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 1)



| | |
|---|---|
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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 1), 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 1), 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 |
|---|---|
| **C-ESMP** | Contractor's Environmental and Social Management Plan |
| **CLO** | Community Liaison Officer |
| **CSR** | Corporate Social Responsibility |
| **CTMP** | Construction Traffic Management Plan |
| **dB(A)** | Decibel (A-weighted) |
| **DOSHS** | Directorate of Occupational Safety and Health Services |
| **EPRP** | Emergency Preparedness and Response Plan |
| **ESO** | Environmental and Social Officer |
| **GHG** | Greenhouse Gas |
| **NCCAP** | National Climate Change Action Plan |
| **OHS** | Occupational Health and Safety |
| **OLS** | Obstacle Limitation Surfaces |
| **PAP / PAPs** | Project Affected Person(s) |
| **PLUPA** | Physical and Land Use Planning Act |
| **$PM_{10}$ / $PM_{2.5}$** | Particulate Matter (10 µm / 2.5 µm) |
| **SECP** | Stakeholder Engagement and Communication Plan |
| **TSP** | Total Suspended Particulates |

## EXECUTIVE SUMMARY

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 1, located in Southlands Mugumo-ini Ward, Lang'ata Constituency, Nairobi County. The assessment was conducted in accordance with the Environmental Management and Coordination Act (EMCA), Cap 387, the Environmental (Impact Assessment and Audit) Regulations, 2003.

**Project Location and Description** The proposed development is located on approximately 8.4 acres of land in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County (approximate coordinates: –1.318502, 36.782509). It comprises fourteen (14) multi-storey residential blocks of Ground plus eight floors (G+8), delivering a total of 1,386 social and affordable housing units (one-roomed, two-roomed and three-roomed social units together with studio, two-bedroom and three-bedroom affordable units). Supporting infrastructure includes cabro-paved access roads and parking areas, stormwater and foul drainage systems, water supply (borehole(s), underground and overhead storage), power supply with backup generation, solid-waste management facilities, green spaces and landscaping, outdoor children's play areas, commercial/shopping stalls, and perimeter security (chain-link fence, gates and gate houses with street lighting). Construction is planned over approximately 24 months. The project forms part of the wider Southlands (Kibra Lots 1–5) programme intended to deliver approximately 7,000 housing units and is a core component of the national Affordable Housing Programme.

**Need for the Fresh ESIA** A previous EIA process for the wider Southlands development was invalidated by the Environment and Land Court in *Okiya Omtatah Okoiti v Ministry of Lands, Public Works, Housing and Urban Development & Others* (ELC LC Petition E052 of 2025), judgment delivered on 29 May 2026. The Court found that works had commenced before a valid licence was issued, public participation was inadequate, and NEMA had not fully discharged its statutory duties. A prohibitory injunction was issued restraining further works until a fresh, fully compliant ESIA is completed and a new licence obtained. New Terms of Reference for Lot 1 were prepared, approved by NEMA subject to specific conditions (inclusive public participation with Project Affected Persons, KCAA clearance, Traffic Impact Assessment, detailed baseline studies, GHG emissions assessment, and Climate Change Risk and Vulnerability Assessment), and this ESIA Study Report has been prepared in full accordance with those requirements, the Environmental Management and Coordination Act (EMCA), Cap 387, and the Environmental (Impact Assessment and Audit) Regulations, 2003 (as amended).

**Project Objectives** The primary objectives are to: (a) provide 1,386 social and affordable housing units to help close the national housing deficit and improve living conditions for low- and middle-income households; (b) deliver associated infrastructure and amenities; (c) ensure the development is environmentally sustainable, socially inclusive and climate-resilient; (d) create temporary and permanent employment and business opportunities for the local community; and (e) contribute to orderly urban development in Lang'ata Constituency while complying with planning, environmental and aviation safety requirements.

**Policy, Legal and Institutional Framework** The project is guided by the Constitution of Kenya 2010 (Articles 42, 43(1)(b), 10, 69, 70 and others), Kenya Vision 2030, the National Environmental

Policy, National Housing Policy, National Climate Change Action Plan 2023–2027, EMCA Cap 387, the EIA/EA Regulations 2003 (as amended), the Affordable Housing Act 2024, Climate Change Act 2016, Water Act 2016, Physical and Land Use Planning Act 2019, Occupational Safety and Health Act 2007, and related regulations on noise, air quality, water quality and waste management. Key institutions include NEMA, the State Department for Housing and Urban Development, Affordable Housing Board, KCAA, KeNHA, WRA, NCWSC, KPLC, Nairobi City County, and local administration.

