REPUBLIC OF KENYA

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) STUDY REPORT FOR THE PROPOSED CONSTRUCTION OF SOCIAL HOUSING AND ASSOCIATED INFRASTRUCTURE IN SOUTHLANDS LANGATA CONSTITUENCY

(KIBRA LOT 3)



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Report Version	Final ESIA Study Report
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CERTIFICATION

CERTIFICATION

Declaration by the ESIA Expert

We, the undersigned, hereby certify that the information contained in this ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in Southlands, Lang'ata Constituency, Nairobi County (KIBRA LOT 3), is accurate, complete, and truthful to the best of our knowledge. The assessment has been conducted in accordance with the Environmental Management and Coordination Act (EMCA) 1999 and the Environmental (Impact Assessment and Audit) Regulations, 2003.

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Declaration by the Proponent

We, the State Department for Housing and Urban Development, the proponent of the Proposed Construction of Social Housing and Associated Infrastructure in Southlands, Lang'ata Constituency, Nairobi County (KIBRA LOT 3), hereby certify that the particulars provided in this Environmental and Social Impact Assessment Study Report are correct and true to the best of our knowledge.

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LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation / Acronym	Full Meaning
CCTV	Closed-Circuit Television
C-ESMP	Contractor's Environmental and Social Management Plan
CLO	Community Liaison Officer
CSR	Corporate Social Responsibility
CTMP	Construction Traffic Management Plan
dB(A)	A-weighted Decibel
DEMP	Decommissioning Environmental Management Plan
DOSHS	Directorate of Occupational Safety and Health Services
EC	Electrical Conductivity
EPRP	Emergency Preparedness and Response Plan
ESO	Environmental and Social Officer
FGD	Focus Group Discussion
GBV	Gender-Based Violence
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
LAeq	Equivalent Continuous A-weighted Sound Level
OLS	Obstacle Limitation Surfaces
PM10 / PM2.5	Particulate Matter less than 10 / 2.5 micrometres
PPV	Peak Particle Velocity
SEA	Sexual Exploitation and Abuse
SUDS	Sustainable Urban Drainage Systems
TDS	Total Dissolved Solids
TIA	Traffic Impact Assessment
WRA	Water Resources Authority

EXECUTIVE SUMMARY

1. Introduction

This Environmental and Social Impact Assessment (ESIA) Study Report has been prepared for the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 3, located in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County. The report has been prepared in accordance with the Environmental Management and Coordination Act (EMCA) Cap 387, the Environmental (Impact Assessment and Audit) Regulations 2003 (as amended).

2. Project Description

Kibra Lot 3 occupies approximately 6.8 acres at coordinates -1.318548, 36.787608. The development comprises fourteen (14) multi-storey residential blocks configured as Ground plus eight floors (G+8), delivering a total of 1,386 social and affordable housing units. The unit mix includes social housing (1-roomed, 2-roomed and 3-roomed units) and affordable housing (studio, 2-bedroom and 3-bedroom units).

Associated infrastructure and amenities include: Cabro-paved access roads and parking areas; Stormwater and foul drainage systems; Boreholes with underground and overhead storage; Power house with backup generator and street lighting; Solid-waste management facilities (garbage receptacles); Green spaces, landscaping and outdoor children's play area; Shopping stalls; and Perimeter chain-link fence with two gates and gate houses.

The construction period is estimated at 24 months. The site currently contains light vegetation (4 mature and 3 immature trees, Napier grass and common weeds), a church structure (to be demolished), a carwash, and residual informal activities. Immediate neighbours include Southlands Estate residential blocks. The nearest major drainage features are River Motoine (approximately 400 m) and River Ngong (approximately 800 m). Building height is limited to 29 m following Kenya Civil Aviation Authority (KCAA) clearance due to proximity to Wilson Airport.

3. Project Justification

Nairobi continues to experience a substantial housing deficit, particularly for low- and middle-income households. The Affordable Housing Programme seeks to address this gap. Lot 3 forms an integral part of the wider Southlands (Kibra Lots 1–5) Strategic National Project and will deliver a significant number of formal, secure and affordable housing units in an area of high demand, while supporting orderly urban development and the constitutional right to accessible and adequate housing (Article 43).

4. Policy, Legal and Institutional Framework

The project has been assessed against the Constitution of Kenya 2010, EMCA Cap 387, the EIA/EA Regulations 2003 (as amended by Legal Notices 31 & 32 of 2019), the Climate Change Act 2016, the Physical and Land Use Planning Act 2019, the Water Act 2016, the Occupational Safety and Health Act 2007, relevant subsidiary regulations on noise, air quality and waste, and applicable national policies on housing, urban development and environmental management.

Institutional responsibilities involve NEMA, WRA, NCWSC, KeNHA, KCAA, Nairobi City County, DOSHS and local administration.

5. Baseline Environment

The site is characterised by red residual soils with sandstone and shale, light vegetation, and limited ecological sensitivity. Key receptors are the adjacent Southlands Estate residents, the church (to be demolished), and residual business operators. Socio-economic conditions reflect a mixed urban residential area with high demand for formal housing. Baseline studies covered physical, biological and socio-economic parameters.

6. Stakeholder Engagement and Public Participation

A comprehensive and inclusive public participation process was undertaken between 31 July and 7 August 2026 in accordance with Regulation 17 and the court orders. Differentiated meetings were held with Persons with Disabilities, Residential Associations, Youth, Women, Business Community, a public baraza, Project Affected Persons, and Institutions. Key concerns raised included infrastructure capacity (water, sewer, roads), employment prioritisation for locals and PAPs, privacy and buffer zones, building height, facilitation for the church and residual businesses, and the need for a functional Grievance Redress Mechanism. These concerns have been analysed and integrated into project design, the ESMP and the recommendations of this report. Clear, differentiated and verifiable records of the process have been maintained.

7. Analysis of Alternatives

Alternatives examined included the no-project option, alternative sites, alternative layouts and designs (including height and buffer configurations), access arrangements, water supply options, wastewater management, stormwater management and energy sources. The preferred option is the current G+8 design with a landscaped buffer along the Southlands Estate boundary, hybrid water supply, full municipal sewer connection, Sustainable Urban Drainage Systems (SUDS), and grid power supplemented by solar and backup generation. This option balances housing delivery, aviation safety, neighbour amenity and environmental sustainability.

8. Impact Assessment

Both positive and negative impacts were identified across the project lifecycle.

Positive impacts include delivery of 1,386 formal housing units, temporary and permanent employment (with local prioritisation), improved security and urban management, provision of green and recreational amenities, and contribution to national housing goals.

Negative impacts centre on: Construction-phase dust, noise, vibration and traffic; Temporary disruption to neighbouring residents and residual PAPs; Increased demand on water, sewer and road infrastructure; Privacy, visual and amenity effects on Southlands Estate; and Displacement of the church structure and residual businesses.

Through application of the mitigation hierarchy and quantitative performance standards (noise ≤ 50/55 dB(A) daytime and 35 dB(A) night-time at residential receptors; vibration PPV ≤

0.5 cm/s; PM10 ≤ 50 µg/m³), residual impacts are assessed as low to moderate and acceptable in the context of the project benefits, provided the ESMP is fully implemented.

9. Environmental and Social Management and Monitoring Plans

A detailed Environmental and Social Management Plan (Chapter 11) sets out phase-specific mitigation and management measures for construction, operation and decommissioning, covering noise, air quality, water resources, waste, traffic, OHS, community health and safety, PAP facilitation, gender and vulnerable groups, and climate resilience. An Environmental and Social Monitoring Plan (Chapter 12) defines parameters, locations, frequencies, methods, responsibilities and reporting requirements to verify compliance and support adaptive management. A fully functional Grievance Redress Mechanism will operate from the pre-construction phase onwards.

CHAPTER ONE: INTRODUCTION

1.1 Background

The Government of Kenya, through the State Department for Housing and Urban Development under the Ministry of Lands, Public Works, Housing and Urban Development, is implementing the Affordable Housing Program as a central component of the national development agenda. The program is designed to reduce the housing shortage in urban areas and to deliver decent, affordable and adequate housing in fulfilment of Article 43(1)(b) of the Constitution of Kenya, 2010, which guarantees every person the right to accessible and adequate housing and to reasonable standards of sanitation.

Within this framework, the State Department proposes the construction of social and affordable housing units together with associated infrastructure on five parcels of land situated in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County. These parcels are collectively known as the Southlands (Kibra) Lots 1–5 project. The overall scheme is planned to deliver approximately 7,000 housing units across the five lots, supported by the necessary amenities and infrastructure.

This Environmental and Social Impact Assessment (ESIA) Study Report addresses Kibra Lot 3. The proposed development on Lot 3 comprises fourteen (14) multi-storey residential blocks configured as Ground plus eight floors (G+8), yielding a total of 1,386 housing units. The unit mix consists of social housing (one-roomed, two-roomed and three-roomed units) and affordable housing (studio, two-bedroom and three-bedroom units), together with supporting infrastructure, utilities and ancillary facilities.

The project falls under the high-risk category in the Second Schedule of the Environmental Management and Coordination Act (EMCA), Cap 387 (as amended by Legal Notice No. 31 of 2019). Consequently, a full Environmental and Social Impact Assessment Study is mandatory prior to implementation.

1.2 Project Objectives

The primary objectives of the proposed Southlands Kibra Lot 3 development are to:

a) Deliver 1,386 units of social and affordable housing in order to contribute to the reduction of the national housing deficit and improve living conditions for low- and middle-income households.

b) Provide the associated infrastructure and amenities, including access roads, parking areas, stormwater and foul drainage systems, water supply (including boreholes and storage facilities), power supply with backup generation, solid-waste management facilities, green spaces, children's play areas, commercial stalls and security infrastructure.

c) Ensure that the development is environmentally sustainable, socially inclusive and climate-resilient.

d) Generate temporary and permanent employment and business opportunities for the local community during both the construction and operational phases.

e) Support orderly urban development in Lang'ata Constituency while complying with applicable planning, environmental and aviation-safety requirements.

1.3 Project Justification

Nairobi County continues to face rapid urbanisation and a shortage of decent housing, particularly for low- and middle-income residents. According to Kenya Permanent Mission to UN-HABITAT (affordable housing program) National estimates indicate an annual housing demand of approximately 250,000 units, while current delivery stands at roughly 50,000 units per year, most of which serve the high-end market. This leaves an annual deficit of around 200,000 units, concentrated in the lower-income segments. The Affordable Housing Program seeks to close this gap by providing Social Housing for households earning up to KSh 20,000 per month, Affordable Housing for those earning between KSh 20,000 and KSh 149,000 per month, and Affordable Market Housing for those earning above KSh 150,000 per month. Lot 3 forms an integral part of the wider Southlands housing initiative and is intended to supply a significant number of units in a location characterized by high demand for affordable accommodation.

1.4 Project Scope

The scope of the proposed Southlands Kibra Lot 3 project includes:

i. Construction of 14 residential blocks of G+8 configuration, delivering 1,386 housing units (a combination of social and affordable units) on approximately 6.8 acres of land.

ii. Provision of supporting civil works, including cabro-paved access roads and parking areas, stormwater drainage and foul sewerage systems.

iii. Development of water-supply infrastructure, comprising boreholes, underground and overhead storage tanks, and associated reticulation.

iv. Installation of power-supply infrastructure, including a power house with backup generator and street lighting.

v. Provision of solid-waste management facilities (garbage receptacles).

vi. Development of green spaces, landscaping, outdoor children's play areas and commercial/shopping stalls.

vii. Construction of perimeter fencing, gates and gate houses for security.

viii. Associated site clearance, earthworks and ancillary facilities required for the complete and functional development of the housing estate.

The project is scheduled for a construction period of approximately 24 months from the date of commencement of works following receipt of all statutory approvals.

1.5 Need for the Fresh ESIA Process

An earlier Environmental Impact Assessment process was undertaken for the wider Southlands (Kibra Lots) development. Following judicial review, the Environment and Land Court determined that the previous EIA licence was invalid and directed that a fresh, fully

compliant Environmental and Social Impact Assessment be carried out before any further works could proceed.

In response, the consultant prepared and submitted new Terms of Reference for Lot 3, which were approved subject to specific conditions. These conditions include, among others, comprehensive and inclusive public participation, clearance from the Kenya Civil Aviation Authority, a Traffic Impact Assessment, detailed baseline environmental assessments, identification of greenhouse-gas emission sources, and a Climate Change Risk and Vulnerability Assessment.

This ESIA Study Report has therefore been prepared afresh in accordance with the approved Terms of Reference, the Environmental Management and Coordination Act and the Environmental (Impact Assessment and Audit) Regulations, 2003.

1.6 Purpose of the ESIA Study

The purpose of this ESIA Study is to:

i. Identify, predict and evaluate the potential positive and negative environmental and social impacts of the proposed Kibra Lot 3 development throughout its life cycle (pre-construction, construction, operation and decommissioning).

ii. Assess the significance of those impacts in the context of the existing baseline environment and the sensitivity of neighbouring receptors.

iii. Propose practical and effective mitigation measures to avoid, minimise or offset adverse impacts and to enhance beneficial ones.

iv. Develop a comprehensive Environmental and Social Management and Monitoring Plan (ESMP) to guide implementation and monitoring.

v. Demonstrate compliance with the approved Terms of Reference, the Environmental Management and Coordination Act, the EIA/EA Regulations, and related legislation and policies.

vi. Provide NEMA and other decision-makers with sufficient information to determine whether the project should be approved and under what conditions.

1.7 ESIA Study Approach

The approach comprised the following key steps:

Desk review of project documentation, previous studies, the court judgment, relevant legislation, policies and guidelines. Description of the proposed development and analysis of project alternatives. Collection and analysis of baseline environmental and social data, covering the physical, biological and socio-economic characteristics of the project area and its surroundings. Stakeholder identification, analysis and structured public participation involving Project Affected Persons, neighboring residential associations, youth, women, persons with disabilities, business-community representatives, institutions and the wider community. Identification and assessment of potential impacts using standard significance criteria (magnitude, extent, duration, reversibility and probability). Formulation of mitigation measures and preparation of the Environmental and Social Management and Monitoring Plan.

Integration of the specialised assessments required by the TOR approval, including traffic, climate-change risk and vulnerability, and greenhouse-gas considerations. Preparation of this comprehensive ESIA Study Report for submission to NEMA.

1.8 Structure of the ESIA Report

This ESIA Study Report is structured as follows:

- **Executive summary**: This section presents a summary of the entire report.
- **Chapter One**: presents the introduction, project background, objectives, justification, scope, the need for a fresh ESIA process, the implications of the court ruling, the purpose of the study, the approach adopted, and the structure of the report.
- **Chapter Two**: provides a description of the proposed Lot 3 development, including location, existing site conditions, housing components, supporting infrastructure, construction activities, and project phases.
- **Chapter Three**: outlines the applicable policy, legal and institutional framework.
- **Chapter Four**: describes the baseline environmental and social conditions of the project area.
- **Chapter Five**: documents the stakeholder engagement and public participation process, issues raised, and how they have been addressed.
- **Chapter Six**: analyses project alternatives.
- **Chapter Seven**: presents the assessment of environmental and social impacts.
- **Chapter Eight**: addresses social impacts and issues relating to Project Affected Persons.
- **Chapter Nine**: presents the Traffic Impact Assessment.
- **Chapter Ten**: addresses climate change and disaster risk considerations.
- **Chapter Eleven**: sets out the Environmental and Social Management and Monitoring Plan (ESMP).
- **Chapter Twelve**: details the environmental and social monitoring program.
- **Chapter Thirteen**: presents the conclusions and recommendations.
- The report is supported by a list of references and a comprehensive set of annexes containing technical studies, public participation records, and other supporting documentation.

CHAPTER TWO: PROJECT DESCRIPTION

2.1 Introduction

This chapter describes the location of Kibra Lot 3, the land characteristics, existing site conditions, the proposed housing and infrastructure components, construction activities, and the main project phases from implementation through to operation and potential decommissioning.

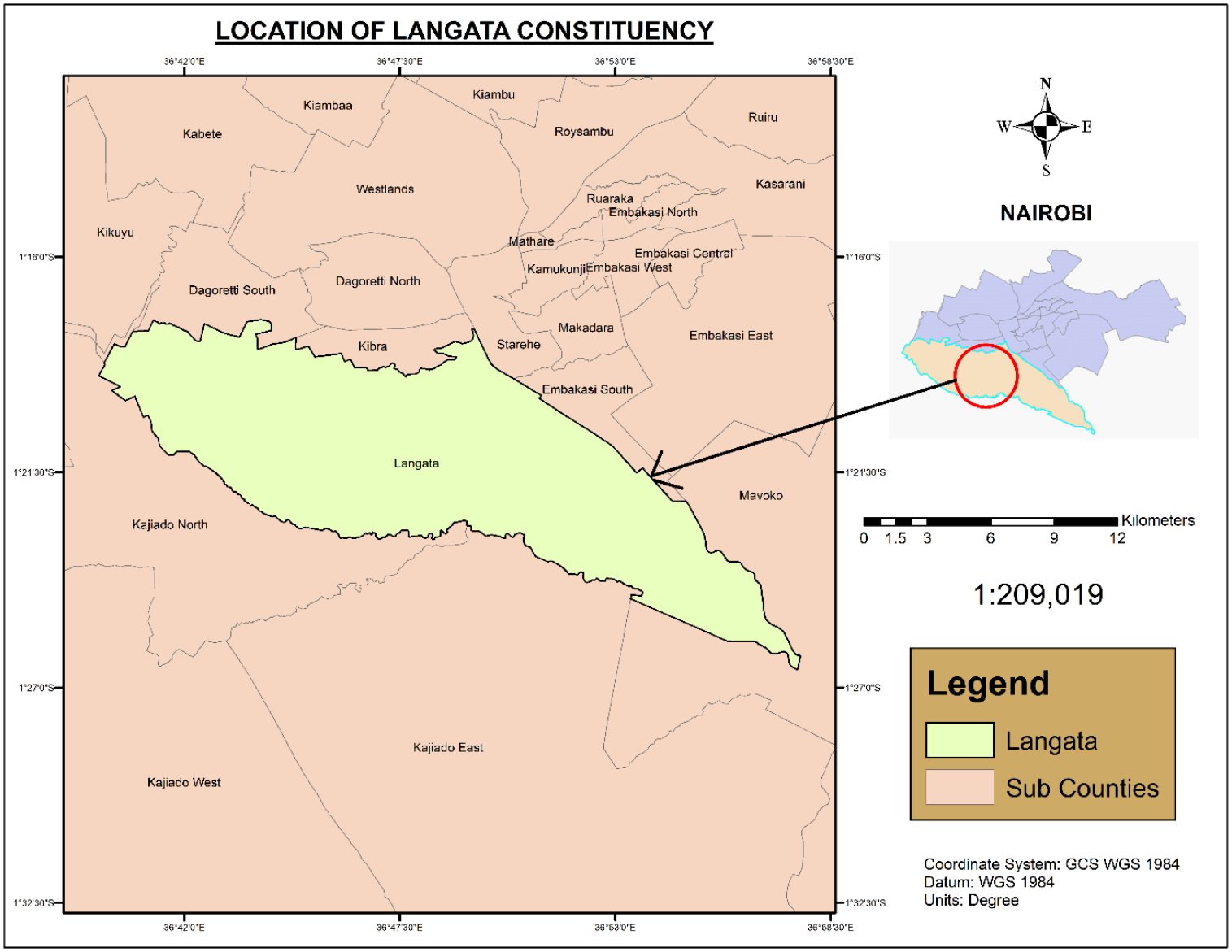
2.2 Project Location

Kibra Lot 3 is situated in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County, along the Southern Bypass. The approximate geographic coordinates of the site are –1.318548, 36.787608.

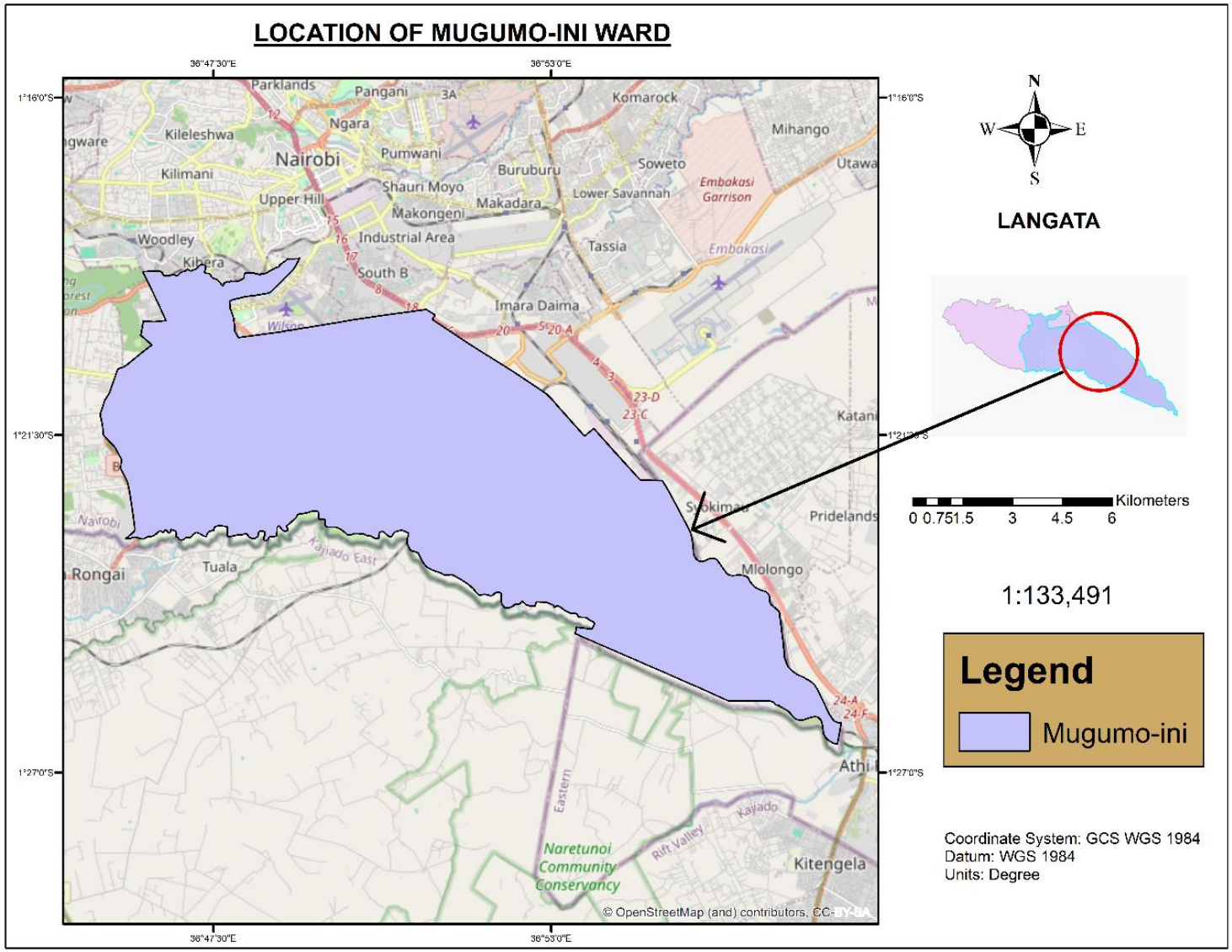
Lang'ata Constituency is bordered by several neighbouring constituencies. To the north it borders Kibra and Dagoretti North; to the northwest it shares boundaries with Dagoretti South and Kikuyu; on the western side it is adjacent to Kajiado North; to the south it borders Kajiado East; the northeastern boundary connects with Embakasi South and Starehe; and to the east it shares a border with Mavoko Constituency in Machakos County. Lang'ata Constituency comprises five wards: South C, Nairobi West, Mugumo-ini, Highrise and Karen. The site lies within the broader Southlands area and is accessed primarily through the Langata Link Road, a busy tarmac route that crosses the Southern Bypass at a grade-separated interchange.



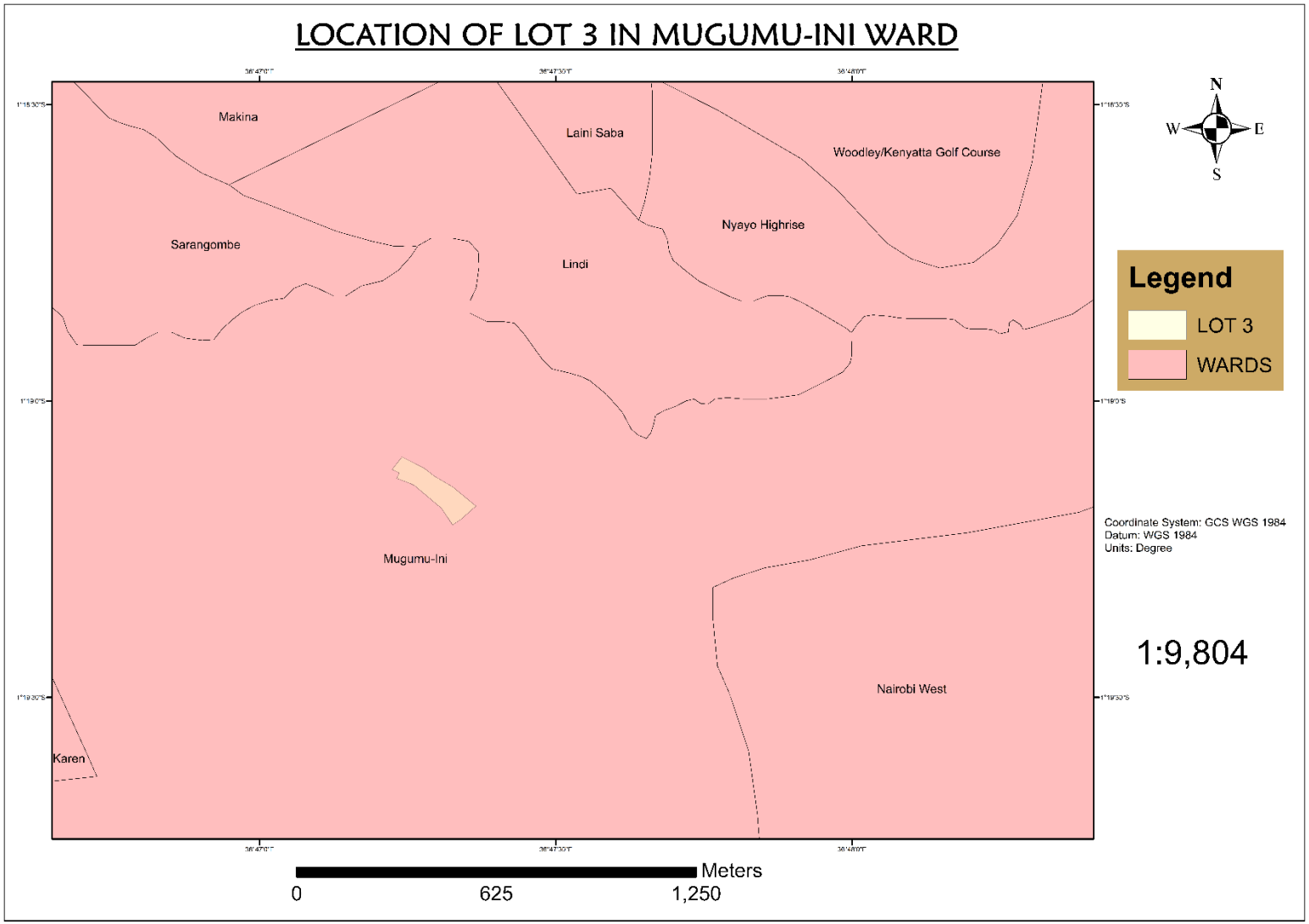
Map 2-1: Google Earth Map showing boundary of Lot 3


LOCATION OF LANGATA CONSTITUENCY
36°42'0"E
36°47'30"E
36°53'0"E
36°58'30"E
1°16'0"S
1°21'30"S
1°27'0"S
1°32'30"S
Kiambaa
Kiambu
Kabete
Roysambu
Ruiru
Westlands
Kasarani
Ruaraka
Embakasi North
Kikuyu
Mathare
Embakasi Central
Kamukunji
Embakasi West
Dagoretti South
Dagoretti North
Makadara
Kibra
Starehe
Embakasi East
Embakasi South
Langata
Mavoko
Kajiado North
Kajiado East
Kajiado West
N
W
E
S
NAIROBI
Kilometers
0 1.5 3 6 9 12
1:209,019
Legend
Langata
Sub Counties
Coordinate System: GCS WGS 1984
Datum: WGS 1984
Units: Degree

Map 2-2: Location of Langata Constituency in Nairobi County



Map 2-3: Location of Mugumu-ini Ward in Langata Constituency



Map 2-4: Location of Lot 3 in Mugumu-ini Ward

2.3 Land Size

The project site for Lot 3 measures approximately 6.8 acres.

2.4 Zoning and Development Control

According to the Nairobi City County Development Control Ordinances, the project site falls within the Langata Estates zoning area (which specifically includes Southlands, Otiende, Ngei 1 & 2, Onyonka, Masai, Uhuru Gardens and Jonathan Ngeno). The designated land use for this zone is High Density Residential Development / Mixed Residential Development. The site remains within a residential zone, and the proposed use (residential flats) is consistent with the permitted land uses. As such, no change of use is required.

10	**Highview** **Magiwa** **Golf Course** **Langata Estates**	50	75	CP/FP/XX	High Density Residential Development Mixed Residential Development • Flats, • Maisonettes • Bungalows	0.5
	• Southlands • Otiende • Ngei 1&2 • Onyonka • Masai • Uhuru Gardens • Jonathan Ngeno	50	75	CP/FP/XXX		

Due to the site's close proximity to Wilson Airport and its location within the airport's Obstacle Limitation Surfaces (OLS), building height and density are further regulated by aviation safety requirements. In this regard, the project has obtained formal height clearance from the Kenya Civil Aviation Authority (KCAA), which has approved a maximum height of 29 metres (corresponding to the proposed G+8 configuration).

2.5 Existing Site Conditions

Vegetation and Ground Conditions

It comprises approximately four mature trees, three immature trees, Napier grass and common weeds. The soils are predominantly red residual soils mixed with sandstone and shale.

Existing Neighboring Developments and Receptors

Key immediate neighbors and receptors include: Southlands Estate residential blocks on one side of the site; A church located in front of the site (to be demolished as part of site preparation); A carwash operating along the Southern Bypass frontage; and Other residential apartments and estates within the wider Southlands area.

The close proximity of established residential blocks is a significant sensitivity consideration, particularly with regard to privacy, visual intrusion, noise, dust, traffic generation and potential overshadowing.

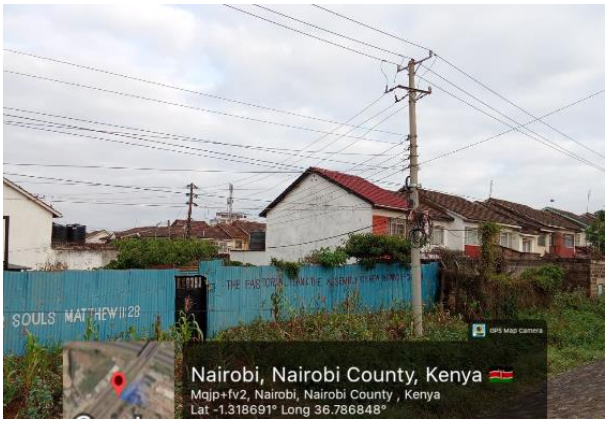


Plate 2-1: Southlands Residential Estates

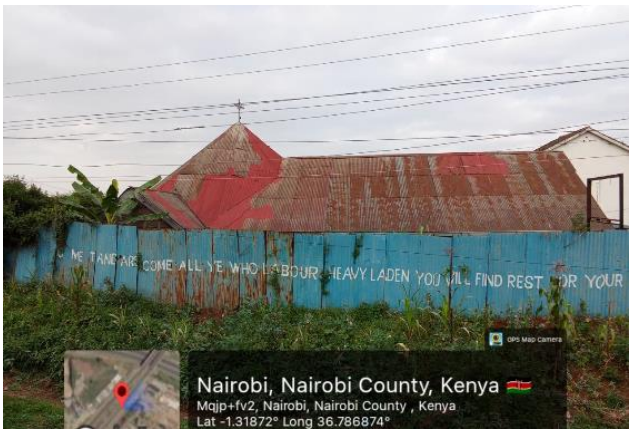


Plate 2-2: Church to be demolished



Plate 2-3: Car wash

Existing Access

Primary access to the site is through the Langata Link Road (tarmac). The Langata Link Road crosses the Southern Bypass at a grade-separated interchange, with the Link Road passing above the Bypass. The Southern Bypass itself is a controlled-access highway under the jurisdiction of the Kenya National Highways Authority (KeNHA).

Utilities

Existing utilities in the vicinity include electricity distribution lines (some of which may require relocation or protection), water-supply infrastructure under the Nairobi City Water and Sewerage Company, and limited sewerage networks.

Drainage Features

The nearest major drainage feature is River Motoine, located approximately 400 metres from the site. River Ngong lies approximately 800 metres away. Both rivers drain into Nairobi Dam.

2.6 Proposed Development

The proposed development comprises a high-density social and affordable housing estate consisting of fourteen (14) multi-storey residential blocks. The scheme will deliver a total of 1,386 housing units on approximately 6.8 acres, resulting in a density of about 203 units per acre.

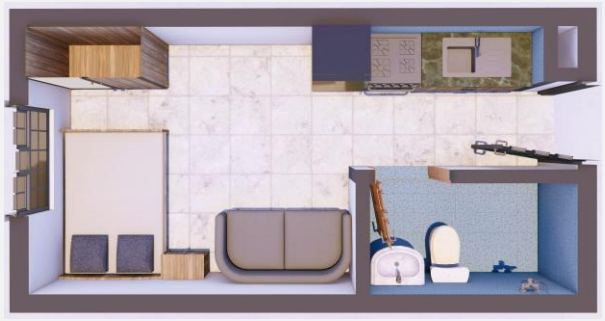
The buildings adopt a Ground-plus-eight-floors (G+8) configuration. This height has been determined following consultations with the Kenya Civil Aviation Authority (KCAA) and is consistent with the maximum permissible height of 29 metres applicable to the site owing to its location within the Wilson Airport flight path and associated Obstacle Limitation Surfaces.

The development will integrate the residential blocks with internal access roads, parking areas, water-supply and storage systems, foul and stormwater drainage, power supply with backup generation, solid-waste management facilities, green spaces, children's play areas, commercial stalls, and perimeter security infrastructure.

2.7 Housing Components

The 1,386 housing units will comprise a mix of social housing and affordable housing units. Social housing units (one-roomed, two-roomed and three-roomed categories) are intended primarily for lower-income households, while the studio, two-bedroom and three-bedroom units fall under the affordable housing category. The mix is designed to respond to varied household sizes and income levels within the target market.

Access to the units will be managed through the national Affordable Housing Program systems, including registration and application through the *832# USSD platform or the eCitizen portal (Boma Yangu services). Allocation and payment modalities (including tenant-purchase, mortgage and cash options) will be administered in accordance with the applicable housing regulations and the processes of the Affordable Housing Board.

SOCIAL HOUSING		
		
Plate 2-5: Social Housing 1 Room	***Plate 2-6: Social Housing 2 Room***	***Plate 2-7: Social Housing 3 room***
AFFORDABLE HOUSING		
		
Plate 2-8: Affordable Housing Studio	***Plate 2-9: Affordable Housing 2 bedroom***	***Plate 2-10: Affordable Housing 3 bedroom***

2.8 Construction Activities

Construction activities are expected to include:

a) Site mobilisation and establishment of temporary site facilities (site offices, material storage yards, worker welfare facilities and security installations).

b) Demolition and clearance of existing structures (including the church located on the site frontage) and removal of vegetation, following completion of Project Affected Persons documentation, valuation and any required facilitation processes.

c) Site preparation works, including stripping of topsoil, excavation, levelling and any necessary ground treatment.

d) Earthworks and foundation construction for the 14 residential blocks and associated infrastructure.

e) Structural works comprising reinforced-concrete frames, floor slabs, staircases, lift shafts and roof structures for the G+8 blocks.

f) Building-envelope works, including external and internal walls, windows, doors and roofing.

g) Installation of building services (electrical, plumbing, drainage and lift systems).

h) Construction of supporting civil infrastructure: internal roads and parking areas, stormwater drainage, foul sewerage, water reticulation, power infrastructure and solid-waste facilities.

i) Landscaping, establishment of green spaces and children's play areas, and construction of commercial stalls, perimeter fencing, gates and gate houses.

j) External works, street lighting and final site finishing.

k) Testing, commissioning and handover of the completed development.

2.9 Construction Materials and Resources

The principal construction materials and resources required will include:

Aggregates (sand, ballast and crushed stone) for concrete and road works; Cement; Reinforcement steel and structural steel; Concrete; Building blocks, bricks or alternative walling materials; Timber and formwork materials (with preference for sustainably sourced options where feasible); Roofing materials, windows, doors and finishes; Plumbing, electrical and mechanical fittings and fixtures; Cabro paving blocks or equivalent for roads and parking areas; Water for construction purposes (sourced in accordance with Water Resources Authority requirements and project water-management measures); Fuel and energy for plant, equipment and temporary site power and Landscaping materials (soil, seedlings, grass and hard-landscape elements).

Materials will be sourced from licensed suppliers and quarries. The contractor will be required to implement measures to minimise waste generation, promote material efficiency, and

ensure that borrow areas and material sources operate under valid environmental approvals. Hazardous materials, if any, will be handled in accordance with applicable regulations.

2.10 Labour Requirements

Labour requirements will include:

Skilled labour (engineers, supervisors, artisans such as masons, carpenters, electricians, plumbers, and plant operators) and Semi-skilled and unskilled labour for general construction, earthworks, material handling and site-support activities. In line with commitments made during public participation, priority will be given to the employment of qualified local residents from the surrounding community, with a target of approximately 90 percent local labor where skills and availability permit. Recruitment will be coordinated through established local administration channels (including the area Chief) to enhance transparency and community benefit. Appropriate worker welfare facilities, personal protective equipment, and occupational health and safety measures will be provided on site.

2.11 Total Project Cost

Total Project cost is KSH 2,867,760,000 (Attached in BQ)

2.12 Operation and Maintenance

Upon completion and handover, the Lot 3 development will operate as a residential housing estate under the framework of the national Affordable Housing Program. Key operational aspects will include:

i. Occupation and management of the 1,386 housing units in accordance with the applicable allocation, tenancy and ownership arrangements administered through the Affordable Housing Board and related systems.

ii. Operation and maintenance of shared infrastructure, including water-supply and storage systems, sewerage, stormwater drainage, internal roads, parking, solid-waste facilities, power infrastructure (including the backup generator), street lighting, green spaces, play areas and commercial facilities.

iii. Security management through controlled access at the gates and coordination with local security arrangements.

iv. Routine maintenance, repairs and periodic upgrading of buildings and infrastructure to ensure serviceability and longevity.

v. Implementation of estate-level environmental and social management measures, including waste management, water conservation, landscaping maintenance, and the Grievance Redress Mechanism.

Responsibility for day-to-day management and maintenance will rest with the designated estate-management entity or committee established in accordance with the applicable housing regulations, with oversight from the proponent.

2.13 Project Decommissioning

Decommissioning of the Lot 3 development is not anticipated in the near to medium term, given that the housing estate is designed for long-term residential use with a service life measured in decades. Should decommissioning become necessary at the end of the project's useful life, or in the event of unforeseen circumstances requiring permanent cessation of operations, the following general approach would apply:

i. Preparation of a Decommissioning Plan in accordance with NEMA requirements and the prevailing environmental regulations at the time.

ii. Safe demolition or dismantling of structures, with segregation and appropriate management of materials (reuse, recycling or disposal).

iii. Removal of infrastructure and utilities in a manner that minimizes environmental disturbance.

iv. Site rehabilitation, including restoration of landform, soil and vegetation where appropriate.

v. Management of any residual contamination or hazardous materials in accordance with applicable standards.

vi. Stakeholder consultation and implementation of any required social transition measures for remaining occupants or affected parties.

Any future decommissioning would be subject to a separate environmental assessment and approval process.

CHAPTER THREE: POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK

3.1 Introduction

This chapter sets out the policy, legal and institutional framework applicable to the proposed Kibra Lot 3 social and affordable housing development. The framework provides the basis for planning, assessment, approval and implementation of the project, ensuring that environmental, social, land-use, housing, climate and related considerations are properly addressed throughout the project cycle.

3.2 National Policy Framework

Policy	Relevant Provisions	Relevance to the Project
Constitution of Kenya, 2010	Article 42 – Right to a clean and healthy environment. Article 43(1)(b) – Right to accessible and adequate housing and reasonable standards of sanitation. Articles 10, 69 and 70 – National values, environmental obligations and enforcement of environmental rights. Article 40 – Protection of right to property. Article 47 – Fair administrative action. Article 60 – Principles of land policy.	The development advances the constitutional right to housing. The ESIA process and associated mitigation measures give effect to the rights to a clean and healthy environment, meaningful public participation, and sustainable land use.
Kenya Vision 2030	Social Pillar – Housing and urbanisation goals focused on providing adequate and decent housing and improving living conditions. Economic and political pillars supporting infrastructure development and good governance.	Positions affordable and social housing as a national development priority. Lot 3 contributes directly to the Vision 2030 objective of expanding the supply of affordable housing units in urban areas.
National Environmental Policy (Sessional Paper No. 10 of 2014)	Promotes sustainable management of the environment and natural resources. Requires environmental impact assessment for projects likely to have significant effects. Emphasises integration of environmental considerations into development planning and application of the precautionary and polluter-pays principles.	Underpins the requirement for a comprehensive ESIA. Guides identification of impacts, formulation of mitigation measures, and preparation of the Environmental and Social Management Plan for Lot 3.

