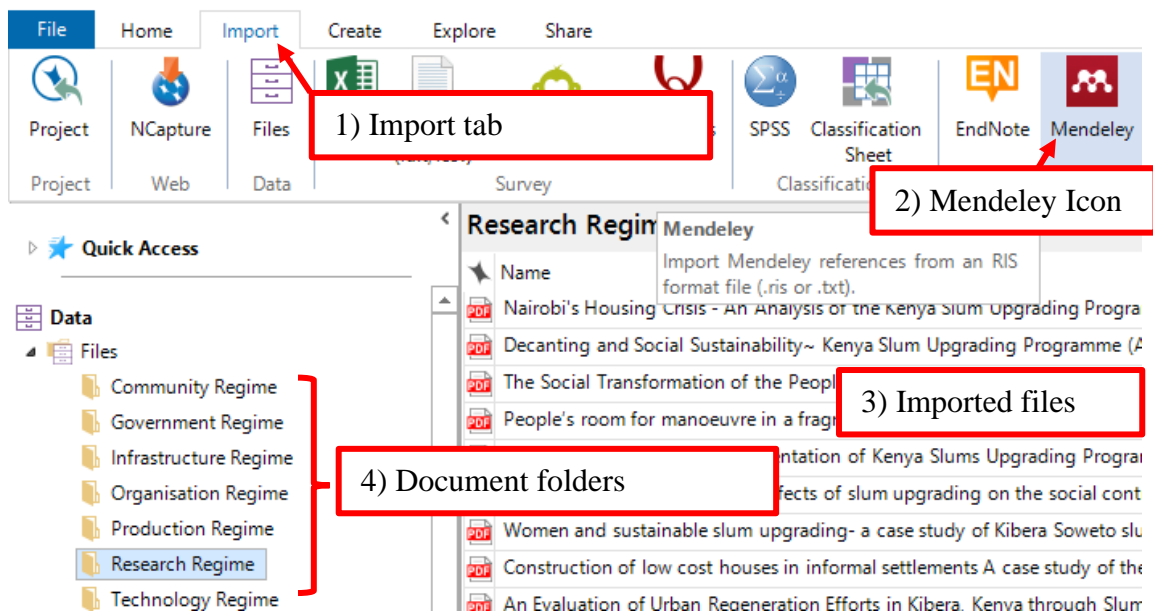


Figure 62. The layout of NVivo Pro 12 with documents imported from the Research Regime.

Step 2: Creating and defining placeholder codes

Placeholder codes have precise definitions, contain the units of meaning, and act as the main heading for sub-codes (Maykut and Morehouse, 2005). Each code was created and defined based on Geels’s theory and Langley’s understanding of process theory (Langley and Truax, 1994; Elzen, Geels and Hofman, 2002). For example, the narrative analysis had three placeholder codes were titled “*Decision-making*”, “*Activities*”, and “*Events*”, and followed the definition from Langley and Truax’s (1994). Table 36 below is a codebook with a placeholder code’s title and definition. Figure 63 below displays the arrangement of these codes in NVivo.

Table 36. The codebook for KENSUP’s narrative analysis

Placeholder Code	Definiton
Decisions-making	The choices made by a regime or regimes, such as the design of a house.
Activities	The actions carried out by regimes, such as the contruction of housing.
Event	An occurrence outside the control of the project, such as a fire or strike.

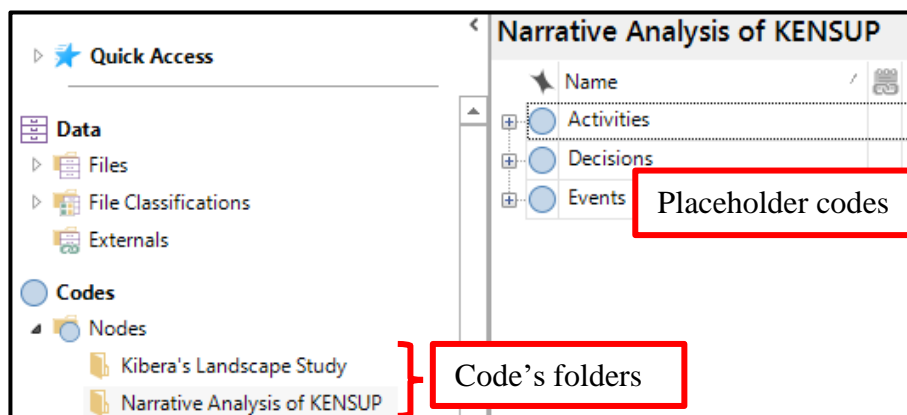


Figure 63. The layout of codes for Kibera's landscape study

The landscape study involved identifying long establishments existing within and around Soweto East. Geels defined many of these establishments which were created as placeholder codes in NVivo. Table 37 has the title and definitions of each placeholder code.

Table 37. The codebook for the landscape study

Placeholder Code	Definition
Housing typologies	The existing or pre-existing housing structures in and around Soweto East.
Economic structure	Residential and national sources of income and expenses, entrepreneurial activities/ investments.
Political structure	The political interactions in the location’s society, such as presidential/ governmental actions of leadership or political motives in housing development and developments in housing policies.
Cultural and normative values in housing	The sharing of knowledge within or between regimes and the ethnicities within or around Soweto East.
Land ownership and tenure	The type of existing or pre-existing land ownership structure(s) in and around Soweto East, and the validations of ownership.
Previous housing development processes	Historical accounts of housing initiatives completed in or around Kibera.
Population growth and Urbanisation	Increases or decreases in Kenya's population growth and accounts of urbanisation.
Environmental conditions	Land-related issues in housing and agricultural.

Step 3: Creating and formatting sub-codes

Sub-codes were assigned under a placeholder code following the codebook definitions. For example, the narrative analysis had its sub-codes assigned to a placeholder code that followed Langley’s definition of an event, decision or action. Each sub-code was created using a deductive and inductive coding process, i.e. sub-codes were created before and during the analysis. For example, the narrative analysis initially had sub-codes like “*planning of buildings*” and “*moving of residents*”. Whenever the coding process gathered more data on such activities, the code was formatted with the year, month, and sentence describing the event, decision, or action. For example, the “*planning of buildings*” code was refined to be “*2003 April Planning of high-rise buildings*”.

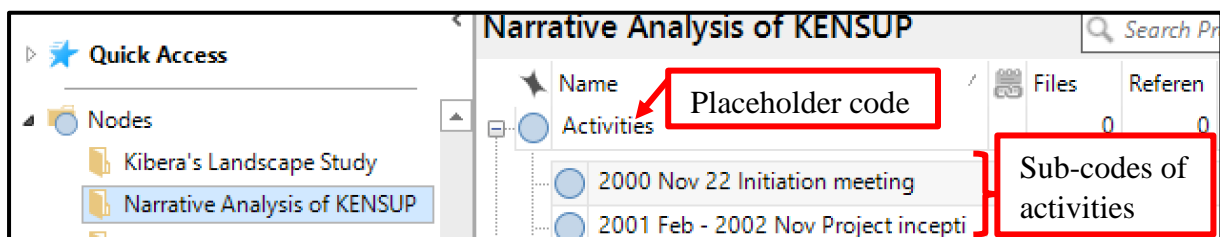


Figure 64. The layout of the placeholder code and its sub-codes in NVivo Pro 12

Any excerpts from the documents were manually added to the appropriate sub-code, as displayed in Figure 65 below.

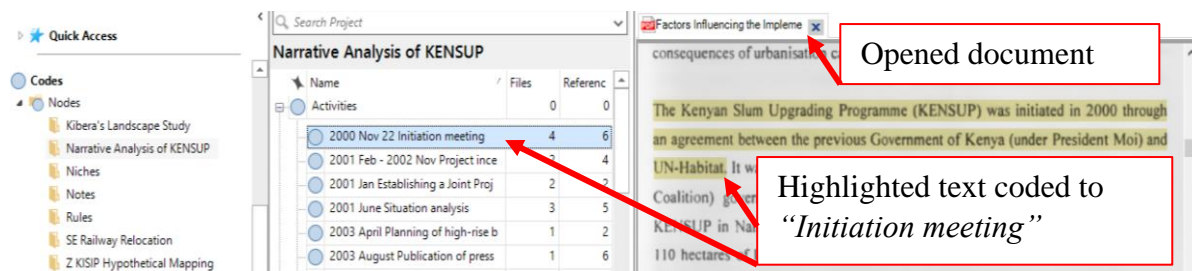


Figure 65. The layout of an opened document with coded text and the location of the sub-code

Step 4: Re-ordering codes identified and coded in Step 3

Similarities in data resulted in codes being merged under an altered title of the code that better represent the event. This phase focused on organising codes into a framework that made sense to further the analysis.

Step 4: Develop and review themes from each code

The data in each code for the narrative analysis, landscape and interrelatedness study were reviewed to;

- confirm the date of their occurrence
- analyse the scale and scope of their impacts;
- display the author(s) perspective of events or stakeholders; and
- identify sources with similar or conflicting data.

Figure 66 below displays an example of how the narrative analysis identified a conflicting view on the project site selection process. The figure outlines that the data came from five documents (files) with twelve excerpts (references) extracted between them.

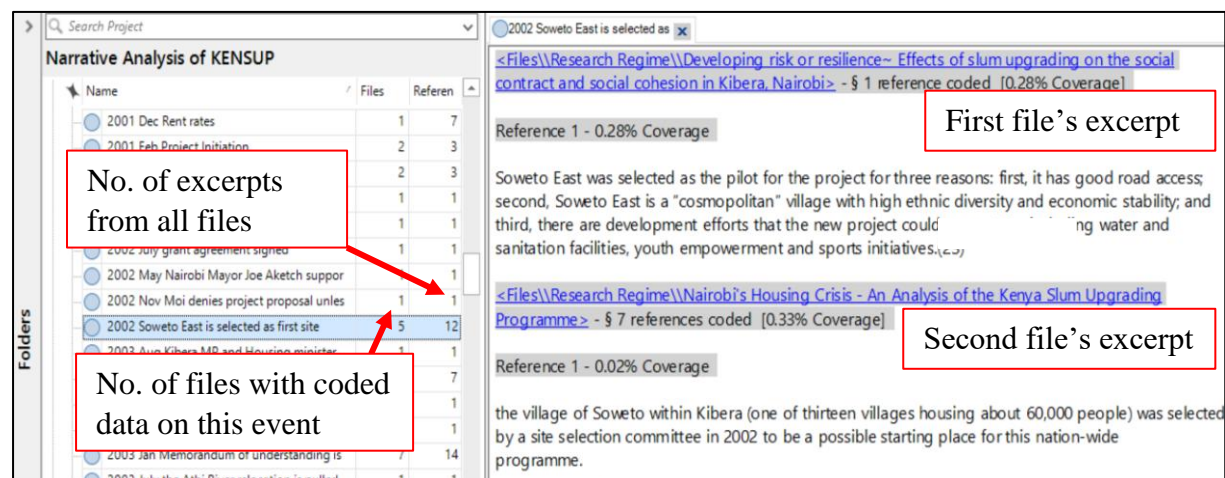


Figure 66. An example of the layout of a code opened for analysis

Step 5: Validation findings

The proposed findings were validated and revised by seeking evidence from a questionnaire. Step 12 of the methodology chapter explains the format and distribution of the questionnaire. In summary, the questionnaire focused on confirming the phase and transition of KENSUP but also compared specific findings from the coding analysis.

Step 6: Writings statements or findings

The final step was offering a descriptive account of the KENSUP's narrative, regime perceptions, and Kibera's landscape within the context of the study. Chapter four has the results of each analysis.

Appendix E

The narrative analysis

The created narrative analysis as explained in step five of the methodology, and the STE of Soweto East chapters.

1996 - Global cities came together to reduce global poverty

The second United Nations Conference on Human Settlements (Habitat II) in 1996 “challenged governments to use shelter development as a tool to break the vicious cycle of poverty, homelessness and unemployment” (UN-Habitat, 2008b; MacDonald, 2014).

May 1999 - Cities Alliance created and launched the “Cities Without Informal settlements” initiative

The Cities Alliance is a consortium of governments, NGOs, and global organisations. Their initiative is to have “*Cities Without Informal settlements*”, which focuses on development strategies and investment in nationwide informal settlement upgrading (Cities Alliance, 2013; MacDonald, 2014).

1999 - A lack of political momentum to implement housing policies

Kenya’s Department of Housing admits to the lack of political momentum being the primary cause for the failure of the GoK to enforce its housing policies.