**Baseline Environment** The site features gently sloping red lateritic soils at elevations of approximately 1,510–1,790 m above sea level. It is located near River Motoine and River Ngong, both of which drain toward Nairobi Dam. The site currently hosts temporary informal settlements comprising residential structures, schools, churches and micro-enterprises. Immediate sensitive receptors include Langata View Corner Apartments to the east. An existing electricity distribution line crosses the site and requires rerouting. The site falls within the Langata Estates high-density / mixed residential zoning and within the Wilson Airport Obstacle Limitation Surfaces; KCAA has formally cleared a maximum height of 29 m (G+8). Socio-economic conditions reflect high demand for affordable housing, presence of informal livelihoods, and typical urban infrastructure pressures (water rationing, traffic, limited open space).

**Analysis of Alternatives** Alternatives considered included the “no-project” option, alternative sites, different density/height configurations, layout options (including setbacks and buffers), and drainage approaches. The preferred option—development of the allocated Lot 1 site with the approved G+8 configuration, landscaped buffer along the eastern boundary, hybrid water supply, sustainable drainage elements, and climate-resilient features—was selected as the most balanced solution when technical, environmental, social, economic and aviation-safety factors are considered together.

**Public Participation and Stakeholder Engagement** A structured, inclusive and documented public participation programme was undertaken between 31 July and 7 August 2026 (and related sessions). Stakeholders included Project Affected Persons occupying the informal settlements, residential associations (notably Langata View Corner Apartments), youth, women, persons with disabilities, business community representatives, schools, churches, local administration and institutions. Key issues raised related to employment (target ≈90 % local labour), PAP facilitation and livelihood restoration, design buffers and privacy, traffic, drainage and flooding, water supply reliability, noise and dust, transparency, and grievance mechanisms. These issues have been addressed through design adjustments, the ESMP, a functional Grievance Redress Mechanism (GRM), and ongoing engagement commitments.

**Key Environmental and Social Impacts and Mitigation Positive impacts** include delivery of 1,386 decent housing units, improved living conditions, temporary and permanent employment and business opportunities, enhanced security and orderly urban development, green and recreational amenities, and modest climate-resilience co-benefits.

**Negative impacts** of higher significance include: Displacement of Project Affected Persons (informal settlements, schools, churches and micro-enterprises); Construction-phase dust, noise, vibration and traffic affecting neighbouring receptors (especially Langata View Corner Apartments); Increased operational demand on water, sewerage and the road network;

Residual visual and privacy effects; and Potential cumulative impacts arising from concurrent or sequential development of the other Southlands Lots.

All identified impacts can be reduced to acceptable residual levels through the comprehensive mitigation measures set out in the report and formalised in the Environmental and Social Management and Monitoring Plan (ESMP). Key measures include verified PAP census, facilitation and livelihood restoration prior to clearance; strict dust, noise, vibration and traffic controls; hybrid water supply with storage and efficiency measures; sustainable stormwater drainage; landscaped buffers and screening; local employment targets; continuous stakeholder engagement and an accessible GRM; and climate-resilient design features.

**Environmental and Social Management and Monitoring Plan** A detailed ESMP covering construction, operational and decommissioning phases has been prepared. It assigns clear responsibilities to the Proponent, Supervising Consultant, Main Contractor, Environmental and Social Officer, Community Liaison Officer, Safety Officer, estate management and relevant lead agencies. Supporting plans include the Contractor's ESMP, Construction Traffic Management Plan, Waste Management Plan, Emergency Preparedness and Response Plan, and Stakeholder Engagement and Communication Plan. A robust monitoring programme with defined indicators, frequencies, responsibilities and corrective-action triggers has been developed for air quality, noise, water quality, waste, traffic, OHS, PAP facilitation, GRM performance and other key parameters. Regular reporting to the Proponent, NEMA and lead agencies is required.

# 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 Programme as a central pillar of the national development agenda. The programme aims to close the substantial urban housing deficit 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 in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County, collectively known as the Southlands (Kibra) Lots 1–5 project. The overall development is designed to deliver approximately 7,000 housing units across the five lots, supported by essential amenities and infrastructure.

This Environmental and Social Impact Assessment (ESIA) Study Report focuses specifically on Kibra Lot 1. The proposed development on Lot 1 comprises fourteen (14) multi-storey residential blocks of Ground plus eight floors (G+8), delivering a total of 1,386 housing units on approximately 8.4 acres of land (approximately 165 units per acre). The units consist of a mix 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 is classified as a high-risk undertaking under the Second Schedule of the Environmental Management and Coordination Act (EMCA), Cap 387 (as amended by Legal Notice No. 31 of 2019), and therefore requires a full Environmental and Social Impact Assessment Study prior to implementation.

## 1.2 Project Objectives

The primary objectives of the proposed Southlands Kibra Lot 1 development are to:

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

b) Deliver associated infrastructure and amenities, including cabro-paved access roads and parking areas, stormwater and foul drainage systems, water supply (including borehole(s), underground and overhead storage), power supply with backup generation, solid-waste management facilities, green spaces and attractive landscaping, outdoor children's play areas, commercial/shopping stalls, and security infrastructure (chain-link fence, gates and gate houses with street lighting).