National Housing Policy (Sessional Paper No. 3 of 2016)	Seeks to facilitate access to adequate and affordable housing for all Kenyans. Promotes public and private sector participation in housing delivery. Supports social housing for low-income groups and the development of associated infrastructure.	Provides the policy justification for the Kibra Lot 3 development as part of the national Affordable Housing Programme. Guides the mix of social and affordable units and the provision of supporting amenities.
National Climate Change Action Plan (NCCAP) 2023–2027	Requires integration of climate change adaptation and mitigation into development planning. Promotes climate-resilient infrastructure and low-carbon development pathways. Calls for assessment of greenhouse-gas emissions and climate risks.	Directly informs the Climate Change Risk and Vulnerability Assessment and the identification of GHG emission sources. Supports the design of climate-resilient measures for Lot 3 (drainage, water, energy and green spaces).
National Land Policy (Sessional Paper No. 3 of 2009)	Promotes equitable access to land, sustainable land use and security of tenure. Requires orderly planning and development of land. Emphasises protection of public land and environmentally sensitive areas.	Supports the requirement for clear land ownership/authorisation documentation and orderly high-density development consistent with planning law.
National Urban Development Policy (2016)	Promotes sustainable urbanisation, integrated urban planning, and provision of adequate housing and infrastructure in urban areas. Encourages compact, mixed-use and transit-oriented development where appropriate.	Supports the high-density residential approach adopted for Lot 3 within the Nairobi urban context and the integration of housing with supporting infrastructure and amenities.
National Policy on Gender and Development (2019)	Promotes gender equality and the mainstreaming of gender considerations in all development processes. Requires inclusive participation of women and men and the removal of barriers to equal access to opportunities and resources.	Informs the design of inclusive public participation, prioritisation of women in employment and business opportunities, and gender-sensitive mitigation and livelihood measures within the Lot 3 ESIA and ESMP.

3.3 Legal Framework

Legislation / Regulation	Relevant Provisions	Relevance to the Project

Environmental Management and Coordination Act (EMCA), Cap 387	Establishes the legal framework for environmental management in Kenya. Requires Environmental Impact Assessment for projects listed in the Second Schedule. Provides for environmental quality standards, licensing and enforcement by NEMA. Anchors the principles of sustainable development, public participation and the precautionary principle.	Primary statute governing the ESIA process for Lot 3. The project is a high-risk Second Schedule undertaking (housing estate exceeding 100 units) and therefore requires a full ESIA Study Report and NEMA licence before commencement of works.
Environmental (Impact Assessment and Audit) Regulations, 2003 (as amended, including Legal Notices 31 & 32 of 2019)	Prescribe the procedure for project reports, Terms of Reference, ESIA studies, public participation (Regulation 17), submission, review and decision-making by NEMA. Require circulation to lead agencies, invitation of public comments, and consideration of hearings.	Directly governs the preparation of this ESIA Study Report and the stakeholder engagement requirements applicable to Lot 3.
Sustainable Waste Management Act, 2022	Provides for sustainable waste management, extended producer responsibility, and the hierarchy of waste prevention, reuse, recycling and safe disposal. Requires waste management plans and compliance with county and national standards.	Guides the design of solid-waste management facilities on Lot 3, construction-phase waste handling, and operational waste systems for the housing estate.
Water Act, 2016	Establishes the institutional and legal framework for water resources management, water services, and regulation by the Water Resources Authority (WRA) and water services boards/companies. Requires permits for water abstraction (including boreholes) and protection of water resources.	Applicable to borehole development, water storage and reticulation, protection of River Motoine and River Ngong, and coordination with Nairobi City Water and Sewerage Company.
Physical and Land Use Planning Act (PLUPA), 2019	Provides for the planning, use, regulation and development of land. Section 69 requires that development permission for strategic national projects be granted by the Cabinet Secretary. Requires compliance with zoning, development control and approved plans.	Development permission must be obtained from the Cabinet Secretary rather than the County Government. Also informs zoning, density and layout considerations for Lot 3.

Climate Change Act, 2016	Establishes a legal framework for climate change response, including mitigation, adaptation, and mainstreaming of climate change into planning and implementation of projects. Supports preparation of climate risk assessments and low-carbon measures.	Supports the requirement for identification of GHG emission sources, projected emissions, and a Climate Change Risk and Vulnerability Assessment for Lot 3.
Occupational Safety and Health Act, 2007	Requires employers to ensure the safety, health and welfare of workers. Mandates risk assessments, provision of PPE, safe systems of work, and notification of accidents.	Governs construction-phase occupational health and safety management, worker welfare facilities, and the contractor's OSH obligations on the Lot 3 site.
Public Health Act, Cap 242	Provides for the protection of public health, including sanitation, prevention of nuisances, and control of conditions injurious to health.	Relevant to sanitation, wastewater management, solid waste, dust and noise control, and prevention of public health nuisances during construction and operation of Lot 3.
Traffic Act, Cap 403 and Kenya Roads Act, 2007	Regulate road use, traffic management, and the development and protection of road reserves. Require coordination with road authorities for access and impacts on classified roads.	Applicable to construction and operational traffic, and access arrangements relating to the Southern Bypass (KeNHA) and Langata Link Road.
Land Act, 2012; Land Registration Act, 2012	Govern land ownership, allocation, administration, compulsory acquisition, and registration of title. Require clear legal authority for development on any land.	Underpin the requirement to provide evidence of land ownership, allocation or legal authorisation for the Lot 3 site.
Affordable Housing Act, 2024	Provides the legal framework for the Affordable Housing Programme, including registration, allocation, financing modalities, and institutional arrangements under the Affordable Housing Board.	Governs the delivery, allocation and management of the social and affordable housing units on Lot 3, including application systems (*832# / eCitizen) and payment arrangements.

Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009	Set permissible noise levels for different zones and times of day. Require measures to control construction and operational noise and vibration.	Directly applicable to construction noise and vibration impacts on neighbouring residential estates adjacent to Lot 3.
Environmental Management and Coordination (Air Quality) Regulations, 2014	Establish ambient air quality standards and emission limits. Require control of dust and other air pollutants from construction and other activities.	Guides mitigation of dust and exhaust emissions during construction and any operational air quality considerations for Lot 3.
Environmental Management and Coordination (Water Quality) Regulations, 2006	Set water quality standards for different uses and discharge limits for effluent. Protect surface and groundwater resources.	Applicable to protection of River Motoine, River Ngong and Nairobi Dam, borehole water quality, and any wastewater discharges from the project.
Environmental Management and Coordination (Waste Management) Regulations, 2006	Regulate the handling, storage, transportation and disposal of various categories of waste. Require licensed waste handlers and appropriate facilities.	Complements the Sustainable Waste Management Act in guiding construction and operational solid-waste management for Lot 3.
Wildlife Conservation and Management Act, 2013 and Forest Conservation and Management Act, 2016 (biodiversity-related)	Provide for the conservation of wildlife and forests and the protection of biodiversity. Require assessment and mitigation of impacts on flora and fauna.	Relevant to the assessment and management of vegetation clearance (including mature and immature trees) and any biodiversity values on or near the Lot 3 site.
National Building Code / Building regulations and standards	Prescribe minimum standards for building design, structural safety, fire safety, accessibility and construction quality.	Guide the structural design, fire safety, accessibility (including for persons with disabilities), and overall quality of the G+8 residential blocks on Lot 3.

3.4 Institutional Framework

Institution	Mandate / Role	Relevance to Lot 3
National Environment Management Authority (NEMA)	Lead agency for environmental management and coordination under EMCA. Responsible for review and approval of Terms of Reference, ESIA Study Reports, issuance of EIA licences, and environmental monitoring and enforcement.	Approves the TOR and the ESIA Study Report, issues the EIA licence, and oversees compliance with environmental conditions for Lot 3.
State Department for Housing and Urban Development	Proponent and implementing agency for the national Affordable Housing Programme. Responsible for project design, financing coordination, construction oversight and delivery of social and affordable housing.	Project proponent for Lot 3. Responsible for ensuring full compliance with the ESIA process, land documentation, public participation, and implementation of the ESMP.
Affordable Housing Board	Statutory body responsible for oversight, registration, allocation and management frameworks under the Affordable Housing Programme.	Oversees allocation systems (*832# / eCitizen – Boma Yangu), payment modalities and estate management arrangements for the 1,386 units on Lot 3.
Kenya Civil Aviation Authority (KCAA)	Responsible for aviation safety, regulation of obstacle limitation surfaces, and height restrictions in the vicinity of airports.	Critical for Lot 3 due to its location within the Wilson Airport flight path. Provides height clearance (maximum 29 m / G+8) and conditions relating to Obstacle Limitation Surfaces, lighting, reflectivity and construction safety.
Kenya Airports Authority (KAA)	Manages airports (including Wilson Airport) and advises on operational safety, bird hazard management, and aviation-related environmental issues.	Relevant to aviation safety considerations, bird attraction risks, glare, and emergency provisions associated with the Lot 3 site.

Water Resources Authority (WRA)	Regulates water resources, issues abstraction permits (including for boreholes), and protects water catchment and riparian areas.	Issues permits for boreholes on Lot 3, oversees hydrogeological assessments, and protects downstream water resources (River Motoine, River Ngong and Nairobi Dam).
Nairobi City Water and Sewerage Company (NCWSC) / Athi Water Works Development Agency	Responsible for water supply and sewerage services within Nairobi, including network expansion, connections and wastewater management.	Key for water supply augmentation, sewer connections or upgrades, and coordination on existing infrastructure capacity and any required network improvements serving Lot 3.
Kenya National Highways Authority (KeNHA)	Manages national trunk roads, including controlled-access highways such as the Southern Bypass. Regulates access, road reserves and impacts on classified roads.	Critical for access design, traffic management, and protection of the Southern Bypass road reserve and corridor in relation to Lot 3.
Kenya Power and Lighting Company (KPLC)	Responsible for electricity distribution, connections, and management of power line wayleaves.	Relevant to power supply connection, relocation or protection of existing electricity lines crossing or adjacent to the site, and coordination on wayleave requirements.
Nairobi City County Government	Responsible for county-level planning, development control, public health, solid waste management and local infrastructure.	Provides input on zoning, local services and county-level permits.
National Land Commission (NLC)	Manages public land, advises on land allocation and compulsorily acquired land, and oversees land administration matters.	Relevant to confirmation of land status, ownership/allocation documentation and any public land issues relating to Lot 3.
Directorate of Occupational Safety and Health Services (DOSHS)	Enforces the Occupational Safety and Health Act, registers workplaces, and oversees workplace safety and health standards.	Oversees construction-phase occupational health and safety compliance, workplace registration and accident prevention on the Lot 3 site.

Local Administration (Deputy County Commissioner, Assistant County Commissioner, Chiefs and Assistant Chiefs)	Responsible for local coordination, public order, facilitation of public participation, and community liaison.	Play a central role in organising and authenticating public participation meetings, mobilising stakeholders, and supporting the Grievance Redress Mechanism for Lot 3.

CHAPTER FOUR: DESCRIPTION OF THE BASELINE ENVIRONMENT

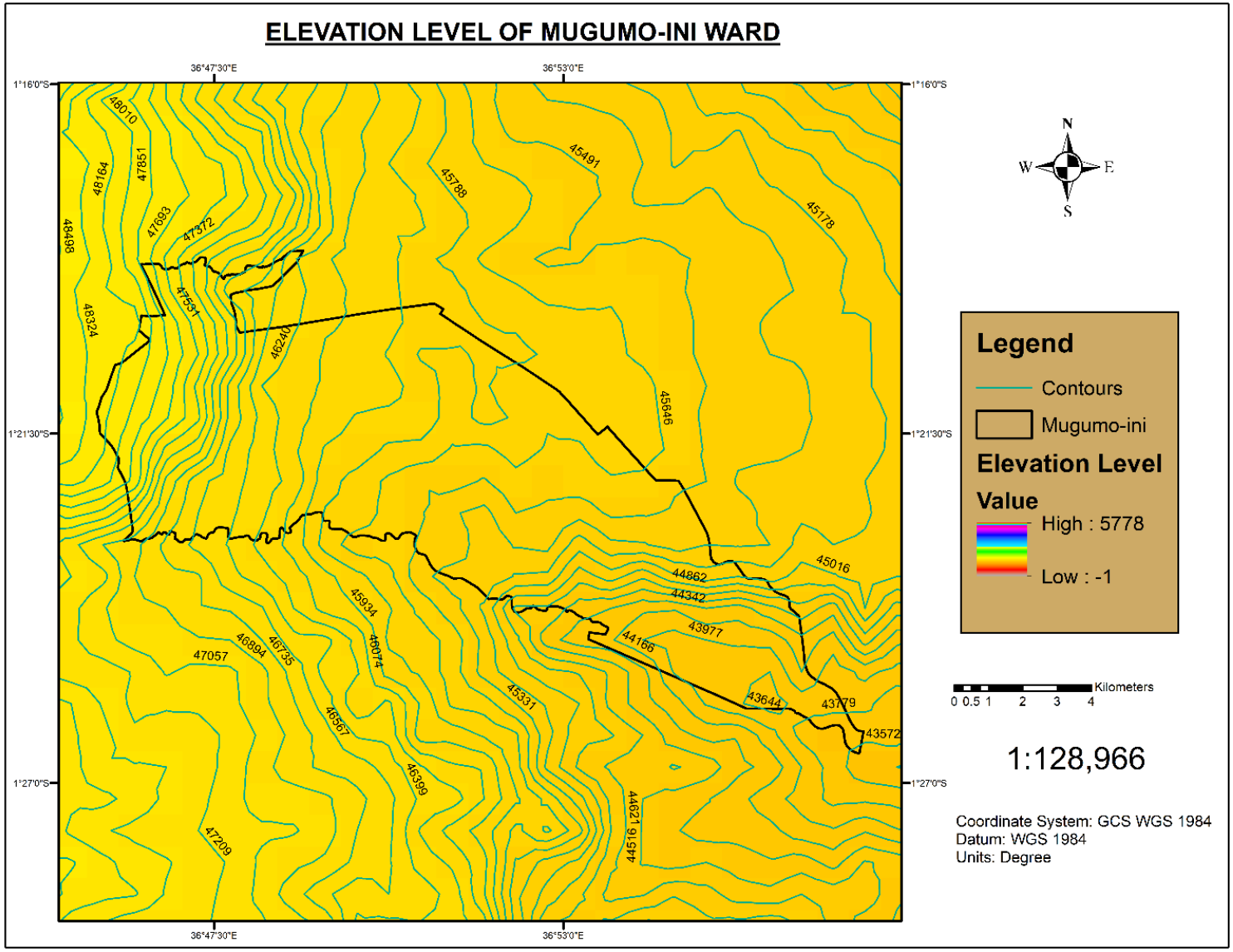
4.1 Introduction

This chapter describes the existing biophysical and socio-economic baseline conditions of the proposed Kibra Lot 3 site and its immediate surroundings. The baseline provides the reference against which potential environmental and social impacts of the proposed social and affordable housing development can be identified, predicted, evaluated and mitigated.

4.2 Physical Environment

4.2.1 Topography

The project site, located in the northwestern part of Mugumo-ini Ward, features elevations ranging from approximately 1,510 meters to 1,790 meters above sea level. The landscape exhibits a gentle gradient, with the northwestern section of the site at the highest elevation (1,790 meters) and the southeastern section at the lowest (1,510 meters). The northern part of the site is at an intermediate elevation of approximately 1,640 meters. Contour lines indicate a relatively flat terrain in the southeastern portion of the site, where contours are more widely spaced. The northwestern portion, where the project is situated, has closer contour lines, indicating a slightly steeper slope that may require minor grading or leveling during site preparation to ensure structural stability and accessibility for the planned civil works.



Map 4-3: Elevation level of Mugumo-ini Ward

4.2.2 Soils

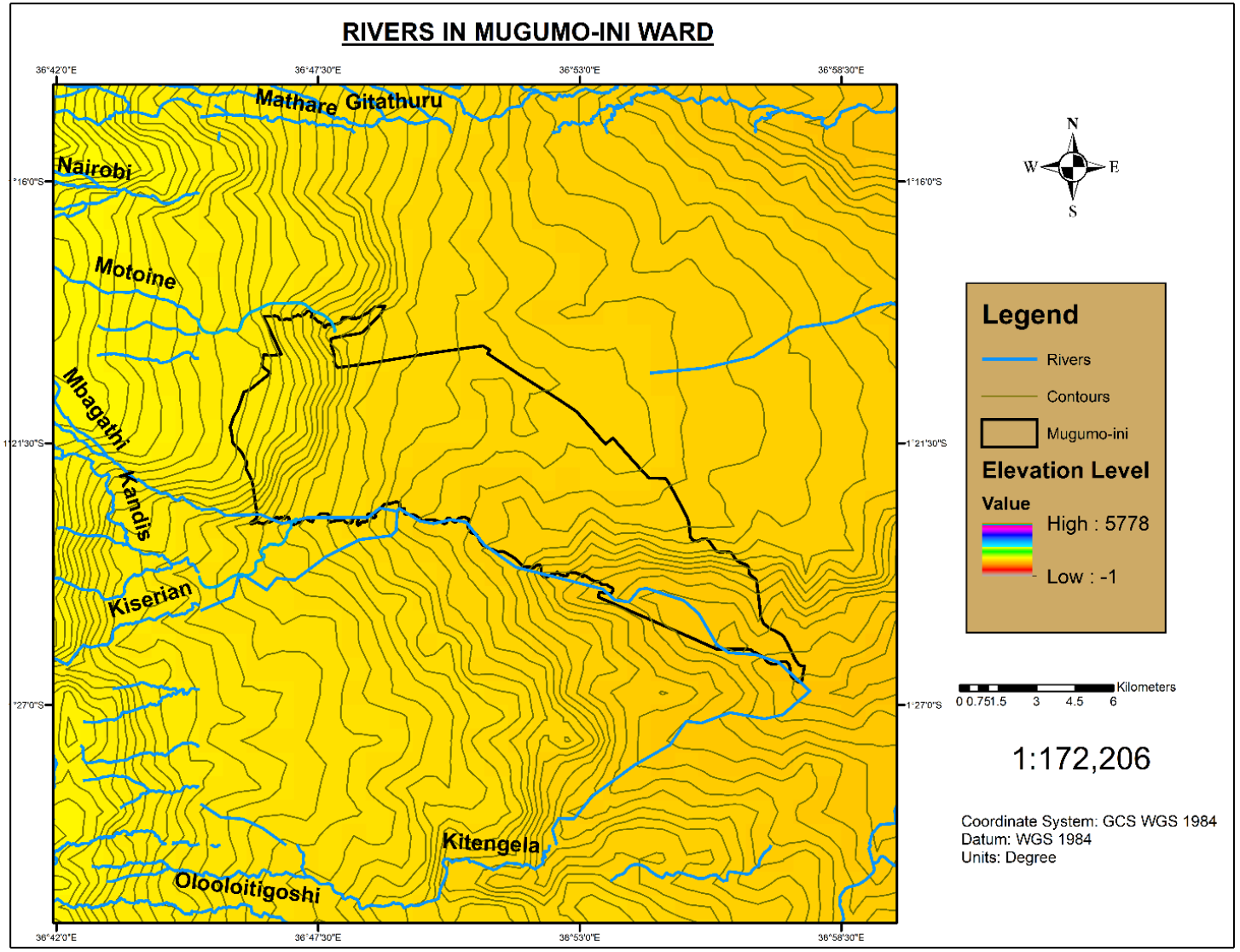
Field observations indicate that the dominant surface soils on Lot 3 consist of red residual soils mixed with sandstone and shale. These soils influence site preparation requirements, foundation design and stormwater management.



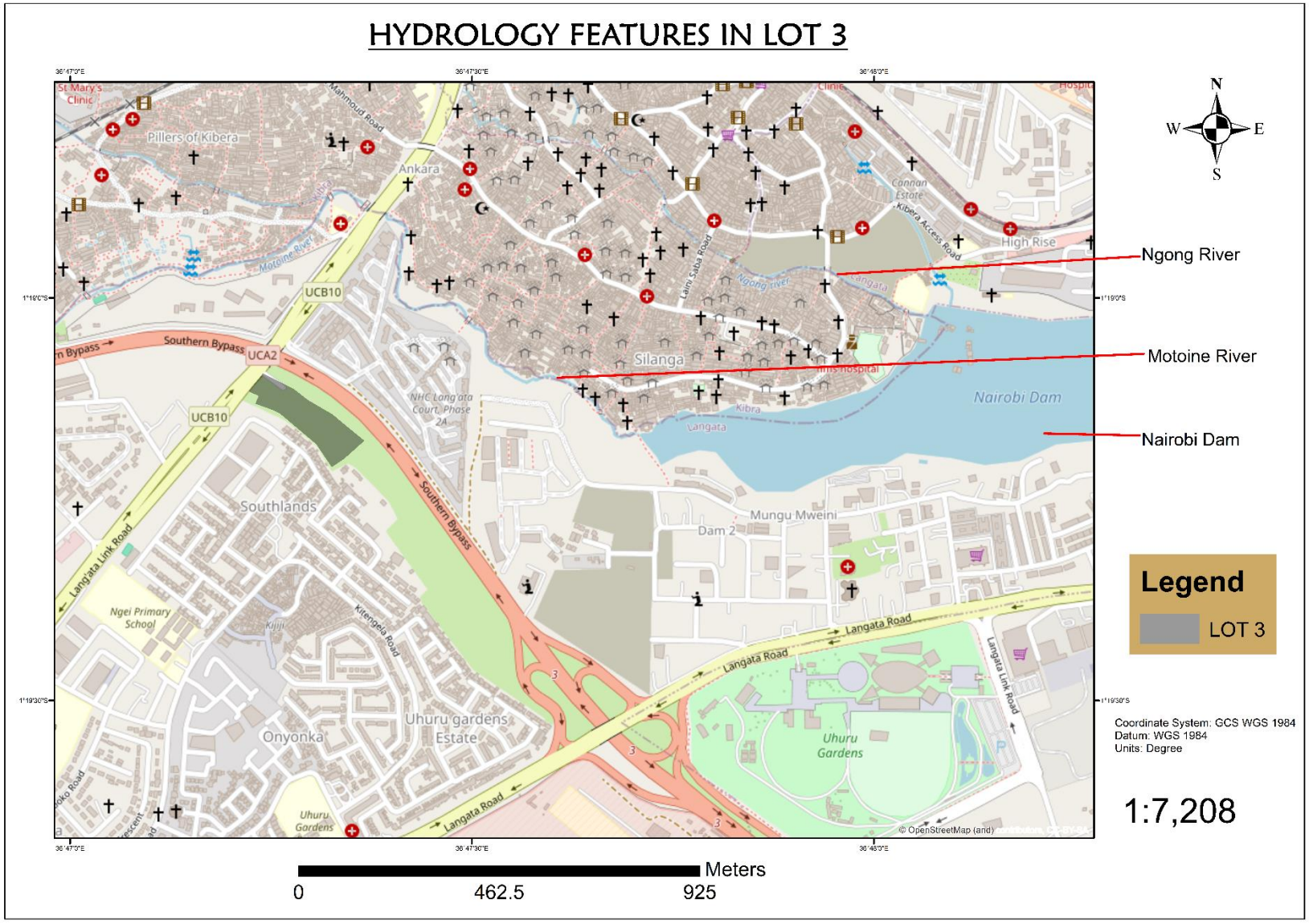
Plate 4-1: Red residual soil with sandstone/shale

4.2.3 Hydrology

Mugumo-ini ward is characterized by several key rivers, including the Mbagathi, Kiserian, Motoine, Ngong River, Nairobi River and Kandis rivers. The site project site is located in proximity to two significant rivers: River Motoine, approximately 400 meters away, and River Ngong (a tributary of the Nairobi River), approximately 800 meters away. Both rivers drain into the Nairobi Dam, located about 1 kilometer from the site. These water bodies may be affected by construction activities, particularly through sediment runoff or improper waste management. Careful management of construction activities will be necessary to avoid contamination of nearby water bodies.



Map 4-2: Hydrology of Mugumo-ini Ward



Map 4-3: Hydrology features in Lot 3 Area

4.2.4 Climate

Rainfall

Nairobi experiences a bimodal rainfall pattern with two distinct rainy seasons. Long rains occurring from March to June, this season is associated with the ITCZ, where northeast and southeast trade winds converge. The heaviest rainfall typically occurs in April, contributing significantly to the annual total. Short rains falling between October and December, this season is less intense but still significant for stormwater management.

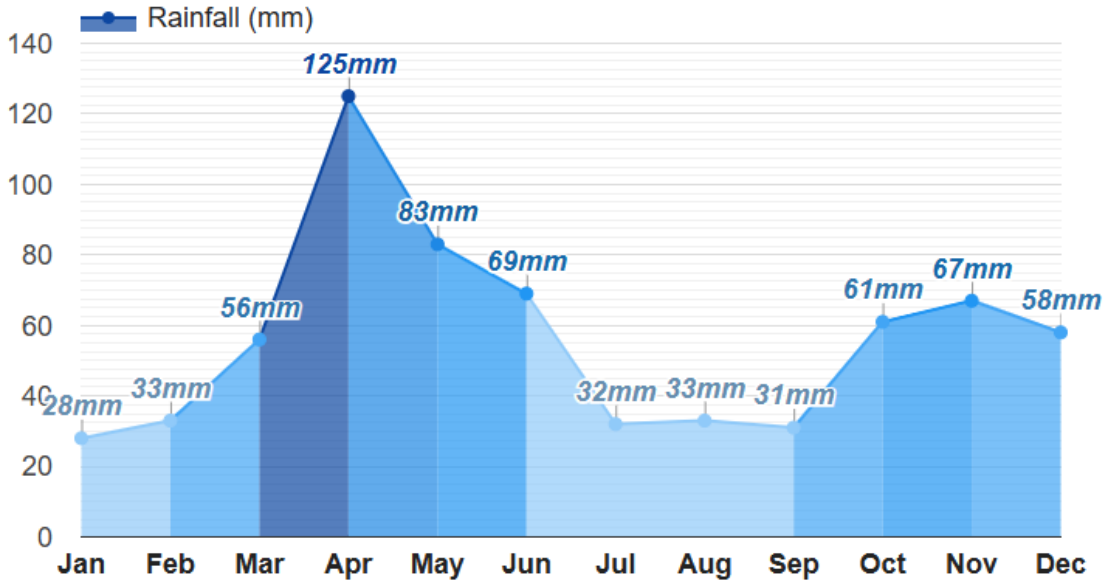


Figure 4-1: Annual Rainfall Ranges

Temperature

Temperatures are moderate due to the highland elevation. Key temperature characteristics include; Annual range daily temperatures typically range from a low of 10°C to a high of 29°C. Mean maximum, the warmest period is from December to March, with daytime temperatures averaging in the mid-twenties Celsius, and a mean maximum of 24°C. Cool periods, evenings can be cool, particularly during the June/July dry season, when temperatures may drop to 9°C. The urban setting of Langata may result in slightly elevated daytime temperatures due to the urban heat island effect from surrounding built-up areas.

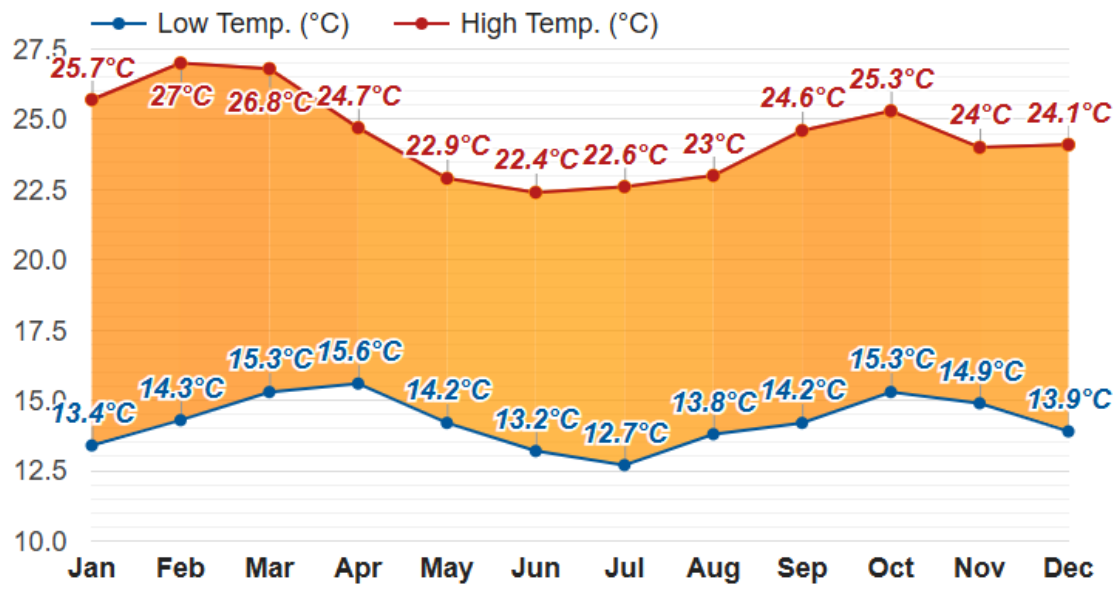


Figure 4-2: Annual Temperature Ranges

Humidity

Relative humidity varies with the seasons, typically ranging between 60% and 80%, with higher levels during the rainy seasons (March–June and October–December).

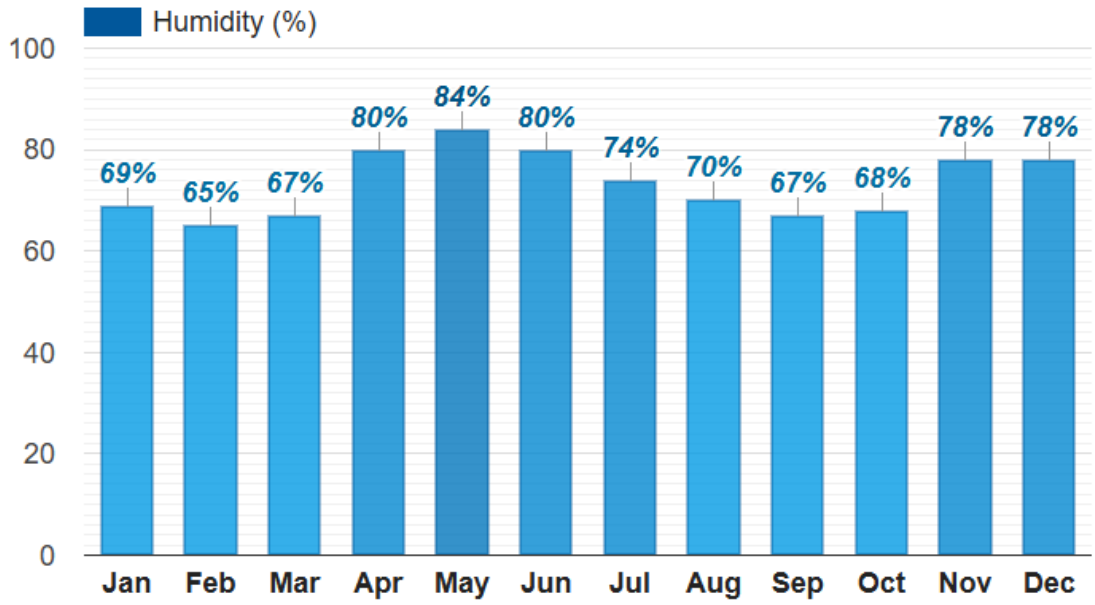


Figure 4-3: Annual Humidity Ranges

Wind

Prevailing winds are generally from the east, with speeds ranging from 2 to 5 m/s. These winds influence dust dispersion during construction activities in the dry seasons (January–February and June–September) and should be considered in the design of ventilation systems for the proposed 8-floor buildings.

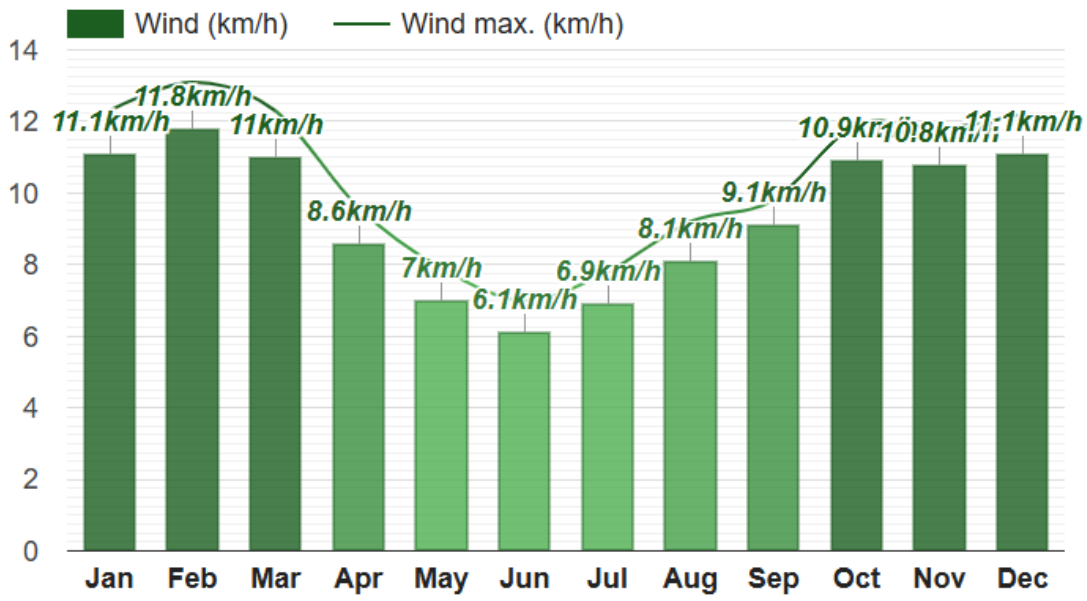


Figure 4-4: Annual Wind Ranges

4.3 Biological Environment

4.3.1 Flora

Field observations recorded approximately four mature trees, three immature trees, patches of Napier grass (*Pennisetum purpureum*) and common weeds. No nationally or internationally protected tree species have been recorded on the site during the current baseline observations. A full tree inventory (species, size class, condition and location) will form part of the biodiversity assessment and will inform any necessary translocation, compensation planting or landscape design.

Plate 4-2: Sesbania herbacea



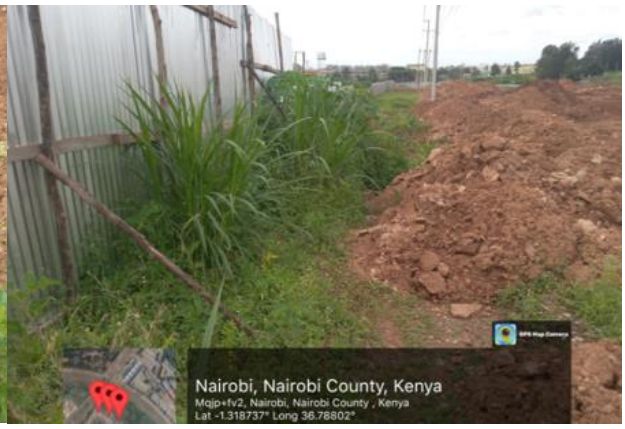
Plate 4-3: Napaea dioica



Plate 4-5: Datura stramonium



Plate 4-6: Nappier Grass



4.3.2 Fauna

No present fauna was located on site since it's in an urban setting with more of residential buildings.

4.4 Socio-Economic Environment

4.4.1 Population

According to the Kenya National Bureau of Statistics (KNBS) 2019 Census, Langata Constituency, has a total population of 197,489 people across an area of 216.8 km², resulting in a population density of 911 persons per km². The constituency comprises five wards: South C, Nairobi West, Mugumo-ini, Karen, and Highrise. Mugumo-ini Ward, the project's specific location, has a population of 58,272, with 27,347 males and 30,918 females, indicating a slightly higher female population. (*Highlighted is Mugumo-ini ward where the project is located*). Table 4-1 below summarizes the population data for Langata Constituency and its wards. The proposed development of 1,386 units is expected to introduce a significant new residential population, placing additional demand on local services and infrastructure.

Table 4-1: Population Distribution in Langata Constituency Wards (KNBS 2019)

Ward	Total Population	Male Population	Female Population

South C	29,529	13,657	15,871
Nairobi West	35,156	16,001	19,151
Mugumo-ini	58,272	27,347	30,918
Karen	35,190	18,697	16,489
Highrise	39,342	20,996	18,345
Total	**197,489**	**96,698**	**100,774**

4.4.2 Land Use

Current land use on Lot 3 is mixed and includes open/under-utilised ground with light vegetation, a church structure (to be demolished), a carwash along the Southern Bypass frontage, and proximity to formal residential estates (Southlands Estate). Surrounding land use is dominated by residential estates, the Southern Bypass Road reserve, and institutional facilities.

4.4.3 Infrastructure

Existing infrastructure serving the area is under pressure. Key components are summarized below.

Water supply

The area relies primarily on Nairobi City Water and Sewerage Company (NCWSC) supply, which is subject to rationing. Residents of Southlands and neighboring estates have consistently reported intermittent supply, low pressure and seasonal shortages. Illegal connections and high demand worsen the problem. The project proposes boreholes (with associated storage) as a supplementary source, subject to hydrogeological confirmation and WRA permitting.

Sewerage

Existing sewer infrastructure is limited and, in places, damaged or overloaded. Overflows and blockages have been reported. The project will require connection to, or upgrading of, formal sewerage systems. Broader Nairobi Rivers regeneration initiatives are expected to improve trunk capacity over time, but local reticulation and treatment capacity remain constraints.

Electricity

The site and surroundings are served by the Kenya Power network. Existing electricity lines in the wider project corridor may require protection or relocation (coordination with KPLC). Illegal connections have been noted as an issue. The project design includes a power house with backup generator and street lighting.

Education

Nearby educational facilities include schools in the Langata area such as Langata Primary and Ngei Primary. CSR commitments linked to the wider project include support to selected local schools. Increased residential population will place additional demand on education services.

4.5 Cultural/Religious Features

The most significant cultural/religious feature associated with Lot 3 is a church located on the site frontage, which is scheduled for demolition to accommodate the development. During public participation, church representatives and community members emphasized the spiritual and social importance of places of worship and requested that faith-based organizations be considered in planning and CSR.

No registered cultural heritage sites, monuments or archaeological features of national significance have been identified on the Lot 3 site during baseline observations. Chance-find procedures will nevertheless be included in the ESMP.

4.6 Sensitive Receptors

Sensitive receptors in the immediate vicinity of Lot 3 include:

a) Southlands Estate residential blocks (privacy, sunlight, noise, dust, visual intrusion, property value and traffic concerns);

b) The church structure on the site frontage (displacement, noise, dust and access during construction);

c) Users of the Langata Link Road and Southern Bypass and connecting roads (traffic safety and congestion);

d) Downstream water users and ecological systems linked to River Motoine, River Ngong and Nairobi Dam;

e) Remaining informal settlers and livelihood operators on or adjacent to the site (displacement and livelihood restoration);

f) Vulnerable groups (PWDs, widows, elderly and low-income households) who may face particular challenges in accessing housing or coping with construction impacts.

4.7 Existing Environmental and Social Challenges

The baseline environment of Lot 3 and its surroundings is characterised by a number of pre-existing challenges that the project both inherits and has the potential to worsen:

a) Water scarcity and unreliable supply — rationing, low pressure and illegal connections.

b) Inadequate sewerage and drainage — overloaded or damaged systems, overflows, blocked drains and localised flooding.

c) Traffic congestion and limited access — pressure on the Southern Bypass and Langata Link Road; safety concerns for pedestrians and residents.

d) Loss of open / green space — progressive conversion of open land to built form; residual trees and vegetation provide limited amenity.

e) Informal settlement and livelihood displacement — presence of structures (church) and other livelihood activities that will be affected.

f) Pressure on social services — education, health and security systems already serving a dense urban population.

g) Environmental quality issues — dust, noise from traffic and previous site activities, solid-waste management gaps, and downstream water pollution risks.

h) Land-use and planning tensions — resident concerns about height, density, privacy, sunlight, property values and the characterisation of the project as “Kibra” rather than Southlands.

Many of these challenges were raised during the inclusive public participation programme (PWDs, Residential Associations, Youth, Women, Business Community, Community Baraza, PAPs and Institutions meetings, 31 July – 7 August 2026) and will be carried forward into the impact assessment, alternatives analysis, and Environmental and Social Management Plan.

4.4 SOCIO-ECONOMIC STUDY FINDINGS

4.4.1 Introduction

The study employed structured household questionnaires administered by trained enumerators using GPS coordinates mapping and systematic sampling techniques to capture insights from respondents across seven primary villages: Southlands (54%), Otiende (24%), Lindi (8%), Soweto East (6%), Laini Saba (4%), Kisumu Ndogo (2%), and Mashimoni (2%). Geographic distribution spans three sublocations, including Mugumoini (76%), Lindi (16%), and Soweto East (8%), encompassing both Lang'ata (76%) and Kibra (24%) sub-counties.nThe findings reveal universal project awareness (100%) and exceptional community support (88% positive reception) alongside critical infrastructure deficits requiring comprehensive intervention strategies.

4.4.2 Gender of Respondent

Gender distribution demonstrates a perfect balance between males and females, each comprising 50% of respondents. As shown in figure 4-6 below, this equal representation provides comprehensive insights into both male and female perspectives on housing needs, safety concerns, and community priorities across the Lang'ata and Kibra areas. The balanced gender participation ensures women's voices are adequately captured regarding childcare access, security concerns, and economic opportunities. This equal representation enables a better understanding of gender-specific challenges in informal settlements while facilitating inclusive development planning. The housing project benefits from this balanced perspective, ensuring development plans address both male and female priorities while incorporating gender-sensitive design features that reflect the needs of all community members.