2000 - International Monetary Fund (IMF) denied US\$400 million to Kenya due to a high level of corruption

After former City Mayor King’ori Mwangi drew attention to the corruption in the Nairobi City Council (NCC), International Monetary Fund (IMF) refused to provide US\$400 million until Kenya’s national corruption was managed (Ehresmann, 2004).

2000 - The Millennium Development Goals (MDGs) aimed to improve the lives of 100 million people living in informal settlements

The Millennium Development Goals (MDGs), combined with the Alliance’s Action Plan, establish an international commitment to “*making major improvements in the lives of 100 million informal settlement dwellers by the year 2020*” (UN-Habitat, 2008b, p. 27; MacDonald, 2014).

22nd November 2000 - The creation of the Collaborative Nairobi Informal settlement Upgrading Initiative (CNSUI)

A meeting between the then President of Kenya, Mr Daniel T. Arap Moi, and the Executive Director of UN-Habitat, Mrs Anna Tibaijuka, led to an agreement for the Collaborative Nairobi Slum Upgrading Initiative (CNSUI) (Ehresmann, 2004). The programme was jointly funded by the UN-Habitat, World Bank, Cities Alliance and the GoK and monitored by a committee and task force (Ochieng, 2011). The United Nations offered their technical skill in a shelter and urban development to the initiative for Kenya, starting in Kibera.

January 2001 - The GoK recognition of informal settlements

The GoK acknowledged the existence of Kenyan informal settlements and previous failed upgrading initiatives and made a long-term commitment to improving the housing conditions (Achungo, 2014).

30th January 2001 - Establishing a Joint Project Planning Team (JPPT)

The Joint Project Planning Team (JPPT) was formed to lead the CNSUI with an “aggressive consultative process of stakeholders” until further institutional structuring was developed (Ehresmann, 2004; MSSG, 2011). The team comprised NGOs, CBOs, the government, private sector, NCC, and development partners.

February 2001 - November 2002 – KENSUP’s Inception Phase

In February 2001, President Moi officially announced the CNSUI, which would evolve into KENSUP. The programme was organised into four phases; Inception, Preparatory, Implementation, and Replication. The exact date of KENSUP’s inception phase is debatable, and its duration has been confused by locals in later studies (Ndung’u, 2011). The Inception Phase focused on data-gathering activities on the stakeholders in Nairobi to create a strategy (UN-Habitat, 2008b). The targeted beneficiary informal settlement dwellers were not involved because the community had not been selected as a pilot project, not until the end of the Inception Phase in November 2002 (Ehresmann, 2004).

June 2001 – The publishing of the Nairobi Situation Analysis (NSA)

The Nairobi Situation Analysis (NSA) examines the political, social, physical, economic, cultural and institutional factors impacting Nairobi’s informal settlements, including a review of upgrading strategies (Syagga *et al.*, 2001). The analysis aimed to provide information for stakeholders to determine a development strategy.

July 2001 - The National Housing Policy is redressed by the Policy Framework for Informal Settlement Upgrading Paper

The Policy Framework for Informal Settlement Upgrading was created to redress the shortcomings of the National Housing Policy. The document addressed the need for an integrated development approach that benefits communities and offers a pilot site selection process and media strategy (GoK, 2004).

2001 - NGOs sought more involvement and community representation in informal settlement upgrading

NGO's sought to be involved in the creation of Settlement Project Implementation Units (SPIUs) which they support, and for community representatives to be included in the administrative bodies of the KENSUP, including the JPPT and the Inter-Agency Coordinating Committee (IACC).

December 2001 - Comments by President Moi and MP Raila Odinga on rents in Kibera sparked a violent outbreak

President Moi and Kibera MP, Raila Odinga questioned the legitimacy of structure owners charging rent to Kibera's residents claiming that structure owners do not own the land and are "government tenants" (Ehresmann, 2004; Schramm, 2017). Tenants in Kibera protested against informal 'structure owners' leading to violent conflicts in the settlement (Ehresmann, 2004). The protest caused the burning of housing and residents to be forcefully evicted by hired "thugs" (Ehresmann, 2004).

1st January 2002 - UN-Habitat raised to full programme status

UN-Habitat is raised to full Programme status in the UN system (UN, 2002). This action put pressure on Habitat's reputation and management of the KENSUP.

January 2002 - The transition from the Inception Phase to the Preparatory Phase got delayed

The Preparatory Phase was planned to start in January 2002. The GoK was pushing for the programme to process, but challenges in coordinating a multi-sector informal settlement upgrading project caused a delay to the end of the Inception Phase. The Implementation Phase was changed to November 2002 (Ehresmann, 2004).

May 2002 - Nairobi Mayor Joe Aketch supports GoK dominant leadership on KENSUP

June 2002 - The creation of Kibera Community Development Agenda (KCODA) and The Kiberan newspaper

A small network of residents formed the Kibera Community Development Agenda (KCODA) to address the area of media and community communication. The Kiberan newspaper was created by KCODA in response to the media and communication failure by the SSUP, the KENSUP secretariat, and Project Implementation Unit (PIU). The newspaper aim is “...to mainstream popular participation in policy formulation and dispensation structures at all levels of society” (Onyango, 2003).

July 2002 – KENSUP’s grant agreement was signed

The grant agreement was signed by the major funding parties; the UN-Habitat, World Bank (WB), Cities Alliance and the GoK (Ochieng, 2011).

November 2002 - Soweto East is selected as the first site and becomes the Soweto Slum Upgrading Project (SSUP)

There are three claims as to why and how Soweto East was selected as the first site for KENSUP’s pilot project that came to be called the Soweto Slum Upgrading Project (SSUP).

The first claim is that KENSUP was initially intended to cover all villages of Kibera but was limited to Soweto East after a review of Nairobi’s Situational Analysis (Centre on Housing Rights and Evictions [COHRE], 2006; Huchzermeyer, 2008; Agayi and Sağ, 2020)

The second claim is Soweto East was selected for its decent road access, high ethnic diversity, safe environment, and economic stability (Mitra *et al.*, 2017). Other reasons were the potential creation of water and sanitation facilities, youth empowerment, and sports initiatives (MacDonald, 2014; Mitra *et al.*, 2017).

The final claim is that the IACC established a committee to evaluate shortlisted sites that were chosen from a criteria developed by the Multi-Stakeholder Support Group (MSSG). The MSSG role was to raise NGOs’ and CBOs’ concerns over the KENSUP. This committee ranked settlements in terms of “suitability for pilot implementation” (Ehresmann, 2004). The highest criteria were land status, followed by an equal scoring on the absence of infrastructure, community organisations, impact with respect to population and area size, and the ratio of resident landlords to tenants (Ministry of Lands, 2008; Ogundele, 2014). Huruma village scored the highest (66% approval), with Kibera-Soweto scoring 8.5% less (57.5%). Despite the

site selection committee and UN-Habitat's preparing approval papers for Huruma, President Moi disapproved and wanted the first project in Kibera, where he had connections to the Langata District. This difference of opinion led to the JPPT taking over the MSSG's responsibilities in the site selection process in 2002.

27th December 2002 – The end of Daniel arap Moi's 24-Year Presidency

Daniel arap Moi loses to Mwai Kibaki, ending his 24 years presidency. Moi's government ruled with outdated governance structures and citizen rights, including no right to housing, and being "one of Africa's many exceedingly corrupt regimes" (Ehresmann, 2004). President Moi refusal to create a new constitutional order caused the continuation of ad-hoc informal settlement projects.

1st January 2003 - Mwai Kibaki took presidential office

Mwai Kibaki took presidential office in a peaceful transition of power from Daniel Moi. UN-Habitat took the opportunity to change the KENSUP pilot site back to Huruma, but Kibera remains the chosen location. The reason is that after Moi left office, Minister Raila Odinga became the Minister of Roads, Public Works, and Housing, who also assumed the role of KENSUP Secretariat (Ehresmann, 2004). These were the two senior positions on the KENSUP.

15th January 2003 – The Memorandum of Understanding (MoU) was signed by Gok and UN-Habitat

A Memorandum of Understanding (MoU) was signed between the two leading bodies; Mrs. Anna Tibaijuka, the Executive Director of UN-Habitat, and MP Raila Odinga. The MoU stated that the GoK had the ultimate responsibility to complete the objectives for the KENSUP and SSUP and hold the management role to its risks with limited exceptions (UN-Habitat and RoK, 2003). The role of UN-Habitat in the KENSUP and SSUP is limited to project funder and technical supporter. Raila Odinga also publicly announced that Kibera-Soweto was to be the first site of the KENSUP. This event was the first alleged start to the Preparatory Phase.

January 2003 - 2004 - The community has not been involved in KENSUP

The Soweto community was kept uninformed about the details of the intentions and process of the SSUP and any guarantee of receiving an improved or new living unit (Ehresmann, 2004).

11th February 2003 - Wealthy people begin moving into Soweto East (Gentrification), and the announcement of new housing in Athi river

Gentrification slowly began in Soweto East after Minister Raila's announcement that new housing in Athi River was becoming part of the SSUP. Athi River (also known as Mavoko) is a town located about 35km from Nairobi with about 200,000 residents within the municipal city limits of Nairobi in 2003 (Ehresmann, 2004; Fernandez and Calas, 2011).

March 2003 – KENSUP's strategy documents were created

The official KENSUP and SSUP programme and project documents were completed. The documents included objectives, strategies, background information, institutional structure, and funding information. No housing design was decided; only the participatory process of KENSUP/SSUP management was explained. The KENSUP Implementation Strategy objectives align with the ones outlined in the MoU, but the allocation of roles and responsibilities of UN-HABITAT and the GoK was unclear.

April 2003 – The planning of high-rise buildings in Soweto East

Minister Raila Odinga explained his plan for building four-storey flats in Soweto East and the need to “*de-populate*” the village in an interview with NGO, the Kenya Land Alliance (2003).

“...we have to go vertically rather than horizontally. Therefore, we will have to construct high-rise houses”- Minister Raila Odinga

May 2003 - Minister Raila's controversial proposal for temporary relocation for Kibera-Soweto residents at Athi River

The Finnish government was running a separate low-income housing project in Athi River as part of a debt collection deal with the Kenyan governments. Minister Raila decided to incorporate the Finnish project into the KENSUP for temporary relocation of Soweto East's residents, while Soweto East is demolished to construct new apartments. UN-Habitat Executive Director, Mrs Anna Tibaijuka, confirmed Athi River is to receive Kibera's residents who work near its Export Processing Zones (Ehresmann, 2004; Fernandez and Calas, 2011). Minister Raila did not consult with the then Mayor of Mavoko, Joseph Musau, and the Athi River City Council before making this decision. An escalation in fear and anxiety in relocation, adding to the lack of participatory involvement, caused locals to reject the KENSUP (Ehresmann, 2004; Fernandez and Calas, 2011).

June 2003 - Landlords start asking for an increase in rent

Some Soweto structure owners were asking to increase the rent from 200 KSh (approx. €1.60) per month for a one-room rental, a 35% price increase from the average 600 KSh (approx. €5) per month. The average income for residents in Kibera at this time was between €20-40 a month (Ehresmann, 2004).

17th June 2003 - UN-Habitat stated that there is no project in Kibera to Christ the King Church

Representatives from UN-Habitat met with parish leaders from Christ the King Church in Kibera after the parish requested information on the KENSUP.

“The Habitat representatives started the meeting by insisting that the UN had no project in Kibera and stated it was the project of the GoK.” (Christ the King Church, 2003; Ehresmann, 2004, p. 73).

June 2003 - Meetings were held with CBOs and NGOs but were disbanded by the NCC

The lack of dialogue on the KENSUP between the Kiberan community, the GoK and UN-Habitat caused frustration among stakeholders. This breakdown in communication led Kituo cha Sheria (NGO), Shelter Forum (NGO and member of the JPPT), and KCODA to call a meeting in Kibera. The first of two meetings was aimed to educate residents, CBO's and NGO's on informal settlement upgrading and the current housing policies (Ehresmann, 2004). The organisers hoped to invigorate local support by facilitating locally led events across Kibera. Residents from all areas of Kibera attended the meeting to know how the KENSUP would affect their village (Ehresmann, 2004).

The meeting formed a 12-person committee to contact the GoK and UN-Habitat to gather information on KENSUP's schedule.

On 28th June, the second meeting was stopped when youth thugs equipped with whips arrived. The NCC caused this disbandment believing the meetings were held to plot against the SSUP. The creditability of the NCC sunk lower and stirred a local bitterness towards this senior KENSUP stakeholder (Ehresmann, 2004).

July 2003 -An NGO coalition was concerned that Kibera was a political exploit

The NGO Coalition on Urban Land/Housing Rights Campaign expressed awareness and concerns that Minister Raila favours tenants over structure owners to gain votes in Kibera (Ehresmann, 2004).

July 2003 - KENSUP received its initial funding for the Preparatory Phase

The initial funding for a situational analysis of Soweto East and the Preparatory Phase was provided by the Cities Alliance, the GoK, and UN-Habitat at the equivalent of US\$240.000-250,000, US\$60.000, and US\$110.000, respectively. Soweto residents were expected to contribute to the finances. All SSUP funds were to be placed in a Trust Fund managed by a board of directors. The Implementation Phase budget was estimated to be between US\$2.1- 3.5 million, but no donors would support the KENSUP until the Implementation Phase began (Ehresmann, 2004).

July 2003 - The GoK decide to suspend the MSSG

In early 2003, the KENSUP Secretariat abandoned its responsibility of arranging monthly meetings with the MSSG. A disagreement over the process and timeframe of the KENSUP caused tensions in their relationship. MSSG wanted to allocate more time to empower communities with a participatory approach. In contrast, the GoK wanted a quick production of solid results. The final verdict was the GoK decision to suspend the MSSG. The SPIU became the only intermediary body to raise community concerns to the GoK, but none have been created in Soweto East due to UN-Habitat being unformed of the government's plans.

July 2003 - The NGO coalition on Urban Land raised concerns about limited residents' involvement

The closure of the MSSG caused the NGO Coalition on Urban Land to become concerned about the community participation process for the SSUP. The government's control of Kibera caused the coalition to consider relocating the entire SSUP project outside of Kibera, but the prospect of violence from a political confrontation between the NGO Coalition and Minister Raila Odinga prevented this action. The signs of limited NGO participation resulted in a competitive environment between NGOs involved in the SSUP.

July 2003 - Athi River relocation is pulled from the SSUP

Minister Raila changed his position on the relocation process to Athi Rivver. This was after intense public opposition. The UN-Habitat Executive Director, Mrs. Anna Tibaijuka, threatened to cancel her organisation's involvement by October 2003. Raila reiterated that no one would be relocated to the Athi River at the official SSUP launch ceremony in October 2003.

July 2003 - First public announcement of the Preparatory Phase of SSUP

Raila names the beginning of 2003 as the start of the KENSUP Preparatory Phase. There were no other active KENSUP projects between January and August 2003 (Agayi and Sağ, 2020).

8th August 2003 - Structure owners in Kibera were given an eviction notice in a newspaper

The GoK published an official KENSUP press notice and consultancy ad with UN Habitat's permission in the East African Standard. The newspaper was the only source to issue Minister Raila's ultimatum; structure owners in Kibera were given six months to evict themselves or else risk forced eviction. Tenants and resident structure owners were concerned about being temporarily relocated to Athi River or other distant locations. After the notice, a group of Kibera's entrepreneurs put their needs forward to the GoK, asking for alternative sources of income and a guarantee of title deeds for their new structures. The tenants and structure owners vowed that they would not move until the GoK met their conditions. There was still no SPIU for Soweto East's residents, which created an opposition against the government. In contrast, the Minister for Lands and Settlement, Amos Kimunya, supported Raila's ultimatum stating that the land belongs to the government and prevents the construction of more informal settlements.

The consultancy ad mentioned an existing "*framework of engagement with people living and working in slum areas*" and that "*the people living in slum areas will lead the slum upgrading process*" (East African Standard, 2004). Therefore, the ad sought to hire an outside organisation to produce an identification report on KENSUP's stakeholders. An activity which was behind schedule. The ad described KENSUP as community-driven, but both Kiberan tenants and structure owners deny ever being approached by the GoK regarding KENSUP. This assignment was given to Acacia Consultants and Maji na Ufanisi in October, 2003.

August 2003 - Raila Odingo joins presidents' anti-corruption campaign

Raila Odinga joins President Kibaki's anti-corruption campaign. The campaign holds both public citizens and government officials accountable for corruption. Raila understood that he was at risk of being punished for corruption.

September 2003 -An injunction by a group of structure owners was filed against SSUP

One group of Kiberan structure owners filed a temporary injunction against the SSUP for alleged corruption. The group was prepared for violent actions. Kiberan chiefs sided with the

structure owners, but the group's opposition was senior stakeholders supporting the SSUP and wanted further involvement in any future KENSUP informal settlement upgrading initiative. The UN had little knowledge and power over the rising tension between the stakeholders involved in Kibera. The injunction delayed the clearance and new construction of Soweto East.

October 2003 - Launching ceremony of SSUP

Certain documents conflict with the year of the official launching of SSUP. A source published in May 2004 stated that the Preparatory Phase of the SSUP was (re)launched in mid-October 2003 (Ehresmann, 2004). Raila Odinga presided over the launch. He publicly announced that the SSUP would consist of building four-storey flats and temporarily relocating sites near Kibera during construction.

Several documents describe the same event in October, but the year was 2004. These sources describe flats with 50m² two-bed roomed units to be privately owned (Kiprotich and Mugo, 2004; Huchzermeyer, 2008; UN-Habitat, 2008b).

January 2004 – An investigation of actors operating in Kibera

Acacia Consultants Ltd and Maji na Ufanisi complete the “status report of the various actors operating in Kibera (Acacia Consultants Ltd and Maji na Ufanisi, 2004). The study concluded that the programme was causing a mixed emotive reaction from different stakeholders, but all were still ready to participate in the SSUP.

February 2004 - President Mwai Kibaki continues the anti-corruption campaign

President Mwai Kibaki met with District and Provincial Commissioners to encourage them to lead non-corrupt practices because they were not submitting project reports on how government money was being spent.

February 2004 - Forceful evictions approved by Raila begin

Minister Raila approves forced evictions for a road project in a Kiberan village named in his honour, Raila Village. Raila's Ministry of Roads, Public Works, and Housing (MoRPWH) execute his orders for eviction and quickly implement the demolishing of over 400 structures (Ehresmann, 2004). Homeowners were not prepared since they thought they did not live on the road reserves. This caused their home to be looted. Other threats of eviction to Kiberans also came from the Kenya Railway and the Kenya Power Company in newspaper notices.

In the same month, Kibera structure owners increased their rents, evicted their tenants or brought in family members to benefit from developments occurring in Kibera (Achungo, 2014). None of these evictions was for the intended purposes of the SSUP.

2nd March 2004 – The Nairobi City Hall (NCH) was engulfed in flames the day before the corruption files on the NCC were to be issued

President Kibaki's anti-corruption campaign targeted the NCC. Several investigations in 2003-2004 put the NCC at liability for corruption. One case against the NCC was the misuse of funds for an infrastructure programme to build roads (Njeru, Mwaniki and Mugonyi, 2004). The Efficiency Monitoring Unit and the Minister of Local Government, were also investigating the NCC for mismanagement of funds (Otieno, 2004). The NCC were at risk of becoming disbanded. The investigative reports were to be issued on 2nd March 2004, but the City Hall caught fire on the same date. A century's worth of invaluable documents was lost in the fire and delayed all development of the capital city.

March 2004 - Civil rights groups, the Pope and President Kibaki condemned the force evictions

Human rights groups, and communication between Pope John Paul II and President Kibaki, halted Raila's eviction process. The evictions were disobeying international human rights law on forced evictions. The banning of illegal evictions was supported by Kenya's membership to the International Covenant on Economic, Social, and Cultural Rights (ICESCR) in 1972 (UN, 1976; Ehresmann, 2004). The Kibera community's concern and anxiety for the SSUP increased.

2004 - The Participatory Urban Appraisal (PUA) was published

The Participatory Urban Appraisal (PUA) surveyed each of the twelve villages in Kibera to study the conditions of the people living and working in Kibera (UN-Habitat, 2004). The process used a community-participation approach to reinvigorate the community involvement in KENSUP (MacDonald, 2014). In Soweto East, 153 residents participated in the PUA, with 29 contributing to a subsequent stakeholders' workshop. The report discussed the history of the community, development goals, priority problems and needs, and recommendations for action (Meredith and MacDonald, 2017). The PUA also identifies what the community could contribute to the SSUP.

May 2004 - The National Housing Policy gets revised by the GoK

The National Housing Policy was revised in 2004, 37 years since its creation (GoK, 2004; UN-Habitat, 2014). The policy changes included addressing deteriorating housing conditions and the shortage in housing, offering a right to housing by developing low and middle-income housing units in the urban areas, improving the state of informal settlements, and encouraging rental housing construction. This policy aimed to energise the annual production of 150,000-300,000 housing units to reduce the housing deficit in the urban and rural areas of Kenya (Agayi and Sağ, 2020). The Ministry of Housing created the Slum Upgrading Department (SUD) to specifically address the issue of informal settlements and strengthen the commitment of the Ministry of Finance to KENSUP (Fernandez and Calas, 2011).

The upgrading of informal settlements was given a high priority causing informal settlement programs to align their goals with the National Housing Policy. The policy stated that displacement of residents for construction was to be kept minimal, with appropriate compensation for displaced persons where necessary (Ndukui, 2013). Other statutory conditions were the security of land tenure, provision of basic infrastructural facilities and services, improvement of housing structure and the socio-economic status of the target community. The government was to facilitate informal settlement upgrading through “*an integrated institutional framework that accommodates participatory approaches involving relevant stakeholders, particularly the benefiting communities, while enhancing coordination at the national level*” (GoK, 2004, p. 12; Ndukui, 2013).

October 2004 The creation of the Settlement Executive Committee (SEC)

The Ministry of Lands and Housing created the Settlement Executive Committee (SEC) for any village undergoing KENSUP (Meredith and MacDonald, 2017). The SEC was an institution at the community level charged with the responsibility for community participation in the informal settlement upgrading initiatives. It was the link between the project implementing agency and the beneficiaries. The SEC was composed of 15-17 elected representatives drawn from different stakeholders, who’s responsibility is to bring forth the issues of each interest group (Ogundele, 2014; Schramm, 2017). All SEC members were elected every two years and have a four-year term after which another stakeholder election will be called. However, members would remain in their position for over ten years. The SEC was reportedly engaged in fraud, undermined their elections by assigning positions to themselves and helped non-kiberan residents and state officials to purchase housing units (Fernandez and Calas, 2011; Schramm, 2017). The SEC is reported to discourage it’s own member who refused

to do the aforementioned activities (Schramm, 2017). Residents also complained about the SEC being absent in meetings and lacking communication between the affected community and the stakeholders in charge of the Implementation Phase (Fernandez and Calas, 2011; Achungo, 2014).

1st November 2004 - The MSSG and JPPT agreed that a comprehensive informal settlement upgrading strategy is urgently required

The MSSG and JPPT strategy was to serve as a road map and guide in the Implementation Phase (UN-Habitat, 2014)

2004 - A new relocation site in Lang'ata was decided to replace Athi river

The availability of public land (two hectares) situated across the settlement in Lang'ata , was donated to the Ministry of Housing through the Ministry of Home Affairs (Fernandez and Calas, 2011). The land is to be used for a temporary relocation for Kiberan residents.

The location received a mixed review from the Kiberan community. Some residents were relieved to have a choice to relocate to Athi River or Lang'ata. In contrast, residents in Soweto East were concerned that their opinion about the design and location of the site was never considered (Fernandez and Calas, 2011). Other worries were the unit's cost of living and the area being too far from schools for their children and businesses (M'Rabu, 2004).

2004 - Physical and Socio-Economic mapping of Kibera

The physical mapping process produced a digitised base map of Kibera including aerial photos showing the physical features of the 12 villages. Specifically, the housing structures and their ownership, use and type (e.g., permanent or temporary) (KNCHR, 2015).

Socio-economic mapping of the whole settlement was completed. An Actors (Stakeholder) Survey documented the various actors in the 12 villages in Kibera. Numerous meetings with communities gained their support in KENSUP.

2005 - The GoK developed the finance and implementation plan for 2005 -2020

The GoK selected this time frame in line with the MDGs (GoK, 2005; UN-Habitat, 2007).

2005 – The division of Soweto East into four zones

The Ministry of Lands subdivided the Soweto East village into zones A, B, C and D In 2005, Kibera Soweto East had a population of 19,318 (comprising of 16,899 tenants and 2,419

structure-owners) (Mwau, 2013; KNCHR, 2015). The first area scheduled for development was Zone A, with a total of 6,377 residents. The reason for the division was to facilitate the Implementation Phase which included enumeration (explained in the next heading) (KNCHR, 2015).