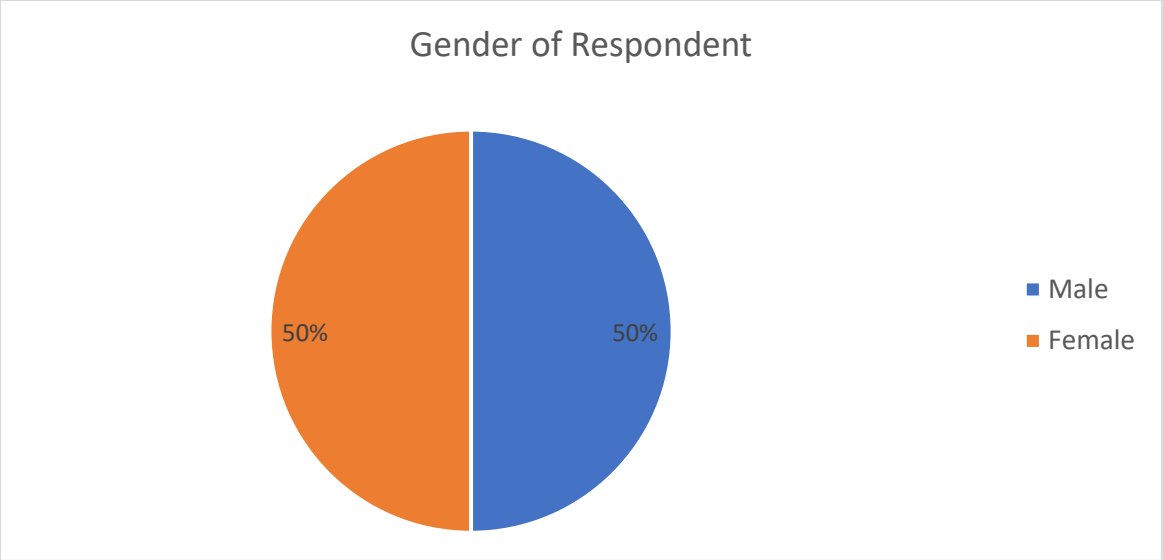


Figure 4-5: Gender of Respondent

4.4.3 Age of Respondent

The demographic profile reveals a mature, economically active population with 31-40 years leading at 38%, followed by 41-50 years at 22%, and 20-30 years at 20%. As illustrated in figure 4-7 below, older residents aged 51-60 and over 60 comprise 14% and 2% respectively, while those under 20 represent 4%. This concentration in prime working ages indicates substantial family formation needs and employment demands across Southlands, Otiende, and surrounding villages. The mature demographic suggests established households with potential for economic stability and community leadership. The social housing project should prioritize family-oriented housing units and incorporate amenities suitable for working-age adults while ensuring accessibility features for the elderly minority population requiring specialized support services.

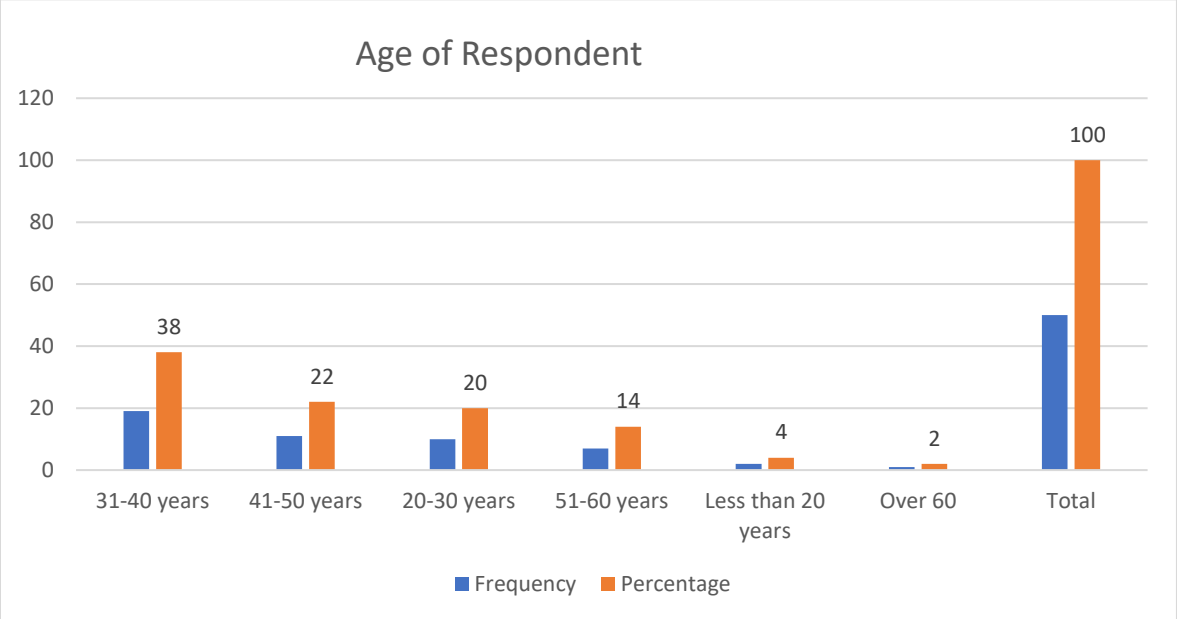


Figure 4-6: Age of Respondent

4.4.4 Highest Education Level Completed

Educational achievement shows encouraging levels with primary education leading at 54%, secondary at 28%, and tertiary education reaching 14%. As depicted in Figure 4-9, vocational training represents 2%, while only 2% lack formal education, indicating a strong educational foundation across the community. This primary education dominance, with substantial secondary completion, demonstrates significant literacy and availability of basic skills. The educational distribution suggests capacity for skills-based employment and entrepreneurship development. The social housing project should leverage this educational foundation through skills development programs, business incubation spaces, and continued learning facilities while ensuring affordable housing options that accommodate varied income levels resulting from different educational backgrounds across Southlands, Otiende, and surrounding villages.

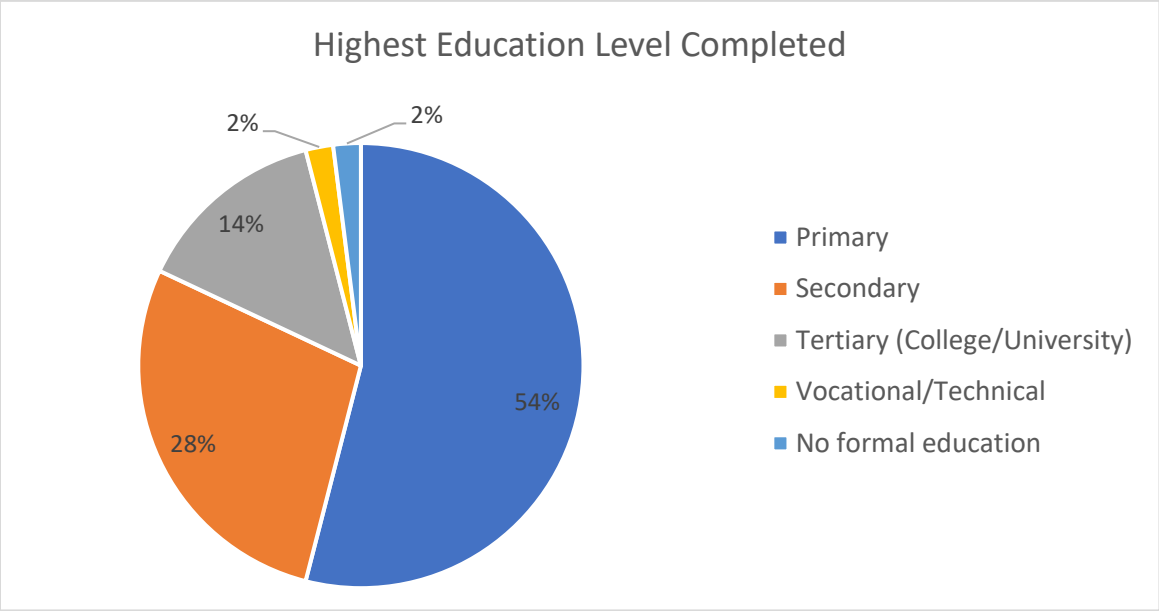


Figure 4-7: Highest Education Level Completed

4.4.5 Main Occupation/Source of Income

Employment patterns reveal that casual labor dominance is at 42%, followed by business activities at 20%, and unemployment at 18%. As shown in Figure 4-10, farming and informal sector activities each represent 8%, while students comprise 4%. This heavy casual labor dependence suggests income instability and employment vulnerability across the community. The substantial business engagement indicates entrepreneurial spirit requiring support and workspace provision. High unemployment levels demand urgent intervention through job creation and skills development. The social housing project must prioritize employment generation during construction phases, establish skills training centers, and incorporate commercial spaces to support the 20% engaged in business while providing stable employment pathways for casual workers and unemployed residents.

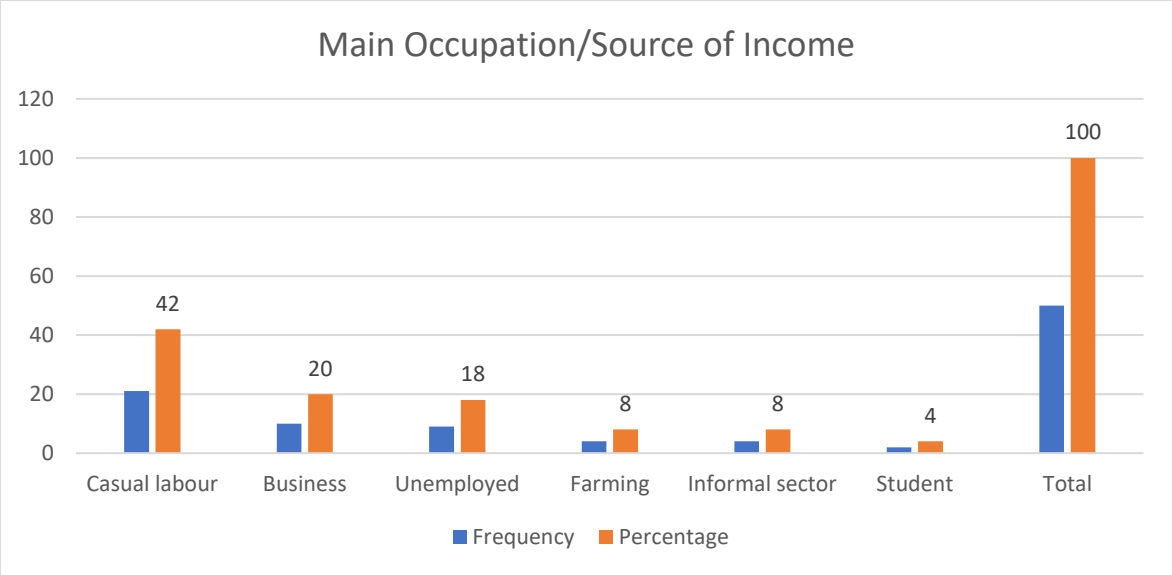


Figure 4-8: Main Occupation/Source of Income

4.4.6 Monthly Household Income Bracket

Income distribution reveals moderate poverty with 62% earning below KES 10,000 monthly and 34% in the KES 10,001-20,000 range, totaling 96% surviving on less than KES 20,000. As illustrated in Figure 4-11 below, only 4% achieve an income above KES 50,000, indicating extreme affordability constraints. This income profile emphasizes the urgent need for heavily subsidized housing options across Southlands, Otiende, and surrounding areas. The overwhelming concentration in the lowest income brackets demands ultra-affordable housing solutions with flexible payment arrangements. The social housing project must prioritize cost-effective construction methods, implement graduated payment schemes, and integrate income-generating opportunities to ensure housing remains accessible while supporting residents' economic advancement through comprehensive poverty alleviation strategies and livelihood enhancement programs.

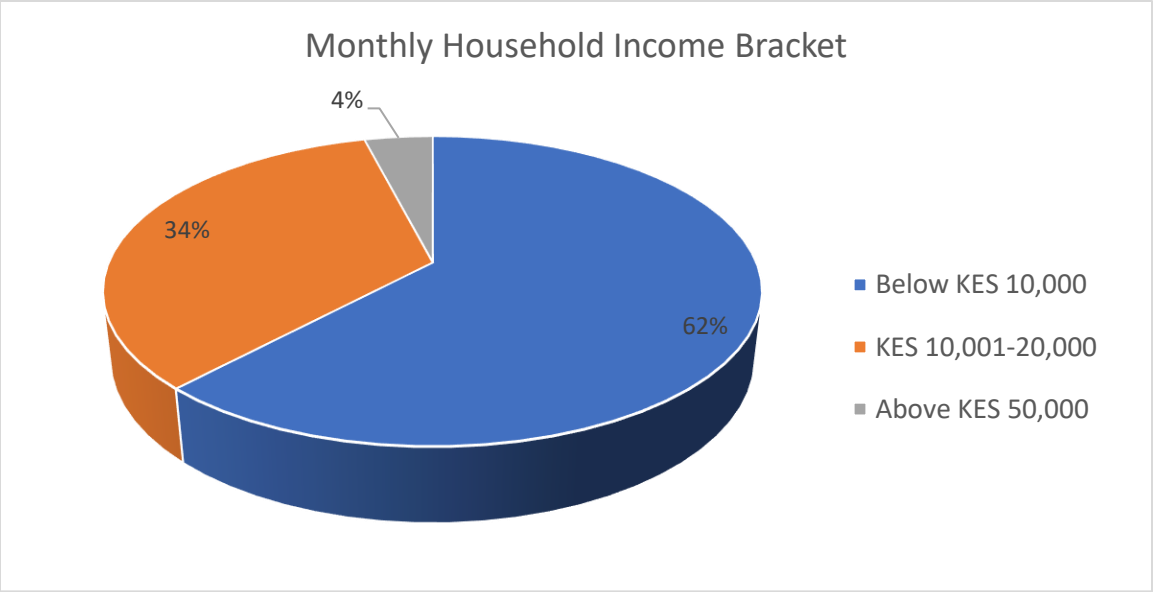


Figure 4-9: Monthly Household Income Bracket

4.4.7 Total Members in the Household

Household size distribution shows 3-member families leading at 20%, while various configurations from 1-9 members demonstrate diverse family structures. As depicted in Figure 4-12 below, single-person and 5-member households each represent 14%, followed by 2 and 4-member arrangements at 12% each, with 6 and 7-member arrangements at 10% each. Larger families of 8-9 members account for smaller proportions. This varied household composition requires flexible housing solutions accommodating different family sizes across the community. The predominance of small to medium-sized families (1-5 members) suggests demand for 1–3-bedroom units, while larger family representation necessitates bigger accommodations. The social housing project must provide diverse unit configurations that serve this complex household structure while maintaining affordability across all family size categories.

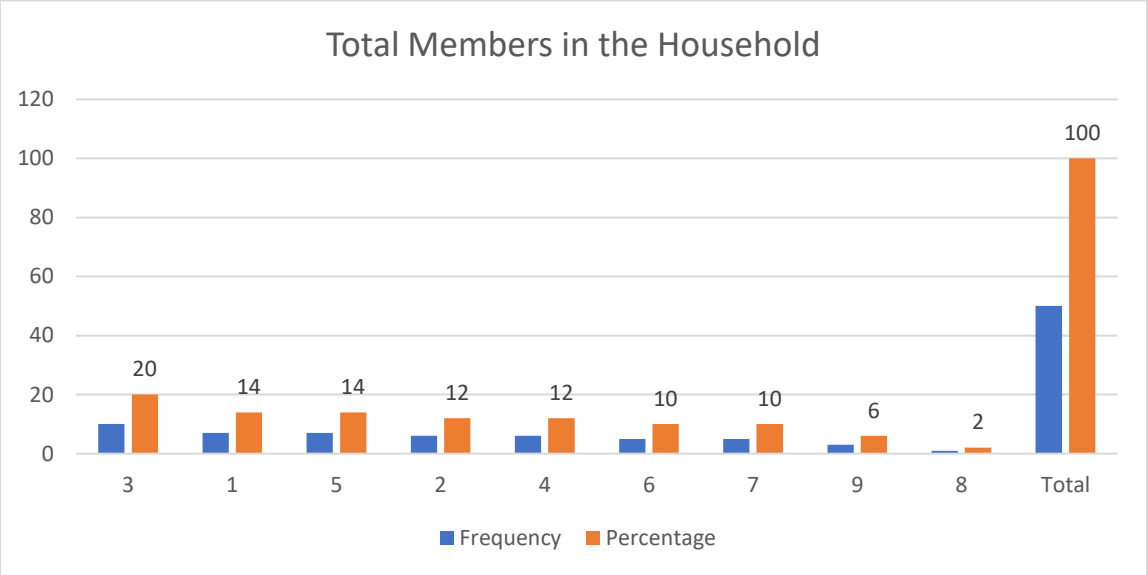


Figure 4-10: Total Members in the Household

4.4.8 Number of Adults (18+ years)

Adult household composition reveals 2-adult households dominating at 38%, followed by single-adult households at 30% and 3-adult arrangements at 20%. As shown in Figure 4-13 below, larger adult groups of 4-5 adults comprise 12% combined. This distribution indicates predominantly nuclear family structures with significant single-adult representation across Southlands, Otiende, and surrounding villages. The prevalence of 2-adult households suggests couples or small extended families requiring appropriate privacy and space allocation. The substantial single-adult presence indicates independent living arrangements or single-parent situations. The social housing project should prioritize units designed for small adult groups while maintaining affordability. Flexible interior designs accommodating various adult household compositions will address the diverse living arrangements common in this community.

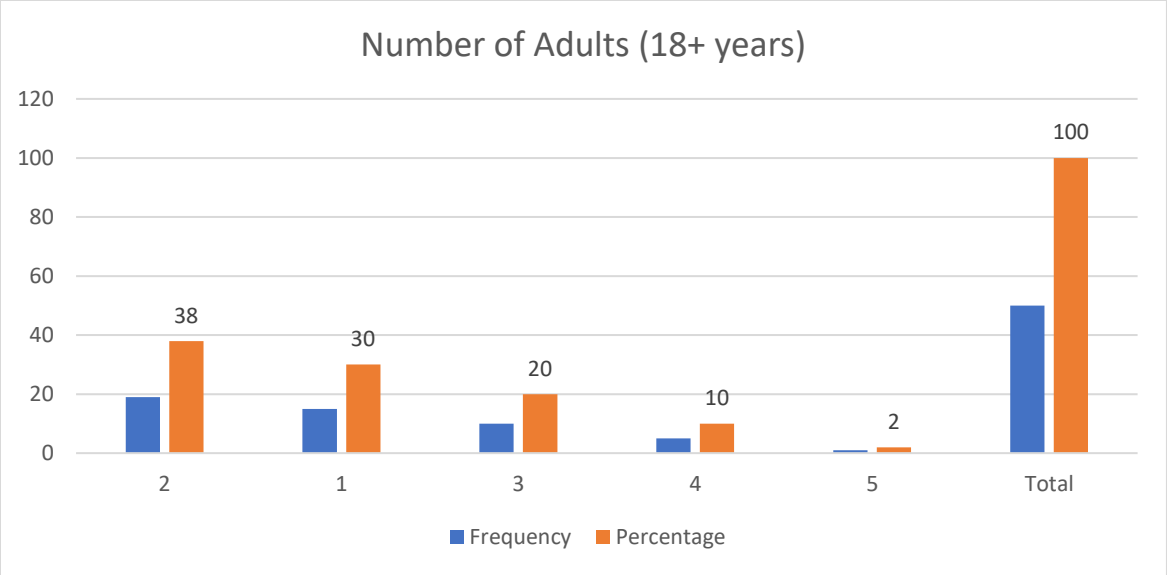


Figure 4-11: Number of Adults (18+ years)

4.4.9 Children (Under 18 years)

Child distribution shows significant variation, with 26% having no children, while 20% have 2 children, and 16% each have 1 or 3 children. As illustrated in Figure 4-14 below, families with 4-5 children represent 22% combined. This pattern indicates that 74% of households have at least one child, emphasizing strong demand for family-oriented housing features across the community. The balanced distribution across different child numbers requires diverse housing configurations and comprehensive child-friendly infrastructure. The social housing project must incorporate safe play areas, proximity to educational facilities, and child-centered design features, including secure outdoor spaces, traffic-calmed streets, and supervised recreational areas that support the predominantly family-oriented community across Southlands, Otiende, and surrounding villages while accommodating childless households.

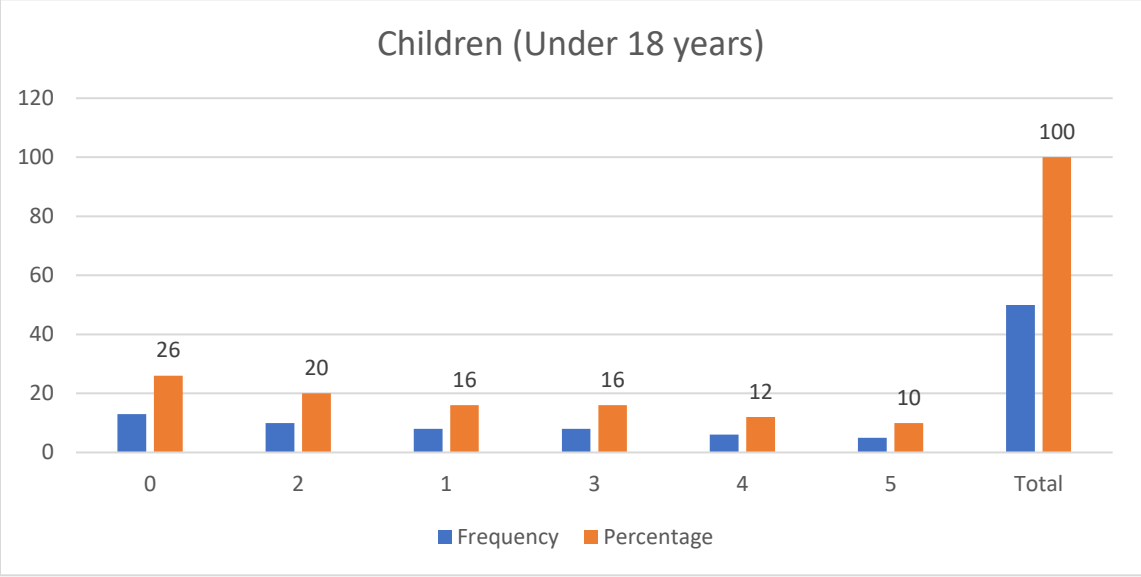


Figure 4-12: Children (Under 18 years)

4.4.10 Vulnerable Members in the Household

Vulnerable population presence shows 80% of households without vulnerable members, while pregnant or lactating women represent the largest vulnerable group at 14%. As depicted in Figure 4-16 below, orphans or vulnerable children comprise 4%, and widowed single parents represent 2%. This distribution indicates relatively low vulnerability levels but requires targeted support services for affected households. The significant presence of pregnant women emphasizes the need for accessible healthcare and maternal support services. The social housing project must ensure universal accessibility features, proximity to health facilities, specialized support for vulnerable populations, and inclusive design that accommodates pregnant women and vulnerable children while providing comprehensive social protection networks.

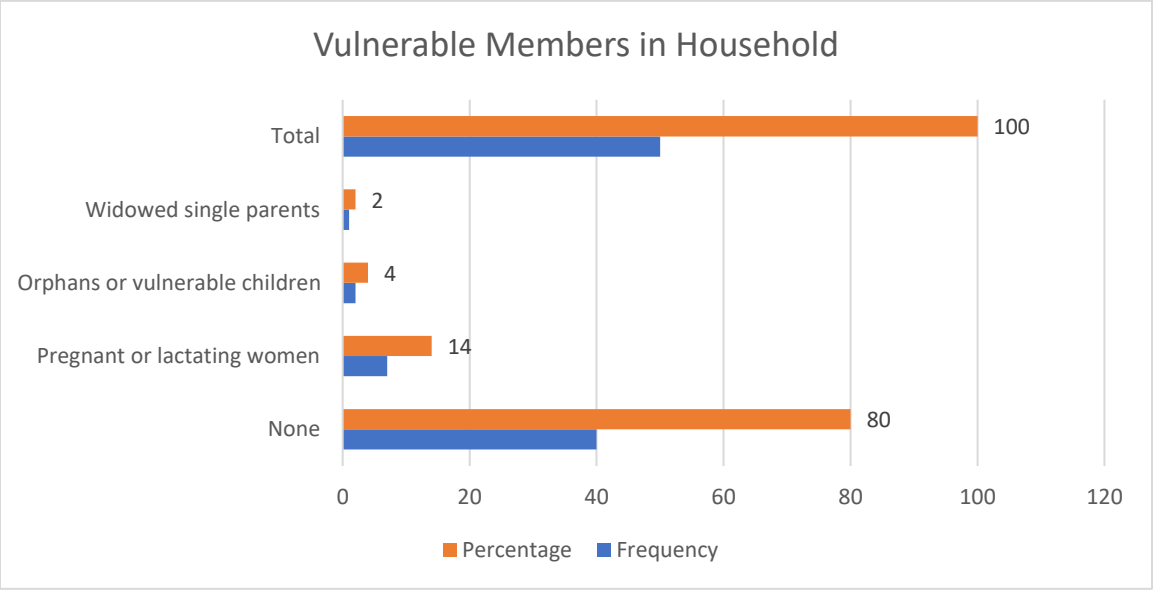


Figure 4-13: Vulnerable Members in the Household

4.4.11 Support for Vulnerable Members

Figure 4-17 below reveals a concerning support pattern, with 80% of households reporting no vulnerable members, as discussed before, while 16% of vulnerable members receive no assistance, and only 4% access external support across Lang'ata and Kibra areas. This significant support gap primarily affects pregnant women, vulnerable children, and widowed single parents throughout Southlands, Otiende, and surrounding villages. Among the minimal 4% receiving support, assistance comes exclusively from relatives, indicating a complete absence of formal government or NGO intervention. This total reliance on family networks highlights critical social protection deficiencies requiring urgent intervention. The social housing project must establish comprehensive support systems through partnerships with government agencies and NGOs, while creating dedicated facilities and services for vulnerable residents, including accessible healthcare for pregnant women, educational support for orphaned children, and specialized assistance for widowed parents to ensure no vulnerable household remains dependent solely on family assistance throughout the development implementation.

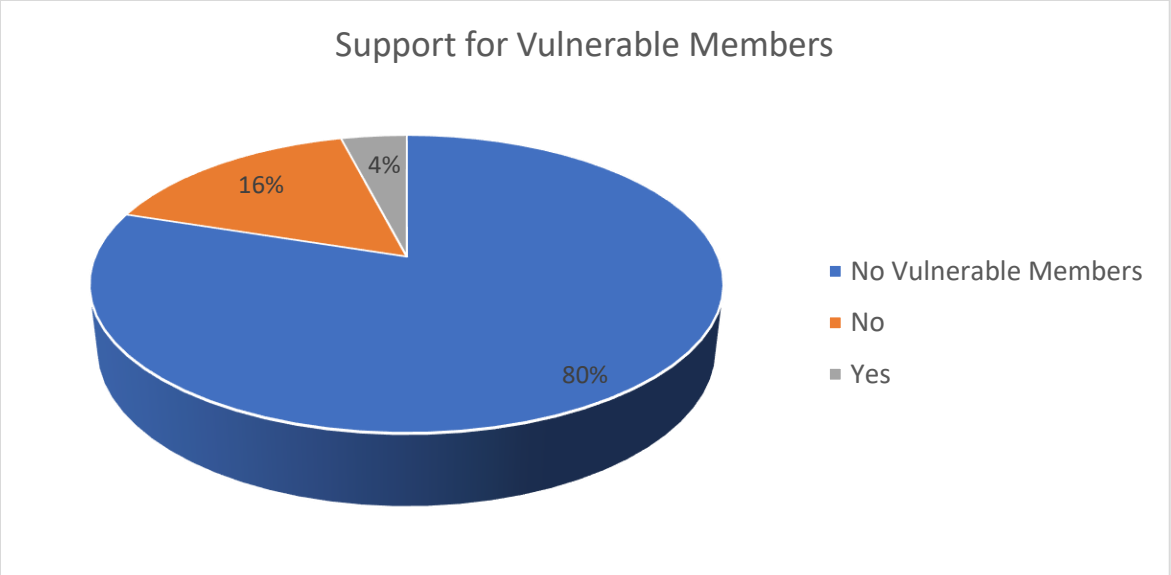


Figure 4-14: Support for Vulnerable Members

4.4.12 Length of Residence in Area

Residential tenure patterns demonstrate strong community roots with long-term residents (more than 10 years) leading at 36%, followed by 6–10-year residents at 26% and 1-5-year residents at 24%. As illustrated in Figure 4-18 below, recent arrivals (less than one year) comprise 10%, while lifetime residents represent 4%. This pattern suggests established community networks with ongoing migration to the area. The substantial long-term residence indicates deep local knowledge and community attachment, while significant medium-term and recent arrival representation shows dynamic population composition. The social housing project should accommodate both established residents with strong local networks and newcomers seeking community integration, ensuring development preserves existing social bonds while welcoming new community members across Southlands, Otiende, and surrounding villages.

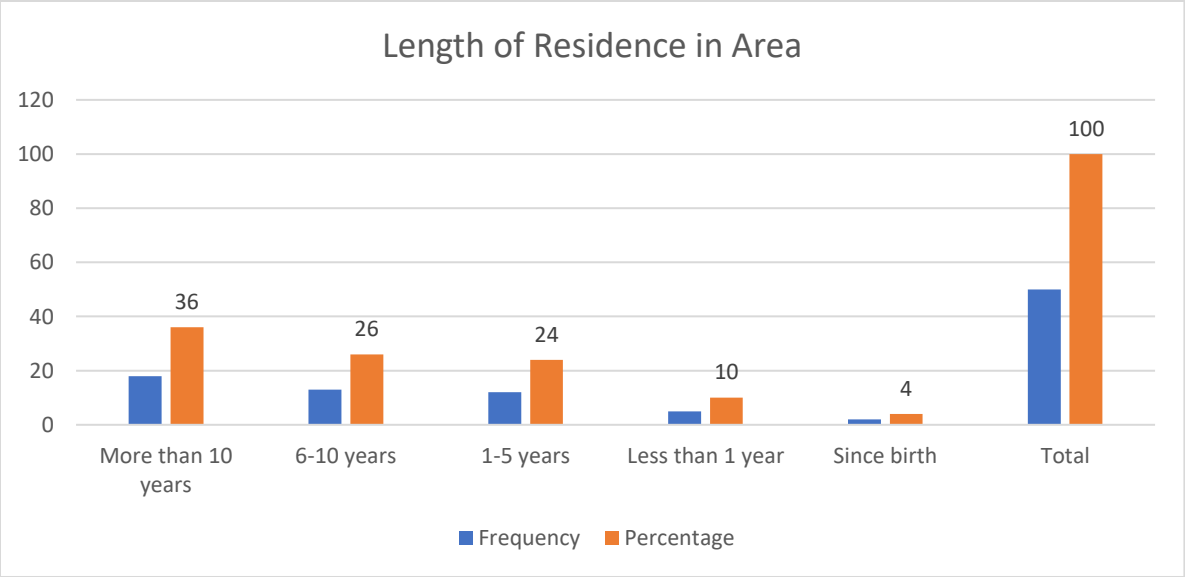


Figure 4-15: Length of Residence in Area

4.4.13 Type of Dwelling Unit

Housing quality reveals predominantly poor conditions, with 80% living in semi-permanent structures, 16% in temporary makeshift dwellings, and only 4% in permanent buildings. Figure 4-19 below indicates widespread housing vulnerability across the community, with over three-quarters residing in inadequate shelter, requiring immediate intervention. The overwhelming prevalence of semi-permanent and temporary structures emphasizes the urgent need for improved housing solutions. The minimal permanent housing stock demonstrates the transformative potential of the social housing project. Development must prioritize transitioning residents from vulnerable structures to dignified permanent housing, dramatically improving living standards while ensuring structural safety, durability, and weather resistance for all households across Southlands, Otiende, and surrounding areas, while addressing the critical housing deficit.

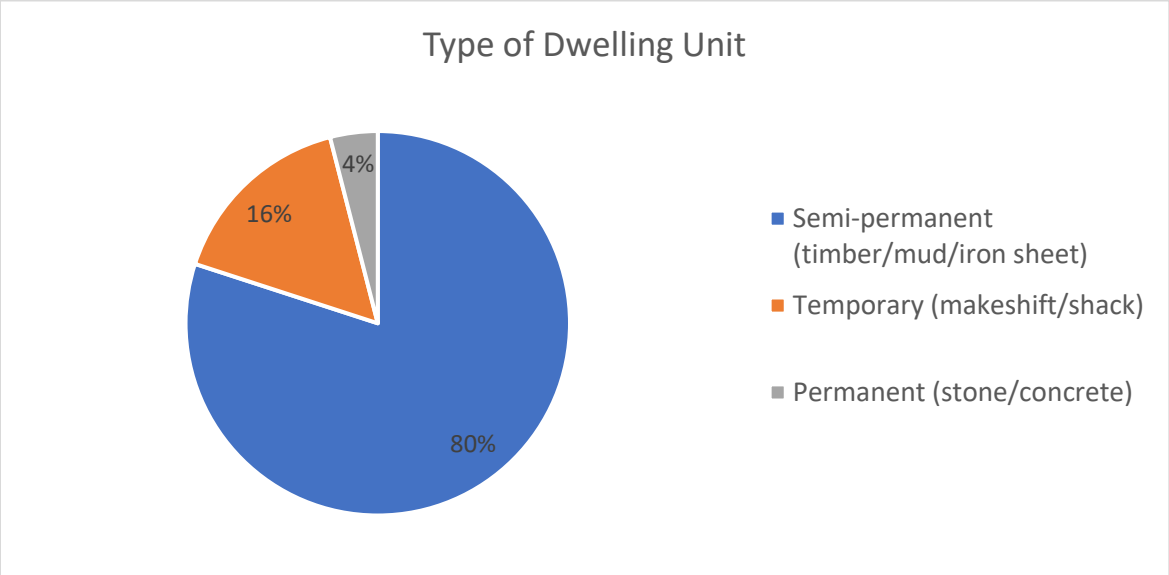


Figure 4-16: Type of Dwelling Unit

4.4.14 Ownership Status of the House

Housing tenure shows overwhelming rental dependence at 82%, while only 10% own their homes, 6% access employer/landlord-provided accommodation, and 2% occupy without legal ownership, as depicted in Figure 4-20 below. This rental dominance indicates limited property ownership and significant housing insecurity throughout the community. The heavy rental reliance suggests substantial monthly housing cost burdens and vulnerability to eviction among residents. This tenure pattern demands urgent intervention to promote homeownership and provide housing security. The social housing project should prioritize rent-to-own schemes, affordable mortgage options, and secure tenure arrangements that transition renters into homeowners, providing long-term stability and asset-building opportunities while reducing housing costs for residents across Southlands, Otiende, and surrounding villages.

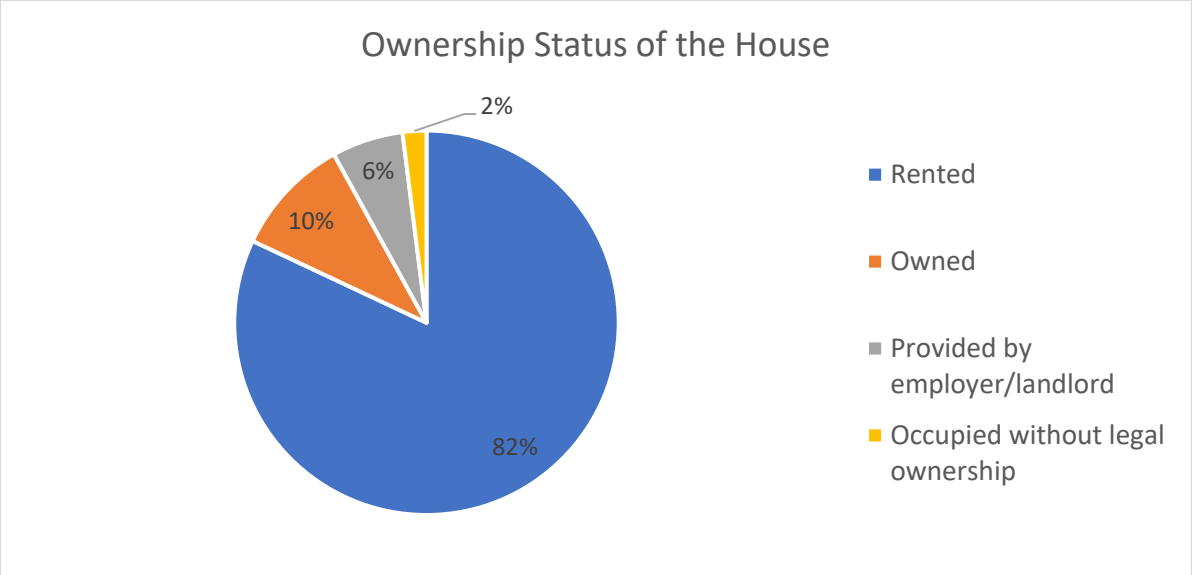


Figure 4-17: Ownership Status of the House

4.4.15 Main Source of Water Supply

As shown in Figure 4-21 below, water access patterns reveal a heavy reliance on public taps at 50%, while water vendors serve 22%, and piped connections provide 28% combined (18% to yards, 10% into dwellings). This mixed water infrastructure indicates partial development with significant public tap dependence, creating queuing challenges and vendor reliance, imposing financial burdens on residents across Southlands, Otiende, and surrounding villages. The moderate piped water presence suggests existing infrastructure requiring expansion and optimization. The social housing development must ensure universal piped connections to all units, eliminating expensive vendor dependence and reducing public tap congestion while establishing adequate water storage, pressure systems, and reliable supply for improved quality of life and reduced household expenses.

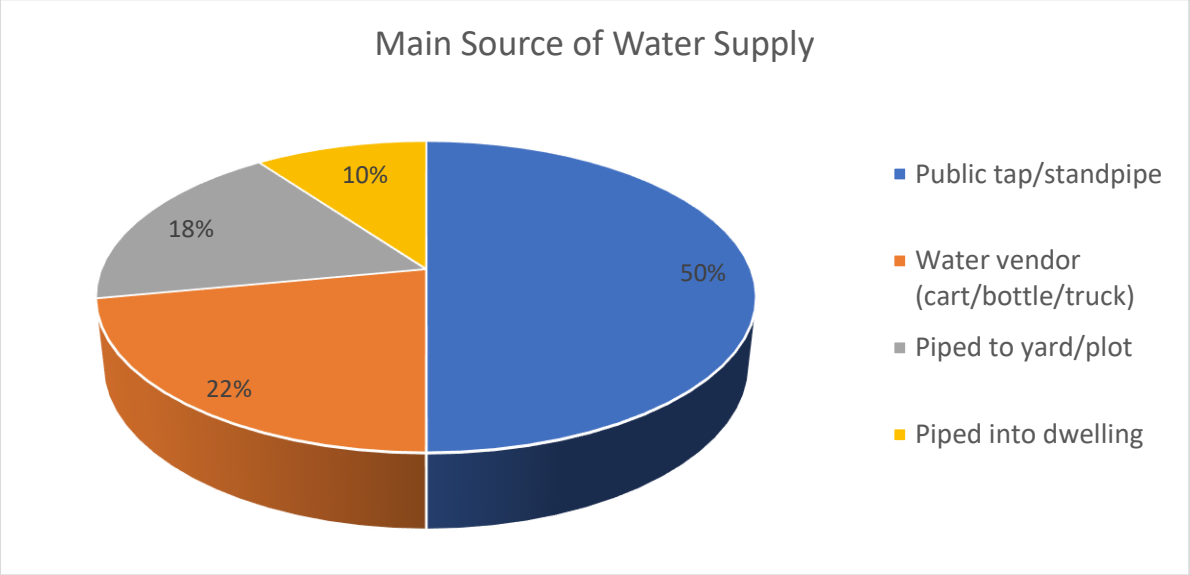


Figure 4-18: Main Source of Water Supply

4.4.16 Regularity of Water Supply

Figure 4-22 below demonstrates excellent water reliability with 82% enjoying daily access, while 8% receive twice-weekly supply, and minimal proportions experience once weekly, four times weekly, thrice weekly, or other irregular patterns at 4%, 2%, 2%, and 2% respectively. This exceptional daily supply pattern indicates superior infrastructure performance compared to other informal settlements, providing a strong foundation for community development. The overwhelming majority of people experiencing consistent water access create positive health and sanitation conditions that require maintenance and enhancement. The social housing project should build upon this reliable water infrastructure while addressing the 18% facing irregular access through improved distribution systems and storage facilities to achieve universal daily water availability throughout Southlands, Otiende, and surrounding areas.

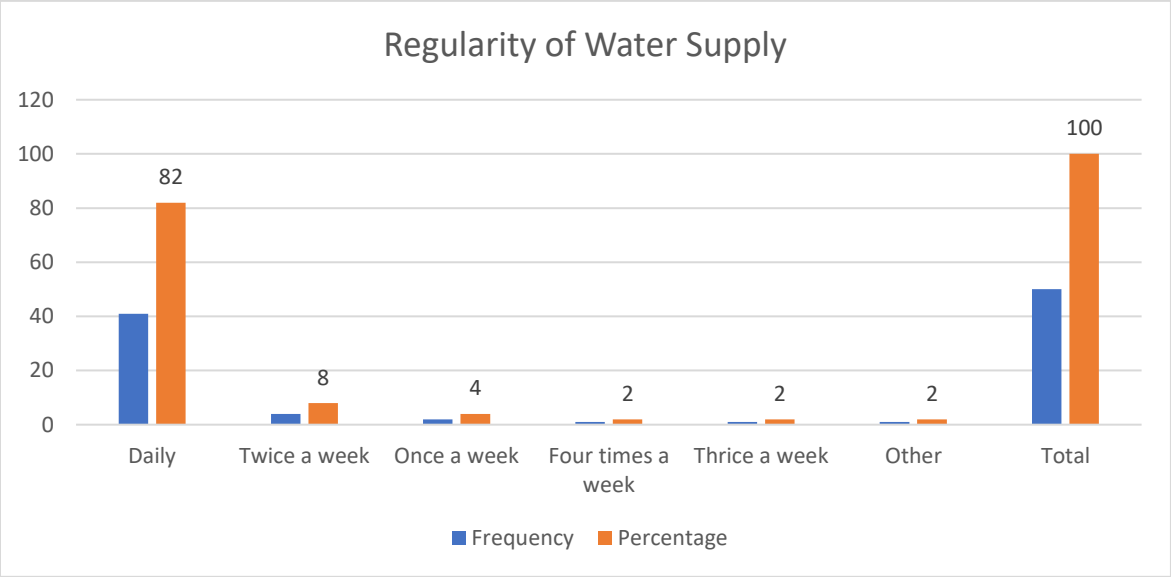


Figure 4-19: Regularity of Water Supply

4.4.17 Main Source of Energy for Cooking

Energy patterns reveal substantial LPG gas dependence at 64%, followed by charcoal usage at 20%, electricity access at 10%, and minimal reliance on other sources and firewood at 4% and 2% respectively, as illustrated in Figure 4-23 below. This distribution indicates moderate infrastructure development with significant clean energy adoption across Southlands, Otiende, and the other surrounding villages. The heavy gas reliance suggests established supply networks and household purchasing capacity for cleaner cooking fuels. The social housing project should maintain and expand clean cooking energy access while incorporating reliable electricity connections and improved cookstove technologies to enhance household energy security and reduce indoor air pollution throughout the development.