2005 - The planning for an enumeration process to create the Master Registry of Soweto East residents

The Ministry of Lands and Physical Planning planned to create a list of beneficiaries who were entitled to new housing from the KENSUP. This activity became the enumeration process which took three months to complete. It was designed to be participatory with residents and other stakeholders (KNCHR, 2015).

All houses in Zone A were numbered, and all registered residents were given unique identification cards (Enumeration cards). The card would allow holders to temporarily occupy apartments in Lang'ata for two and a half years. People who moved to Kibera after enumeration were not given rights to the new housing units. Some community members complained about not being on the list of beneficiaries, fraudulent registration, and cards being duplicated (Fernandez and Calas, 2011; Mitra *et al.*, 2017).

The Ministry of Lands, Housing, and Urban Development (MoLHU) facilitated the enumeration process of the entire village. The process provided information on the village's physical characteristics and demographics, which would be used in the preparations for the decanting site and development of Soweto East's Master Plan for the population following decanting (KNCHR, 2015).

2005 -The establishment of the Global Slum Upgrading Facility (SUF)

The Slum Upgrading Facility (SUF) was created to manage the financial responsibilities in UN-Habitat, including their role in the KENSUP (UN-Habitat, 2008b). The SUF comprises a small team of specialists in international and domestic financial institutions and financing models.

2005 -The creation of Cooperatives in Kenya's informal settlements

The MoLHU created cooperatives to help residents raise the 10% deposit for new houses (Ogundele, 2014). Twenty housing cooperatives were formed and registered in KENSUP's project areas. Residents in Soweto East began using cooperatives to save for their apartments.

In 2006, registration cost members 20 KSh (approx. €0.17), but to be a contributing member of the cooperative, residents had to purchase at least four shares at 100 KSh (approx. €1) each (Ogundele, 2014). The Cooperative Society Act of Kenya ensured that registration was voluntary, acknowledging that not all people want to buy apartments (GoK, 2010).

2005 – The GoK issued a tenancy agreement for living in the decanting site

The government issued a tenancy agreement with all enumerated residents from Soweto East Zone A. The agreement highlighted the rules to be followed while living within the decanting site. Under this agreement, residents had limited control over alterations to the apartment's physical environment and must keep the unit maintained (Meredith and MacDonald, 2017). Other rules in the agreement were limitations on electricity and water use (Meredith and MacDonald, 2017). Once the houses and related infrastructure were ready for occupation, all residents had to move back to the Soweto East Zone A.

September 2006 - A Communication action plan is recommended for the KENSUP

A report is published recommending that KENSUP needs a communication action plan. The report stated that stakeholders are still confused about implementing the SSUP. The report claimed KENSUP was too “*politicised*”, and the cause of local resistance was due to misinformation, propaganda, and the history of poor informal settlement upgrading (Handa, 2006). Stakeholders were also confused about whether the KENSUP aimed to build new homes or resolve the homeownership issue. The report also offered a communication strategy linking institutions with community stakeholders.

2007-2008 - Election Violence in Kibera

Outbreaks of violence in Kibera and other settlements of Nairobi began in the wake of the 2007 elections. The outbreak started when the presidential candidate, Raila Odinga, promised rent controls in response to rents increasing due to the KENSUP (Schramm, 2017). The rent rates were reduced during the land-tenant conflict due to the 2007/08 election violence.

2007 - Arguments over the decision to design the decanting rooms for sub-letting and new homes in Soweto East

The apartments for the decanting were designed knowing that some rooms would be sublet. Subletting would allow people to generate income to pay the rent of the decanting site and to

save money for the rent-to-buy scheme of the housing in Zone A. However, no sustainable financing mechanisms were in place.

There was also a disagreement over the design of the apartments for construction in Soweto East. A member of the MoLHU argued that the high population density of Kibera makes the design of high-rise buildings the only viable option for upgrading (Schramm, 2017). UN-Habitat members involved in the SSUP supported a modern housing design until 2008, when they argued that the design did not support the residents' livelihood.

The design process led to stakeholders agreeing that the new apartments be allocated based on affordability and not on the need for space (Ogundele, 2014). This decision meant a family of five would share a single room opposite a family of two that afforded the rent of two rooms. The KENSUP community design team intended to design large apartments but this did not become part of the final design (Schramm, 2017).

29th May 2007 – The Soweto East A Housing Cooperative Limited (SACCO) was formed

A housing cooperative was registered in each zone in Soweto East. By November 2015, the Soweto East A Housing Co-operative (SACCO) had a membership of 1,766 and 14.7 million KSh (approx. €122,800) collected for registration, share capital, savings and interest (KNCHR, 2015).

2008 - The cost for purchasing new builds was set

The purchasing for new builds was set as follows:

- Two bedroom- 900 000 KSh (approx. €7,500)
- One bedroom-600 000 KSh (approx. €5,000)
- Single room – 400 000 KSh (approx. €3,300)
- Five shops were to be located on-site at a rent of 1500 KSh (approx. €12) per month (Ogundele, 2014).

Previous shop owners in Soweto East had a right to have a shop on the new site. However, the GoK imposed the house-purchase option, but residents demanded to be allowed to choose between renting and buying a new build. Residents also contested how prices of the houses were determined, and their limited consultation in the pricing process.

May 2008 – The announcement of the relocation site nearing completion

The decanting site was nearly completed, and a strategy for identifying and relocating persons from Soweto East had been finalised and was ready for implementation by a relocation committee. The construction is to have 600 apartments in seventeen five-storey buildings. The GOK acknowledged that the decanting site was not cost-effective during the Implementation Phase because of price increases by contractors (UN-Habitat, 2014).

2008 - The GoK launched Vision 2030

The Vision 2030 policy was created in response to the increasing national population, migration, and globalisation. The policy aimed to build a society that “*relishes equitable social development and lives in a clean and safe environment*” (Agayi and Sağ, 2020, p. 183). The policy mentions an “adequately and decently” housed nation in a sustainable environment by 2020 (Agayi and Sağ, 2020). Vision 2030 replaced Nairobi’s Master Plan and Nairobi’s Urban Growth Planning Strategy, written in 1973 and 1948, respectively .

The Ministry of Nairobi Metropolitan Development also released the “*Nairobi Metro 2030: A World Class African Metropolis*” to develop an effective, sustainable city planning strategy, including the goal of improving informal settlements (GoK, 2008).

2008 -Physical Mapping of Kibera continues

The Physical mapping process was undertaken by UN-Habitat in collaboration with the Ministry of Lands and Physical Planning (UN-Habitat, 2008b).

June 2009 - Amnesty International and UN-Habitat published documents questioning the housing process

Amnesty International questioned the KENSUP Secretariat, believing they did not develop guidelines to identify “*exactly who are the vulnerable categories of people and how to ensure they are not excluded from the project*” (Amnesty International, 2009, p. 25). The organisation reported that locals’ feared any corruption in the programme would prevent them from being allocated housing and unable to pay for the new house. The local’s desire to build their own homes rather than being relocated was also discussed in the report.

August 2009 – A court case on land ownership (Petition No. 498 of 2009)

The construction on the vacated site was to start immediately but was halted by the High Court in Petition No. 498 of 2009 (The High Court of Kenya, 2015b). Eighty-three individuals

claimed to own the land and structures in the area and refused the demolition process until they were compensated.

September 2009 - UN-Habitat interviewed people in SE about the relocation process some days before it was implemented

UN-Habitat decided to interview 250 families in Soweto East a few days before the relocation. Half of the interviewees believed the relocation should be avoided or minimised so they won't lose their social networks and pay the extra cost to travel to work (Fernandez and Calas, 2011; Achungo, 2014)r.

15th September 2009 -A GoK press release informs residents of Soweto East Zone A residents that they are being relocated the next day

The GOK issued a press release announcing that Kibera-Soweto East Zone A residents will be relocating to the Lang'ata Decanting Site on 16th September, 2009 (East African Standard, 2004). The now Prime Minister, Raila Odinga is to officiate the relocation launch. Residents on the Master Register were not consulted before they received the notice.

16th September 2009 – The unloading of Soweto East's residents at the decanting site

Out of the 6,288 residents of the Soweto East Zone A, 5,000 people (1,200 households) were relocated to Lang'ata (Agayi and Sağ, 2020). All residents of the decanting site were required to be former residents of Soweto East Zone A and to present their enumeration cards to the relocation committee. Residents relocated to Langata experienced a disruption in their access to information and networks (Achungo, 2014; Mitra *et al.*, 2017). Tenants who refused to be relocated to avoid paying a higher rent were offered relocation to Zones B, C or D of Soweto East (Fernandez and Calas, 2011).

2009 – The decanting rent level rises

After relocating to the decanting site, some residents had an improved quality of life but an increased cost of living. Tenants were to pay rent by the 10th of every month without fail. The rent ranged from 1000 KSh - 3,000 KSh (approx. €8-25) per month. Under the tenancy agreement, the rent included living expenses such as electricity (300KSh (approx. €2.5)) and water (200KSh (approx. €1.6)) (Ogundele, 2014). The rent was high for most residents who were used to paying an average of 600 KSh (approx. €5) per month for a room in Kibera.

2009 – The Housing Ministry allows decanting rooms to be sub-let to family members

The Housing Ministry approved residents to sub-let each of the three rooms to different families who must share any additional services (e.g. kitchen, bathroom and veranda). Each of the families that rented out such a room must pay rent directly to the representative of the Ministry of Housing whose office was located at the entrance to the site. In this case, the rent for each sublet room amounted to 1,000 KSh (approx. €8) per month (Fernandez and Calas, 2011).

2009 - Community tensions in decanting site

There were re-occurring conflicts with residents sharing an apartment. Most issues were about sharing common spaces and/or activities that would occur within an individual unit in an apartment, such as drug use, bathroom prostitution, sexual harassment, witchcraft, and the manufacturing of illicit brews (Ogundele, 2014).

2009 - The creation of Kiosks in and around decanting site

A lack of land for economic activities on the site caused open spaces between the buildings to be occupied by kiosks (Ogundele, 2014). In many cases, the veranda of the apartments on the ground floor was used to sell products. Individuals set up businesses in the decanting site to transport people back and forth from Soweto East. However, the kiosks found selling to people in Langata who preferred the local shopping centres challenging (Mitra *et al.*, 2017). At this time, SEC members were negotiating with the Ministry of Housing for permission to install temporary kiosks within the decanting site.

2010 – Residents were trading enumeration cards

The enumeration process was unsuccessful on account that state actors and residents of Kibera were trading enumeration cards (Schramm, 2017).

2011 – An increase in costs for informal settlement upgrading

The SPIU stated that poor sanitation and drainage systems were increasing the cost of the informal settlements upgrading projects. The terrain of Kibera was uneven and rocky, which increased the price to excavate and level the land (Ochieng, 2011). The arrangement of informal houses and narrow alleys disrupted the logistics for materials.

2011 – An increase in awareness of informal settlement upgrading

Residents believe that the awareness for informal settlement upgrading increased through self-help groups, youth groups and support from Maji Na Ufanisi and housing cooperatives (Ochieng, 2011). However, there are still residents who remarked on the limited community participation (Ochieng, 2011).

June 2011- The Initiation of Kenya Informal Settlement Improvement Programme (KISIP)

The Kenya Informal Settlement Improvement Programme (KISIP) was an initiative started by the GoK in collaboration with the World Bank, SIDA and French Agency for Development (AFD) (World Bank, 2011; Anderson and Mwelu, 2013). It focuses on improving living conditions in existing informal settlements by investing in infrastructure and strengthening tenure security. It also supports the Government of Kenya in planning for future urban growth in a manner that prevents the emergence of new informal settlements. The programme is implemented in fifteen towns within five years from June 2011 at the cost of USD 165 million. The programme beneficiaries are 1.6 million households living in informal settlements (5.3 million residents) by 2020 (World Bank, 2011; Anderson and Mwelu, 2013).

2011 – The installation of pre-paid electricity units in decanting site

The electricity bills were included in the rent, but a pre-paid system was installed after excessive electricity consumption by some households (Schramm, 2017).

2011 – The creation of the Kenya National Commission on Human Rights Act 2011

The Kenya National Commission on Human Rights (KNCHR) is an Independent National Human Rights Institution established under article 59 of the Constitution and operationalised under the Human Rights Act, 2011 (National Council For Law Reporting, 2010; KNCHR, 2015).

5th December 2011 – The Court dismissed Petition No. 498 of 2009

Petition No. 498 of 2009 is dismissed by the High Court in favour of the government (The High Court of Kenya, 2015b). Despite this court decision, the owners continue to rent out empty houses to pressure the GoK for compensation (KNCHR, 2015). By this time, the abandoned SE zone A was being re-occupied by people. The project was reported to be one year behind schedule.