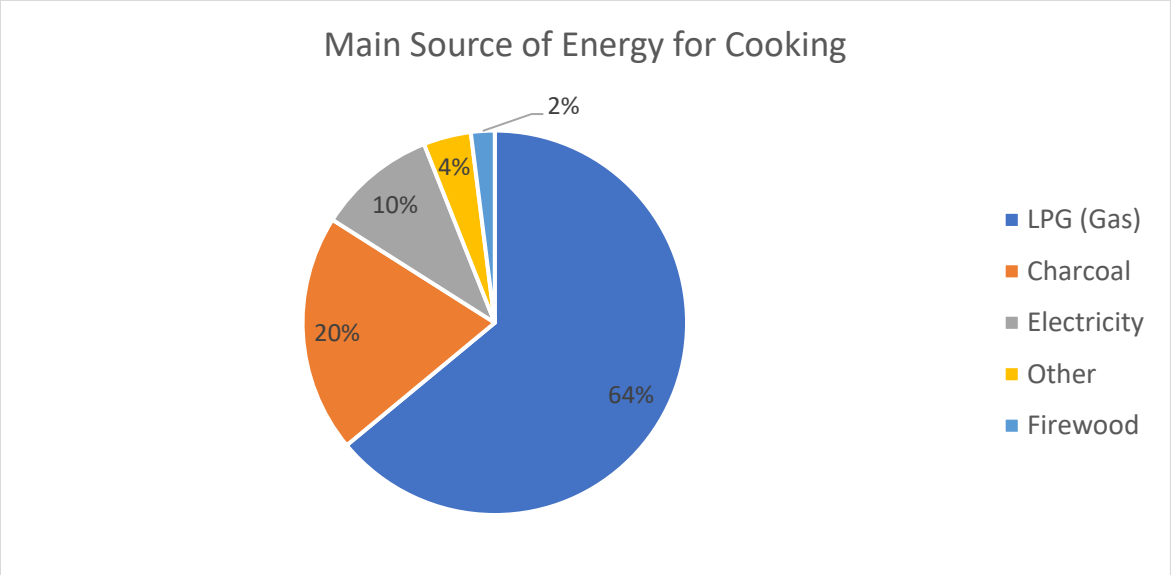


Figure 4-20: Main Source of Energy for Cooking

4.4.18 Main Source of Energy for Lighting

As illustrated in Figure 4-24 below, electricity access demonstrates excellent progress, with 86% connected to the main grid, while solar power serves 14% of households. This substantial grid connectivity represents a significant infrastructure achievement across Lang'ata and Kibra areas, exceeding typical informal settlement standards. The high electricity access indicates successful utility expansion efforts, while solar adoption shows community adaptation to alternative energy sources. This impressive grid coverage provides a strong foundation for the social housing project, eliminating fire risks associated with dangerous lighting alternatives. The development should maintain this high modern energy access while potentially incorporating solar backup systems to ensure reliable lighting and support economic activities requiring a consistent power supply throughout the community.

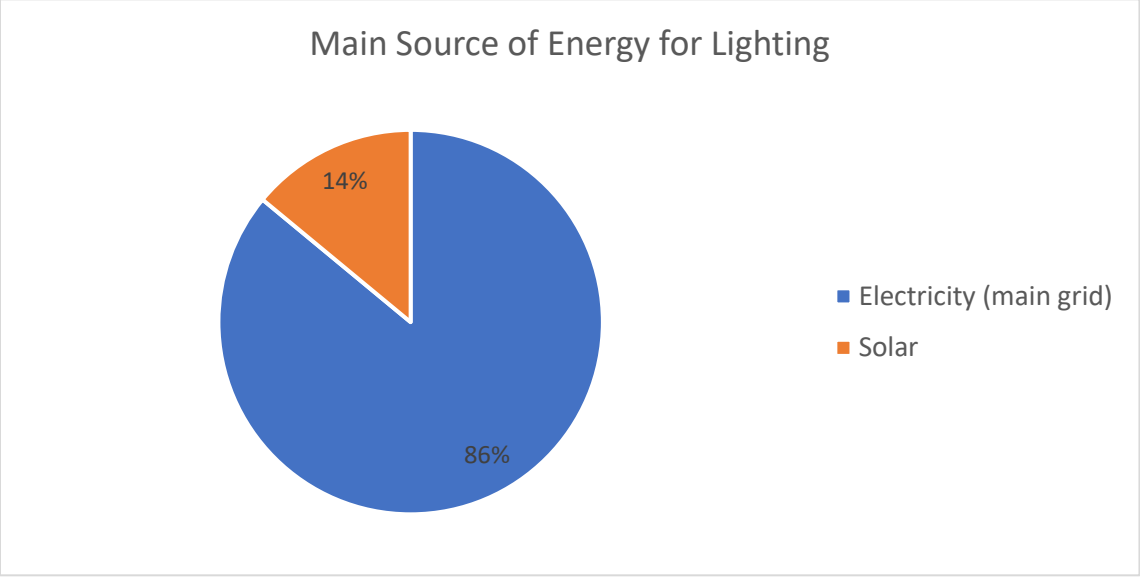


Figure 4-21: Main Source of Energy for Lighting

4.4.19 Type of Sanitation Facility

As depicted in Figure 4-25 below, sanitation infrastructure reveals concerning conditions with pit latrines without slabs leading at 38%, followed by pit latrines with slabs at 28% and flush toilets at 28% combined (20% septic, 8% sewer). VIP latrines, shared toilets, and open defecation each represent 2%. This distribution shows mixed sanitation access with significant reliance on basic pit latrines, requiring urgent improvement across the community. The moderate flush toilet presence indicates existing infrastructure needing expansion, while high pit latrine dependence emphasizes transformation needs. The social housing project must provide individual household flush toilets connected to proper sewer systems for all units, representing a dramatic improvement in living conditions and public health for residents across Southlands, Otiende, and surrounding villages.

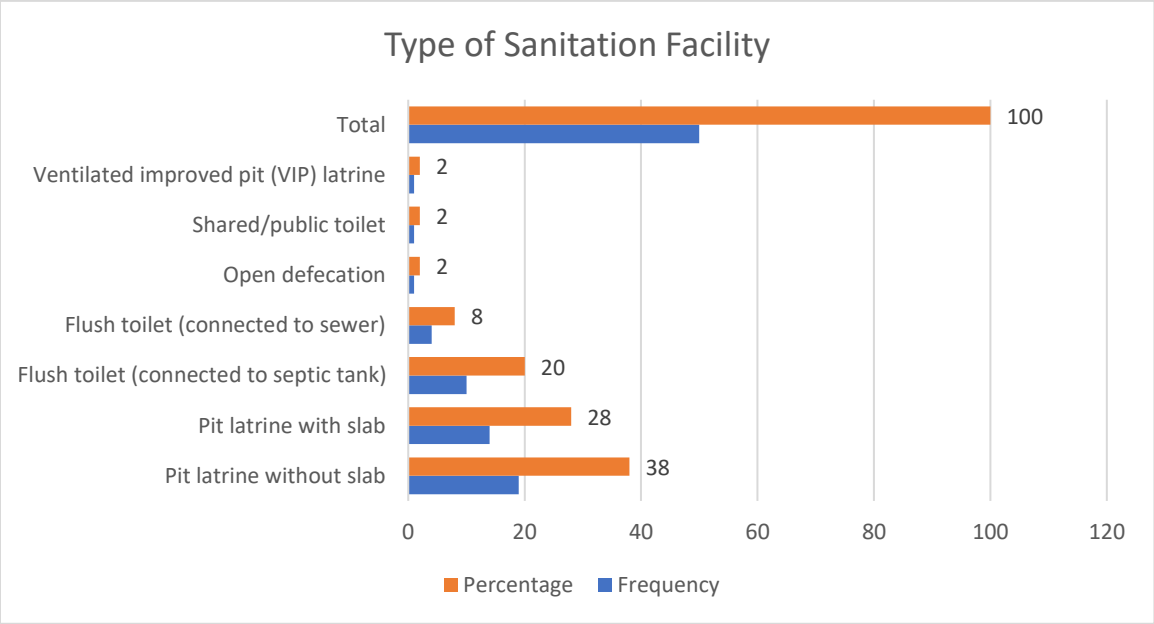


Figure 4-22: Type of Sanitation Facility

4.4.20 Solid Waste Disposal Method

Figure 4-26 below shows critical waste management deficiencies, with 66% dumping waste in open areas, while only 20% access formal collection services, and 14% resort to burning. This heavy reliance on open dumping creates severe environmental and health hazards throughout the Lang'ata and Kibra areas. The lack of comprehensive waste management contributes to disease spread, environmental degradation, and air pollution from burning practices. The minimal formal collection coverage indicates an urgent need for systematic waste management intervention. The social housing project must establish comprehensive waste collection systems with 100% coverage, including designated collection points, regular pickup schedules, and recycling programs. Eliminating open dumping and burning practices is essential for creating healthy, sustainable living environments while protecting community health and environmental quality.

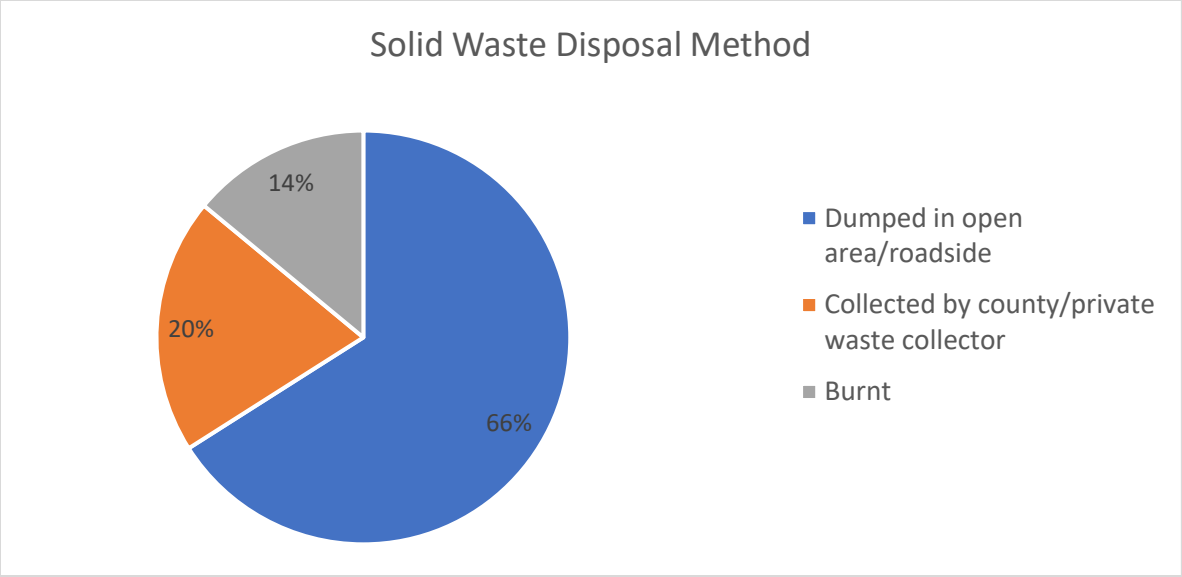


Figure 4-23: Solid Waste Disposal Method

4.4.21 Distance to Primary School in Kilometers

Figure 4-31 below shows excellent primary education access with 40% of households within 1 kilometer and 26% at 2 kilometers, totaling 66% with convenient school proximity. Additional distances from 0.2 to 3 kilometers serve remaining families, with most maintaining reasonable access to educational facilities. This strong educational infrastructure provides a solid foundation for children's learning across the Lang'ata and Kibra areas. The concentrated access within 1-2 kilometers benefits most families, while some face moderate commuting requirements. The social housing project benefits from existing educational infrastructure but should enhance safe walking routes, improve street lighting for security, and potentially advocate for additional school capacity to serve increased population density while maintaining these favorable access patterns for all residents.

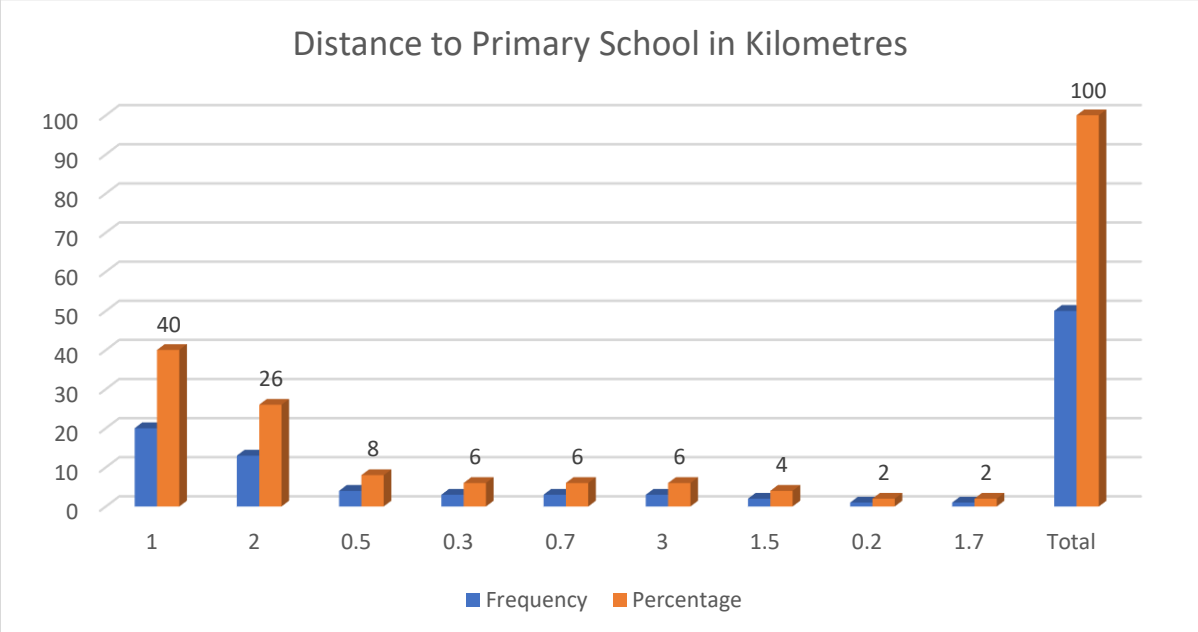


Figure 4-24: Distance to Primary School in Kilometers

4.4.22 Distance to Secondary School in Kilometers

Secondary education proximity is shown in Figure 4-32 below, revealing good access with 44% within 2 kilometers and 12% at 3 kilometers, providing 56% of students with manageable school commutes. Additional distances ranging from 0.2 to 4 kilometers serve remaining students, indicating varied but generally acceptable commuting requirements. This educational infrastructure supports continued learning opportunities across the community. Concentration within 2-3 kilometers benefits most adolescents, though some face longer journeys that require transport solutions. The social housing development should maintain these educational access patterns through preserved school locations and improved transport connectivity, while addressing the needs of students travelling longer distances through subsidized transport programs or bicycle schemes, ensuring educational continuity for all secondary school students.

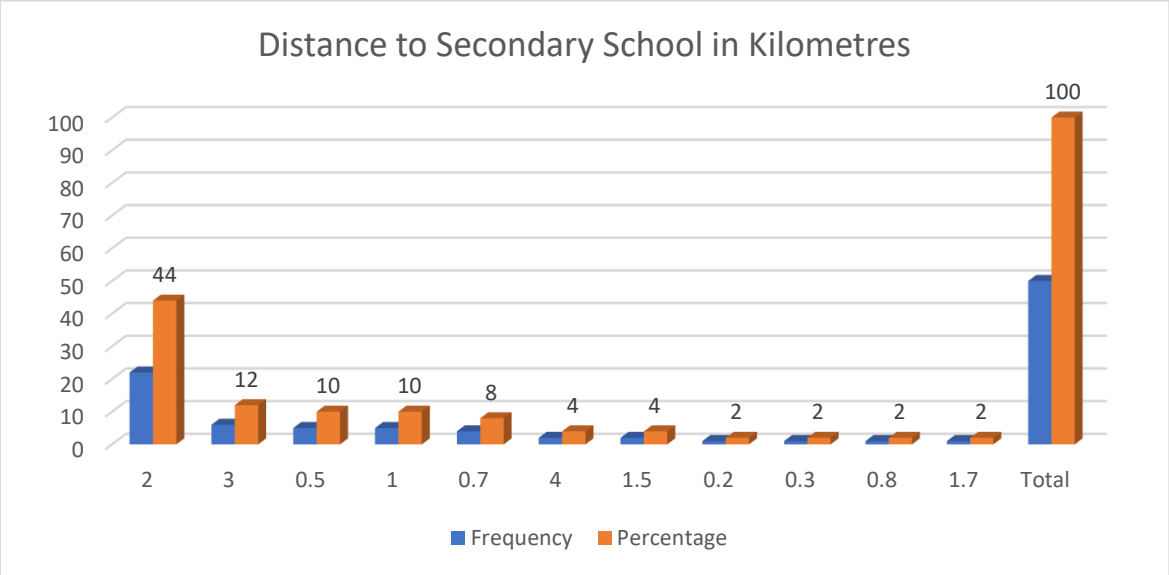


Figure 4-25: Distance to Secondary School in Kilometers

4.4.23 Distance to Health in Kilometers

Figure 4-33 below demonstrates concerning healthcare accessibility, with 28% travelling 1 kilometer, 24% at 2 kilometers, and 20% at 3 kilometers, while various longer distances up to 4 kilometers affect the remaining residents. This scattered distribution indicates inadequate health infrastructure density serving the community, with many residents facing significant travel for medical care. The varied distances suggest uneven healthcare coverage across Southlands, Otiende, and surrounding villages, potentially compromising emergency response and routine health services. The social housing project should include an on-site health clinic or partner with providers to establish regular services, dramatically reducing travel burdens and improving health outcomes. Enhanced healthcare access will address critical gaps affecting residents travelling longer distances for essential medical services throughout the community.

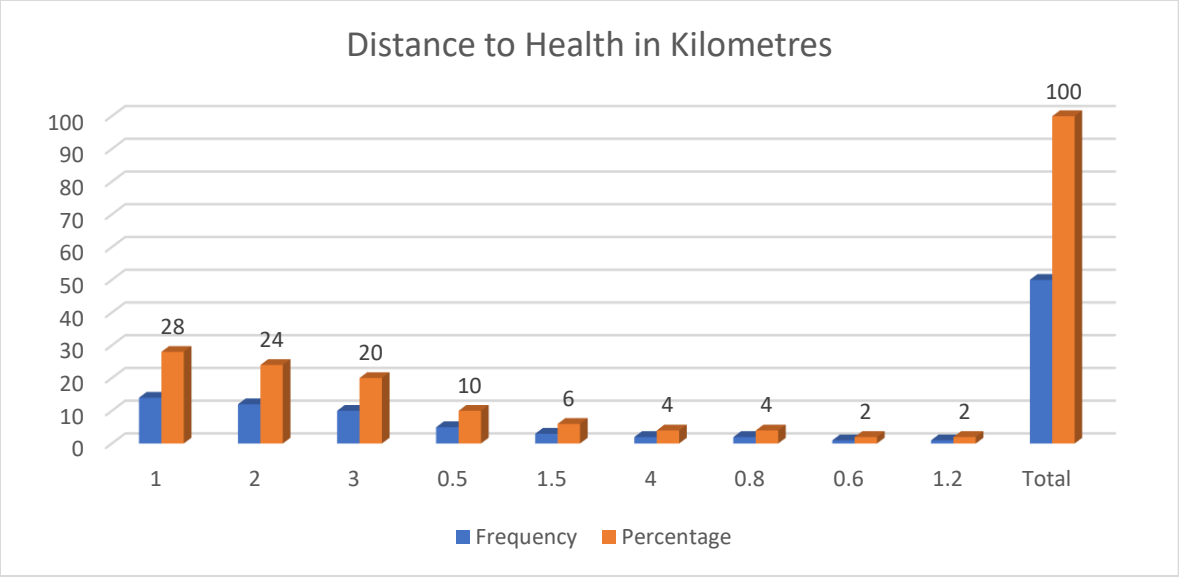


Figure 4-26: Distance to Health in Kilometers

4.4.24 Distance to Market/Shopping Centre in Kilometers

As illustrated in Figure 4-34 below, market access reveals mixed patterns with 22% each travelling 1 and 2 kilometers, followed by 18% at 3 kilometers, indicating moderate commercial infrastructure availability. Various distances from 0.2 to 8 kilometers serve the remaining residents, suggesting scattered commercial facilities across Lang'ata and Kibra sub-counties. This distribution indicates adequate but not optimal market access, with most residents travelling reasonable distances for shopping needs. The concentration within 1-3 kilometers serves the majority of households acceptably, while some face longer journeys. The social housing development should incorporate commercial spaces, weekly markets, or shopping facilities to serve residents' daily needs. Reducing travel distances will save time and transport costs while supporting local entrepreneurship and economic activity within Southlands, Otiende, and surrounding villages.

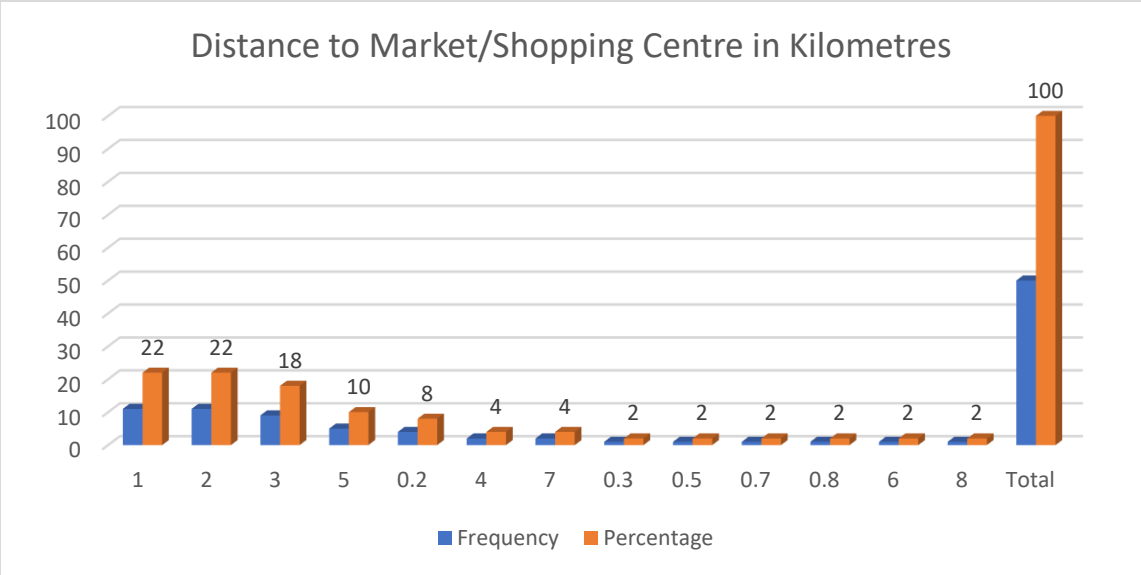


Figure 4-27: Distance to Market/Shopping Centre in Kilometers

4.4.25 Distance to Police Post/Station in Kilometers

Figure 4-35 below shows concerning security infrastructure gaps, with 28% travelling 2 kilometers and 24% at 1 kilometer to police facilities, while others face distances from 0.2 to 4 kilometers. These scattered police access indicates moderate security infrastructure serving the community, though response times may be compromised for emergency situations. The concentration at 1-2 kilometers suggests accessible but not optimal police presence across Southlands, Otiende, and surrounding areas. The social housing project should advocate for a police post within or adjacent to the development while implementing community policing programs. Enhanced security infrastructure and improved police response capabilities will address safety concerns affecting residents requiring emergency assistance. Establishing a closer police presence will improve community security and emergency response times throughout the area.

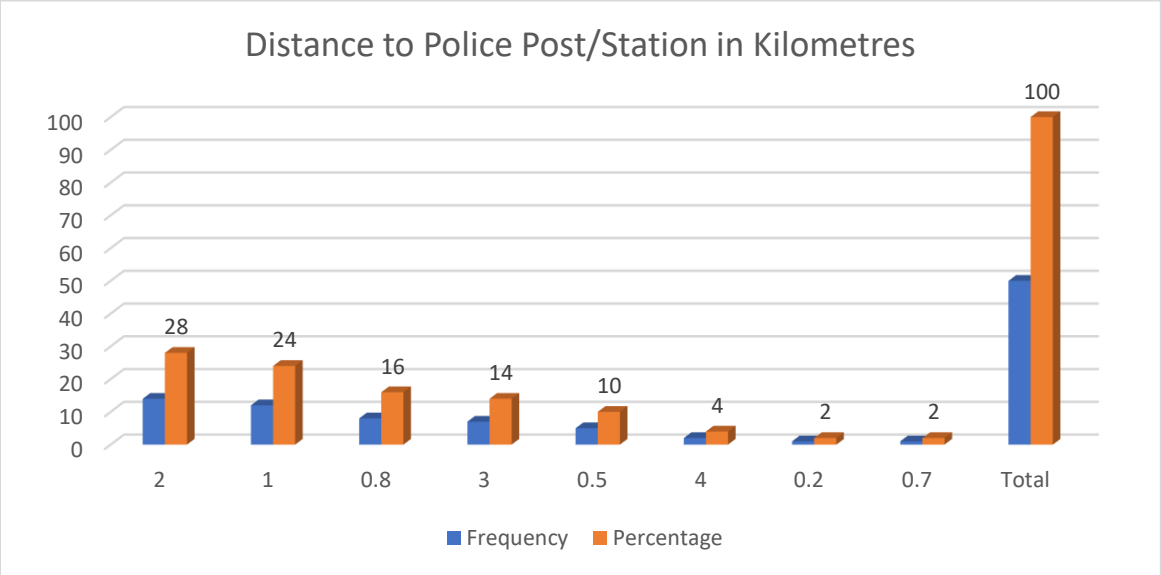


Figure 4-28: Distance to Police Post/Station in Kilometers

4.4.26 Distance to Water Point (if not piped) in Kilometers

As depicted in Figure 4-36 below, water point access demonstrates varied patterns with 18% each travelling 5 kilometers and 1 kilometer, 16% each at 3 and 0.5 kilometers, and 14% at 4 kilometers. Additional distances up to 6 kilometers serve remaining residents, reflecting mixed water infrastructure availability across the community. This variation indicates uneven water point distribution, forcing significant portions to travel considerable distances for water collection when piped connections are unavailable. The substantial distances for many residents highlight critical gaps in household water connections requiring immediate intervention. The housing project must provide in-house water connections for all units, eliminating water point travel needs and ensuring convenient, reliable access that reduces time and labor burdens, particularly for women and children responsible for water collection.

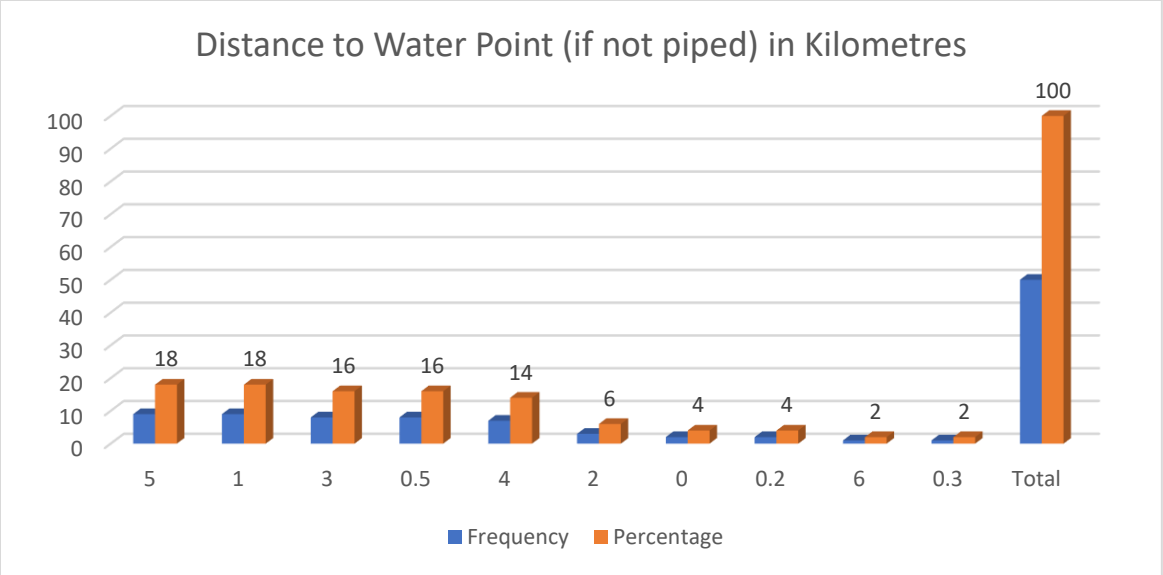


Figure 4-29: Distance to Water Point (if not piped) in Kilometers

4.4.27 Distance to Public Transport Stop in Kilometers

Figure 4-37 below reveals excellent transport connectivity with 32% within 1 kilometer and 30% at 2 kilometers, totaling 62% with convenient public transport access. Additional concentrations at shorter distances serve remaining residents, with most enjoying reasonable proximity to matatu stops and bus stages. This favorable transport infrastructure provides a solid foundation for resident mobility across the Lang'ata and Kibra areas. The majority of people enjoy convenient access, which supports economic activities and employment opportunities beyond walking distance. The social housing development should maintain and enhance these transport links through designated stops, improved waiting areas, and safe pedestrian access while addressing the needs of residents facing longer distances through feeder services or improved walkway connections to existing transport infrastructure throughout Southlands, Otiende, and surrounding villages.

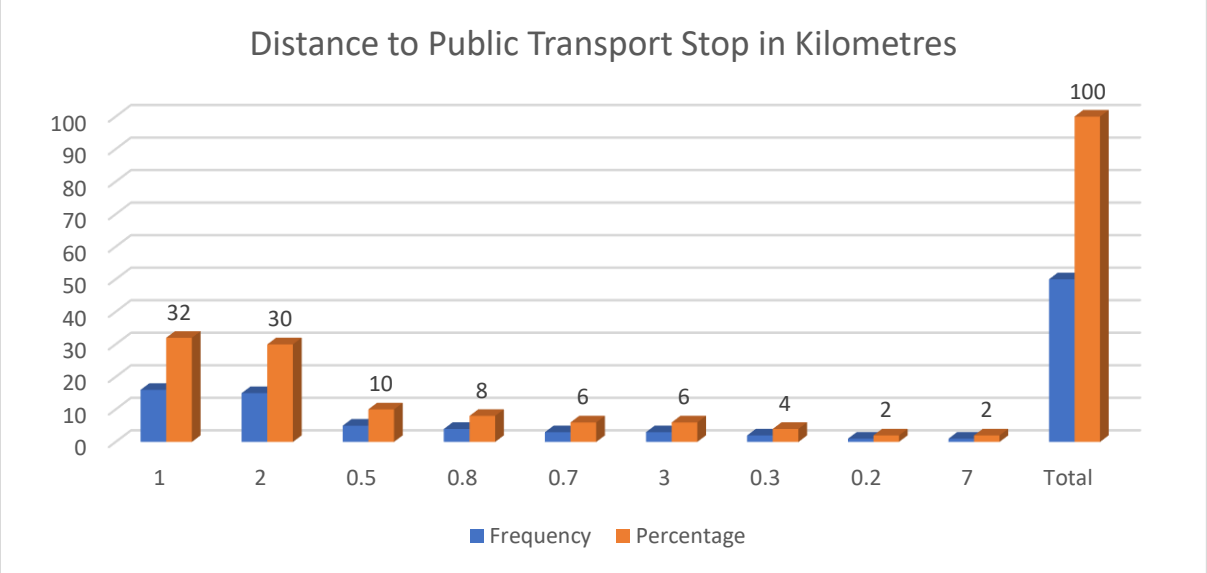


Figure 4-30: Distance to Public Transport Stop in Kilometers

4.4.28 Distance to Place of Worship in Kilometers

As shown in Figure 4-38 below, religious facility access demonstrates excellent proximity with 32% within 1 kilometrer and 22% at 2 kilometers, totalling 54% with convenient spiritual access. Additional distances from 0.2 to 6 kilometers serve remaining residents, showing widespread religious infrastructure availability across the community. The concentration within 1-2 kilometers reflects the importance of faith in community life, providing accessible spiritual and social support networks. Some residents travel longer distances, possibly for specific denominational preferences or established religious communities. This strong religious infrastructure supports community cohesion and should be preserved through adequate planning. The social housing project should maintain spiritual accessibility by allocating spaces for worship or ensuring continued access to existing facilities while respecting diverse religious needs throughout the area.

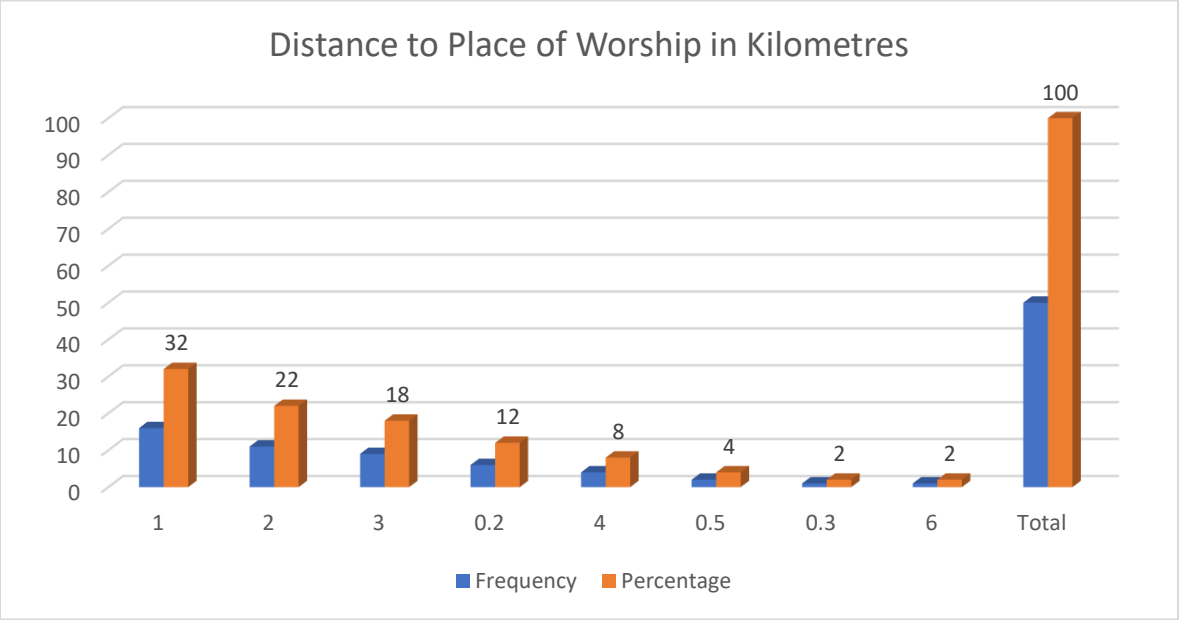


Figure 4-31: Distance to Place of Worship in Kilometers

4.4.29 Mode of Transport to Work

Figure 4-39 below shows balanced transportation patterns with matatu/bus usage leading at 46%, followed by walking at 34% and motorcycle transport at 16%. Minimal bicycle and private vehicle usage represent 2% each, indicating mixed mobility needs across the community. This balanced public transport and walking dependence suggests varied work locations requiring different transport strategies. The substantial matatu usage indicates employment beyond walking distance, necessitating reliable public transport connections and affordable fares. The social housing project should enhance transport infrastructure through dedicated bus stops, safe pedestrian walkways, and potentially subsidized travel programs. Improving both walking routes and public transport access will support diverse employment patterns while reducing transportation costs for residents across Southlands, Otiende, and surrounding villages.

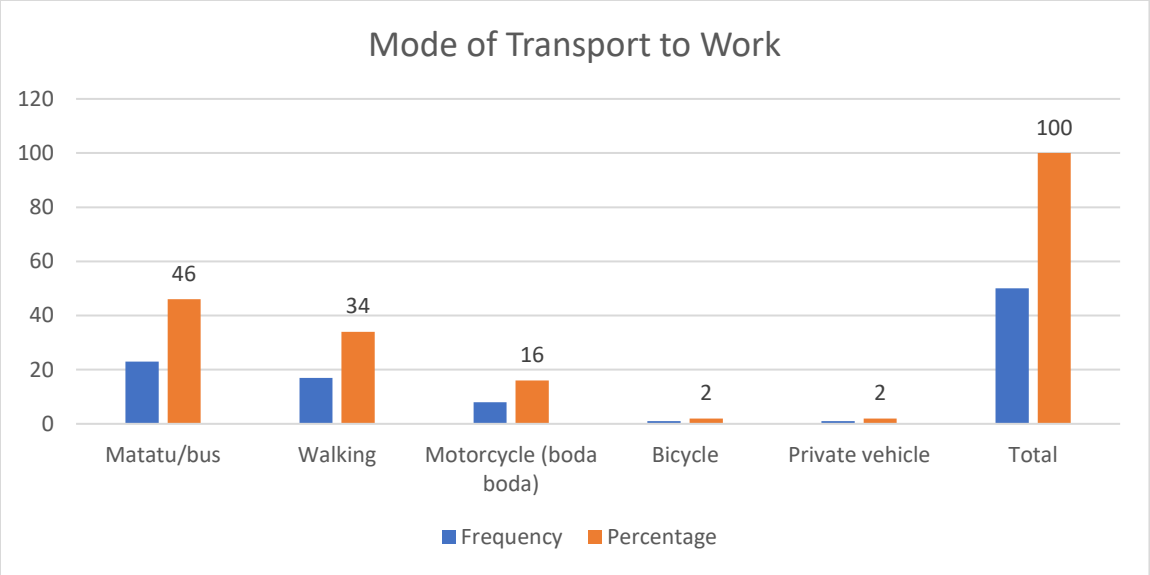


Figure 4-32: Mode of Transport to Work

4.4.30 Challenges Experienced While Accessing Services

Service accessibility challenges reveal sanitation problems, leading at 20.1%, followed by education concerns at 18.1%, and security and healthcare issues at 14.8%, as illustrated in Figure 4-40 below. Water supply problems affect 10.7%, transport issues 7.4%, and market access 6%, while only 6% report no challenges and 2% mention other issues. This pattern indicates widespread service delivery problems requiring comprehensive intervention across the community. The predominance of sanitation, education, security, and healthcare challenges reflects critical infrastructure gaps affecting daily life. The social housing project must address these interconnected service challenges through integrated planning, ensuring new housing includes proper sanitation facilities, accessible educational support, enhanced security measures, and reliable healthcare access to comprehensively improve living conditions for residents throughout Southlands, Otiende, and surrounding areas.

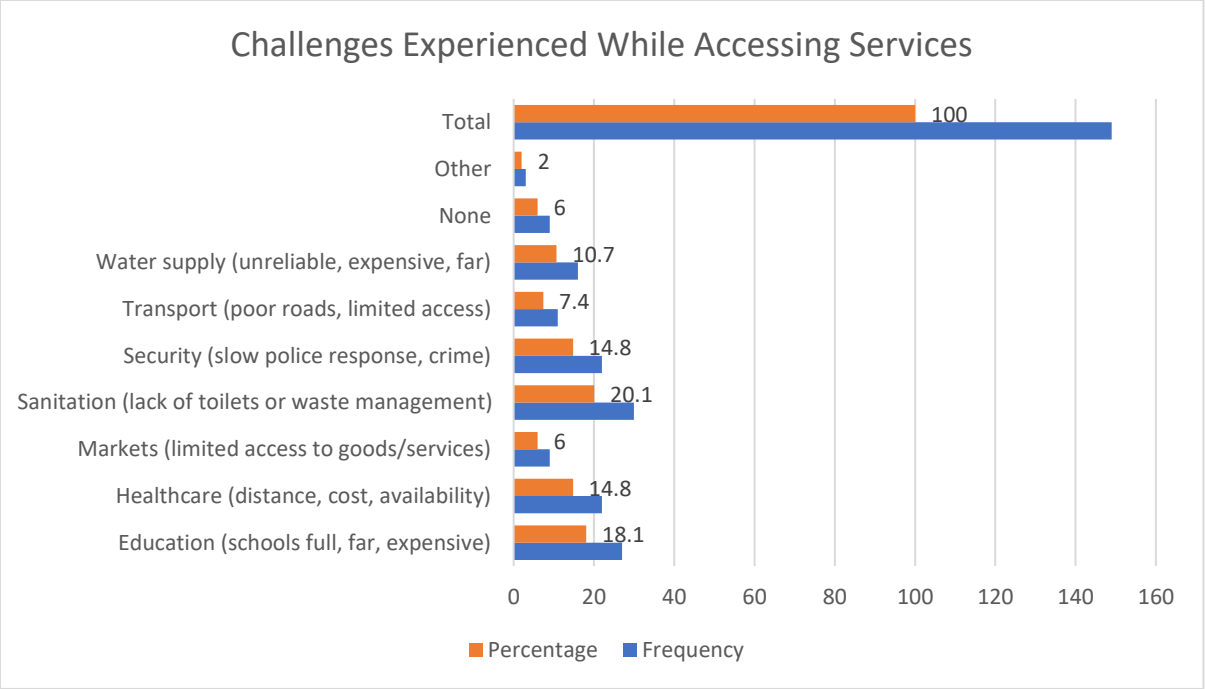


Figure 4-33: Challenges Experienced While Accessing Services

4.4.31 Satisfaction with Public Services

Figure 4-41 below demonstrates concerning service satisfaction levels, with 64% expressing dissatisfaction, while only 36% remain satisfied with current public services. This negative satisfaction pattern indicates significant service delivery challenges requiring urgent attention across the Lang'ata and Kibra areas. This dissatisfaction provides a clear mandate for comprehensive service improvements through the social housing project. The project must prioritize addressing service deficiencies while building new infrastructure that dramatically improves living conditions and service access throughout Southlands, Otiende, and surrounding villages.

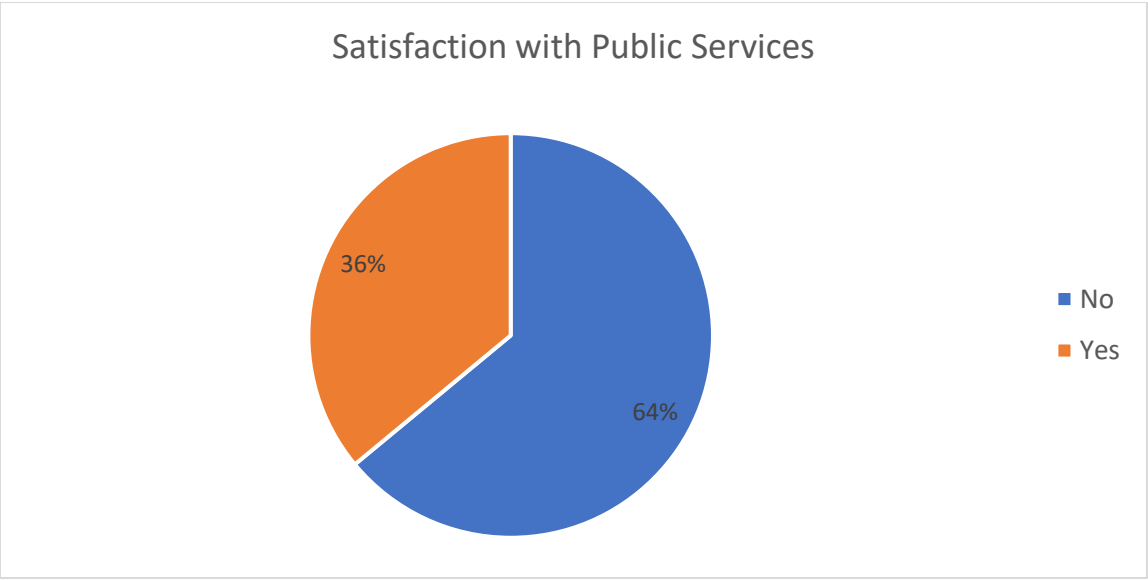


Figure 4-34: Satisfaction with Public Services

4.4.32 Main Issues with Public Services

Public service satisfaction remains concerning, with only 36% of the residents expressing contentment, while employment opportunities (18%), inadequate service provision (14%), and security concerns (12%) emerge as primary grievances, as shown in Figure 4-42 below. This dissatisfaction pattern across Lang'ata constituency reflects systemic service delivery failures requiring comprehensive intervention. The social housing project must address these interconnected challenges through integrated infrastructure development, job creation programs, and enhanced security measures to improve overall service quality and resident satisfaction levels throughout the community.

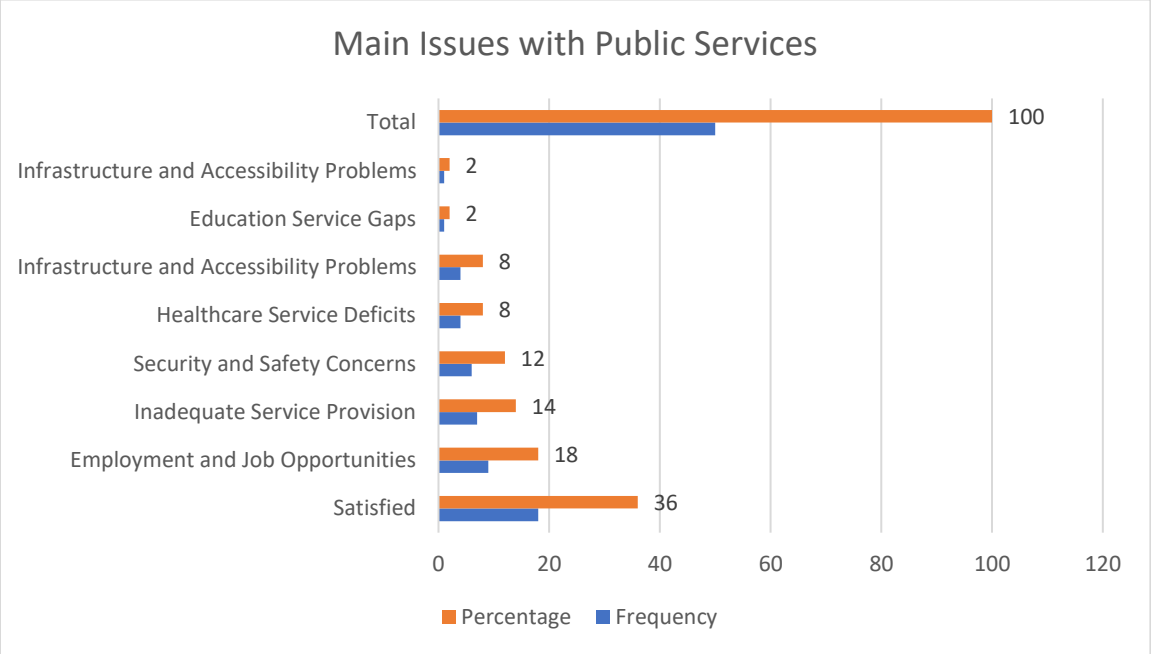


Figure 4-35: Main Issues with Public Services

4.4.33 Public Services Requiring Urgent Improvement

Figure 4-43 below demonstrates healthcare demands leading improvement priorities at 19.7%, followed by housing and security needs, each at 15.8%, while education and waste management both require attention at 13.2%. This distribution across Southlands, Otiende, and surrounding villages reveals critical gaps in essential services that affect daily life quality. The social housing development presents opportunities to address multiple service deficiencies simultaneously through comprehensive planning that incorporates health facilities, secure environments, proper waste systems, and educational support infrastructure to transform living conditions for residents across all the villages and sublocations.

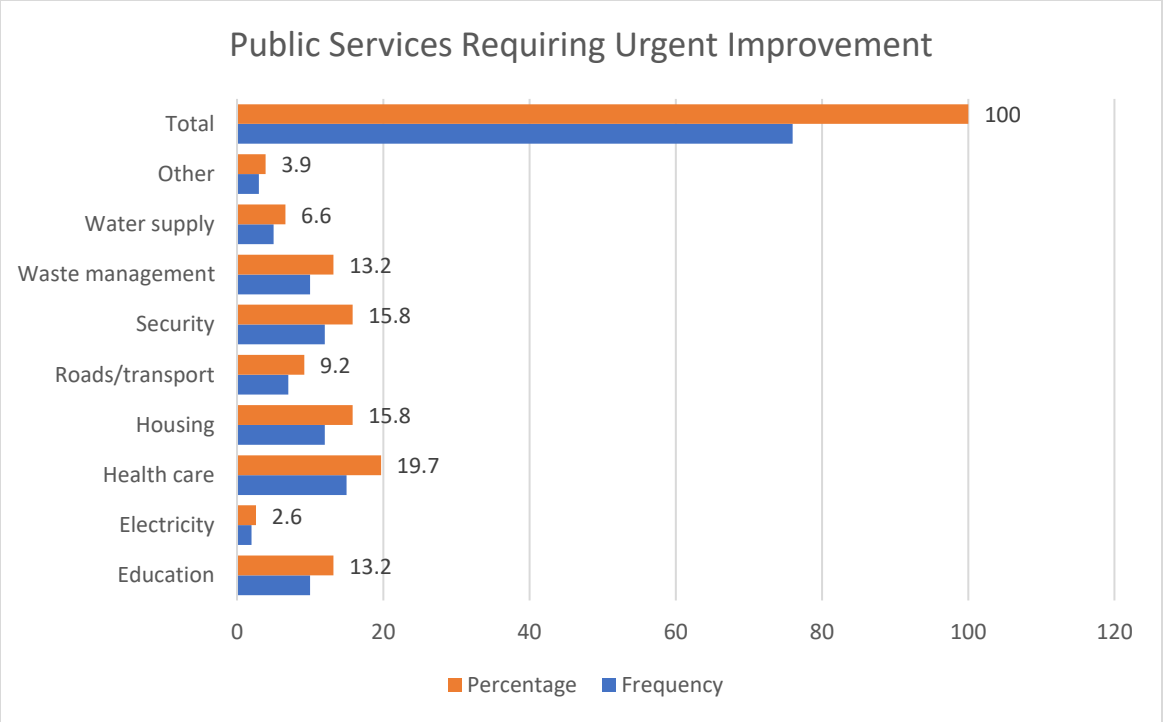


Figure 4-36: Public Services Requiring Urgent Improvement

4.4.34 Services Lacking in the Area

As depicted in table 4-2 below, 54% of Lang'ata and Kibra residents acknowledge significant service gaps, while 46% perceive adequate provision, revealing divided community perspectives on infrastructure availability. This near-equal split indicates uneven service distribution across different villages within the survey area. The social housing project must conduct detailed area-specific assessments to identify and address localized service deficiencies while building upon existing infrastructure strengths to ensure comprehensive community development that serves all residents equitably

Table 4-2: Services Lacking in the Area

Services Lacking	Frequency	Percentage
Yes	27	54.0
No	23	46.0
Total	50	100.0

4.4.35 Specific Lacking Services

Figure 4-44 below reveals that while 46% report no service deficiencies, waste management emerges as the critical gap affecting 24% of residents, followed by employment services at 10%. Security, housing, and education facilities each concern smaller proportions across Southlands, Otiende, and the other surrounding villages. This distribution highlights sanitation infrastructure as the primary development priority. The social housing project should prioritize comprehensive waste management systems while addressing employment generation and other identified service gaps to transform living conditions throughout the constituency.

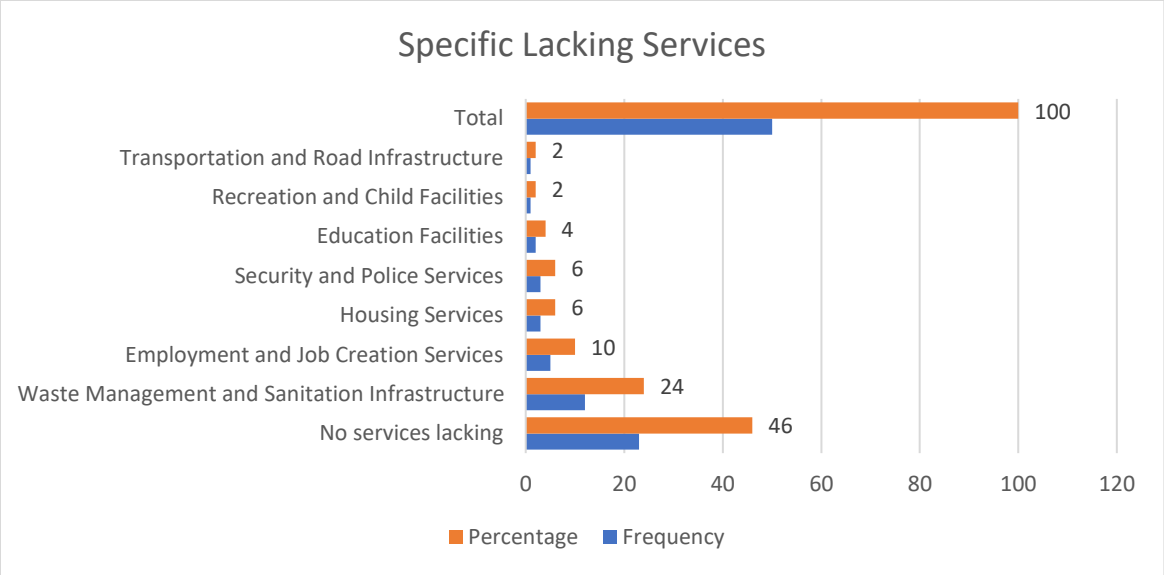


Figure 4-37: Specific Lacking Services

4.4.36 Awareness of Proposed Social Housing Project

Project awareness demonstrates universal reach with all respondents (100%) aware of the proposed social housing initiative across Lang'ata and Kibra sub-counties. As shown in table 4-3 below, this complete community awareness indicates successful information dissemination through multiple communication channels, including radio, television, word-of-mouth networks, and social media platforms. The comprehensive awareness provides a strong foundation for meaningful community participation and informed decision-making throughout the project planning phases. This universal knowledge ensures all residents can engage effectively with project consultations, planning meetings, and implementation activities while facilitating transparent communication between project developers and community members across all affected areas

Table 4-3: Awareness of Proposed Social Housing Project

Project Awareness	Frequency	Percentage
Yes	50	100.0
Total	50	100.0

4.4.37 Mode of Spreading Awareness of the Project

As illustrated in Figure 4-45 below, radio/TV broadcasts and word of mouth dominate project awareness at 38.3% and 33.3% respectively, while social media reaches 13.3% and local leaders contribute 8.3%. This communication pattern across Southlands, Otiende, and the surrounding villages reflects both traditional and modern information channels that serve the community. The social housing development should leverage this multi-channel approach, strengthen radio outreach while enhance digital communication to ensure comprehensive project information reaches all residents through their preferred communication methods.

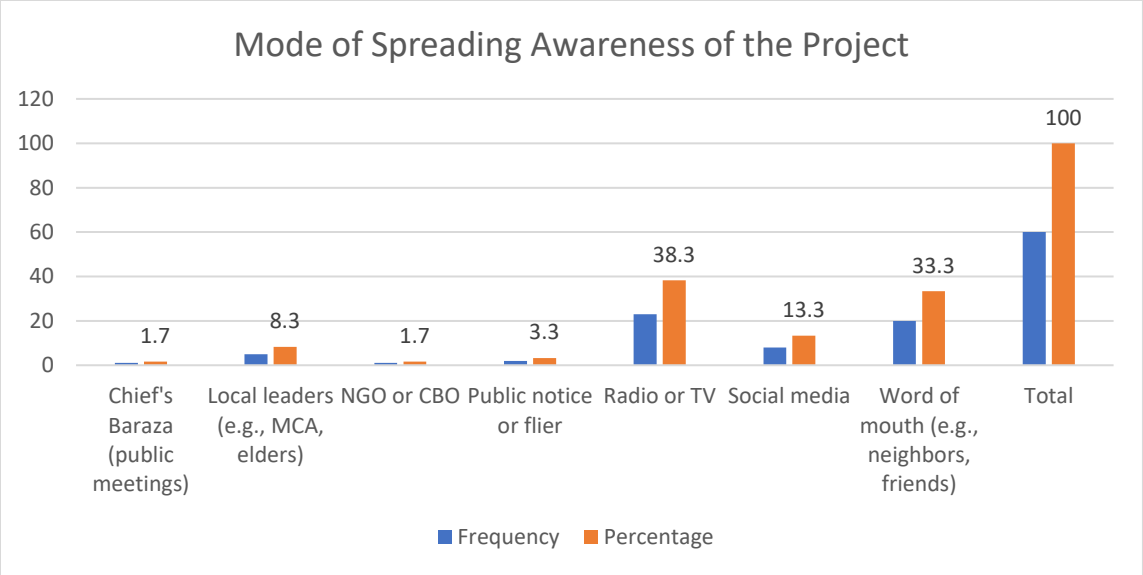


Figure 4-38: Mode of Spreading Awareness of the Project

4.4.38 Benefits Expected from the Project

Employment opportunities lead community expectations at 21.7% as shown in Figure 4-46 below, followed by improved housing (12%), better roads/transport (12%), and a local economy boost (11.5%). Enhanced security concerns 10.6% while health, water/sanitation, and women's empowerment receive moderate priority across Lang'ata and Kibra residents. This prioritization reflects urgent economic needs alongside infrastructure improvements. The social housing project should integrate substantial job creation programs while delivering comprehensive infrastructure upgrades to meet these diverse community aspirations throughout the constituency.

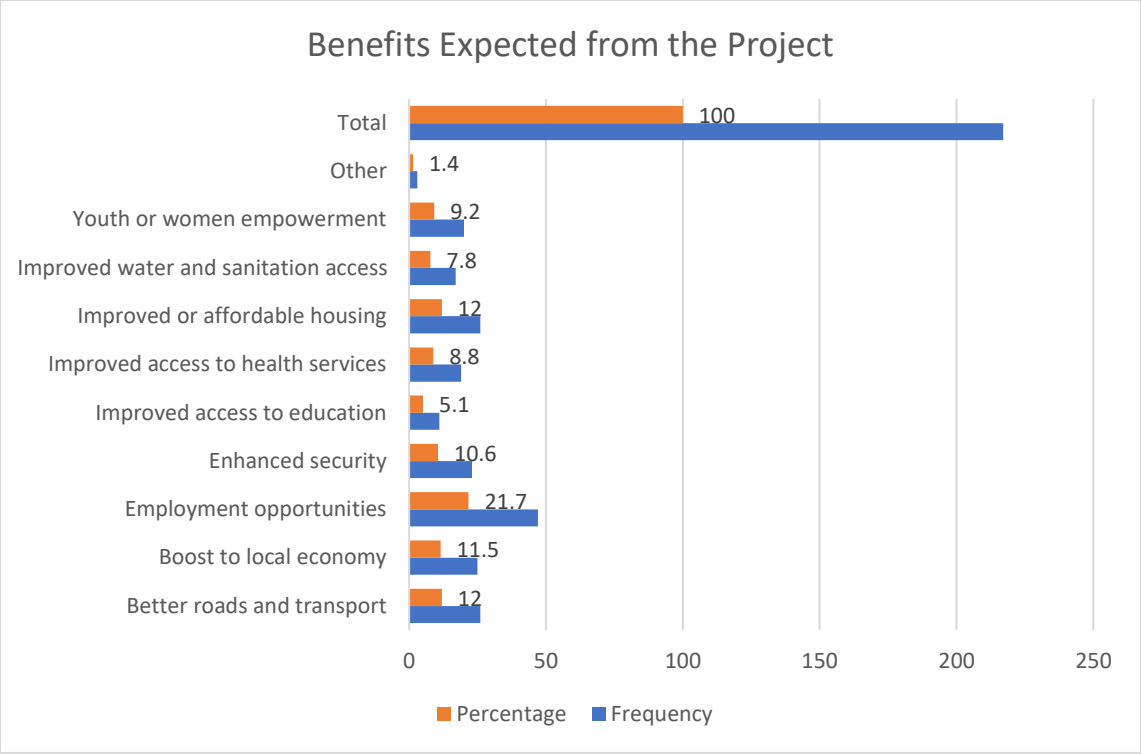


Figure 4-39: Benefits Expected from the Project

4.4.39 Concerns or Risks About the Project

Figure 4-47 below demonstrates construction disruption fears dominating at 24.2%, followed by cost-of-living increases (17.6%) and displacement risks (13.2%). Crime concerns, transparency issues, and service pressure each affect under 10% of Southlands, Otiende, and other surrounding villages' residents. Notably, only 8.8% express no concerns, indicating widespread community apprehension. The social housing development must implement robust mitigation measures, including dust control, transparent pricing, anti-displacement guarantees, and enhanced security protocols to address these legitimate concerns throughout project implementation.

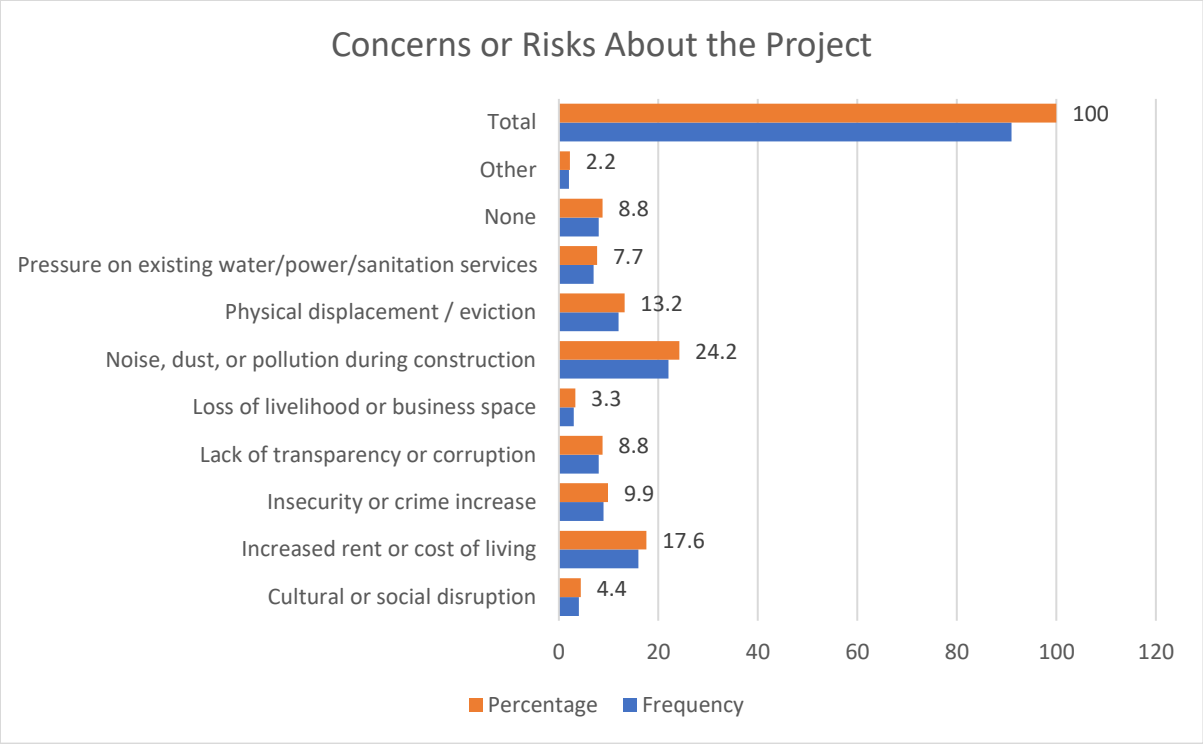


Figure 4-40: Concerns or Risks About the Project

4.4.40 Environmental Improvements That Should be Supported by the Housing Project

As depicted in Figure 4-48 below, improved drainage commands the highest priority at 23.3%, followed by sanitation facilities (21.1%), clean water access (17.8%), and waste management systems (17.2%). Green spaces and pollution reduction receive lower emphasis at 9.4% each across the Lang'ata and Kibra communities. This prioritization reflects critical infrastructure deficits requiring immediate intervention. The housing project must deliver comprehensive water, sanitation, and drainage solutions while incorporating environmental enhancements to create sustainable, healthy living environments throughout the development area.

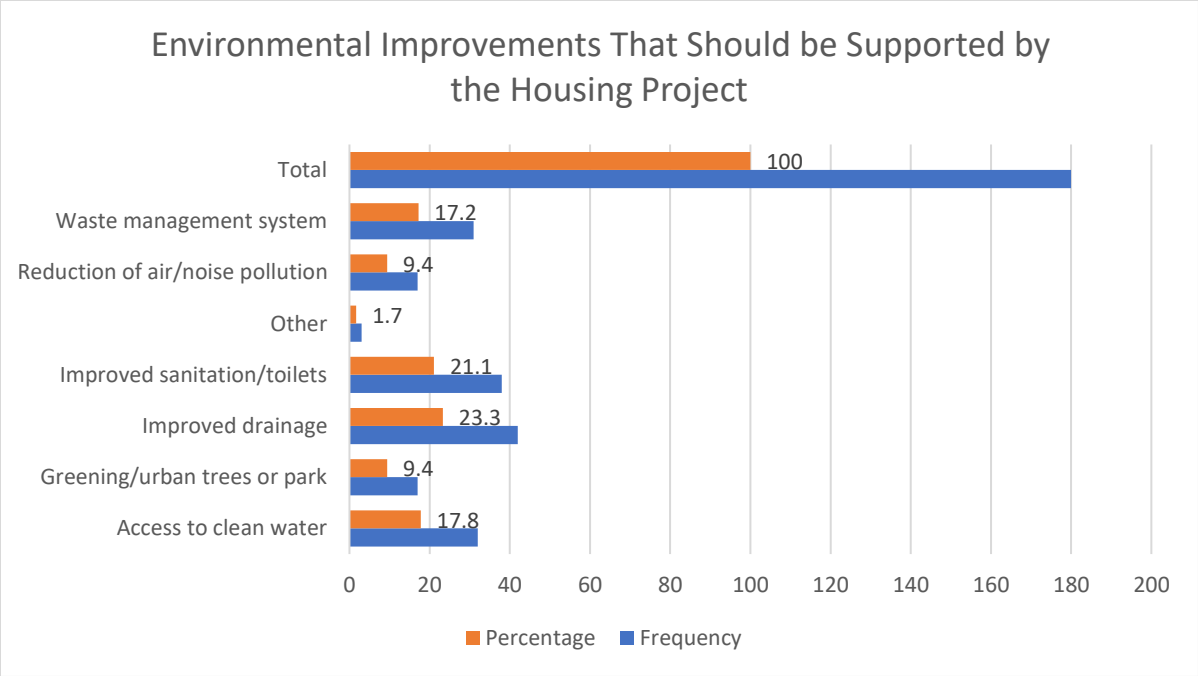


Figure 4-41: Environmental Improvements That Should be Supported by the Housing Project

4.4.41 Environmental Problems Anticipated from the Construction of the Housing Project

Figure 4-49 below shows noise pollution concerns leading at 37.1%, followed by dust/air pollution (26.7%), waste accumulation (15.5%), and increased traffic (14.7%). Minimal concern exists for river/vegetation impacts at 6% across the Lang'ata and Kibra areas. These anticipated problems reflect typical construction disruptions requiring proactive management. The proposed housing development must implement comprehensive environmental controls, including noise barriers, dust suppression, waste management protocols, and traffic management plans, to minimize construction impacts on surrounding communities throughout the project timeline.

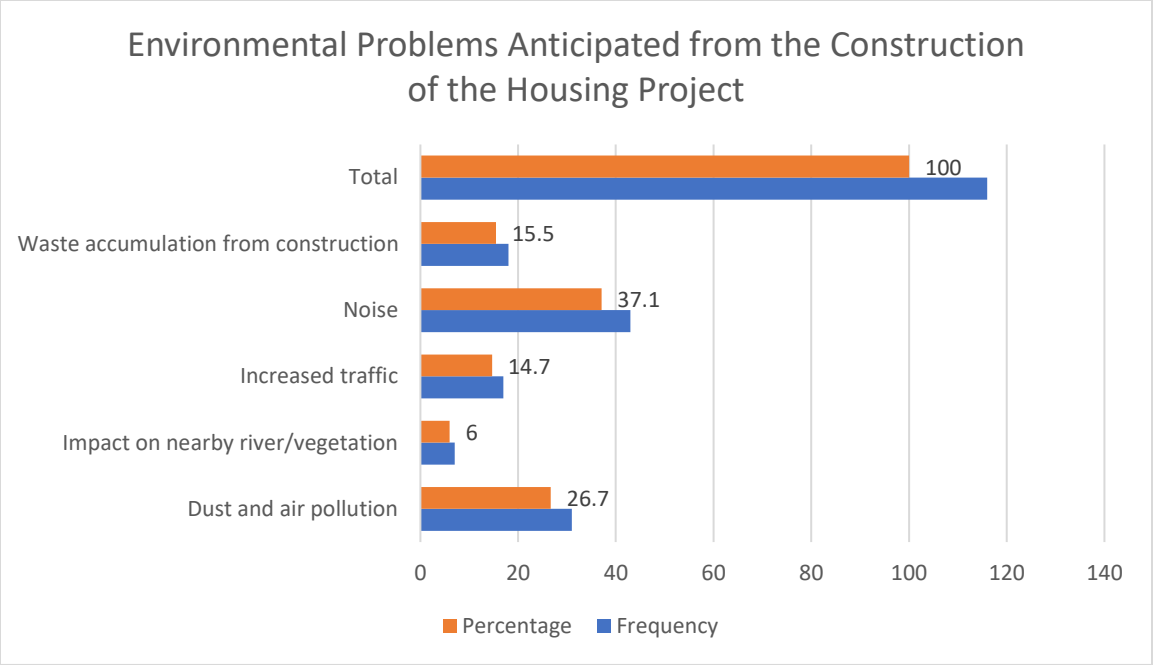


Figure 4-42: Environmental Problems Anticipated from the Construction of the Housing Project

CHAPTER FIVE: STAKEHOLDER ENGAGEMENT AND PUBLIC PARTICIPATION

5.1 Introduction

Meaningful public participation is a constitutional and statutory requirement under Articles 10 and 47 of the Constitution of Kenya, 2010, and Regulation 17 of the Environmental (Impact Assessment and Audit) Regulations, 2003. Following the Environment and Land Court judgment that invalidated the earlier EIA process for the Southlands development, a fresh and inclusive stakeholder engagement program was undertaken for Kibra Lot 3 (and the wider Lots 1–5 program). This chapter documents the process, the stakeholders engaged, the methodology applied, the meetings held, and the key issues raised.

5.2 Objectives of Public Participation

The objectives of the public participation process for Lot 3 were to:

a) Inform stakeholders of the proposed development, its location, design, unit mix, amenities and the ESIA process.

b) Provide a genuine opportunity for Project Affected Persons (PAPs), neighboring communities and other interested parties to raise concerns, comments and suggestions.

c) Identify environmental, social, economic and design-related issues that require assessment and mitigation.

d) Gather local knowledge on baseline conditions, sensitive receptors and existing challenges.
e) Analyse public comments and incorporate them into the ESIA Study Report, the project design where feasible, and the Environmental and Social Management Plan (ESMP).

f) Establish and publicise a transparent Grievance Redress Mechanism (GRM) for the project lifecycle.

g) Comply fully with Regulation 17 of the EIA/EA Regulations 2003 and the constitutional requirements for meaningful public participation.

h) Build trust and social licence for the project by demonstrating that the process is a genuine opportunity for dialogue and influence on project outcomes.

5.3 Stakeholder Identification and Analysis

Stakeholder identification was undertaken through desk review of the project site context, field reconnaissance, consultation with local administration (County Commissioner,Deputy County Commissioner, Assistant County Commissioner, Chief and Assistant Chief of Mugumo-ini Location), review of the court judgment, and analysis of the receptors identified for Lot 3.

The main stakeholder categories relevant to Lot 3 are:

Primary Stakeholders (directly affected)

Project Affected Persons (PAPs) – including operators of the church structure on the site frontage, any informal livelihood operators, and persons whose livelihoods depend on or are adjacent to the site, Neighbouring residential communities – particularly Southlands Estate

residents immediately adjacent to Lot 3, Persons with Disabilities (PWDs) living in or near the project area and Women, youth and elderly persons within the affected communities.

Secondary Stakeholders (interested or influential)

Local administration (DCC, ACC, Chief, Assistant Chief), Nairobi City County Government departments (Planning, Water and Sewerage, Environment), Lead agencies and utilities – Kenya Civil Aviation Authority (KCAA), Kenya Airports Authority (Wilson Airport), Kenya National Highways Authority (KeNHA), Water Resources Authority (WRA), Nairobi City Water and Sewerage Company (NCWSC), Kenya Power (KPLC), Business community representatives operating in the vicinity, Faith-based organizations and institutions and Educational institutions that may benefit from CSR initiatives.

Tertiary / Institutional Stakeholders

National Environment Management Authority (NEMA) and Affordable Housing Board / State Department for Housing and Urban Development.

Stakeholder analysis considered interest, influence, potential impact of the project on the group, and the group's ability to influence project outcomes. Priority was given to PAPs and neighbouring residents who raised concerns about proximity, privacy, infrastructure capacity, height, green space and process integrity during the engagement meetings.

5.4 Stakeholder Engagement Methodology

The engagement methodology combined formal and informal approaches to maximise inclusivity and accessibility:

- Focus Group Discussions (FGDs) with homogeneous groups (PWDs, Residential Association officials, Youth, Women, Business Community, PAPs) to allow free expression of group-specific concerns.
- Community Baraza (open public meeting) for the wider community.
- Institutional consultation meeting bringing together relevant government agencies and utilities.
- Structured presentations by the ESIA consultant and the site engineer on project design, location maps, unit mix, access arrangements, employment opportunities and the ESIA process.
- Collection of written memoranda, signed attendance lists, photographs (with prior request for consent), and oral comments.
- Use of local languages and simple language alongside English/Kiswahili to ensure comprehension.
- Advance notice through local administration channels.

All meetings were held on-site at Lot 3 (used as a central and accessible venue) under the facilitation of the Assistant County Commissioner, Area Chief and Assistant Chief, with the

presence of the ESIA consultant, the contractor's site engineer, and a representative of the State Department for Housing and Urban Development.

5.5 Public Participation Program

The public participation program was structured as a progressive series of targeted meetings building towards a community baraza and institutional consultation, as follows:

Date	Stakeholder Group	Venue	Approximate Number of Participants	Duration
31 July 2026	Persons with Disabilities (PWDs)	Lot 3	31	11:50 am – 2:00 pm
1 August 2026	Residential Associations Officials	Lot 3	18	11:35 am – 2:00 pm
3 August 2026	Youth	Lot 3	45	11:30 am – 1:30 pm
3 August 2026	Women	Lot 3	32	4:30 pm – 6:00 pm
4 August 2026	Business Community	Lot 3	33	11:50 am – 1:50 pm
5 August 2026	Public Baraza (Community Members)	Lot 3	107	11:16 am – 1:50 pm
6 August 2026	Project Affected Persons (PAPs)	Lot 3	32	12:20 pm – 2:20 pm
7 August 2026	Institutions	Lot 3	30	11:05 am – 1:50 pm

This schedule provided multiple entry points for different categories of stakeholders and allowed issues raised in earlier meetings to be escalated and addressed in subsequent sessions (particularly the institutions meeting of 7 August 2026).

5.6 Notices and Publicity

In compliance with Regulation 17 of the EIA/EA Regulations 2003:

A formal notice was issued through the Deputy County Commissioner's office (dated 29 July 2026) giving at least seven days' advance notice for the main community Public Baraza held on 5 August 2026. Targeted stakeholder consultations and FGDs were conducted before the Public Baraza as preparatory engagements. These consultations enabled the project team to engage specific stakeholder groups and gather stakeholder-specific concerns, which informed discussions during the Public Baraza and the subsequent ESIA assessment. The site layout and architectural designs were circulated during the meetings to facilitate informed discussion.

5.7 Meetings Conducted

The following meetings were conducted. Minutes, attendance lists (signed and stamped by the area local administrator), photographs (where consent was granted), and written submissions are compiled in the Annexes.

5.7.1 Persons with Disabilities (PWDs) Meeting – 31 July 2026

The meeting was Held at Lot 3 from 11:50 am to 2:00 pm with 31 participants. Facilitated by the Assistant Chief and Chief, with presentations by the ESIA consultant and the site engineer. Key themes included accessibility features (ramps, lifts, preference for ground and first floors), employment opportunities, deposit and payment arrangements for housing units, and the overall ESIA process. Consent was obtained for minutes, photographs and attendance recording.



Plate 5-1: Area Chief Engaging the PWDs



Plate 5-2: PWDs Meeting

5.7.2 Residential Associations Officials Meeting – 1 August 2026

Meeting was Held at Lot 3 from 11:35 am to 2:00 pm with 18 participants. The Assistant County Commissioner clarified the project naming (Southlands rather than Kibra) and the court ruling context. A formal written memorandum was presented by the Residential Associations opposing the project on grounds of pressure on water and sewerage infrastructure, traffic, dust/noise from previous works, lack of prior access to the ESIA report, and process concerns. Additional issues raised included privacy, property devaluation, sunlight/shadow, green space/buffer, zoning, and the need for feasibility studies and longer preparation time.

(Consent for photographs was declined by the group.)

5.7.3 Youth Meeting – 3 August 2026

Venue was at Lot 3 from 11:30 am to 1:30 pm with 45 participants. Presentations covered project design, unit access through *832# / eCitizen, employment prioritization (target 90% local), and amenities. Youth raised questions on floor height (request for higher floors constrained by KCAA 29 m limit), employment, recreation space, privacy, sunlight, beneficiary prioritisation, and the need for written assurances and education on the Boma Yangu registration process.



Plate 5-3: ESIA Consultant engaging the youths



Plate 5-4: One of the youths raising a concern

5.7.4 Women Meeting – 3 August 2026

Meeting was Held at Lot 3 from 4:30 pm to 6:00 pm with 32 participants. Discussions focused on payment affordability (especially for widows and vulnerable women), employment without discrimination, health and safety, project timelines, and accessibility for persons with disabilities. Support mechanisms such as merry-go-rounds/chamas for deposit mobilisation and different payment modes were explained.



Plate 5-5: Area Chief and Ass Chief talking to the women



Plate 5-6: Women's meeting

5.7.5 Business Community Meeting – 4 August 2026

Held at Lot 3 from 11:50 am to 1:50 pm with 33 participants. Issues centred on opportunities for local businesses (food vending, commercial stalls), prioritisation of displaced or nearby traders, registration and management of commercial spaces, and avoidance of congestion outside the site. The project team indicated that commercial spaces would be managed through a committee and that further registration meetings would be organised.



Plate 5-7: ESIA Consultant engaging the business representatives



Plate 5-8: Site Engineer making a presentation of the project

5.7.6 Public Baraza (Community Members) – 5 August 2026

Held at Lot 3 from 11:16 am to 1:50 pm with 107 participants. This open meeting allowed broader community input. Key concerns included employment processes and local prioritisation, formation of a community committee/representatives, facilitation for demolition for affected businesses and structures, transparency and accountability, clarification of social versus affordable housing, deposit requirements, and the need for continuous communication. Representatives of PAPs (farmers, garage operators, churches, mosques, informal settlements) were identified for follow-up.



Plate 5-9: Community Baraza Meeting

5.7.7 Project Affected Persons (PAPs) Meeting – 6 August 2026

Meeting was Held at Lot 3 from 12:20 pm to 2:20 pm with 32 participants. This meeting focused on directly affected persons, including church owners/operators, garage members, farmers/urban cultivators, and neighboring residents. Dominant issues were infrastructure (water, sewer, stormwater drainage, roads, power lines) before construction, buffer zones and height (preference for lower density or alternative layout), facilitation for demolition processes, formation of a representative committee, privacy, CSR prioritization for Lang'ata institutions, and the need for clear, early communication. The Grievance Redress Mechanism was presented and explained in detail.



Plate 5-10: One of the PAPs raising a concern



Plate 5-11: Site engineer presentation to the PAPs

5.7.8 Institutions Meeting – 7 August 2026

Meeting was Held at Lot 3 from 11:05 am to 1:50 pm with 30 participants, including representatives from Nairobi City County (Planning and Engineering), KCAA, Kenya Airports Authority (Wilson), KeNHA, KPLC, WRA, Nairobi City Water and Sewerage Company, Kenya Prisons, and local administration. The meeting addressed issues escalated from earlier community meetings, including height restrictions (KCAA confirmation of 29 m limit based on aeronautical study), access and road reserve matters (KeNHA), water and sewerage capacity

and ongoing projects (NCWSC/Athi Water), borehole regulation and riparian protection (WRA), power line relocation (KPLC), zoning and planning approvals (Nairobi City County), and the multi-agency nature of approvals. Residents present emphasised concerns about buffer, naming, infrastructure sequencing and process integrity.



Plate 5-12: Institutions meeting



Plate 5-13: Representative from KCAA making his contribution during the institutions meeting

5.8 Issues and Concerns Raised

The public participation meetings generated a wide range of environmental, social, economic, procedural and design-related concerns. These have been systematically recorded from the minutes of the meetings held between 31 July and 7 August 2026. The issues are presented below under thematic categories. Many concerns were raised across multiple stakeholder groups and are therefore treated as project-wide issues with specific relevance to Lot 3.

A. Process and Participation Concerns

a) Inadequate previous public participation and the need for a genuine, inclusive process following the court ruling.
b) Short notice and insufficient time to prepare informed comments.
c) Lack of prior access to the full ESIA report, feasibility studies, drawings and plans.
d) Request for written agreements, transparent documentation and continuous feedback.
e) Call for formation of a representative community/PAP committee to act as a liaison with the Ministry.

B. Infrastructure and Service Capacity

a) Existing and projected pressure on water supply, sewerage systems, stormwater drainage and electricity.
b) Water scarcity, rationing, illegal connections and risk of borehole contamination or over-abstraction.
c) Inadequate existing sewer lines and risk of overflows with increased population.
d) Stormwater drainage challenges, flooding, erosion and blocked drains.
e) Power line relocation requirements and capacity of the local network.
f) Traffic congestion, limited access/exit points, road safety and the need for a Traffic Impact Assessment.
g) Demand that infrastructure upgrades (water, sewer, drainage, roads) precede or accompany construction.

C. Design, Layout, Height and Amenity

a) Building height (G+8 / 29 m limit set by KCAA) considered excessive relative to surrounding low-rise character.
b) Preference for lower height (e.g., G+3) or alternative layout that retains a buffer/open space between the development and neighboring Southlands estates.
c) Loss of privacy, overlooking, shadowing/sunlight obstruction and potential property devaluation.
d) Loss of green/open space and recreational areas previously used by the community.
e) Visual impact and character change of the area.
f) Zoning concerns (perceived conflict with existing residential character).