2011 - Sub-letting in decanting site

The sub-letting of rooms to family members within the decanting site was part of the KENSUP housing approach (Schramm, 2017). However, most residents decided to sublet their rooms or the entire apartments to non-family members while moving to another informal village in Kibera (Kvarbstrom, 2014).

2011 - Pricing of New Builds becomes unaffordable to residents resulting in a price change

The community and the Ministry of Land, Housing and Urban Development had a series of price negotiations (KNCHR, 2015). The mortgage of the apartments was set to 3% through a payment period of 25 years (KNCHR, 2015). The new pricing is an increase from the saving goals announced in 2008. The negotiated purchasing prices were;

- Three bedroom unit - 1.3 million KSh (approx. €10,800)
- Two bedroom unit - 1 million KSh (approx. €8,300)
- Single roomed unit - 600,000 KSh (approx. €5,000)
- A kiosk - 326,000 KSh (approx. €2,724) (Mitra *et al.*, 2017).

12th January 2012 - The court approves the clearance of the site for the new structures,

The clearance of the site of the new apartments began with the court's approval. The site was being excavated by both manual labour (for the topsoil) and machines (for the rock). There was some fear of gentrification and isolation from the Soweto East community (UN-Habitat, 2014).

6th March 2012- The construction of the new apartments begins

A private contractor carried out the construction at the cost of 2.9 billion. KSh (approx. €24.2 million) (UN-Habitat, 2014). The labour is mainly carried out manually, with machines to assist in further excavation, concrete casting and lifting of material. The project was built on 10.6 acres to accommodate 822 housing units, from which 144 were three-roomed, 570 were two-roomed, and 108 were one-roomed (KNCHR, 2015; Agayi and Sağ, 2020). The construction included 239-245 kiosks, one youth centre, a social hall, and parking areas.

2012 - The creation of the National Informal settlement Upgrading and Prevention Policy (NSSUP)

The Ministry of Housing initiated the development of the National Informal settlement Upgrading and Prevention Policy. The policy aimed to transform informal settlements into

more liveable environments (GoK, 2013, 2016a). The process focused on a collaborative approach with all stakeholders to ensure it obeyed the Kenya Constitution (Ndukui, 2013).

2013 - The release of the NSUPP

The NSUPP addressed surrounding housing, such as housing quality, security of tenure and its regularisation, planning and development control (GoK, 2013, 2016a; Agayi and Sağ, 2020).

2013 - UN renew MDG

The United Nations asked members to renew their commitment to achieving the Millennium Development Goals in an effort to meet deadline of 2015 (Ogundele, 2014).

April 2014 – A Steering Committee and Sub-Committee were created to oversee the allocation and re-settlement process

The Steering Committee formed three working sub-committees to oversee the various aspects of this process. These sub-committees were the Vetting, the Allocation, and the Grievance Sub-Committees (KNCHR, 2015).

8th July 2014 Selection process of potential beneficiaries

The Steering committee issued 1,591 forms to potential beneficiaries to apply for the houses and indicate their housing unit choice (KNCHR, 2015). By the closing date of 31st July 2014, 1,500 individuals returned their application forms (KNCHR, 2015).

August 2014 - The Steering Committee completed the allocation criteria

Notifications to interested applicants for house ownership were open to all residents at the decanting site.

August 2014 - Waste Management funding ended

The supply of water in the decanting site was cut as the government had not paid water bills and accumulated arrears of 39,500 USD (Schramm, 2017). The sewage system had blocked pipes and flowed openly throughout the buildings. Solid waste would later scatter between the buildings, as the government has stopped paying the youth group in charge of waste management (Mitra *et al.*, 2017; Schramm, 2017).

2014 – The construction of the apartments was delayed due to an NGO dispute over school access

The construction and allocation process was interrupted when an NGO in charge of some schools refused to relocate from SE. The government offered temporary space in Zone B, but the NGO denied the offer. The situation was believed to result from governmental corruption within the SEC (Kvarbstrom, 2014). Another claim is that the NGO acted for its own benefit rather than the local community because it received funds for the school's operation (Kvarbstrom, 2014).

25th May 2015 - Gok issued a notice for a physical verification process of Soweto East housing applicants

The GoK issued a notice to all applicants to attend a physical verification exercise. A vetting team drawn from the GoK, SACCO, and the SEC was set up to oversee the vetting process (KNCHR, 2015).

June 15th – 19th 2015 - The verification process was conducted by the vetting team

In this vetting exercise, the vetting team was guided by the agreed house allocation criteria. The applicants were required to provide proof of identity, the amount saved in their cooperative, the last receipt of rent payment, and the house allocation letter (KNCHR, 2015). A total of 698 applicants were found to be compliant for their choice of bedroom (KNCHR, 2015). However, 109 applicants had not paid the 10 % deposit for the three-roomed unit but met the minimum required deposit for a two roomed unit, and where often this room as an alternative (KNCHR, 2015).

17th July 2015 – Petition no. 304 of 2015 against the enumeration and allocation process scheduled for 21st July

A petition was filed before the High Court's Constitutional and Human Rights Division in Nairobi. The leading petitioner, Mr David Ngige Tharau, and 128 other petitioners would be going against the GoK, with the SACCO acting as an interested party (KNCHR, 2015; The High Court of Kenya, 2015a). The petition demanded a stop to the allocation process scheduled for 21st July 2015 and to conduct a vetting process for these residents (KNCHR, 2015).

January 2016- Soweto East Zone A housing deficit stands at 6,411 units

The Ministry of lands had committed to building at least 7,233 housing units for SE Zone A. At this time, Zone A had a deficit of 6,411 units. It was estimated to take 8 years to eradicate the deficit and a demand of 822 units to be built annually to complete Zone A (KNCHR, 2015).

5th January 2016 - KNCHR oversees the allocation of the new apartments for Soweto East's residents

After Petition No 304 was reviewed by court officials, the KNCHR was ordered by the court to take charge of housing allocation for Kibera Soweto East Zone A residents (KNCHR, 2015). This order caused the organisation to halt all other work for three months to focus, engage and resolve the allocation process. On 12th January, the GoK notified KNCHR of the court order. A meeting with SEC and SACCO shortly follows to discuss the court order (KNCHR, 2015).

29th January 2016 – The GoK officially handover the responsibility for the allocation process to the KNCHR

After the engagements with the GoK, SEC and the SACCO, the KNCHR took over the leadership from the GoK to oversee the housing allocation (KNCHR, 2015).

February 2016 - Complaints from Soweto East's residents were received by the Commission and Grievances sub-committee

The Commission received complaints through the Complaints and Investigation Department. All complaints were listened to individually, and responses were allegedly given to all. The Commission received a total of 180 individual complaints. Some complaints focused on the enumeration process and Master Register (KNCHR, 2015). The complaints addressed scenarios of deceased, ill or disabled registered beneficiaries. The KNCHR's complaints and grievances team received a total of 158 single and grouped complaints on the same mentioned issues (KNCHR, 2015). The KNCHR created administrative forms to enable proxies to ballot on behalf of the deceased and the absentee beneficiaries and to help those with special and vulnerable interests (KNCHR, 2015).

February 2016 – The creation of an Inter-Agency Technical Working Group (IATWG)

The meetings between the KNCHR, the GoK, SEC, SACCO led to refined allocation criteria. The IATWG was established to guide the High Court's order and was comprised of at least two representatives from the stakeholders mentioned above (KNCHR, 2015). The IATWG identified genuine beneficiaries from the allocation criteria. The IATWG discovered that 697 residents were eligible for a new build (KNCHR, 2015). However, there were 624 units built at this time. Representatives from the Ethics and Anti-Corruption Commission and National Registration Bureau were also briefed on the process and invited to the meetings. One general

meeting was created by the SACCO, for all members to update the members of the court order and the role of KNCHR in the housing allocation process (KNCHR, 2015).

At these meetings, it was agreed that a minimum of a 14 day public notice would be issued before balloting and allocation.

23rd February 2016 - The creation of the Post Judgment Implementation Framework (PJIF)

The KNCHR, in consultation with the other parties, developed a Post Judgment Implementation Framework (PJIF) (KNCHR, 2015). The PJIF ensured that there was total commitment and understanding of the implementation of the High Court order. The PJIF also created a timeline allowing stakeholders to monitor all tasks (KNCHR, 2015).

2016 - KNCHR recommend a twenty-five year no sale period of new apartments and transfer conditions

KNCHR advised the GoK to create a protection mechanism with the mortgage agreements on sale or transfer (KNCHR, 2015). The mechanism was to prevent any illegitimate people from receiving a home. One recommendation was a no transfer or sale of the house for twenty-five years. However, a transfer to the other family members on Master Register would be accepted.

14th March 2016 - Picketing over KNCHR building administrative linkages

Around 70 members of the Soweto Residents Forum (SRF) protested outside the KNCHR Offices, Nairobi. The KNCHR held a meeting with twelve group representatives while the rest of the demonstrators waited outside. The picketers were dissatisfied with KNCHR's responses to their complaints. The KNCHR reiterated that it could not re-open the issues of the enumeration process that had already been reviewed by the High Court and that its role was restricted to overseeing the house allocation process (KNCHR, 2015).

22nd March 2016 - Balloting and allocation exercise at Nyayo Stadium

The balloting and allocation at Nyayo Stadium was a success, with a strong media coverage of the event, but there were several challenges. The information in the Master register was twelve years old and did not account for any changes to the registered residents during this period. The exercise identified issues in “*double allocation*” (due to marriage or siblings) who were interviewed before signing a waiver document that prevented anyone benefiting twice from the

project (KNCHR, 2015). Some attendants were part of the Railway Housing Project (RHP) and KENSUP, and had to sign a Letter of Offer for only one of the projects.

31st March 2016- The moving into Soweto East's new apartments

A total of 822 housing units were completed, and residents began the moving-in process.

5th May 2016 – An official handover of housing to residents and the announcement of re-development of zone B

A formal official handing-over ceremony occurred at the new apartments' site. The Executive Director of UN-Habitat, Dr Joan Clos, said his office would support Phase B and want it to be scaled up and completed in a short period (KNCHR, 2015). The GoK also announced the commencement of the re-development of Soweto Zone B houses.

November 2019- Phase two of KENSUP begins

Phase two begins and was to target 3000- 4,335 housing units at a cost of 6.5 billion KSH (approx. €54.4 million) (Agayi and Sağ, 2020). The price for the rooms was set as;

- Three bedroom unit - 1.8 million KSh (approx. €15,00)
- Two bedroom unit – 1.2 million KSh (approx. €10,000)
- Single roomed unit – 720,000KSh (approx. €6,000) (Mandela, 2021).

Appendix F

Further details on the Government, Organisation, Community and Infrastructure Regimes

The government regime stakeholders

Nairobi City Council (NCC): The Nairobi City Council (NCC) was the leading project implementer for the Soweto East housing project. It was directly responsible for facilitating the formation of the Settlement Project Implementation Units (SPIUs) in Kibera-Soweto (Ehresmann, 2004).

Settlement Project Implementation Unit (SPIU): UN-Habitat and the GoK co-created the Settlement Project Implementation Unit (SPIU) as part of the official KENSUP institutional structure to act as the central mechanism to involve the Kibera-Soweto community in the housing project (Ehresmann, 2004). The SPIU was established to support and to educate Kibera-Soweto residents throughout the KENSUP. Selected representatives from the Kibera-Soweto community were elected as representatives (UN-Habitat, 2013). They identified all settlement stakeholders in their community and project needs. The SPIUs communicated with the PIU and Programme Secretariat.

Project Implementation Unit (PIU): Based in the Nairobi City Council (NCC) Housing Development Department. The PIU supported the objective of the SPIU as the primary implementation body (Anderson and Mwelu, 2013).

Joint Project Planning Team (JPPT): The Joint Project Planning Team (JPPT) was formed to lead the KENSUP with an “aggressive consultative process of stakeholders” until further institutional structuring was developed (Ehresmann, 2004; MSSG, 2011). The team comprised NGOs, CBOs, the government, the private sector, NCC, and development partners. It defined the scope of the KENSUP through the preparation of schedules, proposals, and budgets.

The Inter-Agency Steering Committee (IASC): This group provided additional guidance, facilitation and support to the Programme. It will specifically advise the two head executives of the KENSUP, the Minister of Housing, Raila Odinga, and the Executive Director of UN-Habitat, Anna Tibaijuka (Ehresmann, 2004).