D. Project Affected Persons and Livelihoods

a) Demolition of structures including the church and other informal businesses without clear prior communication or facilitation arrangements.
b) Impacts on urban farmers/cultivators who depended on the land.
c) Need for a verified PAP register, fair valuation, facilitation support for demolition and livelihood restoration.
d) Prioritisation of affected persons for housing units or employment.
e) Request for CSR interventions to benefit Lang'ata institutions rather than distant locations.

E. Social and Economic Issues

a) Affordability of deposits and monthly payments, especially for vulnerable groups (widows, PWDs, low-income households).
b) Clarity on social versus affordable housing categories, registration process (*832# / eCitizen / Boma Yangu) and eligibility.
c) Employment opportunities during construction and operation, with strong demand for local (90%) prioritisation through the Chief.
d) Opportunities for local businesses (food vending, commercial stalls) and management of commercial spaces.
e) Security concerns arising from increased population density.
f) Health, safety and nuisance impacts (dust, noise, vibration, night-time works, construction lighting).

F. Naming and Identity

Strong objection to referring to the project as "Kibra"; preference for "Southlands" or "Lang'ata" to reflect the actual location and community identity.

G. Institutional and Approval Matters

a) Need for multi-agency coordination and clear sequencing of approvals (KCAA height, KeNHA access, WRA boreholes, NCWSC sewer/water, Nairobi City County planning/zoning, KPLC power relocation).

5.9 Lot 3-Specific Concerns

The following concerns have particular relevance to Lot 3:

a) Proximity to Southlands Estate residential blocks, raising heightened concerns about privacy, overlooking, shadowing, noise, dust and property values.
b) Presence of a church structure on the site frontage (to be demolished), requiring clear facilitation arrangements.
c) Proximity to River Motoine (approximately 400 m) and River Ngong (approximately 800 m), both draining into Nairobi Dam, increasing sensitivity to stormwater management, drainage design and potential contamination risks.
d) Existing light vegetation (approximately four mature trees, three immature trees, Napier grass and common weeds) whose loss requires mitigation through landscaping and compensatory planting.

e) Location along the Southern Bypass (KeNHA controlled-access corridor) and access through the busy Langata Link Road, necessitating careful design of access, exit, road-reserve compliance and traffic safety.
f) Potential cumulative pressure on local water, sewer and drainage infrastructure serving the immediate Southlands neighborhood.

These Lot 3-specific sensitivities have been given particular weight in the impact assessment, alternatives analysis and ESMP.

5.10 Responses from the Proponent/Consultant

During and after the meetings, the project team (ESIA consultant, site engineer and Housing representative) provided the following responses:

a) The current process provides for a fresh ESIA to be undertaken in compliance with the court orders; previous works have been halted. There is therefore no reference ESIA document, as this public participation forms part of the new ESIA.
b) Building height has been reduced from earlier G+14/G+18 proposals to G+8 (maximum 29 m) following KCAA aeronautical study and Obstacle Limitation Surfaces requirements.
c) Two boreholes per lot are proposed, subject to WRA hydrological assessment, permitting and quality testing; water storage (overhead and underground tanks) and reticulation plans will be developed with Nairobi City Water and Sewerage Company.
d) Sewerage will connect to the wider Nairobi Rivers Regeneration Project and existing/upgraded trunk infrastructure; designs will be submitted to the relevant agencies.
e) Stormwater drainage will be designed to manage site runoff and interface with county drainage systems.
f) Power lines will be relocated or protected in coordination with KPLC; wayleave and clearance distances will be observed.
g) Access arrangements will comply with KeNHA requirements for the Southern Bypass corridor.
h) Employment will prioritise the local community (target 90%) through the office of the Chief; contractors will be required to adhere to this.
i) Housing access is through the official Boma Yangu / *832# / eCitizen platforms; registration fee is KSh 200; deposit is 5% of unit cost; multiple payment modes exist; vulnerable applicants can submit details for Board consideration.
j) Commercial spaces will be managed through a future management committee; local businesses will be given opportunity to register.
k) CSR initiatives will prioritise Lang'ata institutions (e.g., Lang'ata Primary, Ngei Primary and Undugu Complex).
l) A Grievance Redress Mechanism has been established and was explained at the meetings; notices were distributed through the Chief.
m) A representative list of PAP categories (churches, farmers, informal settlements and other affected parties) was noted for follow-up on facilitation and livelihood support.
n) Drawings, layout alternatives (including buffer considerations) and specialised studies (Traffic Impact Assessment, hydrogeology, geotechnical, etc.) form part of the current ESIA process.

5.11 Issues Not Accepted and Reasons

Certain proposals were carefully considered but not adopted in full, for the following reasons:

Issue Raised	Reason for Non-Acceptance / Partial Acceptance
Complete cancellation or relocation of the project	The project is a Strategic National Project under the Affordable Housing Program with a legitimate public purpose (Article 43). The court confirmed the purpose is lawful; the remedy is a compliant process, not abandonment.
Reduction of height to G+3 or single-unit dwelling character	KCAA has determined a maximum of 29 m based on aeronautical study and Obstacle Limitation Surfaces for the Wilson Airport flight path. Lower height would significantly reduce the number of units and undermine the project's housing delivery objective. Layout alternatives with buffers are being examined.
Formation of a formal management/PAP committee before construction	Affordable Housing regulations and project governance structures provide for representation and GRM during implementation; a formal estate management committee is typically constituted after completion and occupation. Interim representative structures and continuous engagement are provided for.
Immediate full infrastructure upgrades by the housing project alone	Water, sewer and drainage upgrades form part of wider city and national programs (Nairobi Rivers Regeneration, Athi Water, county projects). The project will coordinate and contribute its site-specific infrastructure but cannot unilaterally deliver city-wide upgrades.

5.12 Stakeholder Engagement Matrix

Stakeholder Group	Key Issue / Concern	Response Provided	Proposed Mitigation / Action	Responsible Party
Neighboring residents (Southlands)	Privacy, overlooking, shadowing, property values, buffer	Height limited to 29 m by KCAA; layout alternatives under review	Setbacks, landscaping, orientation, screening; buffer examination in alternatives	Proponent / Design Team
Neighbouring residents	Water, sewer, drainage pressure	Coordination with NCWSC, Athi Water, WRA, county	Site reticulation, storage, connection to upgraded systems; Traffic Impact Assessment and drainage design	Proponent / NCWSC / County
PAPs (church, farmers, other affected parties)	Demolition, facilitation, livelihood loss	Facilitation support; PAP register; GRM	Verified register, valuation/facilitation, livelihood restoration measures	Proponent / Valuers / Ministry
Youth & Community	Local employment prioritisation	90% local target through Chief	Contractor contractual obligation; monitoring through Chief and GRM	Contractor / Chief / Proponent
Women & Vulnerable groups	Affordability, deposit, accessibility	5% deposit, multiple payment modes, Board consideration; ramps/lifts	Support for chamas; vulnerable applicant pathway; accessible design	Housing Board / Proponent
Business community	Commercial space access and local priority	Registration opportunity; management committee	Fair allocation process for stalls; local business registration	Proponent / Future Management Committee
Institutions (KCAA, KeNHA, WRA, NCWSC, KPLC, County)	Height, access, water, power, planning approvals	Multi-agency coordination ongoing	Compliance with all lead-agency conditions before works resume	Proponent / Lead Agencies

All groups	Process integrity, transparency, feedback	Fresh ESIA; GRM; disclosure	Full documentation, ongoing engagement, public disclosure of reports	Proponent / Consultant / NEMA

5.14 Grievance Redress Mechanism

A transparent, accessible and responsive Grievance Redress Mechanism has been established for the project lifecycle. It was presented and explained during the public meetings (particularly the Baraza and PAPs meetings) and notices were distributed through the Chief.

Official channels for reporting a grievance:

i. Visit the Area Chief's Office and record the complaint in the official Register.

ii. Raise the concern during public participation meetings or community barazas.

iii. Write an email, call or visit the State Department for Housing and Urban Development:

- Telephone: +254 (0) 20 2718050
- Email: slumupgrading@housingandurban.go.ke
- Address: Ardhi House, 1st Ngong Avenue, P.O. Box 30119-00100, Nairobi

Key features of the GRM:

a) Reporting is completely free of charge.
b) Multiple accessible channels (local administration, public meetings, and direct contact with the State Department).
c) Clear and simple procedures that allow any affected person to lodge a concern, complaint or suggestion.
d) Designated focal points at both the local (Area Chief) and national (State Department) levels.
e) Protection against retaliation for anyone who uses the mechanism in good faith.
f) Systematic recording of all grievances and their outcomes to support monitoring, learning and reporting.
g) Escalation pathway available if a grievance is not resolved at the project or departmental level (including to the Affordable Housing Board, NEMA or the courts as appropriate).
h) Special attention given to vulnerable groups and Project Affected Persons to ensure they can access and use the mechanism without barriers.

The GRM operates in accordance with the Environmental Management and Coordination Act (EMCA). It will remain active throughout pre-construction, construction, operation and any future decommissioning phases. The mechanism is already operational and will continue to be publicised before any works resume.

CHAPTER SIX: ANALYSIS OF PROJECT ALTERNATIVES

6.1 Introduction

This chapter examines alternatives for the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 3. The analysis considers the no-project option, alternative sites, design options, building height, site layout, access arrangements, water supply, wastewater management, stormwater management and energy sources. The preferred alternative is identified on the basis of environmental, social, technical, economic and policy considerations, taking into account the outcomes of public participation and the specific characteristics of the Lot 3 site.

6.2 No-Project Alternative

Under the No-Project Alternative, the proposed development on Lot 3 would not proceed. The site would remain in its current state, characterised by light vegetation (approximately four mature trees, three immature trees, Napier grass and common weeds), red residual soils with sandstone and shale, the presence of a church structure on the frontage, a carwash along the Southern Bypass, and proximity to Southlands Estate residential blocks and the Langata Link Road.

Advantages

a) Avoidance of all construction-phase impacts (dust, noise, vibration, traffic, vegetation clearance, temporary disruption).

b) No increase in local population density or associated pressure on water, sewerage, drainage and traffic infrastructure.

c) Retention of existing open land and any informal recreational or livelihood uses of the land.

d) No privacy, overlooking or visual impacts on neighbouring Southlands Estate residents.

Disadvantages

a) Failure to contribute 1,386 housing units toward Kenya's affordable and social housing deficit, contrary to Article 43 of the Constitution and the objectives of the Affordable Housing Act and Kenya Vision 2030.

b) Continued under-utilisation of public land designated for housing development.

c) Lost employment and local economic opportunities during construction and operation.

d) No contribution to planned infrastructure upgrades or CSR initiatives in Lang'ata.

e) The wider housing and urban development objectives of the State Department would remain unmet on this parcel.

Conclusion The No-Project Alternative is not preferred. While it avoids site-specific impacts, it fails to address the legitimate public-purpose housing need confirmed by the Environment

and Land Court and national policy. Residual environmental and social risks associated with informal or unplanned use of the land would also remain unaddressed.

6.3 Alternative Site

Alternative sites within Lang'ata or elsewhere in Nairobi County were considered at the programme level. Lot 3 forms part of a strategically selected cluster of public land parcels along the Southern Bypass that have been identified for the Southlands (Kibra Lots) housing programme.

Key considerations a) Availability of alternative public land of comparable size (approximately 6.8 acres) with secure tenure and suitability for multi-storey housing is limited within the immediate area. b) Any new site would still require full ESIA, lead-agency clearances (including KCAA if within the flight path), and public participation, without guaranteeing lower environmental or social impacts.

Conclusion No feasible alternative site of equivalent suitability and strategic alignment has been identified. The current location is retained, with impacts managed through design, layout and mitigation measures.

6.4 Alternative Project Designs

Alternative design approaches examined include:

a) Lower-density walk-up housing or maisonettes;

b) Mixed-use development with a higher commercial component;

c) Phased development of fewer blocks; and

d) Higher proportion of social versus affordable units (or vice versa).

Lower-density designs would significantly reduce the number of units achievable on 6.8 acres, undermining the project's contribution to housing targets. A substantially higher commercial component would shift the primary purpose away from housing. Phased construction remains possible within the preferred design and can be used to sequence infrastructure delivery. The current mix of social and affordable units (studios, one-room, two-room, two-bedroom and three-room configurations) is retained as it aligns with the Affordable Housing Programme parameters and responds to varying household needs identified during public engagement.

6.5 Alternative Building Height

Three height scenarios were evaluated:

a) Original higher proposals (G+14 / G+18) – Rejected following KCAA aeronautical assessment. These heights would infringe Obstacle Limitation Surfaces associated with Wilson Airport flight paths and turning points.

b) Proposed G+8 (maximum 29 metres) – Compliant with the KCAA clearance issued after multi-agency aeronautical study. Delivers the target 1,386 units.

c) Lower height (G+3 or similar) – Requested by some neighbouring residents from Southlands to better match surrounding character, reduce visual impact, privacy concerns and shadowing.

Evaluation of lower height A G+3 scheme would roughly halve the number of units achievable on the site, substantially reducing the project's housing delivery contribution. It would also increase the land footprint required per unit, limiting space for green areas, play spaces and circulation. While lower height would reduce certain visual and amenity impacts on immediate neighbours, it is not compatible with the strategic housing objectives or the efficient use of scarce urban public land.

Conclusion The G+8 / 29 m height is the maximum permissible under aviation safety requirements and is retained. Residual visual, privacy and shadowing impacts will be addressed through setbacks, orientation, landscaping and screening (see Section 6.6 below).

6.6 Alternative Site Layout

Public participation (particularly Residential Associations and PAPs meetings) strongly advocated an alternative layout that concentrates blocks on one portion of the site (preferably toward the Southern Bypass) and retains a substantial buffer/open space corridor adjacent to the Southlands residential estates.

Options considered

a) Uniform distribution of 14 blocks across the site (baseline concept);

b) Concentrated layout with blocks clustered toward the Bypass side and a landscaped buffer zone of varying width along the residential estate boundary; and

c) Linear or perimeter layout maximising internal courtyards and green space.

Evaluation A concentrated layout with a meaningful buffer offers several advantages: reduced direct overlooking and privacy impacts on neighbouring estates; creation of a green/open-space amenity that can serve both new residents and, potentially, the wider community; improved opportunities for tree retention or compensatory planting; and better interface with the Southern Bypass while maintaining required road-reserve setbacks (KeNHA).

Challenges include ensuring adequate internal circulation, emergency access, solar orientation, and that the buffer does not compromise the achievable unit numbers or create under-utilised, poorly surveilled space.

Conclusion The preferred layout incorporates a landscaped buffer/setback zone along the boundary with neighbouring residential estates, with the majority of blocks oriented toward the Southern Bypass side where feasible. Architectural drawings will optimise this arrangement while meeting unit targets, fire safety, accessibility and amenity standards. This directly responds to a key public concern raised during the engagement process.

6.7 Alternative Access Arrangements

Lot 3 lies along the Southern Bypass, a controlled-access corridor under KeNHA, with primary access through the busy Langata Link Road. Alternative access options include:

a) Direct access from the Southern Bypass (subject to KeNHA approval and safety design);

b) Access through existing local roads (Langata Link Road and internal estate roads);

c) Combined primary and secondary access points; and

d) Restricted construction-phase access routes to minimise disruption to neighbours.

The preferred arrangement will prioritise safe, signalised or appropriately designed access that complies with KeNHA corridor requirements, minimises conflict with through-traffic, and provides adequate pedestrian facilities. Construction traffic will be managed through a Traffic Management Plan that avoids or limits use of sensitive residential streets where practicable.

6.8 Alternative Water Supply

Options evaluated:

a) Reliance on Nairobi City Water and Sewerage Company (NCWSC) supply;

b) On-site boreholes (proposed: two per lot) with storage;

c) Combination of municipal supply, boreholes and rainwater harvesting; and

d) Dual plumbing for non-potable uses.

Given existing water rationing and pressure concerns raised by residents, reliance on the municipal system alone is insufficient. The preferred approach is a hybrid system: connection to the municipal network (coordinated with ongoing Athi Water / NCWSC upgrading projects), supplemented by WRA-permitted boreholes, adequate overhead and underground storage, and incorporation of rainwater harvesting for landscaping and non-potable uses where feasible. Borehole siting, abstraction rates and quality monitoring will be subject to full hydrogeological assessment and WRA approval.

6.9 Alternative Wastewater Management

Options:

a) On-site treatment (package plants or septic systems);

b) Connection to the existing municipal sewer network; and

c) Connection to upgraded trunk sewers under the Nairobi Rivers Regeneration Project.

On-site treatment for 1,386 units is technically complex, land-intensive and carries higher long-term operational and environmental risk. The preferred option is connection to the municipal / trunk sewer system, coordinated with NCWSC and the Nairobi Rivers Regeneration Project, with appropriate on-site collection, pumping (if required) and pre-treatment as necessary. This addresses public concerns about sewer capacity.

6.10 Alternative Stormwater Management

Given the proximity to River Motoine (≈400 m) and River Ngong (≈800 m), alternatives include:

a) Conventional piped drainage discharging to existing systems;

b) Sustainable Urban Drainage Systems (SUDS) incorporating retention/detention, swales, permeable paving and infiltration where soil conditions allow; and

c) Combination of engineered drainage and SUDS with quality treatment.

The preferred approach is an integrated stormwater management system that combines engineered conveyance with SUDS principles to reduce peak runoff, improve water quality, and minimise downstream impacts on the rivers and Nairobi Dam. The design will be informed by topographical and geotechnical data and coordinated with county drainage plans.

6.11 Alternative Energy Sources

Options:

a) Conventional grid electricity only;

b) Grid supply with backup diesel generator (baseline); and

c) Hybrid system incorporating solar photovoltaic (rooftop or selected areas) for common areas and lighting, with battery storage where feasible.

The preferred solution is grid connection supplemented by backup generation for critical loads, with progressive incorporation of solar PV for street lighting, common areas and selected facilities. This reduces operational greenhouse-gas emissions and operating costs while remaining technically and economically practical. Diesel generator use will be minimised and subject to noise and emission controls.

6.12 Preferred Alternative

The preferred alternative for Lot 3 is the proposed G+8 development of 14 blocks delivering 1,386 social and affordable housing units, refined as follows:

a) **Height**: Maximum 29 metres (G+8) in compliance with KCAA requirements.

b) **Layout**: Optimised site plan that concentrates built form toward the Southern Bypass side where practicable and incorporates a landscaped buffer/setback zone along the interface with Southlands Estate residential blocks, directly responding to public requests for separation and green space.

c) **Access**: KeNHA-compliant access arrangements with pedestrian facilities and a construction traffic management plan, primarily through the Langata Link Road.

d) **Water**: Hybrid municipal + borehole + storage + rainwater harvesting system, subject to WRA and NCWSC approvals.

e) **Wastewater**: Connection to municipal / trunk sewer infrastructure coordinated with city-wide upgrading programmes.

f) **Stormwater**: Integrated engineered + SUDS system designed to manage runoff and minimise downstream risks to River Motoine, River Ngong and Nairobi Dam.

g) **Energy**: Grid supply with backup generation and incorporation of solar PV for appropriate loads.

CHAPTER SEVEN: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

7.1 Introduction

This chapter presents an assessment of the potential environmental and social impacts associated with the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 3. The assessment covers the pre-construction, construction, operational and decommissioning phases. It draws on the project description (Chapter 2), baseline environmental and social conditions (Chapter 4), outcomes of the stakeholder engagement process (Chapter 5), and the analysis of alternatives (Chapter 6). Particular attention is given to Lot 3-specific receptors, including the neighbouring Southlands Estate residential blocks, the church structure on the site frontage, light vegetation cover, the Southern Bypass and Langata Link Road corridor, and the nearby River Motoine (approximately 400 m) and River Ngong (approximately 800 m) systems.

7.2 Pre-Construction Impacts

Pre-construction activities include final surveys, a design finalisation, site investigations (geotechnical, hydrogeological), land clearance preparation, contractor mobilisation planning, and completion of outstanding statutory approvals (including KCAA, KeNHA, WRA, NCWSC and Nairobi City County clearances).

Positive impacts

a) Creation of limited short-term professional and semi-skilled employment (surveyors, technicians, community liaison officers).

b) Opportunity for early engagement and finalisation of the PAP register and facilitation arrangements for the church structure and any other affected parties.

c) Generation of baseline data that strengthens the overall ESIA and the design.

Negative impacts and mitigation

a) Minor vegetation disturbance and soil compaction from survey and investigation activities.

Mitigation:

Restrict investigation footprints to the minimum necessary; reinstate disturbed areas immediately; avoid unnecessary tree removal.

b) Temporary increase in local expectations and potential anxiety among neighbouring residents and PAPs.

Mitigation:

Maintain transparent communication through the established Grievance Redress Mechanism (GRM) and local administration; provide clear timelines and regular updates.

c) Risk of speculative or unauthorised activities on site.

Mitigation:

Secure the site perimeter; maintain presence of local administration and security.

7.3 Construction Phase Impacts

The construction phase is expected to last approximately 24 months from commencement of works following receipt of all statutory approvals. Key activities include site clearance, excavation, foundation works, structural construction of 14 G+8 blocks, installation of services, external works (cabro roads, drainage, fencing), landscaping and finishing.

7.3.1 Positive Impacts

a) Employment creation: Direct and indirect employment opportunities during the 24-month construction period. The project commits to prioritising local residents (target of approximately 90% of unskilled and semi-skilled labour) through the office of the Chief. Women and youth will be encouraged to participate in suitable roles (e.g., site support, water sprinkling for dust control, catering).

b) Local economic benefits: Increased demand for goods and services (food, transport, construction materials, accommodation) benefiting local businesses and vendors, subject to health, safety and site access controls.

c) Skills transfer: On-the-job training and exposure to modern construction methods for local workers.

d) Infrastructure improvements: Installation of on-site roads, drainage, water storage, power infrastructure and landscaping that will remain as long-term assets.

e) CSR contributions: Planned improvements to selected local schools and facilities in Lang'ata as part of contractor and proponent social responsibility commitments.

f) Advancement of housing objectives: Progress toward delivery of 1,386 social and affordable housing units, contributing to national and constitutional housing goals.

7.3.2 Negative Impacts and their Respective Mitigation Measures

Vegetation Clearance and Loss of Trees

Clearance of existing light vegetation (approximately four mature trees, three immature trees, Napier grass and common weeds) will result in loss of local biodiversity, shade, carbon sequestration and visual amenity.

Mitigation:

a) Conduct a pre-clearance tree inventory and retain trees of high value where structurally and design-feasible.

b) Implement compensatory planting at a minimum ratio of 1:3 (or higher for mature specimens) using indigenous or suitable native species within the site landscaping and buffer zones.

c) Protect retained trees during construction with fencing and root-zone protection.

d) Integrate green spaces, landscaping and children's play areas into the final design as committed in the project description.

Soil Disturbance, Excavation and Erosion

Excavation for foundations, services and levelling will disturb the red residual soils (with sandstone and shale), increasing the risk of erosion, sedimentation and dust, particularly during the rainy seasons.

Mitigation:

a) Minimise excavation footprint and duration.

b) Implement progressive erosion and sediment control (silt fences, sediment traps, temporary drainage).

c) Stockpile topsoil separately for reuse in landscaping.

d) Avoid works in heavy rainfall where practicable; stabilise exposed surfaces promptly.

e) Conduct geotechnical investigations to inform foundation design and reduce over-excavation.

Dust (Air Quality)

Earthworks, vehicle movements, material handling and concrete works will generate dust, potentially affecting neighbouring Southlands Estate residents, the church area and workers.

Mitigation:

a) Regular water spraying of active areas, haul roads and stockpiles (especially in dry conditions) – minimum three times per day or as required to suppress visible dust.

b) Cover trucks transporting fine materials.

c) Limit vehicle speeds on site to a maximum of 20 km/h.

d) Erect dust screens/hoarding along boundaries adjacent to residential properties and sensitive receptors.

e) Monitor dust levels (Total Suspended Particulates / PM_{10}) at boundary locations and respond to exceedances of ambient air quality limits under the Environmental Management and Coordination (Air Quality) Regulations or complaints through the GRM. Aim to keep off-site visible dust and ambient concentrations within residential tolerance limits (typically 24-hour PM_{10} not exceeding applicable residential standards).

Noise

Construction equipment, vehicles, concrete mixing and general site activity will elevate noise levels, particularly affecting immediate neighbours in Southlands Estate.

Mitigation:

a) Restrict noisy works to daytime hours (typically 07:00–18:00 on weekdays; limited Saturday working; no noisy works at night, on Sundays and public holidays unless under exceptional approved circumstances).

b) Use well-maintained equipment fitted with silencers/mufflers.

c) Locate static noisy equipment away from residential boundaries.

d) Install temporary noise barriers/screens along sensitive boundaries.

e) Inform neighbors in advance of particularly noisy phases.

f) Ensure noise levels at the site boundary and at residential receptors do not exceed the maximum permissible levels under the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009:

Residential outdoor: 50 dB(A) daytime / 35 dB(A) night-time;

Mixed residential: 55 dB(A) daytime / 35 dB(A) night-time;

Construction site (within facility, residential context): 60 dB(A) daytime / 35 dB(A) night-time.

g) Monitor noise at receptors and maintain a responsive GRM. Any exceedance shall trigger immediate corrective action.

Vibration

Heavy machinery, compaction and any piling may generate vibration that could affect nearby structures or cause nuisance.

Mitigation:

a) Select low-vibration equipment and methods where feasible.

b) Conduct pre-construction condition surveys of nearby structures (including the church and Southlands Estate residential buildings) where risk is identified.

c) Monitor vibration at sensitive locations during high-risk activities.

d) Ensure vibration levels do not exceed 0.5 centimetres per second (5 mm/s) beyond any source property boundary or 30 metres from any moving source, in accordance with Regulation 14 of the Noise and Excessive Vibration Pollution (Control) Regulations, 2009.

e) Notify neighbours of works that generate significant vibrations at least 14 days prior through gate notices, the liaison officer and the Chief's office.

f) Maintain open communication with affected owners and respond promptly to claims through the GRM.

Construction Traffic

Movement of construction vehicles, delivery trucks and workforce transport will increase traffic on the Southern Bypass and the Langata Link Road, with potential for congestion, road safety risks and nuisance.

Mitigation:

a) Implement a Construction Traffic Management Plan in consultation with KeNHA and Nairobi City County.

b) Schedule deliveries outside peak hours where practicable.

c) Provide adequate on-site parking and holding areas to avoid queuing on public roads.

d) Ensure clear signage, trained flagmen and pedestrian segregation.

e) Use designated construction access points that minimise intrusion into residential streets.

f) Require contractors to maintain vehicles in roadworthy condition.

Occupational Health and Safety (OHS)

Construction activities carry inherent risks of injury, falls, electrical hazards, plant-related incidents and exposure to dust/noise.

Mitigation:

a) Enforce compliance with the Occupational Safety and Health Act and subsidiary regulations.

b) Prepare and implement a site-specific OHS Management Plan and method statements.

c) Provide appropriate Personal Protective Equipment (PPE) and enforce its use.

d) Conduct induction training, toolbox talks and competency checks.

e) Maintain first-aid facilities, emergency response procedures and incident reporting.

f) Ensure welfare facilities (drinking water, sanitation, rest areas) meet standards.

g) Appoint qualified safety personnel and conduct regular audits.

Community Health and Safety

Risks to the public include unauthorised site access, traffic accidents, dust/noise nuisance, and potential social tensions.

Mitigation:

a) Secure the site with appropriate fencing, controlled access points and security personnel.

b) Maintain clear separation between construction zones and public areas.

c) Implement the dust, noise and traffic measures listed above.

d) Operate an accessible and responsive GRM.

e) Conduct community awareness on site safety and emergency contacts.

f) Prohibit or strictly control night-time works near residential boundaries.

Waste Generation

Construction will generate excavated material, concrete waste, packaging, timber, metals, hazardous wastes (oils, paints, chemicals) and general refuse.

Mitigation:

a) Implement a site Waste Management Plan following the waste hierarchy (reduce, reuse, recycle, dispose).

b) Provide segregated bins and secure storage for hazardous wastes.

c) Engage licensed waste contractors for disposal at approved facilities.

d) Prohibit burning of waste on site.

e) Maintain records of waste quantities and disposal destinations.

f) Reuse suitable excavated material on site for fill or landscaping where possible.

Water Demand

Construction water for concrete, dust suppression, curing and worker welfare will increase local demand.

Mitigation:

a) Source construction water preferentially from permitted boreholes or authorised municipal supply; avoid illegal connections.

b) Maximise water efficiency and recycling of process water where feasible.

c) Provide adequate storage to buffer peak demand.

d) Monitor usage and comply with any WRA or NCWSC conditions.

Wastewater

Worker sanitation and process wastewater require proper management to avoid pollution.

Mitigation:

a) Provide adequate, well-maintained mobile or fixed sanitation facilities for the workforce.

b) Prohibit discharge of untreated wastewater into the environment or drainage systems.

c) Manage any process wastewater according to a site environmental management procedure.

Stormwater and Drainage

Exposed surfaces and altered topography can increase runoff volume and sediment load, potentially affecting downstream watercourses (River Motoine and River Ngong).

Mitigation:

a) Install temporary and progressive drainage controls from the outset.

b) Protect existing drainage channels and prevent blockage by construction materials.

c) Design and construct permanent stormwater systems (including SUDS elements) in parallel with building works.

d) Avoid directing concentrated untreated runoff toward neighbouring properties or rivers.

Employment

While overall positive, there is a risk of local dissatisfaction if employment opportunities are perceived as captured by outsiders.

Mitigation:

a) Formalise local recruitment through the Chief's office.

b) Maintain transparent records.

c) Address complaints through the GRM.

d) Include local employment targets in contractor contracts.

Local Businesses

Temporary disruption to nearby businesses (access, dust, noise) may occur, alongside opportunities for supply of goods and services.

Mitigation:

a) Maintain access where possible.

b) Prioritise local suppliers for suitable contracts.

c) Communicate works schedules.

d) Provide GRM access for business operators.

Project Affected Persons (PAPs)

Construction will require clearance of the church structure on the site frontage and termination of any informal uses.

Mitigation:

a) Complete verified PAP register and facilitation support prior to displacement.

b) Provide adequate notice.

c) Maintain dedicated engagement and GRM access for PAPs.

d) Coordinate timing of clearance with support measures.

Community Conflict

Differences in expectations regarding employment, facilitation for demolition, design or process can generate tension.

Mitigation:

a) Transparent communication.

b) Operationalise the GRM system.

c) Visible local benefits (employment, CSR).

d) Continuous engagement through local administration and project liaison officers.

Security

Influx of workers and materials can increase risks of theft, social disruption or opportunistic crime.

Mitigation:

a) Site security personnel.

b) Controlled access.

c) Coordination with local police and administration.

d) Worker code of conduct.

e) Lighting of key areas.

Privacy and Visual Impacts

Multi-storey construction and the eventual buildings will alter views and reduce privacy for adjacent residents in Southlands Estate.

Mitigation:

a) Implement the preferred layout with landscaped buffer/setback along residential boundaries (Chapter 6).

b) Use temporary screening during construction.

c) Orient buildings and design façades to minimise direct overlooking where practicable.

d) Establish rapid-growing screen planting as early as possible.

e) Maintain dialogue with affected residents through the GRM.

7.4 Operational Phase Impacts

The operational phase begins upon completion and occupation of the 14 G+8 residential blocks (1,386 units) and associated infrastructure on Lot 3. It is expected to be long-term (decades). During this phase the primary activities will be residential occupation, operation and maintenance of buildings and services, management of common areas (green spaces, play areas, roads, drainage, power house, gates), and ongoing interaction with the surrounding community and infrastructure networks.

7.4.1 Positive Impacts

a) Provision of adequate housing: Delivery of 1,386 social and affordable housing units directly advances the constitutional right to accessible and adequate housing (Article 43) and national housing policy objectives. The mix of unit types (studios, one-room, two-room, two-bedroom and three-room configurations) responds to varied household needs identified during public participation.

b) Improved living conditions for occupants: Modern units with access to water storage, sanitation, electricity (with backup generator), solid waste facilities, green spaces and outdoor children's play areas will offer higher standards of habitation than many informal or inadequate dwellings.

c) Local employment and economic opportunities: Permanent and semi-permanent jobs will be created in estate management, security, cleaning, landscaping, maintenance and operation of commercial/shopping stalls. Local residents will be prioritised where skills match. Occupants and visitors will generate sustained demand for nearby goods and services, benefiting local businesses.

d) Enhanced security and urban management: Formal occupation, controlled access (gates and gate houses), street lighting and on-site security presence are expected to improve overall security in the immediate area compared with the previous open or informal condition of the site.

e) Green and recreational amenities: Dedicated green spaces, attractive landscaping and outdoor children's play areas will provide recreational and social benefits for residents and, subject to management rules, potentially limited controlled access for the wider community.

f) Contribution to orderly urban development: Replacement of under-utilised or informally used land with planned, serviced multi-storey housing supports more efficient land use along the Southern Bypass and Langata Link Road corridor.

g) CSR and community facilities: Ongoing or completed CSR interventions (school improvements and other local initiatives in Lang'ata) will leave lasting social benefits.

h) Climate and resilience co-benefits: Incorporation of water storage, potential rainwater harvesting, solar elements for common areas and lighting, and landscaped surfaces will contribute modestly to local climate resilience and reduced operational greenhouse-gas emissions.

7.4.2 Negative Impacts and their Respective Mitigation Measures

Population Increase

Occupation of 1,386 units is projected to accommodate several thousand residents (depending on average household size). This represents a significant and permanent increase in local population density.

Mitigation:

a) Design and operate the development with adequate internal open space, circulation and service capacity.

b) Coordinate with Nairobi City County and relevant agencies on broader infrastructure and service planning.

c) Implement the preferred layout with landscaped buffer zones to reduce pressure on immediately adjacent Southlands Estate.

d) Maintain continuous engagement with neighbouring communities through the estate management structure and GRM.

e) Monitor actual occupancy and service performance and adapt management measures as needed.

Water Demand

The occupied development will generate substantial additional demand for potable and non-potable water. Existing rationing and pressure concerns in the Lang'ata/Southlands area make this a high-priority issue.

Mitigation:

a) Implement the hybrid water supply system (municipal connection + WRA-permitted boreholes + adequate overhead and underground storage).

b) Incorporate water-efficient fixtures and fittings in all units and common areas.

c) Promote rainwater harvesting for landscaping and selected non-potable uses.

d) Establish clear water management rules for residents and monitor consumption.

e) Maintain close coordination with Nairobi City Water and Sewerage Company (NCWSC) and Athi Water on supply reliability and any required network reinforcements.

f) Conduct regular water quality monitoring of borehole and municipal sources to ensure compliance with applicable drinking-water standards.

Sewerage

Increased wastewater generation will place additional load on the municipal sewer network and downstream treatment systems.

Mitigation:

a) Ensure full connection to the municipal/trunk sewer system as coordinated with NCWSC and the Nairobi Rivers Regeneration Project.

b) Design on-site collection and any required pumping stations to appropriate standards with redundancy.

c) Prohibit illegal connections or discharges.

d) Include sewer infrastructure inspection and maintenance in the estate management plan.

e) Support wider network upgrading efforts through information sharing and, where appropriate, proportional contribution to the development's impact.

Solid Waste

Residential occupation will generate significant volumes of domestic solid waste (organic, recyclable and residual). Inadequate management could lead to nuisances, pests and environmental pollution.

Mitigation:

a) Provide adequate, well-designed garbage receptacles and collection points within the development.

b) Implement source segregation (at minimum organic, recyclable and residual streams).

c) Engage licensed waste service providers under formal contracts aligned with Nairobi City County systems.

d) Educate residents on proper waste handling through induction and ongoing awareness.

e) Prohibit open burning or illegal dumping.

f) Include waste management performance in routine estate monitoring and the GRM.

Traffic

Operational traffic (residents' vehicles, visitors, service vehicles, public transport interfaces) will increase movements on the Southern Bypass and Langata Link Road.

Mitigation:

a) Implement the recommendations of the Traffic Impact Assessment, including any required junction improvements, signage or traffic management measures.

b) Provide adequate on-site parking in accordance with planning standards.

c) Design safe pedestrian routes and crossings within and at the interface of the development.

d) Encourage non-motorised transport and public transport use through design and management measures.

e) Coordinate with KeNHA and county transport authorities on corridor performance.

f) Monitor traffic conditions post-occupation and adapt measures if required.

Stormwater

Increased impermeable surfaces will alter runoff patterns. Without proper management this could worsen local flooding, erosion or downstream impacts on River Motoine, River Ngong and Nairobi Dam.

Mitigation:

a) Operate and maintain the integrated stormwater drainage system (engineered drains + SUDS elements) designed during construction.

b) Keep drains, swales, retention facilities and outlets clear of debris.

c) Maintain landscaped and permeable areas to maximise infiltration where soil conditions allow.

d) Prohibit obstruction of drainage routes by residents or management.

e) Coordinate with county drainage authorities on downstream system performance.

f) Include drainage inspection in routine maintenance schedules.

Noise (Operational)

Residential occupation, vehicle movements, generator operation (when in use) and communal activities may generate noise that could affect neighbouring Southlands Estate residents.

Mitigation:

a) Design and orient buildings to minimise noise transmission toward neighbouring properties.

b) Ensure the backup generator is housed in an acoustically treated power house and operated only when necessary, with noise levels at the boundary kept within the residential limits under the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009:

Residential outdoor: 50 dB(A) daytime / 35 dB(A) night-time;

Mixed residential: 55 dB(A) daytime / 35 dB(A) night-time.

c) Enforce house rules that prohibit excessive noise, especially during night hours (after 20:00).

d) Maintain a responsive GRM for noise complaints and take prompt corrective action.

Security

Higher population density and the presence of new assets can attract opportunistic crime or create perceptions of insecurity among both new residents and neighbours if not well managed.

Mitigation:

a) Operate controlled access through the designed gates and gate houses.

b) Maintain functional street and compound lighting.

c) Deploy professional security personnel and CCTV where appropriate.

d) Establish clear resident rules and a code of conduct.

e) Foster good relations with neighbouring communities and local police.

Privacy and Visual Impacts

The completed multi-storey blocks will permanently alter views and may reduce privacy for adjacent residents in Southlands Estate.

Mitigation:

a) Maintain the landscaped buffer/setback zone along the residential estate boundary as designed.

b) Ensure ongoing maintenance of screen planting and landscaping.

c) Orient buildings and design façades (including window placement and screening) to minimise direct overlooking where practicable.

d) Maintain open dialogue with affected residents through the estate management structure and GRM.

Pressure on Social Services

The additional population will increase demand on local education, health and other social services.

Mitigation:

a) Implement planned CSR interventions that prioritise Lang'ata institutions (e.g., local primary schools).

b) Coordinate with Nairobi City County and relevant service providers on planning for increased demand.

c) Monitor impacts through the GRM and estate management feedback mechanisms.

7.5 Decommissioning Phase Impacts

Decommissioning of the Lot 3 development is not anticipated in the foreseeable future, as the project is designed for long-term residential occupation (several decades). However, should partial or full decommissioning become necessary (e.g., major structural failure, change of land use, or end-of-life of specific infrastructure components), the following impacts and mitigation measures would apply.

Positive impacts

a) Temporary employment opportunities during demolition, site clearance and rehabilitation works.

b) Opportunity to restore or improve environmental conditions on the site (e.g., enhanced green cover, improved drainage).

c) Recovery and recycling of construction materials (steel, concrete, cabling, fittings).

Negative impacts and mitigation

Dust, Noise and Vibration

Demolition and removal of structures would generate significant dust, noise and vibration, potentially affecting neighbouring Southlands Estate residents and downstream receptors.

Mitigation:

a) Implement a detailed Decommissioning Environmental Management Plan (DEMP) approved by NEMA prior to works.

b) Apply the same dust, noise and vibration controls as for the construction phase, including:

- Water spraying and dust screens;
- Restriction of noisy works to daytime hours (07:00–18:00);
- Noise levels at residential receptors not exceeding **50 dB(A)** daytime / **35 dB(A)** night-time (or **55 dB(A)** daytime in mixed residential zones);
- Vibration not exceeding **0.5 cm/s (5 mm/s)** beyond the property boundary. c) Conduct pre-demolition condition surveys of neighbouring structures. d) Provide advance notice to residents and maintain an active GRM.

Waste Generation

Large volumes of demolition waste (concrete, steel, timber, fixtures, hazardous materials such as asbestos if present, oils and chemicals) would be generated.

Mitigation:

a) Prepare and implement a Demolition Waste Management Plan following the waste hierarchy.

b) Segregate and recycle materials where feasible.

c) Dispose of residual and hazardous wastes at licensed facilities only.

d) Prohibit open burning or illegal dumping.

Soil and Water Contamination

Risk of contamination from residual oils, fuels, paints or other hazardous substances.

Mitigation:

a) Conduct site investigation for contamination prior to clearance.

b) Remove and remediate any contaminated soils in accordance with NEMA guidelines.

c) Protect drainage systems and nearby watercourses (River Motoine and River Ngong) from sediment and pollutant runoff.

Traffic and Safety

Increased heavy-vehicle movements and site hazards during decommissioning.

Mitigation:

a) Implement a Traffic Management Plan in consultation with KeNHA and the county.

b) Secure the site and enforce strict OHS procedures. c) Coordinate with local administration and police.

Social Impacts

Displacement of residents and loss of livelihoods for estate staff and commercial operators.

Mitigation:

a) Provide adequate notice and support for relocation in accordance with applicable laws and any RAP/facilitation framework.

b) Maintain the GRM throughout the process. c) Prioritise local labour for decommissioning works.

Overall, decommissioning impacts would be temporary and manageable through a comprehensive DEMP and adherence to the same standards applied during construction.

7.6 Cumulative Impacts

Cumulative impacts arise from the interaction of the Lot 3 project with other existing, planned or reasonably foreseeable developments in the Mugumo-ini / Southlands / Lang'ata area, particularly the remaining Kibra Lots (1, 2, 4 and 5) and other infrastructure or housing projects along the Southern Bypass corridor.

Key cumulative pathways

a) Infrastructure pressure: Combined demand from multiple lots on water supply, sewerage, stormwater drainage, electricity and road capacity.
b) Traffic: Aggregated construction and operational traffic on the Southern Bypass and Langata Link Road.
c) Population density and social services: Simultaneous occupation of several lots increasing pressure on schools, health facilities and security services.
d) Visual and amenity character: Collective change in the skyline and urban form along the Bypass corridor.
e) Downstream water resources: Combined stormwater and potential pollution loading on River Motoine, River Ngong and Nairobi Dam.
f) Air quality and noise: Concurrent construction activities across adjacent lots.

Mitigation and management of cumulative impacts

a) Coordinate planning, design and sequencing of infrastructure upgrades across all five lots with NCWSC, Athi Water, KeNHA, KPLC, WRA and Nairobi City County.
b) Implement a programme-level Traffic Impact Assessment and Construction Traffic Management Plan covering all lots.
c) Align construction schedules where practicable to avoid simultaneous peak activities on adjacent sites.
d) Maintain consistent design standards (height, setbacks, landscaping, drainage) across the programme to minimise visual and amenity fragmentation.
e) Establish a programme-level Grievance Redress Mechanism and community liaison framework that covers all lots.
f) Monitor cumulative indicators (water consumption, sewer loading, traffic volumes, air quality, noise) and adjust management measures as needed. g) Support wider city and national programmes (Nairobi Rivers Regeneration, road improvements, social service expansion) that address the broader capacity constraints.

CHAPTER EIGHT: SOCIAL IMPACTS AND RESETTLEMENT / PAP ISSUES

8.1 Introduction

This chapter addresses the social impacts of the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 3, with particular focus on Project Affected Persons (PAPs), livelihood disruption, displacement of structures and activities, and the measures required to avoid, minimize and mitigate these impacts. Although Lot 3 is located on public land, the site and its immediate surroundings host or interface with structures, livelihoods and community uses that will be affected by clearance and construction. These include a church structure on the frontage (to be demolished), residual informal activities, a carwash along the Southern Bypass, and the amenity of neighboring Southlands Estate residential blocks.

The approach adopted follows the mitigation hierarchy: avoid displacement where feasible, minimize unavoidable impacts through design (including the preferred buffer layout), and provide fair facilitation, livelihood support and continuous engagement where impacts cannot be avoided. A verified PAP register, valuation (where applicable) and livelihood restoration measures will be completed prior to any displacement.

8.2 Identification of Project Affected Persons

Project Affected Persons for Lot 3 have been identified through:

a) Field observations and project description data;

b) Stakeholder engagement meetings (particularly the PAPs meeting of 6 August 2026, Residential Associations meeting, community baraza and institutions meeting);

c) Information provided by local administration (DCC, ACC, Chief and Assistant Chief); and

d) Identification of church and other representatives presented during the meetings.

Categories of PAPs relevant to Lot 3 and its immediate interface include:

a) Owners, operators or congregations of religious institutions – the church structure located on the site frontage identified for demolition.

b) Operators of informal or semi-formal businesses that have used or bordered the site (including the carwash along the Southern Bypass and residual trading activities).

c) Any urban farmers / cultivators who may have used portions of the land.

d) Neighburing residents of Southlands Estate whose privacy, amenity, access or property values may be affected by the proximity of the multi-storey development.

A formal, verified PAP census and register will be completed as a pre-construction priority. This register will record names, identification details, nature of interest or loss, vulnerability status, and preferred assistance options. Representatives identified during the August 2026 meetings will be engaged in the verification process.

8.3 Existing Livelihoods

Prior to project commencement, portions of Lot 3 and its immediate surroundings supported a mix of livelihood activities: religious and community service provision (church activities), residual informal trading and service activities (including the carwash), and indirect livelihood support derived from the open space. These livelihoods are generally low-income, vulnerable to displacement, and in many cases lack formal tenure security. Women, elderly persons and persons with limited alternative skills are likely to be disproportionately affected. The loss of these livelihood sources, even if informal, constitutes a significant social impact that requires structured support rather than simple eviction.

8.4 Informal Businesses

Informal and semi-formal businesses operating on or immediately adjacent to Lot 3 include the carwash along the Southern Bypass frontage and residual trading or service activities. During public participation, business operators and community members raised concerns about loss of trading space and customer base, lack of prior notice, desire for prioritisation in the allocation of new commercial/shopping stalls within the completed development, and the need for transitional support.

Impacts

Displacement will result in temporary or permanent loss of income, disruption of business networks, and potential impoverishment if alternative sites or support are not provided.

Proposed measures

a) Inclusion of all verified informal business operators in the PAP register.
b) Provision of adequate notice and facilitation support for displacement.
c) Fair opportunity to apply for commercial stalls within the new development through a transparent allocation process.
d) Linkage to local economic empowerment or short-term livelihood support programs where feasible.
e) Continuous engagement through the GRM and designated PAP representatives.

8.5 Church / Religious Institution

A church structure is specifically identified on the Lot 3 frontage and is scheduled for demolition to accommodate the development. During the PAPs meeting and other consultations, church representatives and community members emphasised the spiritual and social importance of the facility to the congregation and local community, the need for clear, timely communication and a defined way forward, preference for facilitation that enables continuity of worship services, and the broader principle that faith-based organisations should be considered in planning alongside schools and other institutions.

Impacts

a) Physical displacement of the place of worship.

b) Disruption of religious services and community gatherings.

c) Loss of social cohesion and spiritual support networks for congregants, many of whom may be low-income.

d) Potential temporary or longer-term loss of livelihood for any church-employed staff.

Proposed measures

i. Early and continuous engagement with church leadership and the relevant governing body.
ii. Inclusion of the institution in the verified PAP register.
iii. Joint exploration of facilitation options, which may include support for relocation to an alternative site, contribution toward reconstruction, or other mutually agreed assistance consistent with the public-purpose nature of the land and applicable law.
iv. Adequate notice before any demolition.
v. Assistance with transitional arrangements to minimise interruption of services.
vi. Documentation of all agreements and implementation through a transparent process.

8.6 Farmers / Urban Agriculture

Any residual urban agriculture on or adjacent to Lot 3 will be affected. Farmers and cultivators who participated in the wider public participation noted dependence on such land for food and supplementary income.

Impacts

a) Permanent loss of cultivated land and standing crops (if any).

b) Loss of a source of food security and cash income for low-income households.

c) Disproportionate impact on women and elderly cultivators who often dominate urban agriculture.

Proposed measures

a) Identification and verification of all cultivators through the PAP census.

b) Recording of crop types, areas and estimated values for facilitation purposes.

c) Provision of notice and opportunity to harvest standing crops before clearance.

d) Facilitation support that may include cash assistance for lost crops, linkage to alternative urban agriculture opportunities, or short-term livelihood transition support.

e) Priority consideration for affected farming households in relevant project benefits (employment, information on housing application processes).

f) Documentation of all support provided.

8.7 Vulnerable Groups

Vulnerable groups within the PAP population require particular attention because they face heightened risk of impoverishment, exclusion or inability to recover from project-related losses.

Categories of vulnerability relevant to Lot 3 include: Persons with Disabilities (PWDs); women-headed households, widows and single mothers; elderly persons with limited alternative income sources; extremely poor households; persons living with chronic illness; and members of religious congregations who may lose critical social support networks in addition to physical assets.

Specific measures for vulnerable PAPs a) Priority identification and registration during the PAP census, with appropriate support persons or translators where needed. b) Tailored communication (simplified language, home visits if necessary, involvement of trusted local leaders or PWD representatives). c) Preferential access to livelihood restoration options that match their capacity (e.g., lighter employment roles, support for chama/merry-go-round contributions toward housing deposits, or linkage to existing social protection programmes). d) Physical accessibility considerations in any transitional arrangements and in the design of the new housing (ramps, lifts, ground-floor priority as already committed). e) Close monitoring of vulnerable households through the GRM and dedicated social specialists to ensure they do not fall through support gaps.

8.8 Impacts on Neighboring Residents

Although neighbouring residents of Southlands Estate are not necessarily subject to physical displacement, they constitute a significant category of project-affected persons in social terms. Key impacts identified during the Residential Associations meeting, PAPs meeting and community baraza include:

a) Loss of privacy and overlooking from G+8 blocks; b) Reduced sunlight / shadowing of existing dwellings and outdoor spaces; c) Perceived or actual decline in property values; d) Increased noise, dust and construction nuisance (during the works phase); e) Visual change and loss of the previous open/green character of the site; f) Heightened competition for water, parking, road space and local services; and g) Concerns about security and social change associated with higher population density.

These impacts are long-term for privacy, visual and character issues, and medium-term for construction-related nuisances.

Mitigation and management a) Adoption of the preferred site layout that incorporates a landscaped buffer/setback zone along the boundary with neighbouring estates (Chapter 6). b) Sensitive building orientation, façade treatment and early establishment of screen planting. c) Strict enforcement of construction-phase controls on dust, noise, working hours and lighting. d) Transparent and continuous communication with Residential Association representatives. e) Access to the project GRM for amenity-related complaints. f) Monitoring of actual impacts post-occupation and adaptive management where feasible (e.g., additional screening).

While complete elimination of privacy and visual impacts is not possible with multi-storey development, the combination of design measures and ongoing dialogue is expected to reduce residual social tension to manageable levels.

8.9 Facilitation / Resettlement Considerations

Lot 3 is public land. Consequently, the legal framework for addressing affected persons differs from private land acquisition under the Land Act. The primary approach is facilitation and

livelihood support rather than full market-value compulsory acquisition compensation for land itself. However, principles of fairness, adequacy and timely support remain obligatory under the Constitution, EMCA, and good practice.

Key principles to be applied a) No displacement of verified PAPs before facilitation support is provided or adequate transitional arrangements are in place. b) Full inventory and valuation of affected structures, crops, and movable business assets by qualified professionals. c) Distinction between eligible formal interests and informal/occupational claims, while ensuring that vulnerable informal users are not left destitute. d) Preferential consideration of in-kind (alternative space for worship, business or cultivation where feasible) over pure cash where this better restores living standards. e) Transparency: all valuations, offers and agreements to be documented and explained to the affected persons. f) Special attention to churches and community facilities so that continuity of social and spiritual services is prioritised.

A Resettlement/Facilitation Action Plan (or equivalent social management instrument) will be prepared on the basis of the verified PAP register and will set out entitlements, responsibilities, timelines and budgets before any clearance of occupied or used portions of the site.

8.10 Livelihood Restoration

The objective of livelihood restoration is to ensure that PAPs are able to restore, and preferably improve, their income-earning capacity and standard of living after displacement.

Proposed livelihood restoration measures i. For church operators: Support for continuity of services (contribution to alternative facilities or transitional arrangements). ii. For business operators (including carwash): Information on alternative trading sites, priority consideration for commercial stalls in the new development, and access to short-term employment on the project. iii. For any urban farmers/cultivators: Opportunity to harvest crops, facilitation for lost produce, and linkage to alternative urban agriculture or related income opportunities where available.

8.11 PAP Engagement

Engagement approach PAP meetings (already initiated on 6 August 2026) and follow-up sessions; recognition of legitimate representatives identified during the public participation process; use of local languages and accessible formats; advance sharing of relevant information (timelines, draft support packages, site plans) so that PAPs can provide informed input; documentation of all meetings, issues raised, responses given, and agreements reached; and integration of PAP feedback into the finalisation of the facilitation/livelihood package.

Engagement will continue through the pre-construction, construction and early operational phases until livelihood restoration is verified as complete.

8.12 Recommendations

On the basis of the assessment and the concerns recorded during public participation, the following recommendations are made:

1. Complete a full, verified PAP census and register for Lot 3 before any clearance or demolition of occupied or used areas.

2. Prepare and disclose a concise Facilitation and Livelihood Restoration Plan (or equivalent) detailing entitlements, processes, timelines and responsibilities.
3. Prioritise early engagement and agreement with the church leadership regarding the structure on the site frontage so that continuity of services is maximised.
4. Recognise and work with the legitimate PAP representatives identified during the August 2026 meetings.
5. Ensure that no verified PAP is displaced before agreed facilitation support or adequate transitional arrangements are in place.
6. Integrate livelihood restoration measures with project employment opportunities and commercial space allocation.
7. Provide targeted support and monitoring for vulnerable households.
8. Maintain a fully functional, PAP-sensitive Grievance Redress Mechanism from the pre-construction phase onward.
9. Coordinate PAP management across Lots 1–5 to ensure consistency and fairness.
10. Document all processes thoroughly so that compliance with the court orders, NEMA conditions and constitutional requirements can be demonstrated.

CHAPTER NINE: TRAFFIC IMPACT ASSESSMENT

9.1 Introduction

This chapter presents the Traffic Impact Assessment (TIA) for the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 3. It assesses the anticipated traffic impacts of the development and proposes appropriate mitigation measures. It also addresses concerns repeatedly raised during public participation regarding existing congestion, limited access points, road safety, and the cumulative effect of the wider Southlands (Kibra Lots) housing programme.

The assessment covers: the existing road network and traffic conditions in the vicinity of Lot 3; projected traffic generation during construction and operational phases; access and exit arrangements; pedestrian and non-motorised transport considerations; potential impacts on the Southern Bypass and Langata Link Road; and recommended mitigation and management measures.

Where site-specific classified traffic counts, turning movement surveys or microsimulation modelling have not yet been completed, the assessment applies standard trip-generation rates for multi-storey residential developments, professional judgement, and information gathered from stakeholder consultations (including KeNHA input during the institutions meeting of 7 August 2026). A full quantitative TIA with current traffic counts and capacity analysis should be finalised and annexed prior to submission of the ESIA Study Report to NEMA.

9.2 Existing Road Network

Lot 3 is situated along the Southern Bypass, a major controlled-access highway forming part of the Nairobi expressway/bypass network under the jurisdiction of the Kenya National Highways Authority (KeNHA). Primary access is through the busy Langata Link Road (tarmac).

Key features of the network relevant to Lot 3 include:

a) **Southern Bypass**: Primary frontage road. Access is controlled; direct property access is restricted and subject to KeNHA approval. The corridor has defined road reserves and marker points.

b) **Langata Link Road**: Tarmac secondary road providing local connectivity. It currently serves as an important access route for the surrounding residential estates and is the main approach to Lot 3. c) Local estate roads and internal collectors serving Southlands Estate and adjacent developments. These roads are generally narrower, with mixed pedestrian and vehicular use.

The site's location on a controlled-access corridor means that any new access or modification of existing access points must comply with KeNHA design standards, sight-distance requirements, and safety criteria. During the institutions meeting, KeNHA representatives emphasised the need to work within Corridor A (Southern Bypass) requirements concerning road reserves, access control and accident risk reduction.

9.3 Existing Traffic Conditions

Qualitative observations and stakeholder feedback indicate the following existing conditions:

i. The Southern Bypass carries high volumes of through traffic, including private vehicles, public service vehicles, trucks and occasional heavy goods vehicles. Peak-period congestion occurs, particularly at interchanges and merges. ii. Langata Link Road experiences moderate to heavy local traffic, especially during morning and evening peaks, school hours and weekends. iii. Pedestrian activity is significant along local roads and at informal crossing points, with limited formal pedestrian facilities in some sections. iv. Non-motorised transport (walking and limited cycling) is common among lower-income residents. v. Stakeholders (Residential Associations, community baraza and institutions meeting) reported existing traffic congestion, delays, and safety concerns that they fear will be worsened by the proposed development and the wider Lots 1–5 programme. vi. No major formal public transport interchange exists immediately adjacent to Lot 3; residents currently rely on matatus and other services operating on the surrounding network.

Baseline traffic data (Average Daily Traffic, peak-hour volumes, level-of-service at key junctions, and pedestrian counts) should be established through classified counts and turning-movement surveys at the following critical locations before finalisation of the TIA: Southern Bypass mainline near the site frontage; proposed or existing access points; junction of Langata Link Road with the Bypass; and key local estate road intersections serving Southlands Estate.

9.4 Construction Traffic

During the approximately 24-month construction period, traffic will comprise: delivery of materials (cement, steel, aggregates, precast elements, timber, finishes); movement of construction plant and equipment; workforce transport (buses, matatus, private vehicles); removal of excavated material and construction waste; and occasional abnormal loads (e.g., tower cranes, large plant).

Estimated construction traffic Peak daily construction vehicle movements are expected in the range of 80–150 trucks/deliveries plus workforce transport, varying by construction stage (highest during structural and external works phases).

Key characteristics and risks a) Heavy vehicles will interact with high-speed traffic on the Southern Bypass and the busy Langata Link Road. b) Potential queuing on the Bypass or local roads if site access and holding areas are inadequate. c) Dust, tracking of mud, and noise along haul routes. d) Safety risks to pedestrians and local traffic on Langata Link Road and estate roads. e) Cumulative construction traffic if multiple Lots (1–5) are under construction concurrently.

Management principles a) Construction access point(s) designed to KeNHA standards; b) On-site holding/parking areas to prevent queuing on public roads; c) Delivery scheduling outside network peak hours where practicable; d) Wheel-washing and covered loads; e) Coordinated Traffic Management Plan across lots if concurrent construction occurs.

9.5 Operational Traffic

Key operational characteristics include:

a) Directional distribution is expected to favour the Southern Bypass for longer trips, with a substantial portion using Langata Link Road and local roads for shorter local journeys. b) Peak-hour flows will coincide with the existing network peaks, adding incremental volume to already

busy sections. c) Internal circulation, parking demand and pick-up/drop-off activity will occur within the site; inadequate design could spill queues onto external roads. d) Pedestrian movements between the development, neighbouring estates, public transport stops and local facilities will increase. e) Service vehicles (waste collection, deliveries, maintenance) will add a smaller but regular component.

Potential operational impacts a) Incremental increase in delay and reduction in level of service at access points and nearby junctions. b) Increased conflict between turning vehicles and through traffic on the Southern Bypass or Langata Link Road if access design is sub-standard. c) Greater pedestrian–vehicle conflict on local roads if crossing facilities remain inadequate. d) Parking overspill onto neighbouring streets if on-site provision is insufficient or poorly managed. e) Cumulative operational traffic from Lots 1–5 producing more significant network effects than any single lot in isolation.

Access design, internal layout, parking provision and pedestrian facilities will be critical determinants of the severity of these impacts. All access arrangements must receive prior approval from KeNHA and, where relevant, Nairobi City County.

9.6 Access and Egress

Proposed access strategy Primary access will be taken from the Langata Link Road, with any connection to the Southern Bypass designed to meet controlled-access standards. Any direct access onto the Bypass will require formal KeNHA approval and must satisfy geometric design criteria (sight distance, deceleration/acceleration lanes, turning radii, gradient and channelisation). The number of access points will be minimised to reduce conflict points while ensuring adequate capacity and emergency access. Access design will incorporate separate entry and exit lanes where volumes warrant, clear signage, and adequate throat length to prevent queues from spilling onto the main carriageway.

Design considerations raised during consultations Stakeholders and KeNHA representatives highlighted the limited number of existing entry/exit opportunities and the safety risks associated with additional turning movements on a high-speed corridor and the already busy Langata Link Road. The final access layout must therefore prioritise: adequate sight lines in both directions; protection of through traffic; safe accommodation of public service vehicles and pedestrians; and compatibility with any future upgrades of the Southern Bypass.

Access drawings will be submitted to KeNHA for approval prior to construction. No works affecting the road reserve or creating new access will commence without written authorisation.

9.7 Pedestrian Safety

Key pedestrian issues Crossing the Southern Bypass or the Langata Link Road is inherently hazardous because of high vehicle speeds and limited formal crossing facilities. Local roads serving Southlands Estate have mixed traffic and incomplete sidewalks in places. Construction-phase pedestrian–vehicle conflict risk is elevated along haul routes and site access points.

Design and management response a) Provision of continuous, well-lit pedestrian walkways within the development linking residential blocks, commercial stalls, play areas, gates and

public transport boarding points. b) Safe crossing facilities (zebra crossings, raised tables or signalised crossings where warranted) at the main access points and along Langata Link Road interfaces. c) Clear segregation of pedestrian and vehicular movements at the site gates and internal roads. d) Adequate street lighting along pedestrian desire lines. e) During construction: dedicated pedestrian routes, barriers, flagmen at conflict points, and clear signage. f) Inclusion of pedestrian safety in the Construction Traffic Management Plan and the operational estate management plan.

9.8 Parking

Parking strategy Parking will be provided in accordance with Nairobi City County planning standards and the specific requirements for social and affordable housing developments. A combination of surface parking courts, limited basement or podium parking (where design allows), and designated visitor/short-stay bays will be used. Separate provision will be made for commercial stall customers and service vehicles. Motorcycle and non-motorised transport parking will be included. Parking areas will be designed with clear circulation, adequate turning space, lighting and security.

Management a) Estate rules will regulate resident and visitor parking to prevent obstruction of internal roads, emergency access and neighbouring streets. b) Enforcement will be the responsibility of the estate management body. c) Monitoring of on-street parking conditions in adjacent estates will be undertaken post-occupation; additional management measures will be introduced if significant overspill occurs.

9.9 Traffic Impacts

Construction-phase impacts a) Temporary increase in heavy vehicle movements on the Southern Bypass and Langata Link Road. b) Potential short-term congestion and delay at access points if not properly managed. c) Safety risks associated with slow-moving construction vehicles interacting with high-speed traffic. d) Mud tracking, dust and noise along haul routes. e) Cumulative impacts if several of Lots 1–5 are under construction at the same time.

Operational-phase impacts a) Addition of several hundred peak-hour vehicle trips to the local network. b) Incremental increase in delay at the site access and nearby junctions. c) Possible reduction in level of service on short sections of the Southern Bypass and Langata Link Road near the access points during peaks. d) Increased pedestrian activity and potential conflict if crossing facilities are inadequate. e) Risk of parking overspill onto neighbouring estate roads. f) Cumulative operational traffic from the full Southlands (Lots 1–5) programme producing more pronounced network effects than Lot 3 alone.

9.10 Mitigation Measures

The following mitigation and management measures will be implemented:

Design and approval stage a) Finalise access design to full KeNHA standards and obtain written approval before construction. b) Incorporate adequate on-site parking, internal circulation and pedestrian facilities into the architectural and civil drawings. c) Coordinate access and traffic proposals across Lots 1–5 where concurrent development is planned.

Construction phase a) Prepare and implement a Construction Traffic Management Plan (CTMP) for approval by KeNHA and the county. b) Provide dedicated construction access with sufficient holding area inside the site boundary. c) Schedule bulk material deliveries outside network peak hours where practicable. d) Deploy trained flagmen, temporary signage and traffic control at all public road interfaces. e) Enforce wheel-washing, covered loads and speed limits on haul routes. f) Maintain continuous liaison with KeNHA, county transport officers and local administration. g) Monitor construction traffic complaints through the GRM and adjust the CTMP as needed.

Operational phase a) Commission the access junctions and internal roads to the approved design. b) Implement estate parking rules and enforce them. c) Maintain pedestrian facilities, lighting and signage in good condition. d) Monitor traffic conditions and parking overspill for the first 12–24 months of full occupation and introduce additional measures if required. e) Support wider corridor improvements through information sharing and, where appropriate, proportional contributions coordinated at programme level. f) Include traffic and access performance in routine estate management reporting.

Cumulative / programme level a) Establish a joint traffic coordination mechanism among the five lots during both construction and early operation. b) Share traffic data and align CTMPs and operational management plans. c) Engage KeNHA and Nairobi City County on any network upgrades necessitated by the cumulative development.

CHAPTER TEN: CLIMATE CHANGE AND DISASTER RISK ASSESSMENT

10.1 Climate Change Context

Kenya is highly vulnerable to the impacts of climate change. The country is already experiencing rising temperatures, changing rainfall patterns, increased frequency and intensity of extreme weather events (including floods and droughts), and growing pressure on water resources and urban infrastructure. The Climate Change Act, 2016 provides the primary legal framework for mainstreaming climate change into development planning, requiring public and private entities to integrate climate risk assessment, adaptation and mitigation measures into their operations.

Lot 3 is located in a rapidly urbanising area characterised by existing water stress, periodic flooding risks associated with the River Motoine–River Ngong–Nairobi Dam system, and high population density. The development of 1,386 multi-storey housing units will both contribute to greenhouse gas (GHG) emissions and be exposed to climate-related hazards over its multi-decade lifespan. This chapter therefore assesses the project's GHG profile and its vulnerability to climate hazards, and identifies measures to enhance resilience and reduce emissions in line with the Climate Change Act, 2016.

10.2 Project GHG Sources

Construction phase

- Embodied carbon in construction materials (cement, steel, aggregates, aluminium, finishes)
- Fuel combustion by construction plant, machinery and delivery vehicles (diesel and petrol)
- Electricity use on site (grid and generator)
- Land-use change and loss of the limited existing vegetation (4 mature trees, 3 immature trees, Napier grass and common weeds) that previously provided limited carbon sequestration
- Waste transport and disposal

Operational phase

- Electricity consumption in residential units and common areas (lighting, appliances, lifts, water pumping, street lighting)
- Backup diesel generator use during power outages
- Resident and visitor vehicle trips (Scope 3 emissions)
- Wastewater treatment and solid waste management (indirect emissions)
- Maintenance activities and minor works

Decommissioning phase

- Demolition plant fuel use and transportation of demolition waste
- Potential release of embodied carbon if materials are not recycled

Indicative emission profile A quantitative GHG inventory should be prepared as part of the final specialist studies. In qualitative terms: Construction-phase emissions will be front-loaded and dominated by embodied carbon in concrete and steel and by diesel plant. Operational-phase emissions will dominate the lifecycle total and will be driven primarily by electricity consumption and transport. Opportunities to reduce emissions exist through material efficiency, low-carbon concrete mixes where feasible, energy-efficient building design, solar integration for common areas and lighting, and promotion of non-motorised and public transport.

10.3 Climate Hazards and Vulnerability Assessment

Key climate hazards relevant to Lot 3

a) **Flooding and extreme rainfall** The site is located approximately 400 m from River Motoine and 800 m from River Ngong, both of which drain into Nairobi Dam. Intense rainfall events can lead to localised surface flooding, overflow of drainage systems, and downstream impacts. Stakeholders during public participation repeatedly raised concerns about existing stormwater overflow, blocked drains and erosion. Increased impermeable surfaces from the G+8 development will elevate runoff volumes if not properly managed.

b) **Water scarcity and drought** Lang'ata and the wider Nairobi area already experience water rationing and pressure deficits. Climate change is projected to increase the frequency and severity of dry periods, placing additional stress on municipal supply and any borehole sources.

c) **Rising temperatures and heat stress** Higher ambient temperatures will increase cooling demand in residential units, elevate heat stress for outdoor workers during construction, and may affect the thermal comfort of lower-income occupants.

d) **Extreme weather events** Intense storms can damage incomplete structures, disrupt construction, and increase risks of wind-driven debris or temporary flooding of the site.

e) **Secondary hazards** Climate-driven increases in vector-borne diseases (e.g., malaria, dengue) and water-borne diseases under wetter conditions, and potential strain on emergency services during extreme events.

Vulnerability of the project

- The multi-storey residential development and its occupants (particularly vulnerable groups) are exposed to heat, flooding and water insecurity.
- Critical infrastructure (boreholes, storage tanks, drainage systems, power house, access roads) is vulnerable to extreme rainfall and prolonged dry periods.
- Neighbouring Southlands Estate residents may experience compounded impacts if project drainage or water demand is poorly managed.
- The site's proximity to the Southern Bypass and Langata Link Road means that climate-related traffic disruption can affect emergency access.

10.4 Adaptation Measures

The following adaptation measures will be integrated into design, construction and operation:

a) **Stormwater and flood resilience**

- Design and maintain an integrated drainage system incorporating Sustainable Urban Drainage Systems (SUDS) elements (swales, permeable paving where soil conditions allow, retention/detention facilities).
- Ensure adequate capacity for extreme rainfall events and maintain free-flowing outlets toward the River Motoine / River Ngong system.
- Prohibit obstruction of natural or engineered drainage routes.
- Coordinate with Nairobi City County and relevant agencies on downstream drainage capacity.

b) **Water security**

- Hybrid water supply (municipal connection + WRA-permitted boreholes + overhead and underground storage).
- Water-efficient fixtures and fittings in all units and common areas.
- Promote rainwater harvesting for landscaping and selected non-potable uses.
- Monitor borehole yields and water quality regularly; adjust abstraction rates if groundwater stress is detected.
- Maintain close coordination with NCWSC and Athi Water on supply reliability.

c) **Thermal comfort and heat resilience**

- Building orientation, façade design and landscaping to reduce heat gain.
- Adequate natural ventilation and, where feasible, passive design features.
- Green spaces and shade trees within the development to create cooler microclimates.
- Priority for ground-floor and accessible units for vulnerable occupants (PWDs, elderly).

d) **Construction-phase resilience**

- Temporary drainage and erosion control measures during works.
- Weather monitoring and contingency plans for extreme rainfall or high temperatures (including worker heat-stress protocols).
- Secure storage of materials to prevent wind or flood damage.

e) **Emergency preparedness**

- Clear emergency access routes maintained at all times.
- Coordination with local disaster management and emergency services.

- Inclusion of climate-related hazards in the project Emergency Response Plan.

10.5 Mitigation Measures (GHG Reduction)

a) **Material and construction efficiency**

- Optimise structural design to reduce concrete and steel quantities where structural safety allows.
- Specify lower-carbon concrete mixes or supplementary cementitious materials where available and approved.
- Source materials locally where practicable to reduce transport emissions.
- Implement a Construction Waste Management Plan that maximises recycling and reuse.

b) **Energy efficiency and renewable energy**

- Energy-efficient lighting (LED) and appliances in common areas and, where feasible, within units.
- Solar water heating or photovoltaic systems for common areas, street lighting and selected services.
- High-efficiency lifts and pumps.
- Backup generator sized appropriately and maintained for efficient operation; minimised use through reliable grid connection and storage.

c) **Operational measures**

- Resident awareness programmes on energy and water conservation.
- Promotion of non-motorised transport and public transport use through design (safe walkways, proximity to matatu routes) and management.
- Efficient solid waste management with source segregation to reduce methane emissions from landfilling.

d) **Vegetation and carbon sequestration**

- Compensatory planting of indigenous or climate-resilient tree species within the landscaped buffer and green spaces to offset the limited vegetation loss (4 mature + 3 immature trees).
- Maintenance of green cover throughout the operational life of the project.

10.6 Monitoring and Adaptive Management

a) Establish baseline and periodic monitoring of:

- Water consumption and borehole performance
- Stormwater system performance (especially during heavy rainfall events)

- Energy consumption in common areas
- Any climate-related incidents (flooding, heat stress, infrastructure damage)

b) Review monitoring data annually (or after significant climate events) and adjust management measures as needed.

c) Integrate climate indicators into the overall Environmental and Social Management Plan (ESMP) and reporting to NEMA and the Proponent.

d) Coordinate with the wider Southlands (Lots 1–5) programme on shared climate resilience measures, particularly drainage and water infrastructure.

CHAPTER ELEVEN: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

11.1 Introduction

This Environmental and Social Management Plan (ESMP) translates the impact assessment findings (Chapter 7) and the social/PAP measures (Chapter 8) into clear, actionable management actions for Kibra Lot 3. It covers the Construction, Operational and Decommissioning phases. The Plan is designed to ensure compliance with the Environmental Management and Coordination Act (EMCA) Cap 387, the Environmental (Impact Assessment and Audit) Regulations 2003, the Noise and Excessive Vibration Pollution (Control) Regulations 2009, the Air Quality Regulations 2014, the Climate Change Act 2016, Occupational Safety and Health Act 2007.

The ESMP follows the mitigation hierarchy (avoid – minimise – mitigate – offset/compensate) and incorporates quantitative performance parameters where applicable (noise limits, vibration thresholds, air quality standards, etc.).

11.2 Construction Phase ESMP

1. NOISE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Noise from construction equipment, excavation, piling and concreting	- Use low-noise equipment fitted with mufflers and silencers. - Restrict high-noise activities (piling, excavation, demolition of the existing church, concrete pouring) to daytime hours only (7:00 AM – 6:00 PM). - Erect temporary acoustic barriers / sound screens facing Southlands Estate residential blocks and	Throughout construction (24 months)	- Weekly noise measurements at site boundaries and key receptors (Southlands Estate). - Log all noise complaints in the GRM. - Bi-weekly inspection of acoustic barriers.	Main Contractor, Environmental & Social Officer (ESO), Community Liaison Officer (CLO)	- Noise levels within EMCA limits (≤55 dB day / ≤35 dB night). - No unresolved noise complaints. - Barriers installed and maintained (100%).

	remaining sensitive receptors. - Maintain all machinery regularly. - Comply with EMCA Noise and Excessive Vibration Pollution (Control) Regulations, 2009: Residential areas – Daytime ≤ 55 dB(A), Night-time ≤ 35 dB(A).				
Noise from construction traffic and material delivery	- Schedule deliveries during off-peak hours (9:00 AM – 3:00 PM) to minimise disruption on Langata Link Road. - Ensure all vehicles have functional mufflers. - Deploy traffic marshals at the site access points. - Notify neighbouring receptors 48 hours in advance of major delivery periods.	Throughout construction	- Daily monitoring of delivery schedules. - Weekly vehicle maintenance logs. - Record traffic-related noise complaints in GRM.	Main Contractor, Transport Supervisor, CLO	- No unresolved traffic noise complaints. - 100% of vehicles compliant with muffler requirements.
Disturbance during demolition of the existing church	- Provide written notice to the church leadership and nearby residents at least 7 days before demolition begins. - Use controlled demolition methods and acoustic screens. - Restrict	During church demolition	- Review notification records. - Daily noise monitoring during demolition.	Main Contractor, ESO, CLO	- No unresolved complaints related to church demolition. - Evidence of advance notifications.

	demolition works to daytime hours only.				

2. AIR QUALITY AND DUST MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Dust from excavation, earthworks, stockpiles, church demolition and vehicle movement	- Water spraying of exposed surfaces, access roads and stockpiles at least twice daily (more frequently in dry/windy conditions). - Cover stockpiles with tarpaulins when not in use. - Enforce 20 km/h speed limit on internal roads. - Install dust screens / netting facing Southlands Estate residential blocks. - Provide dust masks to workers.	Throughout construction	- Daily verification of water spraying. - Weekly inspection of stockpile covers and dust screens. - Bi-weekly ambient air quality monitoring (PM10 & PM2.5) at receptors.	Main Contractor, ESO	- Dust levels within NEMA Ambient Air Quality Standards. - No unresolved dust complaints from Southlands Estate. - 100% compliance with watering and covering.
Emissions from vehicles, machinery and generators	- Use well-maintained equipment with efficient engines. - Limit idling time to maximum 5 minutes. - Conduct regular servicing of all plant and vehicles. - Use low-sulphur diesel where possible.	Throughout construction	- Weekly maintenance logs. - Daily observation of idling practices. - Quarterly stack emission tests on generators.	Main Contractor, Transport Supervisor, ESO	- No visible excessive emissions. - Maintenance records 100% up to date. - Emissions within NEMA limits.

3. VIBRATION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Vibration from piling, excavation, church demolition and heavy machinery	- Conduct pre-construction structural condition survey of nearby Southlands Estate residential blocks. - Prefer low-vibration methods (bored piles / hydraulic methods) where feasible. - Monitor vibration levels during critical activities, especially near residential blocks. - Stop works immediately if vibration exceeds safe thresholds.	During foundation, piling and demolition works	- Pre-construction structural survey reports. - Continuous or daily vibration monitoring during high-impact activities. - Log any vibration complaints in GRM.	Main Contractor, Structural Engineer, ESO	- No structural damage to neighbouring properties. - Vibration levels within safe limits. - Pre- and post-construction survey records available.

4. BIODIVERSITY AND VEGETATION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Clearance of light vegetation (4 mature trees, 3 immature trees, Napier grass and weeds)	- Limit clearance strictly to the project footprint. - Identify and mark the 4 mature trees for possible transplanting. - Transplant viable mature trees where feasible. - Develop and implement a post-construction landscaping and replanting plan using native species.	Site clearance and early construction	- Pre-clearance biodiversity walkover survey. - Record number of trees transplanted and survival rate. - Monthly inspection of remaining vegetation.	Main Contractor, ESO, Environmental Consultant	- No unnecessary vegetation loss outside footprint. - ≥70% survival rate of transplanted trees. - Replanting plan approved and ready for implementation.

Disturbance to local fauna	- Minimise night-time works. - Maintain temporary buffer zones around any remaining vegetation until clearance is complete.	Throughout construction	- Monitor working hours. - Inspect buffer zones bi-weekly.	Main Contractor, ESO	- No significant fauna mortality or disturbance reported.

5. WASTE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Construction debris, church demolition waste and general solid waste	- Develop and implement a site-specific Waste Management Plan. - Segregate waste at source (recyclable, reusable, residual). - Store waste in designated, labelled areas. - Dispose of waste only through NEMA-licensed waste handlers. - Conduct daily site housekeeping.	Throughout construction	- Weekly inspection of waste storage areas. - Review disposal manifests monthly. - Log waste-related complaints in GRM.	Main Contractor, ESO, Waste Contractor	- ≥60% of construction/demolition waste recycled or reused. - 100% of residual waste disposed through licensed handlers. - No illegal dumping.
Hazardous waste (used oil, solvents, batteries, empty chemical containers)	- Store hazardous waste in secure, bunded, labelled areas with impermeable floors. - Engage licensed hazardous waste contractors for disposal.	Throughout construction	- Weekly inspection of hazardous storage areas. - Quarterly training records	Main Contractor, ESO	- Zero contamination incidents. - All hazardous waste tracked and disposed correctly.

	- Train workers on hazardous waste handling.		and disposal certificates.		

6. WATER RESOURCES, DRAINAGE AND EROSION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Stormwater runoff, erosion and sedimentation (red soil with sandstone/shale)	- Install silt fences, sediment traps and temporary drainage channels before major earthworks. - Protect stockpiles from rain. - Direct clean runoff away from neighbouring properties and towards existing drainage. - Re-vegetate disturbed areas progressively.	Throughout construction (especially rainy seasons)	- Weekly inspection of silt traps and drains. - Bi-weekly monitoring of runoff quality if discharging off-site.	Main Contractor, ESO	- No significant sedimentation of neighbouring areas or drainage channels. - Silt traps functional at all times.
Water pollution from spills and wastewater	- Store fuels and oils in bunded areas (110% capacity). - Provide spill kits at strategic locations and train workers on spill response. - Direct wastewater from washing and curing to settlement tanks before disposal.	Throughout construction	- Daily visual checks of storage areas. - Immediate reporting and clean-up of any spills.	Main Contractor, ESO	- Zero significant spill incidents reaching soil or water. - Spill kits always available and complete.

Water demand for construction	- Source construction water preferentially from bowsers or approved sources to avoid straining local supply. - Promote water-efficient construction methods.	Throughout construction	- Monthly water consumption records. - Log any community water complaints.	Main Contractor, ESO, CLO	- No unresolved complaints of water shortage linked to the project.

7. TRAFFIC AND ROAD SAFETY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Construction vehicle movements and congestion on Langata Link Road	- Prepare and implement a Traffic Management Plan (TMP). - Schedule heavy deliveries during off-peak hours (9:00 AM – 3:00 PM). - Deploy trained traffic marshals at the site access and along Langata Link Road as needed. - Maintain the site access in a safe condition.	Throughout construction	- Daily monitoring of delivery schedules and marshal deployment. - Weekly inspection of access condition. - Log traffic complaints in GRM.	Main Contractor, Transport Supervisor, CLO	- No unresolved congestion complaints. - Marshals present during all delivery periods (≥95%).
Accident risk to pedestrians and other road users	- Install clear warning signage, speed limit signs (20 km/h) and temporary pedestrian provisions where needed. - Enforce vehicle speed limits strictly. - Conduct toolbox talks on road safety.	Throughout construction	- Weekly inspection of signage and safety provisions. - Record of any accidents or near-misses.	Main Contractor, Safety Officer, CLO	- Zero serious accidents involving community members. - Signage maintained (100%).

8. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Dust, noise and safety risks to Southlands Estate and other neighbours	- Implement all dust and noise controls listed above. - Maintain secure fencing and controlled access to the site. - Provide clear GRM channels for community complaints.	Throughout construction	- Weekly site security and fencing inspections. - Monthly review of GRM records.	Main Contractor, ESO, CLO, Security	- No unresolved health or safety complaints from neighbours. - Site fully secured at all times.
Security and social risks from worker influx	- Register and issue identification to all workers. - Prefer local labour (target ≥70–90% unskilled from the community through the Chief). - Collaborate with local administration and police. - Enforce a strict code of conduct for workers.	Throughout construction	- Weekly review of worker register. - Monthly meetings with local administration.	Main Contractor, CLO, ESO	- ≥70% local unskilled labour achieved. - No major security or social incidents linked to workers.
Public health (HIV/AIDS, sanitation)	- Provide adequate toilet and washing facilities for workers. - Conduct awareness sessions on HIV/AIDS and other communicable diseases. - Ensure proper sanitation and waste management.	Throughout construction	- Monthly inspection of worker facilities. - Records of awareness sessions.	Main Contractor, ESO, CLO	- Adequate facilities always available. - Awareness sessions conducted at least quarterly.

9. OCCUPATIONAL HEALTH AND SAFETY (OHS) MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator

General construction hazards (falls, falling objects, machinery, church demolition)	- Enforce OSHA 2007 requirements fully. - Provide and enforce use of appropriate PPE (helmets, safety boots, high-visibility vests, gloves, harnesses, etc.). - Install guardrails, safety nets and proper scaffolding. - Conduct daily toolbox talks and regular safety training. - Establish on-site first-aid station and emergency response procedures.	Throughout construction	- Daily PPE compliance checks. - Weekly safety inspections. - Monthly review of incident and near-miss reports.	Main Contractor, Safety Officer	- Zero fatalities. - Lost Time Injury Frequency Rate (LTIFR) kept as low as reasonably practicable. - 100% PPE compliance observed.
Working at height (G+8 structures)	- Use certified scaffolding and mobile elevated work platforms. - Mandatory use of safety harnesses above 2 metres. - Restrict work at height during strong winds or bad weather.	During superstructure works	- Daily inspection of scaffolding and harnesses. - Toolbox talks specific to work at height.	Main Contractor, Safety Officer	- No falls from height. - All height work equipment certified and inspected.