Physical Planning Department of the Ministry of Lands: The department leads the enumeration process of Soweto East Zone A.

Inter-Agency Technical Working Group (IATWG): The IATWG was established after a court order on the allocation of housing for Soweto East's residents. The IATWG generated the provisional list of residents for the new build for official approval (KNCHR, 2015).

The Informal Settlement Upgrading Department (SUD): The SUD operated within the Ministry of Housing was created to specifically address the issue of informal settlements, strengthened by the commitment of this Ministry to Finance KENSUP (Makachia, 2011).

Cooperative Bank of Kenya: The head cooperative managed KENSUP cooperatives. Residents who choose to become homeowners for the new builds gave their payments weekly to the Cooperative Bank of Kenya (Fernandez and Calas, 2011).

Courts and law facilitators

The High Court of Kenya: The high court of Kenya has jurisdiction in amending all criminal and civil matters. The high court's role in KENSUP was to issue court orders for each filed petition that disputed the project (KNCHR, 2015).

The Kenya National Commission on Human Rights (KNCHR): The Kenya National Commission on Human Rights (KNCHR) is an Independent National Human Rights Institution established under article 59 of the Constitution and operationalised under the Human Rights Act, 2011 (KNCHR, 2015). It became involved in KENSUP after a court order for the fair allocation of housing to Soweto East's residents.

Chiefs and Elders

Across Kibera, governing officers, educational officers, and local chiefs create the governing structure. Local chiefs would issue land in a letter or verbally to its occupants.

The organisation regime stakeholders

Community-based Organisations (CBOs)

Kibera Community Development Agenda (KCODA): The KCODA community organisation (comprised of Kiberan youth) emerged during an information vacuum created by the GoK. KCODA created the Kiberan, a local newspaper created in response to the lack of communication between KENSUP's senior stakeholders and Kibera's community (Ehresmann, 2004).

Faith-based Organisations (FBOs)

Christ the King Church: This Faith Based Organisation located in Kibera, consulted with members of UN-Habitat for information during the preparatory phase of Kibera. The organisation relayed any information to its community and organisation network (Ehresmann, 2004).

Non Governmental Organisations

The Shelter Forum and Kituo cha Sheria: These two NGOs were and continue to be highly involved with community groups, churches, and residents in Kibera. The Shelter Forum was a Joint Project Planning Team (JPPT) member. They were involved in the Soweto East housing upgrade.

Cities Alliance: Cities Alliance was a joint initiative between UN-Habitat and the World Bank, including ten donors comprised of international bilateral agencies (Ehresmann, 2004). Included were donor agencies from Canada, France, Germany, Italy, Japan, the Netherlands, Norway, Sweden, the United Kingdom, and the United States (Ehresmann, 2004). The alliance provided funding for KENSUP since its preparatory phase.

French Agency for Development (AFD): The AFD's mission statement is to “*fund, support and accelerate the transition to a fairer and more sustainable world*” (AFD, 2022). They continue to be the leading funder and partner of the KISIP (Solymári *et al.*, 2021).

Global Informal settlement Upgrading Facility (SUF): The Informal global settlement Upgrading Facility (SUF) was designed to “*mobilise domestic capital for urban upgrading activities*” (UN-Habitat, 2008b, p. 23). The SUF assist locally-led projects to gain interests and investment from SUF's network of international donors. The SUF role in the KENSUP was to manage housing finance issues and develop UN-Habitat's financing strategy for KENSUP (UN-Habitat, 2008b).

Swedish International Development Cooperation Agency (SIDA): SIDA provided funds for KENSUP to build up local capacity and became the main funder and partner of KISIP (UN-Habitat, 2014).

The community regime stakeholders

Soweto Residents Forum (SRF): The Soweto Residents Forum (SRF) is a community-led group from Kibera. Most of the members resided in the decanting site but didn't comply and therefore missed out on the initial ballot and house allocation process. They filed complaints about their mistreatment in the allocation process and conditions at the decanting site (KNCHR, 2015)

Block representative: A block representative is a democratically elected individual that voluntarily represents the interests of the residential block in which they reside. The block representatives have the most frequent and consistent contact with the residents in the building. Residents contact their block representatives if there are any issues with their physical problems with their unit. The block representative is also viewed as a mediator who interjects when there is a conflict between neighbours.






The infrastructure regime stakeholders

Kenya Railway Authority: The railway authority oversaw the expansion of the Ugandan railway line, which passed through Soweto East. (Mitra *et al.*, 2017). The railway line passing through Kibera is at the same time one of the largest marketplaces of the settlement and a pedestrian walkway. Residents would be relocated and offered new accommodation, which became the Nairobi Railway Relocation Action Plan. The project only recorded an impact on KENSUP residents seeking double accommodation from the railway project and KENSUP (KNCHR, 2015).

Appendix G

An explanation on the type of changes/shocks to a system as part of step ten of the methodology

Table 38. The type of shocks to a system adapted from (Suarez and Oliva, 2005)

Type of change/shock	Characteristics	Frequency (Number of disturbances over time)	Amplitude (Deviation from initial conditions)	Speed (Rate of change of disturbance)	Scope (Number of levels affected)	Diagram
Regular	Gradual/regular change	Low	Low	Low	Low	
Hyper-turbulence	Change occurs in one level. e.g competition in a regime.	High	Low	High	Low	
Specific shock	<ul style="list-style-type: none"> • Rare occurrence • Can cause a structural stepwise change or restore system to original conditions. 	Low	High	High	Low	
Disruptive	<ul style="list-style-type: none"> • Infrequent occurrence • Gradual development • affects a regime (s) 	Low	High	Low	Low	
Avalanche	<ul style="list-style-type: none"> • Infrequent occurrence • Affects landscape and regimes 	Low	High	High	High	

Appendix H

The communication strategy as applied in step thirteen of the methodology

There are four communication approaches depending on participants matching specified criteria. The four approaches and their criteria are as follows:

Email:

- Used when 1-3 questions need to be asked
- Used to clarify/confirm statements from documents, gain more information, or a perspective.
- Access to documents or participants.
- Participant's do not require a discussion or interview for the following reasons:
 - Limited involvement or knowledge of scenario
 - Creates unnecessary data if interviewed
- Information may be off-the-record. However, a consent form will be emailed to them if their information is used in the final thesis.

Discussion:

- Used when several questions (4+) need to be asked on information obtained from documents or the participant's profile.
- Participants that do not meet the interview criteria but should be contacted for information to support the research. For example, experts on a particular methodology or topic.
- Information is off the record, and the discussion is not recorded. However, notes on the discussion may be written during or after as a summary/reminder on the topics discussed. The information will not undergo an analysis
- A consent form will be emailed to them if their information is used in the final thesis, or they may be asked for an interview.

Appendix I

The disrupted information leaflet and survey to research participants

Student researcher: Mr. Tiernan Brennan

Supervisors: Dr. Stephen Tiernan and Dr. Gerard Ryder,

Study title: Housing in Kibera's Soweto East informal settlement, Kenya: A socio-technical evaluation

Description of study

The research aim is to create a Socio-technical Evaluation (STE) for housing development in Soweto East, Kibera. The study is evaluating the completion of high-rise buildings in Soweto East zone A from the Kenya Slum Upgrading Programme (KENSUP). The evaluation takes a cross-disciplinary perspective on events. Therefore, you have met the criteria to participate in this study by having knowledge, experience, or a unique view of events from the upgrading process.

Confidentiality of information

Will your participation in the study be kept confidential? Yes. The researcher will ensure that no clues to your identity appear in the thesis. Any extracts from what you say that are quoted in the thesis will be entirely anonymous. An option to remain anonymous is offered to you on the consent form.

What will happen to the information which you give? The data from the survey will be kept confidential for the duration of the study. On completion of the thesis, the data will be retained for a further five years in a secure environment and then destroyed as required by the University Data Protection Policy.

What will happen to the results? The results, in an anonymised manner, will be presented in the thesis. They will be seen by my supervisors, a second marker, and the external examiner. The thesis will be available in the university library. The study may be published in an academic journal.

Voluntary participation

Do you have to take part? The answer is no! – Participation is voluntary. You have the option of withdrawing before the study commences (even if you have agreed to participate) or discontinuing after data collection has started. You are allowed to withdraw your supplied data within two weeks of participation and can request to have your data destroyed.

What are the possible disadvantages of taking part? I don't envisage any negative consequences for you in taking part. It is possible that talking about an experience in this way may cause some distress.

What if there is a problem? I will discuss with you how you found the experience.

Ethics Approval

TUD Research Ethics Committee has given its approval for this study.

Further information and how to take part

If you need any further information, you can contact me:

Tiernan Brennan Mobile: Retacted Email: tiernanbrennan96@gmail.com

If you agree to take part in the study, please sign the consent form provided.

PARTICIPANT CONSENT FORM

Housing in Kibera's Soweto East informal settlement, Kenya: A socio-technical evaluation

I have read and understood the Information Leaflet about this research project. The information has been fully explained to me and I have been able to ask questions, all of which have been answered to my satisfaction.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I understand that I don't have to participate in this study and can opt out at any time. I understand that I don't have to give a reason for opting out, and I understand that opting out won't affect myself.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I am aware of the potential risks, benefits, and alternatives to this research study.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I have been given a copy of the Information Leaflet and this completed consent form for my records.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I consent to take part in this research study, having been fully informed of the risks, benefits, and alternatives.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I give informed, explicit consent to have my data processed as part of this research study.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I consent to be contacted by researchers as part of this research study.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
I understand that my answers are my own and do not represent the views of an organisation/ department/ community I am or was a member.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Optional: I consent to have my name anonymous under the responsibility of the researcher.	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Participant Name (Block Capitals) | Participant Signature | Date

To be completed by the Principal Investigator or nominee.

I, the undersigned, have taken the time to fully explain to the above participant the nature and purpose of this study in a way that they could understand. I have explained the risks involved as well as the possible benefits. I have invited them to ask questions on any aspect of the study that concerned them.

TIERNAN BRENNAN | TUD Research Scholarship |

Name (Block Capitals) | Qualifications | Signature |
Date

Survey

Thank you for agreeing to participate in creating a socio-technical evaluation of housing in Soweto-East. Please tick only **one** box from each statement. Multiple ticks will be treated as a spoilt answer. Feel free to use the **optional** comment box below each statement to expand or clarify your opinion. Further comments can be shared at the end of the survey.

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

Further comments

Thank you for completing the survey.

Appendix J
Submitted surveys

Submission 1

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The political community on the grassroots though remained to a great part disinformed and could not veto against political decisions from the top levels. Thus, while there was political support on the top national and international level, I want to emphasize those with less opportunities to have their voices heard on the grassroots.					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: A good partnership yes, but with different ambitions of why Kibera needed an upgrade.					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Throughout the project and especially the resettlement phases were many risks of uprisings amongst the people of many diverse (and sometimes opposing tribes/ethnicities) that were suddenly housed together. Such potential uprisings that happened frequently in the past could have acted as huge spoiler to the whole project. The dissatisfaction of the citizen of Kibera and the way they could have acted on such could have also discouraged financial supporters in the belief of a renewal of Kibera as happened often during the previous attempts of upgrading during the past 90 years.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Top-down monitoring and evaluation with only sporadic attempts of inclusion of the people the upgrading was thought for. No big attempts were made to include local people into such tasks.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comment: Not merely policies but especially those ministries that could make a profit out of the upgrading(i.e. Ministry of Transport, Infrastructure, Housing and Urban Development).					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: To be fair, while big parts of the Kibra population rejected another interference in their homelands, there were obviously people who supported the upgrading. Especially when being promised during the resettlement better living standards already (even though living further from the center and transport/working possibilities).					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Recognition for the history of Kibera was existent but societal norms were secondary throughout the upgrading (i.e. Nubians (the original settlers) like to live in a shelter underneath a Mango tree that connects them to their beliefs and history and such societal standards were not calculated enough throughout the temporary and permanent resettlement)					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Had too many hiccups and residents could often not afford the living conditions for a long time and became rather landlords again as before renting out the rooms to other people.					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: It changed the sources of income and mostly geographically as 'landlordism' is further amongst the largest sources of income in Kibra.					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Few meetings were hold to spread the general information after KENSUP was decided for.					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: As long as the average Kibera resident cannot afford a room in the high-rise buildings I cannot see how the many small and quickly built shelters can be banned from the place.					

Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>Comment: Those who can afford it certainly will as long as the issues with running and clean water and general maintenance are solved as promised by the government.</p>					
Residents in Soweto East could have managed to build new housing without the KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Comment: I rather ask: would they have WANTED to build what was now built FOR them? They had not had much say in any of it and may have designed new buildings with different strategies/philosophies that fit their way of life better.</p>					

Further comments

I just want to emphasize that the information I have given through this survey rely on the knowledge I have gained mainly during the years 2019/2020. While I am still in touch with residents in Kibera and residents of greater Nairobi, I cannot say if my knowledge may be already outdated and the upgrading better accepted than to the time I used to visit and study the place. Please bear that in mind during the evaluation.

Submission 2

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

Further Comments

The participation of the SE residents came after intense lobbying from the UN habitat and eventually that's when the government joined in . Their income was curtailed in that they had small businesses where passers by could purchase stuff from due to high traffic. In the high rise buildings there were few passers by thus reduced revenue

Submission 3

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: This is hard to tell. It seemed as though everyone was extremely positive about the project but unclear about what next steps were. My research was specifically focused on the decanting site residents, which would have been from Soweto East so experiences of the decanted residents were a bit different than those left behind. Also at the time they had been relocated and the places they moved from were still standing so there was frustration.					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Those that were a part of the governance mechanism felt there was a good relationship, but to the residents it seemed as though there may be tension.					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: this was unclear to me.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: There were multiple agencies keeping checks and balances on the site. But unclear their metrics were and if it was actually happening.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: It was unclear how many people would be part of the cooperative upon returning to Soweto and who might be able to secure housing					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Unclear					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: There was strong					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

No Further Comments

Submission 4

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: the partnership situation changed over time with UN Habitat opting out after a while					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: In this general sense I am not sure this statement applies. Some stakeholders might have been uncertain about their roles.					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Agree in the sense that absentee landlords were included after a while. Otherwise now KENSUP in Kibera does not pretend to be participatory anymore					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: unsure what this means					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I am not even sure there is such a thing as a community in Soweto East.					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I am not sure what this means					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not of all residents – I heard some criticism about flat size and other issues.					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: sources of income such as renting out housing and small businesses were harmed					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: but at a very late stage and without having the chance to give feedback					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: It is an ongoing project I don't know how it will continue.					
Residents in Soweto East will adapt to living in high-rise buildings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: it is not a problem of adaptation – they could – but they will not be able to afford it.					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I am not sure about this, also depends on what they would have wanted.					

Further Comments

Please consider my article on this topic. All the best!

Submission 5

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: yes there were political support since Kenyan politics is organized ethnic networks which determine access to power, interests and agenda					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: because of poor governance, good participatory strategies, the government did not strengthen empower institutions like Settlement executive committee effectively, we are not sure if they had good partnership					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment. Due to poor governance and transparent, the project was at risk to lose support since investors were not satisfied with the process and level of honest in terms of sharing information, but since it is a government project it had good will.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: yes, the project was set up as collaborative project, but during implementation period were never monitored keenly.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: there were competing interests most of which conflict therefore					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: according to some they were never privy to aforesaid meeting and did not participate, that lead to blocks allocated to strangers					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: many residents played no role in the selection of officials					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: it did not prevent the residents to form new slums by adhering to the plan- it was expensive to many residents					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: the community engagement was done yes but not accordingly, so there were a few resistances from some residents of feared the whole process while others supported					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: because of bad governance kenya slum upgrading did not recognise the rights of urban poor					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: the structures owners did not since they feared that they would lose a big deal- ie no compensations					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: the residents gradually embraced the project, but most of them did not end up what they expected					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: a huge percentage of residents lost their business due to relocation, however a few who could afford to bribe their leaders got their business back.					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: most people did not see the designs prior because the process was not a public -driven attempts in developing designs					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: the project idea is really great, however corruption, poor management of the process and lack of clear public consultations and engagement have hurt repeated efforts by the poor resident who needed good affordable houses					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: if the slum upgrading was upgrade housing that end the housing typology rather than displacing slum dwellers who will then create new slum as middle class.					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: the hope is that the lesson learned from the process and the difficulties of post – project will help resident adapt.					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: they don't have resources.					

Further Comments

The broad idea of the Kenya slum upgrading is meant to improve the livelihood of people, the government should promote the residents with economic development to allow those low income people to stay above the poverty line so that when the government finishes building the houses , they can afford to pay.

Submission 6

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Yes, the project was led by the government and had good political support that fast-tracked the implementation process, although stakeholder issues undermined the pace of implementation.					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The partnership was good and continued even after the project.					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The project was well designed but there was inadequate consultation in respect to cost. Consequently, many of those expected to move to new housing could not afford the cost resulting in the goal of the project not being fully met.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: I do not have the details of monitoring but I know that monitoring was embedded in the project					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The project had many competing interests but the most challenging was that of structure owners who stood to lose their income. The tenants also thought the houses would be cheaper or same rent they were paying but the units ended up being almost three times the rent they were paying.					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not all stakeholders were uncertain of their roles, the Government of Kenya and the UNHABITAT were very clear of their roles.					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: As usual with projects involving relocation, many stakeholders got engaged along the way as implementation continued resulting in tensions around some issues. Of particular concern to the renters was where they would be relocated as development continued, their engagement resulted in the original relocation (was far from sources of employment of the renters) being changed from a far distance to a nearby location. The structure owners were equally dissatisfied with how they were handled.					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The project was done before Kenya developed a slum upgrading policy but was handled under special provision similar to those of upgrading and sites and service schemes.					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not all support the project					

The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I do not know which norms and beliefs is inferred in this question.					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: I do not know how the case ended					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The rents charged was not what the residents expected.					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: This depended on individuals and households and cannot be generalised.					
Residents in Soweto East were offered information on the housing design used for the KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I am not sure at what point the information on design was shared.					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Most upgrading and site and services schemes had pushed residents away as opposed to improving their units and settlements – this is often due to the increased rent due to improvements.					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Currently, the government and the city is promoting compact development so it is possible that high rise will be promoted for informal settlements. Currently low income housing supported by government are high rise.					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: I do not think those living in Soweto will mind high rise, the issue of concern is cost and affordability.					
Residents in Soweto East could have managed to build new housing without the KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Most residents are renters who are at the mercy of structure owners – the structure owners have no tenure but if they were to be given tenure, they have the potential of building new housing, but such units will not be affordable to the renters.					

Further comments

The project faced many challenges that are not different to the previous World Bank and USAID upgrading and sites and service schemes. What was experienced in the relocation area provided a good test ground of what is likely to happen in Soweto East. Those moved to the relocation area could not afford the rents and had to either rent out their units, or sublet the one bedroomed unit.

Submission 7

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: The President supported the project and local elected area leader was part of the management structure called SEC Settlement Executive committee					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The risk was there because majority of funds were from National Government and the Slum Upgrading Department often times were required to appear in parliament to justify the allocation since stakeholder engagement especially beneficiary community engagements were taking too long while MPs wanted to see the new building structures. UN- Habitat also defaulted in providing financing for 4 blocks due to changes in their organization.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Roles were very clear and spelled out.					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Due to poor history of Government slum upgrading projects prior to this one, many stakeholders mistrusted the Government. But as the project progressed and the community saw the project delivering incrementally trust was rebuilt and the interest on the project increased.					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Policies related to public participation in public projects, human rights and environmental and social safeguards helped the project					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Some community members such as the Chairman of SEC was also a member of the design team that included Government of Kenya and UN- Habitat officials. The preliminary designs were prepared under participatory design where workshops were organised within the community and the requirements were collected from the community. Community members were given an opportunity to give input as design team used a lot of visual aids. The community also signed off and approved final design which was then given to an architectural consultancy firm to actualize.					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: The high density and the agreement with the community that no one will be relocated elsewhere dictated that they be accommodated in high rise buildings. The land where the slum stood is also very prime.					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: All options were reviewed, the challenge became the practicality of doing high rise structure. An option was given through KEWLAT a UN-Habitat project for the Kibera women to build their own houses in Mavoko as a pilot if some residents preferred that option. The project failed.					

Further Comments

Being a pilot, many lessons were learnt and current approaches including not relocating the residents to a decanting site, but instead giving them rent money to rent elsewhere as well as the approach used by the Kenya Informal Settlements improvement Project funded by the WB, SIDA and AFD were all responses to the lessons learned.

Submission 8

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

No Further Comments

Submission 9

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

No Further Comments

Submission 10

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: there was at least an agreement between government and UN – but how much of the support was simply because of the money flowing in and possibilities for corruption..?					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: it seems like the whole management of the project was very poor. Whatever information came from evaluations was ignored.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: it was a complete mess					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: stakeholders in Kibera were completely ignored					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I think in principle they would support it, but the implementation of the project was so bad, that there was more criticism than support.					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: the local Kibera people were ignored					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: some information was given, but absolutely insufficient, everything was always very unclear to the locals					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: to some extent maybe, but I'm not optimistic that the rest of Kibera will follow...					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: the question is how many of the people living on the in Soweto East slum will end up (have ended up) in the flats... there have been rumours about people from outside bribing their way in and the experience from the decanting site showed that the poor slum dwellers who end up in those flats, will rent them out to richer people...					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: they wouldn't be able to get the money to build anything, without having a title deed; the Nubis did have plans to build highrise once they had a title deed, with funding from Arab countries, though even then I think it would be difficult to achieve a fair sharing of flats, with the low levels of management skills in the community, and the generally high levels of corruption in the country.					

Further Comments

I hope you'll get some filled in surveys from Kibera.. they are the ones that know a lot more than me... good luck!

Submission 11

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Agree					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Initially, it was a good partnership					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not very sure about this					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Agree					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Agree					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not sure about this					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Agree					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Agree					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Agree					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Yes, but this was later tested by people's desire for profit and money rather than a desire to move to a much better equipped home					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: I heard they did but not too sure how they approached this					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Yes					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: In some cases					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I don't think so					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: In some cases, Yes					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: That has been the goal					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Over time and with lots of pastoral care they can; it is a mindset factor.					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Very hard					

Further Comments

Thanks for the study, should you require clarifications let me know.

Submission 12

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Government initiated the project, I believe					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Believe so, but was not directly involved					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Believe so, but was not directly involved					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: I Believe so					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not sure					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not sure					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Believe so, as observed during my academic visits					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Thought so					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: They seemed engaged during my visits					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: To some extent, it was evident					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not sure					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not done POE [Post Occupancy Evaluation] yet					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Mostly, the illegal ones, brewing...					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Yes, they participated in design sessions					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not sure if true. Mostly, expectations don't talk reality					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: In the long run					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Yes, over time					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: If other enabling factors like tenure are addressed					

Further Comments

Your questions assume that I was directly involved as an implementer/designer. I was not. I only visited and was involved in the seminars by the implementers and designers occasionally. Sorry

Submission 13

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The project seemed to initially have high profile political support by the level of coverage and representation i.e. president Kibaki launching it etc. Unsure about continued political support over project life cycle.					
UN-Habitat and the Government of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: High level coverage at the time indicated this.					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Unsure of this, as I don't have close data on committed funds over project life cycle to support this.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Unsure. At research level, the information and data dwindled as the project progressed, but one could assume that the Ministry and local implementers continued to monitor the project.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Unsure about this. The goal(s) seemed to be upgrading through housing delivery. But the details of how this upgrading would commence, and impacts on residents' lives could have been communicated more clearly.					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Unsure. Better get this response from key implementers.					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:Unsure.					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Housing policies were geared to slum upgrading, but had little direction on how the policy should be implemented – which meant that a lot of experimentation had to occur where more clear guidelines could have been provided from the start.					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: this could be better answered by local residents.					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment: this could be better answered by local residents					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Little information about this was accessible to research community. The question could be better answered by residents.					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I have not accessed follow up information about residents' experiences with the high-rise building.					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Reports and research linked loss of livelihoods owing to dislocated social and community structures and networks and physical relocation from the Kibera settlement. But this should have been considered in the data and project preparation plans – limited access to project planning information hampers a deeper understanding of how project implementers had planned to mitigate this.					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I was not involved at this point, so I am not sure.					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: There has been sluggish and intermittent progress in comprehensive slum upgrading, and this could be attributed to many factors. But I think this might have made residents cautious. Though this is mostly speculative.					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Whether through state-led upgrading or market transition, this is likely. It is occurring in other informal settlement areas (though different land ownership) and other parts of Nairobi.					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: With difficulty, but yes. If forced on them by market forces or state construction and design, then residents will have to adapt, or sell units and move on to other areas.					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Because of tenure and slum landlordism, residents could only live in what landlords provide them. So, I think landlords, in time, will build new housing and more permanent (high rise) dwellings. But whether these units will be affordable to residents or not is still up for debate – and this, in my opinion, should be the focus of policy.					