10. GENDER AND SOCIAL INCLUSION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Employment opportunities for women, youth and PWDs	- Target minimum 30% women in unskilled and semi-skilled roles. - Actively recruit local youth and persons with disabilities through the Chief and community	Throughout construction	- Monthly gender and local employment statistics. - Review of recruitment records.	Main Contractor, CLO, ESO	- ≥30% female participation in unskilled/semi-skilled roles. - Evidence of inclusive recruitment.

	structures. - Provide separate sanitary facilities for women.				
Prevention of gender-based violence and harassment	- Enforce a clear zero-tolerance policy on sexual harassment and GBV. - Conduct mandatory induction on the code of conduct. - Provide confidential reporting channels through the GRM.	Throughout construction	- Quarterly review of any GBV/harassment cases. - Training attendance records.	Main Contractor, CLO, ESO	- Zero unresolved GBV/harassment cases. - All workers inducted on the code of conduct.

11.3 Operational Phase ESMP

1. NOISE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Noise from residential activities, generators and mechanical equipment	- Restrict use of backup generators to emergency periods only. - Ensure all generators and pumps are fitted with acoustic enclosures and mufflers. - Enforce quiet hours (10:00 PM – 6:00 AM). - Maintain all mechanical equipment regularly. - Comply with EMCA Noise and Excessive Vibration Pollution (Control) Regulations, 2009:	Throughout operation	- Quarterly noise measurements at site boundary and sensitive receptors (Southlands Estate). - Log all noise complaints in GRM. - Review generator operation logs monthly.	Facility Management Company / Estate Manager, Environmental & Social Officer (ESO)	- Noise levels within EMCA limits (≤55 dB day / ≤35 dB night). - No unresolved noise complaints. - 100% compliance with quiet hours.

	Residential areas – Daytime ≤ 55 dB(A), Night-time ≤ 35 dB(A).				
Noise from commercial stalls and community activities	- Restrict commercial activities (music, loading/unloading) to 7:00 AM – 8:00 PM. - Prohibit use of loudspeakers after 8:00 PM. - Sensitize stall operators and residents on noise regulations.	Throughout operation	- Monthly inspections of commercial areas. - Record complaints in GRM.	Estate Manager, CLO	- No unresolved complaints from Southlands Estate. - Evidence of sensitization meetings.

2. AIR QUALITY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Emissions from backup generators and cooking	- Use low-sulphur diesel for generators. - Ensure regular servicing of generators. - Promote LPG for cooking (as provided in the design). - Prohibit open burning of waste.	Throughout operation	- Quarterly stack emission tests on generators. - Visual inspection of cooking areas monthly. - Ambient air quality monitoring (PM10, PM2.5, NO_2, SO_2) twice a year near receptors.	Facility Management, ESO	- Emissions within NEMA Ambient Air Quality Standards. - No open burning observed. - No unresolved air quality complaints.
Dust from internal roads and parking areas	- Maintain cabro roads and parking areas in good condition. - Sweep and water internal roads during dry seasons as needed.	Throughout operation	- Monthly inspection of road surfaces. - Record dust complaints in GRM.	Estate Manager	- Roads maintained (no significant dust). - No unresolved dust complaints from Southlands Estate.

3. SOLID WASTE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Domestic and commercial solid waste generation	- Provide adequate, colour-coded waste bins (organic, recyclable, residual) at each block and commercial stalls. - Contract a NEMA-licensed waste collector for regular collection. - Promote source segregation and recycling. - Prohibit dumping or burning of waste on site or nearby.	Throughout operation	- Weekly inspection of waste collection points. - Review waste collection contracts and disposal manifests monthly. - Log waste-related complaints in GRM.	Facility Management, Waste Contractor, ESO	- 100% of waste collected by licensed contractor. - No illegal dumping observed. - ≥40% waste diverted for recycling (target). - No unresolved waste complaints.
Hazardous household waste (batteries, e-waste, used oil)	- Provide designated collection points for hazardous waste. - Partner with licensed hazardous waste handlers.	Throughout operation	- Quarterly audit of hazardous waste records.	Facility Management, ESO	- All hazardous waste disposed through licensed handlers. - Records available.

4. WATER RESOURCES AND WASTEWATER MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
High water demand and potential strain on supply	- Maintain borehole(s) and storage tanks in good working condition. - Implement water metering for each block/household where feasible. - Promote water-saving fixtures and	Throughout operation	- Monthly water consumption records. - Quarterly borehole yield and water quality tests (as per WRA requirements). -	Facility Management, ESO	- No prolonged water shortages. - Water quality meets KEBS/WHO standards. -

	resident awareness. - Monitor borehole yields and water quality quarterly.		Log water shortage complaints in GRM.		Borehole yields stable.
Wastewater and sewer management	- Ensure proper connection and maintenance of foul sewer system. - Prevent blockages through resident education. - Monitor for overflows, especially during rains.	Throughout operation	- Weekly inspection of drainage and sewer manholes. - Immediate response to any overflow reported through GRM.	Facility Management, ESO	- No sewer overflows. - 100% of wastewater directed to approved system. - No unresolved sewer complaints.
Stormwater drainage	- Maintain stormwater drains free of debris. - Ensure no blockage of natural drainage paths leading towards River Motoine / River Ngong.	Throughout operation (especially rainy seasons)	- Pre-rainy season and monthly inspections of drains.	Facility Management	- No flooding of internal roads or neighbouring properties (Southlands Estate). - Drains clear.

5. TRAFFIC AND ACCESS MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Increased traffic from residents and visitors on Langata Link Road and Southern Bypass access	- Maintain clear internal circulation and adequate parking. - Enforce one-way systems and speed limits (20 km/h) inside the estate. - Coordinate with relevant road	Throughout operation	- Quarterly traffic observations at access points. - Log congestion/accident complaints in GRM.	Facility Management, Security	- No unresolved congestion complaints. - Internal roads free-flowing. - Zero serious accidents inside the estate.

	authorities on access management.				
Pedestrian and cyclist safety	- Maintain pedestrian walkways and lighting. - Ensure clear signage at entrances and exits.	Throughout operation	- Monthly inspection of walkways and lighting.	Facility Management	- Walkways and lighting functional (100%).

6. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Security risks due to high population density	- Maintain 24-hour security personnel and CCTV (as designed). - Control access through gate houses. - Collaborate with local police and Nyumba Kumi.	Throughout operation	- Daily security reports. - Monthly review of incident log.	Facility Management, Security Contractor	- No major security incidents. - Access control fully operational.
Fire and emergency preparedness	- Maintain fire-fighting equipment, hose reels and emergency exits. - Conduct annual fire drills involving residents. - Keep emergency contact numbers displayed.	Throughout operation	- Quarterly inspection of fire equipment. - Annual drill records.	Facility Management, Safety Officer	- All fire equipment functional. - Annual drills conducted and documented.
Public health (vector control, sanitation)	- Regular cleaning of drains and common areas to prevent mosquito breeding. - Coordinate with County Public Health on vector control.	Throughout operation	- Monthly inspection of drains and common areas.	Facility Management, ESO	- No significant vector-borne disease outbreaks linked to the estate.

7. BIODIVERSITY AND LANDSCAPING MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Maintenance of green spaces, trees and children's play areas	- Maintain all landscaped areas, children's play areas and any transplanted trees. - Replace dead plants with native species. - Prohibit cutting of mature trees within the estate.	Throughout operation	- Quarterly inspection of landscaping survival rates.	Facility Management, ESO	- ≥80% survival of planted/transplanted trees. - Green spaces and play areas well maintained.

8. SOCIO-ECONOMIC AND GRIEVANCE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Grievance Redress	- Maintain a functional, accessible GRM (suggestion boxes, phone line, WhatsApp, Chief's office). - Resolve complaints within agreed timelines (acknowledge in 7 days, resolve in 30 days where possible).	Throughout operation	- Monthly GRM report (number received, resolved, pending). - Quarterly community feedback meetings.	Estate Manager, CLO, ESO	- ≥90% of grievances resolved within 30 days. - GRM awareness among residents >80%.
Inclusion of vulnerable groups and neighbouring community	- Give priority consideration (where applicable) to nearby residents and vulnerable households in allocation and employment opportunities within the estate.	Ongoing	- Annual review of allocation and employment records.	Facility Management / Housing Board liaison	- Transparent records available.

11.4 Decommissioning Phase ESMP

Decommissioning of the Lot 3 development is not anticipated in the near term, as the project is designed for long-term residential use (typically 50–100 years). Should partial or full decommissioning become necessary (major renovation, change of use, or end-of-life), the following management measures will apply. A detailed Decommissioning Environmental Management Plan (DEMP) shall be prepared and submitted to NEMA for approval prior to commencement of any decommissioning works.

1. NOISE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Noise from demolition, dismantling and heavy machinery	- Use low-noise demolition techniques and equipment fitted with mufflers where feasible. - Restrict high-noise demolition activities to daytime hours only (7:00 AM – 6:00 PM). - Erect temporary acoustic barriers facing Southlands Estate residential blocks. - Notify neighbouring receptors (especially Southlands Estate) at least 7 days in advance of major demolition works. - Comply with EMCA Noise and Excessive Vibration Pollution (Control) Regulations, 2009: Residential areas –	Throughout decommissioning	- Weekly noise measurements at site boundaries and key receptors (Southlands Estate). - Log all noise complaints in the GRM. - Bi-weekly inspection of acoustic barriers.	Main Contractor, ESO, CLO	- Noise levels within EMCA limits (≤55 dB day / ≤35 dB night). - No unresolved noise complaints. - Barriers installed and maintained (100%).

	Daytime ≤ 55 dB(A), Night-time ≤ 35 dB(A).				
Noise from debris transportation	- Schedule debris removal trucks during off-peak hours (9:00 AM – 3:00 PM) to minimise disruption on Langata Link Road. - Ensure all trucks have functional mufflers. - Deploy traffic marshals to reduce unnecessary idling and honking.	Throughout decommissioning	- Daily monitoring of haulage schedules. - Record traffic-related noise complaints in GRM.	Main Contractor, Transport Supervisor, CLO	- No unresolved traffic noise complaints. - 100% of haulage vehicles compliant.

2. AIR QUALITY AND DUST MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Dust from demolition, breaking of structures and debris handling	- Apply continuous water spraying / misting during demolition and debris handling. - Use dust screens and netting around active demolition zones, especially facing Southlands Estate. - Cover debris stockpiles and loaded trucks with tarpaulins. - Prohibit dry sweeping; use wet methods only. - Provide appropriate dust masks	Throughout decommissioning	- Daily verification of water spraying and dust suppression. - Weekly inspection of dust screens and stockpile covers. - Bi-weekly ambient air quality monitoring (PM10 & PM2.5) at receptors.	Main Contractor, ESO	- Dust levels within NEMA Ambient Air Quality Standards. - No unresolved dust complaints from Southlands Estate. - 100% compliance with dust suppression measures.

	(N95 or equivalent) to all workers.				
Emissions from machinery and trucks	- Use well-maintained equipment and vehicles. - Limit idling time. - Conduct regular servicing of all plant.	Throughout decommissioning	- Weekly maintenance logs. - Daily observation of idling practices.	Main Contractor, Transport Supervisor, ESO	- No visible excessive emissions. - Maintenance records fully up to date.

3. VIBRATION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Vibration from demolition of multi-storey structures	- Conduct pre-demolition structural condition survey of neighbouring Southlands Estate residential blocks. - Use controlled demolition methods (sequential dismantling rather than explosive methods). - Monitor vibration levels during critical demolition stages. - Stop works immediately if vibration approaches damage thresholds.	During structural demolition	- Pre- and post-demolition structural survey reports. - Continuous or daily vibration monitoring during high-impact activities. - Log any vibration complaints in GRM.	Main Contractor, Structural Engineer, ESO	- No structural damage to neighbouring properties. - Vibration levels within safe limits. - Complete survey records available.

4. WASTE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator

Demolition debris (concrete, steel, timber, masonry, etc.)	- Develop a detailed Demolition Waste Management Plan before works begin. - Maximise recovery and recycling of materials (steel, concrete aggregate, timber). - Segregate waste at source. - Store debris in designated areas pending removal. - Dispose of residual waste only through NEMA-licensed facilities.	Throughout decommissioning	- Weekly inspection of waste segregation and storage areas. - Review of recycling and disposal manifests monthly. - Log waste-related complaints in GRM.	Main Contractor, ESO, Waste Contractor	- ≥70% of demolition waste recycled or reused. - 100% of residual waste disposed through licensed handlers. - No illegal dumping.
Hazardous materials (residual oils, chemicals, e-waste, fluorescent tubes, etc.)	- Conduct a pre-demolition hazardous materials survey. - Remove and handle hazardous materials only by licensed specialists under controlled conditions. - Store hazardous waste in secure, bunded, labelled areas. - Dispose through licensed hazardous waste contractors.	Before and during decommissioning	- Pre-demolition hazardous materials survey report. - Weekly inspection of hazardous storage. - Disposal certificates retained.	Main Contractor, ESO, Licensed Hazardous Waste Contractor	- Zero uncontrolled release of hazardous materials. - All hazardous waste fully tracked and disposed correctly.

5. WATER RESOURCES, DRAINAGE, EROSION AND CONTAMINATION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator

Stormwater runoff, erosion and sedimentation (red soil with sandstone/shale)	- Maintain silt fences, sediment traps and temporary drainage throughout the works. - Protect exposed surfaces and stockpiles from rainfall. - Progressively stabilise and re-vegetate disturbed areas. - Prevent sediment-laden runoff from reaching River Motoine or River Ngong drainage paths.	Throughout decommissioning (especially rainy seasons)	- Weekly inspection of silt traps and drainage. - Monitoring of runoff if discharging off-site.	Main Contractor, ESO	- No significant sedimentation of neighbouring properties or drainage systems. - Silt controls functional at all times.
Potential contamination from spills or residual materials	- Store any remaining fuels, oils and chemicals in bunded areas. - Provide spill kits and train workers on spill response. - Clean all residual contamination before site handover.	Throughout decommissioning	- Daily visual checks of storage areas. - Soil and water quality testing if contamination is suspected.	Main Contractor, ESO	- Zero significant contamination incidents. - Site left free of residual pollution.
Management of existing boreholes and water infrastructure	- Protect or properly decommission boreholes in accordance with WRA requirements. - Avoid damage to any	During utility removal	- Records of borehole decommissioning (if applicable). - Coordination	Main Contractor, ESO	- Boreholes properly decommissioned or protected. - No disruption to neighbouring water systems.

	remaining water supply or drainage infrastructure serving neighbouring areas.		records with water authorities.		

6. TRAFFIC AND ROAD SAFETY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Movement of heavy trucks removing debris on Langata Link Road	- Prepare and implement a Traffic Management Plan for the decommissioning phase. - Schedule haulage during off-peak hours (9:00 AM – 3:00 PM). - Deploy trained traffic marshals at all access points. - Maintain the access road in a safe and dust-free condition.	Throughout decommissioning	- Daily monitoring of haulage schedules and marshal presence. - Weekly inspection of access road. - Log traffic complaints in GRM.	Main Contractor, Transport Supervisor, CLO	- No unresolved congestion or safety complaints. - Marshals present during all haulage periods (≥95%).
Pedestrian and community safety	- Install clear warning signage, temporary pedestrian routes and barriers. - Enforce strict speed limits (20 km/h) on site and access roads.	Throughout decommissioning	- Weekly inspection of signage, barriers and walkways. - Record of any accidents or near-misses.	Main Contractor, Safety Officer, CLO	- Zero serious accidents involving community members. - Signage and barriers maintained (100%).

7. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Risks to neighbouring communities (Southlands Estate) from demolition activities	- Maintain secure fencing and controlled access at all times. - Implement all dust, noise and vibration controls listed above. - Provide clear and accessible GRM channels. - Give advance notice of major demolition stages to Southlands Estate residents and local administration.	Throughout decommissioning	- Weekly security and fencing inspections. - Monthly review of GRM records and community notifications.	Main Contractor, ESO, CLO, Security	- No unresolved health, safety or nuisance complaints from neighbours. - Site remains fully secured.
Security and social risks	- Register all workers and issue identification. - Enforce a strict code of conduct. - Collaborate with local administration and police.	Throughout decommissioning	- Weekly review of worker register. - Records of coordination with local authorities.	Main Contractor, CLO, ESO	- No major security or social incidents linked to the works.

8. OCCUPATIONAL HEALTH AND SAFETY (OHS) MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Hazards associated with demolition of multi-storey buildings	- Enforce full compliance with OSHA 2007 and all applicable demolition safety standards. - Provide and enforce appropriate PPE (including respiratory protection, harnesses,	Throughout decommissioning	- Daily PPE and equipment compliance checks. - Weekly safety inspections. - Monthly review	Main Contractor, Safety Officer	- Zero fatalities. - Lost Time Injury Frequency Rate kept as low as reasonably practicable. -

	helmets, safety boots, etc.). - Use only certified scaffolding, platforms and lifting equipment. - Conduct daily toolbox talks focused on demolition risks. - Maintain on-site first-aid and emergency response capability.		of incident and near-miss reports.		100% PPE compliance.
Working at height and structural collapse risks	- Implement a detailed Method Statement for sequential and controlled demolition. - Restrict access to active demolition zones. - Use safety nets, catch platforms and exclusion zones.	During structural demolition	- Daily inspection of exclusion zones and safety systems. - Method statements approved before works.	Main Contractor, Safety Officer, Structural Engineer	- No uncontrolled collapses or falls from height.

9. BIODIVERSITY AND SITE RESTORATION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Final site restoration and landscaping	- Remove all debris, temporary structures and contamination. - Regrade the site to stable contours. - Implement a comprehensive landscaping and re-vegetation plan using appropriate native species. -	Final stage of decommissioning	- Post-demolition site inspection. - Verification of landscaping implementation and survival rates (3–6 months after planting).	Main Contractor, ESO	- Site left clean, stable and free of debris. - Landscaping successfully established (≥80% survival).

	Restore or improve green spaces where feasible.				
Protection of any remaining mature trees	- Protect any trees designated for retention during the entire decommissioning process.	Throughout decommissioning	- Regular inspection of tree protection measures.	Main Contractor, ESO	- No damage to trees marked for retention.

10. SOCIO-ECONOMIC AND GRIEVANCE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Grievance Redress	- Maintain a fully functional and accessible GRM throughout the decommissioning period. - Acknowledge complaints within 7 days and aim to resolve within 30 days.	Throughout decommissioning	- Monthly GRM performance reports. - Community feedback meetings as needed.	Main Contractor, CLO, ESO	- ≥90% of grievances resolved within 30 days. - GRM remains accessible and known to the community.
Communication and stakeholder engagement	- Provide regular updates to Southlands Estate residents, local administration and other stakeholders on the decommissioning programme and timelines.	Throughout decommissioning	- Records of notifications and meetings.	Main Contractor, CLO	- Evidence of timely and transparent communication.

11.5 Emergency Preparedness and Response

An Emergency Preparedness and Response Plan (EPRP) shall be prepared by the Main Contractor for the construction phase and by the Estate Management for the operational phase. The plan will be kept under continuous review and updated whenever significant changes occur in site conditions, project activities or external risk factors.

Core elements of the EPRP

a) Identification of potential emergencies relevant to Lot 3, including fire, medical emergencies, structural incidents, flooding (given proximity to River Motoine approximately 400 m and River Ngong approximately 800 m), hazardous material spills, security incidents, extreme weather events, and any aviation-related contingencies associated with the Wilson Airport flight path corridor. b) Clear definition of roles, responsibilities and communication protocols among site management, the Environmental and Social Officer, Community Liaison Officer, security personnel and external responders. c) An up-to-date emergency contact list covering site management, the Proponent (State Department for Housing and Urban Development), local administration (Chief, Assistant Chief, ACC), police, fire service, ambulance services and the nearest hospitals. d) Clearly marked evacuation routes, assembly points and step-by-step evacuation procedures, taking into account the layout of the 14 G+8 blocks and the interface with Southlands Estate. e) Specified locations and maintenance schedules for first-aid equipment, fire-fighting equipment and spill kits. f) Structured training and drills for all construction workers, and later for estate staff and resident representatives during the operational phase. g) Formal coordination arrangements with external emergency services, including pre-agreed access routes and mutual support protocols. h) Special provisions for vulnerable persons (persons with disabilities, elderly residents, children and any remaining PAPs) to ensure they can be assisted promptly during an emergency. i) Mandatory post-incident reporting, root-cause investigation and implementation of corrective actions, with notification to the Proponent, NEMA and other relevant authorities within the timeframes required by law and the EIA Licence.

The EPRP will be communicated to every worker during induction and to all residents during move-in orientation. Drills will be conducted at defined intervals. Any significant incident will be reported to the Proponent, NEMA and the appropriate authorities without delay.

11.6 Stakeholder Engagement / Communication Plan

Stakeholder engagement does not end with the public participation meetings held between 31 July and 7 August 2026. A structured Stakeholder Engagement and Communication Plan will be maintained throughout construction and the early operational years of Lot 3.

Objectives

a) Keep Project Affected Persons (including the church community, residual business operators such as the carwash, and any cultivators), neighbouring residents of Southlands Estate, local administration and other stakeholders informed of project progress, schedules and opportunities. b) Provide regular, transparent feedback on how concerns raised during the ESIA process and subsequent meetings are being addressed. c) Maintain trust and reduce the risk of conflict or the spread of misinformation. d) Facilitate continued stakeholder input into adaptive management of environmental and social issues.

Key activities

a) Regular progress updates through the Chief's office, site notice boards (in English and Kiswahili), and periodic community meetings. b) Dedicated follow-up meetings with identified PAP representatives and Southlands Estate Residential Association officials at key milestones (pre-clearance, start of construction, during major structural phases, and at handover). c) Timely written and oral notification of particularly disruptive activities (heavy lifts, extended working hours, utility interruptions, or major deliveries on Langata Link Road). d) Disclosure of monitoring summaries and GRM performance data in accessible formats. e) Maintenance of open communication channels through the Grievance Redress Mechanism and the designated Community Liaison Officer. f) Coordination of messaging with the teams responsible for Lots 1, 2, 4 and 5 to ensure consistency of information across the Southlands programme.

All engagement activities will be fully documented (attendance lists, issues raised, responses given and photographic records where consent is obtained). These records will be used both for adaptive management and to demonstrate continued compliance with the requirements for meaningful public participation.

11.7 Institutional Responsibilities

Clear allocation of responsibilities is essential for effective implementation of the Environmental and Social Management Plan on Lot 3.

Entity	Main Responsibilities
Proponent (State Department for Housing and Urban Development)	Overall accountability for ESMP implementation; provision of adequate resources; PAP facilitation and livelihood restoration; maintenance of the project-level GRM; reporting to NEMA and lead agencies; coordination across Lots 1–5; appointment of environmental and social specialists.
Supervising Consultant	Day-to-day supervision of Contractor compliance with the ESMP and Contractor's ESMP (C-ESMP); review and approval of method statements; regular site inspections and reporting; verification of monitoring data; recommendation of corrective actions.
Main Contractor	Full implementation of the C-ESMP and all construction-phase mitigation measures; preparation of supporting plans (OHS, Waste, Traffic, Emergency Preparedness); training of workers; daily and weekly monitoring and reporting; immediate corrective action on any non-conformances.
Estate Management Body (Operational Phase)	Implementation of all operational ESMP measures; maintenance of buildings, infrastructure, green spaces, drainage and security; enforcement of resident rules;

	operation of the GRM at estate level; coordination with service providers (water, waste, security, electricity).
Local Administration (Chief / Assistant Chief / ACC)	Support for community liaison, local employment recruitment, dissemination of information, and first-line uptake of grievances.
NEMA	Regulatory oversight, review of monitoring reports, compliance inspections, and enforcement as required under the EIA Licence and EMCA.
Lead Agencies (KCAA, KeNHA, WRA, NCWSC, KPLC, Nairobi City County, Directorate of Occupational Safety and Health Services, etc.)	Issuance and monitoring of their respective permits and conditions; technical input on specialised issues (aviation safety, road access, water resources, sewerage, electricity, planning and occupational safety).
Affordable Housing Board	Oversight of housing allocation processes and higher-level grievance escalation where relevant.

The Proponent remains ultimately accountable for ensuring that all parties fulfil their responsibilities and that the objectives of the Environmental and Social Management Plan are achieved throughout the life of the Kibra Lot 3 project.

CHAPTER TWELVE: ENVIRONMENTAL AND SOCIAL MONITORING PLAN

12.1 Monitoring Objectives

The Environmental and Social Monitoring Plan provides a structured framework for tracking the implementation and effectiveness of the mitigation measures set out in the ESMP for Kibra Lot 3. Its specific objectives are to:

a) Verify that all environmental and social commitments made in this ESIA Study Report and the ESMP are implemented in a timely and effective manner; b) Detect any unforeseen impacts or non-conformances at an early stage so that corrective action can be taken; c) Measure actual changes in key environmental and social parameters against baseline conditions and predicted impacts; d) Provide transparent, verifiable data for reporting to NEMA, lead agencies, the Proponent and other stakeholders; e) Support adaptive management and continuous improvement throughout construction, operation and decommissioning; f) Demonstrate compliance with the EMCA and EIA/EA Regulations; g) Build accountability and public confidence by showing that monitoring results are used to manage residual risks.

12.2 Environmental Monitoring

Aspect	Key Parameters / Focus Areas	Methods	Frequency	Responsibility	Action on Exceedance / Negative Trend
Vegetation & Trees	Tree retention, compensatory planting, survival rates, buffer & landscape condition (4 mature + 3 immature trees)	Inventory, visual inspection, photo records, survival counts	Pre-clearance; monthly during planting/establishment; quarterly thereafter	Contractor / Supervising Consultant	Replace failed plants; increase protection measures
Soil Erosion & Sediment	Presence of controls, sediment in runoff, exposed surface area	Visual inspection, photo records	Daily/weekly during earthworks	Contractor	Install/repair controls immediately

Stormwater Drainage	Drainage performance, off-site discharge quality, blockages (towards River Motoine approx. 400 m and River Ngong approx. 800 m)	Visual inspection, water sampling if discharging	Weekly during construction; before/after rains	Contractor / Supervising Consultant	Clear drains; enhance treatment
Waste	Generation, segregation, storage, disposal	Visual checks, waste register, manifests	Daily visual; weekly register review	Contractor	Correct non-compliance immediately
Energy & Fuel Use	Fuel consumption, generator hours (GHG tracking)	Records review	Monthly	Contractor	Optimise plant use
Housekeeping & Pollution Prevention	General site condition, spills, litter	Visual inspection	Daily	Contractor	Immediate clean-up

12.3 Social Monitoring

Aspect	Key Parameters	Methods	Frequency	Responsibility	Action on Issues
PAP Register & Facilitation	Completeness of register, facilitation delivered, livelihood status (church, residual businesses including carwash, any cultivators)	File review, payment records, follow-up interviews	Monthly during displacement phase; quarterly thereafter	Proponent Social Specialist	Accelerate outstanding support
Vulnerable Households	Status and support received	Targeted follow-up	Monthly / quarterly	Proponent Social Specialist	Prioritise additional assistance

Local Employment	% local workers, gender & youth participation	Payroll records cross-checked with Chief	Monthly	Contractor / Proponent	Adjust recruitment
Grievance Redress Mechanism	Numbers received, resolved, pending, response time, recurrence	GRM database analysis	Weekly review; monthly trend report	Proponent / Community Liaison	Escalate overdue cases
Community Perceptions	Feedback from meetings and spot checks (especially Southlands Estate)	Meeting minutes, interviews, FGDs	At key milestones and quarterly	Proponent Social Specialist	Adjust engagement approach
Stakeholder Engagement	Implementation of commitments	Meeting records, attendance	Ongoing	Proponent	Fill gaps promptly
Social Conflict	Incidents of protest or tension	Incident log, local admin feedback	Continuous	Proponent	Immediate de-escalation

12.4 OHS Monitoring

Indicator	Method	Frequency	Responsibility	Action
Induction & Toolbox Talks coverage	Training register review	Weekly	Contractor OHS	Conduct catch-up training
PPE availability & usage	Visual observation	Daily	Contractor OHS	Enforce immediately
Incidents, accidents, near-misses	Incident log	Continuous recording; weekly review	Contractor	Investigate & report serious cases to Proponent / DOSHS / NEMA

Lost-time injury frequency	Calculated from records	Monthly	Contractor / Supervising Consultant	Root-cause analysis & corrective action
First-aid, fire equipment & drills	Inspection & drill records	Weekly inspection; drills as scheduled	Contractor	Replenish / retrain
Welfare facilities	Visual inspection	Weekly	Supervising Consultant	Rectify deficiencies
Non-conformance closure rate	Audit / inspection tracking	Weekly / monthly	Supervising Consultant	Escalate open items

12.5 Water Quality Monitoring

Parameter	Location / Source	Frequency	Method	Standard / Trigger
pH, turbidity, EC, TDS, key ions, E. coli / coliforms	Boreholes	Baseline before use; Quarterly (or per WRA permit) during construction & first 2 years of operation	Accredited laboratory	WRA permit limits
Suspended solids, pH, oils & grease	Construction runoff / discharges leaving site	When discharging or after heavy rain	Accredited laboratory or field kit	No pollution of receiving environment
Municipal supply quality	Point of receipt (reference)	As needed	Laboratory	For comparison only

12.6 Air Quality Monitoring

Parameter	Locations	Frequency	Method	Action on Exceedance
Dust / Particulate matter (visual + quantitative PM_{10} or TSP)	Boundaries next to Southlands Estate; near church/carwash interface; downwind points	Daily visual during dry earthworks; quantitative at start of high-dust phases,	Visual + calibrated equipment	Enhance water spraying, install additional screens, adjust methods, or

		monthly in high-risk periods, and on complaint		temporarily suspend high-dust works
Visible emissions from plant/vehicles	Site-wide	Continuous observation	Visual	Maintain/repair equipment

12.7 Noise Monitoring

Parameter	Locations	Frequency	Method	Action on Exceedance
Ambient noise (LAeq, Lmax)	Boundaries closest to Southlands Estate residential buildings; representative points in nearest estates (if access granted)	Baseline before noisy works; Weekly during high-noise phases; Monthly in lower-intensity periods; immediate on complaint	Calibrated sound level meter	Investigate source, install barriers, maintain equipment, reschedule works, feedback through GRM
Working-hour compliance	Site-wide	Continuous	Observation & records	Enforce approved hours (07:00–18:00 for high-noise works)
Impulsive / tonal noise	As above	During relevant activities	Observation + measurement	Additional mitigation

12.8 Waste Monitoring

Indicator	Method	Frequency	Responsibility	Action on Non-conformance
Quantities by category	Waste register	Daily recording; monthly summary	Contractor	—
Segregation rate	Visual + register	Daily visual; weekly review	Contractor / Supervising Consultant	Re-train & enforce
Reuse / recycle vs disposal	Manifests & register	Monthly	Contractor	Maximise recovery

Storage areas condition	Visual inspection	Daily / weekly	Contractor	Correct immediately
Carrier & disposal site licences	Document check	Before engagement & spot checks	Supervising Consultant	Use only licensed operators
Incidents (burning, dumping, improper storage)	Observation & records	Continuous	Contractor	Immediate stop + corrective action + possible sanctions
Completeness of manifests	Document review	Weekly / monthly	Supervising Consultant	Complete missing records

12.9 Traffic Monitoring

Phase	Indicators	Method	Frequency	Action
Construction	CTMP compliance (access, holding areas, timing, flagmen, signage); queue lengths; incidents/near-misses; mud/debris on roads; traffic complaints (Langata Link Road / Southern Bypass)	Daily observation + weekly formal check	Daily by Contractor; Weekly by Supervising Consultant	Adjust CTMP; increase controls; liaise with KeNHA
Operational	Access junction functioning; on-site parking occupancy & overspill; delays/safety issues; pedestrian facility condition; traffic grievances	Structured observation	Monthly/quarterly for first 12–24 months; continuous through GRM	Enforce parking rules; improve facilities; consult KeNHA/County

12.10 Community Grievance Monitoring

Indicator	Method	Frequency	Responsibility	Action
Number received (by category)	GRM database	Continuous logging; weekly review	Community Liaison / Social Specialist	—

% resolved within timeframe	Database analysis	Weekly / monthly	Proponent	Prioritise overdue cases
Number pending & average resolution time	Database	Monthly	Proponent	Escalate systemic delays
Repeat / escalated grievances	Database + analysis	Monthly	Proponent	Root-cause analysis
Distribution by stakeholder group	Database	Monthly	Proponent	Tailor responses
Root causes & systemic issues	Qualitative review	Monthly / quarterly	Proponent	Adjust mitigation or engagement

12.11 Reporting Requirements

Clear and timely reporting ensures transparency, regulatory compliance and informed decision-making.

Report Type	Prepared by	Submitted to	Frequency	Content Focus
Daily / Weekly Site Report	Contractor	Supervising Consultant	Daily (key issues) / Weekly	Activities, incidents, non-conformances, GRM summary, monitoring highlights
Monthly Progress Report	Supervising Consultant	Proponent	Monthly	ESMP compliance status, monitoring results, grievances, corrective actions, employment & PAP updates
Semi-annual / Annual Environmental & Social Monitoring Report	Proponent (with Consultant support)	NEMA & relevant lead agencies	Semi-annual during construction; Annual during early operation	Full monitoring data, trend analysis, compliance assessment, adaptive management actions, stakeholder engagement summary

Incident Reports	Contractor / Proponent	Proponent, NEMA, DOSHS (as applicable)	Within 24–72 hours for serious incidents	Description, immediate response, investigation findings, corrective & preventive actions
Completion / Handover Report	Supervising Consultant / Proponent	NEMA & Proponent	At end of construction	Final compliance status, outstanding actions, operational ESMP readiness

CHAPTER THIRTEEN: CONCLUSIONS AND RECOMMENDATIONS

13.1 Conclusions

The Environmental and Social Impact Assessment for the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 3 (coordinates -1.318548, 36.787608) in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County has been undertaken in full compliance with the Environmental Management and Coordination Act (EMCA) Cap 387, the Environmental (Impact Assessment and Audit) Regulations 2003, Legal Notices 31 and 32 of 2019, and the specific Terms of Reference approved by NEMA. The assessment has also been designed to solve the procedural defects identified in the Environment and Land Court judgment of 29 May 2026, particularly with respect to meaningful public participation, differentiated and verifiable records, and the requirement that no works proceed before a valid EIA licence is issued.

Lot 3 comprises 14 G+8 residential blocks delivering 1,386 social and affordable housing units on approximately 6.8 acres, together with associated infrastructure (cabro roads and parking, storm and foul drainage, boreholes, power house with backup generator, green spaces, outdoor children's play area, shopping stalls, garbage receptacles, chain-link fencing with gate houses, and street lighting). The project is a Strategic National Project under the Affordable Housing Programme and directly advances the constitutional right to accessible and adequate housing under Article 43 of the Constitution of Kenya.

The assessment has identified both positive and negative impacts across the pre-construction, construction, operational and decommissioning phases. The principal positive impacts include the delivery of much-needed formal housing, creation of employment opportunities (with prioritisation of local residents), improved security and urban management, provision of green and recreational amenities, and contribution to orderly densification along the Southern Bypass corridor. Negative impacts centre on temporary construction-phase nuisances (dust, noise, vibration and traffic), permanent changes in visual character and privacy for neighbouring Southlands Estate residents, increased demand on water, sewer and road infrastructure, and the displacement of a church structure, residual businesses (including a carwash) and any remaining informal livelihood activities on the site.

Through the application of the mitigation hierarchy, design optimisation (including the preferred landscaped buffer layout, G+8 height compliant with the KCAA 29 m restriction, hybrid water supply, connection to the municipal sewer system, and integrated stormwater management), and the comprehensive Environmental and Social Management Plan set out in Chapter 11, the majority of adverse impacts can be reduced to low or moderate residual levels. Quantitative performance standards have been incorporated for noise (50/55 dB(A) daytime and 35 dB(A) night-time at residential receptors), vibration (PPV ≤ 0.5 cm/s), and air quality (PM10 ≤ 50 µg/m^3). Cumulative impacts arising from the concurrent development of Lots 1–5 have been recognised and will require programme-level coordination on infrastructure sequencing, traffic management and community liaison.

Genuine and inclusive public participation was undertaken between 31 July and 7 August 2026 through differentiated meetings with Persons with Disabilities, Residential Associations, Youth, Women, Business Community, a public baraza, Project Affected Persons, and Institutions.

Concerns raised—particularly regarding infrastructure capacity, employment prioritisation, privacy and buffer zones, height, water and sewerage, and the need for transparent facilitation of PAPs—have been analysed and incorporated into project design, the ESMP, and the recommendations below. The process has generated clear, differentiated and verifiable records in accordance with Regulation 17 and the court orders.

Overall, the residual environmental and social impacts of the Lot 3 project are considered acceptable in the context of the significant housing and socio-economic benefits it will deliver, provided that the mitigation measures, monitoring program, Grievance Redress Mechanism, and institutional arrangements set out in this report are fully implemented and enforced.

13.2 Recommendations

On the basis of the findings of this ESIA Study Report, the following recommendations are made:

1. **Full implementation of the Environmental and Social Management Plan** (Chapter 11) and the Environmental and Social Monitoring Plan (Chapter 12) shall be a binding condition of the EIA Licence. The Main Contractor shall prepare a detailed Contractor's ESMP (C-ESMP) consistent with this report before mobilisation.

2. **A verified PAP census and Facilitation/Livelihood Restoration Plan** shall be completed and disclosed before any clearance or demolition of occupied or used portions of the site. No verified PAP shall be displaced until agreed facilitation support or adequate transitional arrangements are in place. Special attention shall be given to the church structure on the site frontage, residual business operators (including the carwash), and any vulnerable households.

3. **The preferred site layout incorporating a landscaped buffer/setback zone** along the boundary with Southlands Estate shall be maintained and implemented to reduce privacy, visual and amenity impacts on neighbouring residents.

4. **Infrastructure sequencing** shall prioritise the timely connection to the municipal sewer system, implementation of the hybrid water supply (municipal + WRA-permitted boreholes + adequate storage), and the integrated stormwater drainage system before or concurrent with occupation of the units. Close coordination with NCWSC, WRA, KeNHA and Nairobi City County is essential.

5. **Local employment prioritisation** (target of 70–90 % local workforce where skills match) shall be enforced through the Chief and local administration, with transparent recruitment processes and particular attention to youth, women and persons with disabilities.

6. **A fully functional, accessible and well-publicised Grievance Redress Mechanism** shall be operational from the pre-construction phase and maintained throughout construction and early operation. GRM performance shall be monitored and reported regularly.

7. **Quantitative monitoring** of noise, vibration, air quality, water quality, waste, traffic and social indicators shall be carried out as set out in Chapter 12, with results used for

adaptive management and reported to NEMA in accordance with the EIA Licence conditions.

8. **Programme-level coordination** across Lots 1–5 shall be established for traffic management, infrastructure planning, cumulative impact monitoring, and consistent community engagement and messaging.

9. **Climate resilience measures** (SUDS, water efficiency, energy-efficient design, compensatory landscaping, and emergency preparedness for extreme weather) shall be fully integrated into the design, construction and operation in line with the Climate Change Act, 2016.

10. **Continuous stakeholder engagement** with Southlands Estate residents, PAP representatives, local administration and other interested parties shall continue throughout construction and the early operational years, with records maintained to demonstrate ongoing meaningful consultation.

11. **Capacity building and training** of contractor personnel, supervision staff and future estate management on the ESMP, OHS, GRM, gender and GBV prevention, and emergency response shall be implemented as a priority.

12. **Adequate budgetary provision** for all ESMP implementation, monitoring, PAP facilitation, compensatory planting, training and adaptive management measures shall be secured and ring-fenced by the Proponent.

13. Upon completion of construction, the Proponent shall ensure a smooth handover to a competent Estate Management body with clear responsibilities for operational ESMP implementation, maintenance of infrastructure and green spaces, and continued operation of the GRM.

REFERENCES

Affordable Housing Act, No. 2 of 2024 (Kenya).

Climate Change Act, No. 11 of 2016 (Kenya).

Constitution of Kenya (2010).

Environmental (Impact Assessment and Audit) Regulations, 2003 (Legal Notice No. 101) (Kenya), as amended by Legal Notices 31 and 32 of 2019.

Environmental Management and Coordination (Air Quality) Regulations, 2014 (Legal Notice No. 34) (Kenya).

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Environmental Management and Coordination (Waste Management) Regulations, 2006 (Legal Notice No. 121) (Kenya).

Environmental Management and Coordination Act, Cap 387 (Revised Edition 2012) (Kenya).

Kenya National Bureau of Statistics. (2019). *2019 Kenya Population and Housing Census*. Government of Kenya.

Occupational Safety and Health Act, No. 15 of 2007 (Kenya).

Okiya Omtatah Okoiti v Ministry of Lands, Public Works, Housing and Urban Development & Others, ELC Petition E052 of 2025 (Environment and Land Court at Nairobi, 29 May 2026).

Physical and Land Use Planning Act, No. 13 of 2019 (Kenya).

Sustainable Waste Management Act, No. 31 of 2022 (Kenya).

Water Act, No. 43 of 2016 (Kenya).

ANNEXES

Annex 1; Approved NEMA TOR

Annex 2; Expert License

Annex 3; Architectural Drawings

Annex 4; BOQ

Annex 5; KCAA Clearance

Annex 6; Notice

Annex 7; Public Participation Attendance Lists

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Annex 11; Grievance Redress Mechanism

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Annex 13; Baseline Environmental Laboratory Reports