Further Comments

If KENSUP is assessed as a state-driven slum upgrading project (through housing delivery) then it can be compared and contrasted to other initiatives i.e. KISIP and K-SUP. And the core component of all these is the lack of a coherent and comprehensive policy position on slums, and what to be done with them.

The projects and programs therefore take the shape of the funding partner, and are not driven from clear policy intentions, regulations, and strategies. And the projects live as long as the funds are available – and most are yet to be incorporated into County policies, strategic plans, or capital budgeting.

After nearly two decades, it is quite troubling that the pilot project/area has yielded limited results.

More troubling is the fact that National policy and County policies are not (yet) formulating comprehensive strategies for long-term state-coordinated slum upgrading or guiding private market providers (landlords) on how to provide better housing for low-income residents.

The National Housing Policy has good and ambitious aspirations, but these have not been funnelled into regulations, laws, and systems for financing them. This can be said of the Lands Policy and Urban Development Policies, which also propose aspirations for slum upgrading.

Submission 14

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
UN-Habitat and the Government of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The community expected free housing and in order for the buy-in the Government gave similar impression. For UN-Habitat it was to be affordable housing. However what is affordable and by who was not appropriately nuanced.					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: While GoK and UN-Habitat had their roles generally agreed in the project document, the role of the community was not clear. Identification of the community was blurred. Who would be the beneficiaries. Would every resident of Soweto qualify as a beneficiary? What role would they play during construction and during occupation?					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The roles were not clear, so there could only be partial stakeholder involvement					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Yes, there were good intentions, but the execution may not be to the letter. The project was within Kenya National Housing Policy to facilitate provision of affordable housing.					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: They thought the project had good intentions for them					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: perhaps livelihood coping mechanisms were not appreciated. Some residents kept chicken, cats and dogs as well as small businesses that could not be transferred to 4 th floor levels					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comment:There was a mixture of landlords and tenants with varying expectations. They also did not move to same decanting site as a community					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:Did not fully appreciate their copying mechanisms carried out horizontally and not vertically					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:See my earlier comments on livelihoods					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:They did not understand the implications of living in high rise in relation to their activities					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:They were well informed regarding previous projects as evaluations are not always made public					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:What needed to be done was insitu upgrading and not redevelopment					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:That is the reason for ending up with different beneficiaries instead of those intended.Occupants tend to be those in formal employment and not necessarily those previous dwellers.					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: In practice what residents required was infrastructure services, particularly water, sewage disposal, roads, power and security of tenure. This is indeed lower in cost per unit area compared to the high rise apartments. The building structures could be incrementally improved					

Further comments

I have in my previous works advocated for insitu upgrading in the informal settlements from the point of view of reducing environmental health hazards and improving security of tenure as well as accessibility. However, the authorities linearly think about redevelopment to embrace cities without slums concept. That would work best in the growing small and medium urban centres, while Nairobi with its informal settlements accounting for 60% of the population required a Marshall plan to reduce health hazards within the shortest period possible.

Submission 15

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

Further Comments

<https://www.citizen.digital/opinion-blogs/opinion-open-letter-to-president-ruto-on-slumupgrading-n308059>

OPINION: Open Letter To President Ruto On Slum Upgrading

Kindly check out this article as the 5th President of Kenya is set to launch phase B of the Soweto B project. The views of the respondent will help you in your conclusion and analysis. All the best.

Submission 16

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
UN-Habitat and the Government of Kenya had a good partnership	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I'm not totally aware of the whole picture – as I wasn't present at the meetings – however, I'm sure that at some point of the program the relationship damaged. One symptom is the readjustment of the basic/fundamental document of KENSUP in 2008. Then, later, the UN quit from the program, as far as I know.					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I don't know about it.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: In theory yes, however the available documents on this are limited.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I don't know.					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Originally the K-WATSAN (as the first project in Kibera within KENSUP) contained the Settlement Executive Committee, as a board for stakeholder participation. KSUI was a continuation of this project that also operated with the SEC. However, in this period the SEC, as an institution became less effective in its participatory role. But it wasn't the fault of the implementor actors, but the representatives of the local stakeholders, who weren't willing to let their newly gained power go.					
Some policies supported the Soweto East project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: It depends on the exact time and the specific stakeholder you ask. We made interviews with beneficiaries who were able to move into the new apartments. Of course, they support it. Then we interviewed people who are (or should be) related to the second phase (zone B) they were looking forward the results. But I'm sure those, who don't have enough money to move in, and whose homes were destroyed are against it. But on average the program is widely supported as it creates the possibility for livable living conditions.					

The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Disagree, as if it would reflect the social norms, more place for street vending would have been granted for example.					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I don't know about it.					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Some infrastructural elements don't work properly (e.g. tap-water), however locals are more than satisfied with the living conditions.					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Depending on one's job, but in significant cases yes.					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: That's the reason why K-WATSAN was initiated first within KENSUP. One of this project's aim was to win the local residents for the program.					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

Further Comments

It's important to see that regarding Soweto East there were two projects within the KENSUP program: K-WATSAN and KSUI. They built on each other both in their objectives and in their methodology. At least, that was the original idea. These two phases/projects serve with a lot of useful conclusions.

Submission 17

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The elected representatives of the area including the area member of parliament backed the project creating a conducive environment for its implementation.					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: The agreement was comprehensive as it covered most aspects of development such as financing, implementation timelines, monitoring and evaluation parts, and the roles of each stakeholder, which included the comprehensive participation of citizens.					
There was never a risk of losing financial support for the project	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Since the project primarily relied on international donors (UN-Habitat), prudence and transparency in the use of funds allocated for the project was a matter of priority, and any form of embezzlement would affect any future funding of projects within the program.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Within the agreement, monitoring and evaluation mechanism have been provided, with the government assuming that role. It is however difficult to ascertain whether this was completely complied with.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The agreement signed between the Government of Kenya and UN-Habitat stipulated the goal of the project and the specific roles each group would play in the implementation.					
The stakeholders involved in the project were uncertain of their roles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The roles of Kenyan government, UN-Habitat as well as other stakeholders like the citizens and civil societies were clearly outlined in the agreement.					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The project implementation was guided by the National Housing Policy (2004) as well as the different by-laws guiding housing developments in Nairobi City Council (currently Nairobi City County).					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The community supports the project since it promises them better living conditions compared to the ones they experience in the slums, poor drainage system, lack of electricity, water, and poor sanitation. Without the support of the community, the project would have kicked off.					

The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The socioeconomic impact of the project on the residents was conducted before the implementation. However, the project still had some negative social impacts on the residents. For instance, neighbours were separated and instead families had to get used to strangers at the temporary relocation sites.					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: The community through elected representatives and local civil society groups pushed for more involvement in the management of the project.					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: No doubt that the quality of the new houses was far better than the old slum structures. However, there were issues concerning the rental and monthly payments to purchase the houses. Some residents felt that the prices were too high for low-income slum residents.					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Many residents relied on vending their goods along the busy street of the slums. Relocating them to Langata not only detached them from their regular customers but also had an increased cost as they had to cover longer distances to reach their businesses.					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Although there was public participation, many residents didn't have enough information regarding plans and the cost of the houses. This points to inadequate involvement, or the information was not communicated to the residents.					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Residents were concerned about the potential of future evictions and questions surrounding the security of tenure after their settlement. In the past, informal settlement projects have seen disruption of people's ways of life and in some cases eviction without prior notification					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: While the residents may take time to adapt to the new buildings considering they are new typologies; doubts persist if they can sustain the payment for the long-term considering that most do not have formal jobs and rely instead on daily activities.					
Residents in Soweto East could have managed to build new housing without KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: The cost of building new housing units is unbearable to informal residents, most of whom are unemployed and rely on informal jobs.					

No Further Comments

Submission 18

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: 1 st GoK-supported slum upgrading programme					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Poor monitoring mechanisms in place > learning for the follow-up KISIP programme					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: They were diverging – unclear what to expect at project end.					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Yes, e.g. UN-Habitat took a more prominent position in project implementation					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: There was some resistance, especially about resettlement					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: see PhD Utrecht Univ. by Pauline Cherunya which focuses on this mismatch					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Definitely was disruptive for the residents' livelihoods					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: Our follow-up study of the KISIP programme (in 20 towns of Kenya) showed this to be true					
High-rise buildings will replace the existing housing typology in Soweto East	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Not anytime soon...					
Residents in Soweto East will adapt to living in high-rise buildings	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: Without a subsidized housing programme for the urban poor this remains unfeasible.					

No Further Comments

Submission 19

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: the national government at the time was very supportive of slum improvement projects and was politically driven.					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: as an external Nairobi citizen I would say the partnership was good since it led to realization of the project and still there after the parties formed more collaborations. Notably, internal partners will be in a better position to respond to this.					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: as in other government projects with external or partner funding, there has always been the question of sustainability of financial support					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I agree because it is the ideal approach to monitor and evaluate project progress. Whether this was carried out throughout the project is neither here or there.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: stakeholders had different interests that pushed their promises. The most important stakeholders were the local beneficiaries whose promises were mixed leading to sale out of their benefits and even relocation due to competing promises be it social, economic or political.					
The stakeholders involved in the project were uncertain of their roles	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I believe the roles of each stakeholder was clearly spelled out in the project documents especially the main project partners and implementers.					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: stakeholders were brought on board with defined roles and this ought to be clearly mapped before the project commencement.					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: the project was supported by the supreme law-Kenya constitution which states that each citizen is entitled to adequate shelter and clean environment including water and sanitation. The housing policy supported slum improvement projects as opposed to eviction. The Kenya Vision 2030 also played a big role in policy support for the project.					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: the community supported the project otherwise there would have been resistance					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comment: it was recognized to some extent since the locals were involved, and some considerations were put in place, like providing areas for small businesses. However, one would argue from a sociological perspective that some considerations were lacking. E.g. next door neighbourliness on the ground level and sharing toilets seems to have been lost					
The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: I am not conversant with any petition					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: this is a question only residents can answer correctly. Nevertheless, I believe the project met the expectations to some, while to some, it did not. I say so because a quarter of the community came up with their own house design that is not high-rise, yet this has never seen the light of the day.					
The project harmed residents' sources of income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: to some extent the income sources of the residents were affected since a number of them used their doorsteps and alleys as spaces to operate their small businesses. This seized under the new project.					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: I believe this was well communicated during mobilisation stage and during stakeholders involvement.					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: the project brought both fear and hope. Fear that the beneficiaries will lose their rightful benefit to external persons or even that the project will not be realized all together. Fear of paying higher rent. Hope that there will be improved living environment and stop to eviction.					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: this seems to be the only option given the high density and high number of households to be rehoused within the same square kilometres of land.					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: although with more knowledge and information sharing on why it is the viable option					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment: first, land ownership would not allow. Second, the economic level would not allow it. Third, most of them are tenants and fourth, Kibera offers a transition home to most households until their economic level improves or as they invest back in their rural homes.					

Further comments

Whereas I am familiar with the project and given the type of questions raised herein, It will benefit the research to have in-depth engagement with residents as well as interviews with project partners involved in KENSUP.

Submission 20

<i>Statement</i>	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
There was political support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Representation of the various Government political offices in the implementation organs like Representative of Settlement Executive committee or area Member of parliament and Area Member of County assembly.					
Un-Habitat and the Governments of Kenya had a good partnership	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment: It was more of Government of Kenya Project and not equal partnership since it was a budgetary allocation.					
There was never a risk of losing financial support for the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: There was a direct supervision by Government of Kenya (GOK) and control by the auditor general.					
The project was monitored and evaluated throughout its development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment: Monitoring and evaluation by the Ministry's planning team.					
There were competing promises from stakeholders on how the project would impact the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The stakeholders involved in the project were uncertain of their roles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
There was an increase in stakeholder involvement during the project's development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Some policies supported the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The Soweto East community supported KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The project recognised the existing societal norms and beliefs in the Soweto East community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					

The Soweto East community lobbied and petitioned over the management of the project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The high-rise building for Soweto East lived up to the residents' expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Comment:					
The project harmed residents' sources of income	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East were offered information on the housing design used for KENSUP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
The poor management of certain informal settlement projects across Kenya made residents fearful of the Soweto East project	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
High-rise buildings will replace the existing housing typology in Soweto East	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East will adapt to living in high-rise buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Comment:					
Residents in Soweto East could have managed to build new housing without KENSUP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment:					

Further comments

Generally, the project budgetary allocation was well supervised and monitored throughout its life. There is a need for further research on the cooperatives' sustainability in acquiring houses.