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

d) Create temporary and permanent employment and business opportunities for the local community during construction and operation.

e) Contribute to 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 experience rapid urbanisation and a severe shortage of decent housing, particularly for low- and middle-income residents. Available data indicate that annual housing demand in Kenya is estimated at approximately 250,000 units, while only about 50,000 units are currently delivered each year, predominantly in the high-end segment. This leaves a deficit of roughly 200,000 units annually, concentrated in the lower-income brackets.

The Affordable Housing Programme addresses 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 higher-income groups. Lot 1 forms an integral component of the wider Southlands housing development and is intended to deliver a substantial number of units in an area characterised by high demand for affordable accommodation and the presence of temporary informal settlements that currently occupy parts of the site.

### 1.4 Project Scope

The scope of the proposed Southlands Kibra Lot 1 project includes:

a) Construction of 14 residential blocks of G+8 configuration, yielding 1,386 housing units (a mix of social and affordable units) on approximately 8.4 acres.

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

c) Development of water-supply infrastructure, including borehole(s), underground and overhead storage tanks, and associated reticulation.

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

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

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

g) Construction of perimeter chain-link fencing, two gates and gate houses for security.

h) Associated site clearance (including the temporary informal settlements currently on site), earthworks, and ancillary facilities required for the complete and functional development of the housing estate.

The project is planned 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

A previous Environmental Impact Assessment process was undertaken for the wider Southlands (Kibra Lots) development. Following judicial review in *Okiya Omtatah Okoiti v Ministry of Lands, Public Works, Housing and Urban Development & Others* (ELC LC Petition E052 of 2025), the Environment and Land Court, in its judgment delivered on 29 May 2026, determined that the earlier EIA licence was invalid. The Court found that construction works had commenced before a valid licence was issued, that public participation had been inadequate, and that NEMA had not fully discharged its statutory duties under the EIA/EA Regulations. The Court quashed the previous licence and issued a prohibitory injunction restraining further works until a fresh, fully compliant Environmental and Social Impact Assessment is completed and a new licence obtained.

In response, the consultant prepared and submitted new Terms of Reference for Lot 1 (and the other lots). These Terms of Reference were approved by NEMA subject to specific conditions, including comprehensive and inclusive public participation with Project Affected Persons, clearance from the Kenya Civil Aviation Authority (given the site's proximity to the Wilson Airport flight path), a Traffic Impact Assessment, detailed baseline environmental assessments (water quality, soil geotechnical analysis, hydrogeological analysis, ambient air quality, noise levels and biodiversity), identification of potential greenhouse-gas emission sources with projected estimates, and a Climate Change Risk and Vulnerability Assessment in line with the Climate Change Act, 2016.

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 1 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 (including Langata View Corner Apartments, the informal settlements currently on site, and nearby drainage features).

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 ESIA study was undertaken in accordance with the approved Terms of Reference and the requirements of the Environmental (Impact Assessment and Audit) Regulations, 2003. The approach comprised the following key steps:

Desk review of project documentation, previous studies, the court judgment of 29 May 2026, relevant legislation, policies and guidelines. Description of the proposed development and analysis of project alternatives. Collection and analysis of baseline environmental and social data, including physical, biological and socio-economic characteristics of the project area and its surroundings. Stakeholder identification, analysis and structured public participation involving Project Affected Persons (including residents of the temporary informal settlements, schools, churches and micro-enterprises currently on site), neighbouring 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 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**: Presents a concise overview of the entire report.
- **Chapter One**: Introduction, project background, objectives, justification, scope, the need for a fresh ESIA process arising from the court ruling, the purpose of the study, the approach adopted, and the structure of the report.
- **Chapter Two**: Description of the proposed Lot 1 development, including location, existing site conditions (temporary informal settlements, electricity line, neighbouring apartments), housing components, supporting infrastructure, construction activities, and project phases.
- **Chapter Three**: Applicable policy, legal and institutional framework.
- **Chapter Four**: Baseline environmental and social conditions of the project area.
- **Chapter Five**: Stakeholder engagement and public participation process, issues raised, and how they have been addressed.
- **Chapter Six**: Analysis of project alternatives.
- **Chapter Seven**: Assessment of environmental and social impacts.
- **Chapter Eight**: Social impacts and issues relating to Project Affected Persons.
- **Chapter Nine**: Traffic Impact Assessment.
- **Chapter Ten**: Climate change and disaster risk considerations.

- **Chapter Eleven**: Environmental and Social Management and Monitoring Plan (ESMP).
- **Chapter Twelve**: Environmental and social monitoring programme.
- **Chapter Thirteen**: 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 proposed Kibra Lot 1 development. It covers the project location and site coordinates, land size, zoning and development control considerations, existing site conditions, the proposed housing and infrastructure components, construction activities and materials, labour requirements, project cost and implementation schedule, as well as operation, maintenance and eventual decommissioning phases.

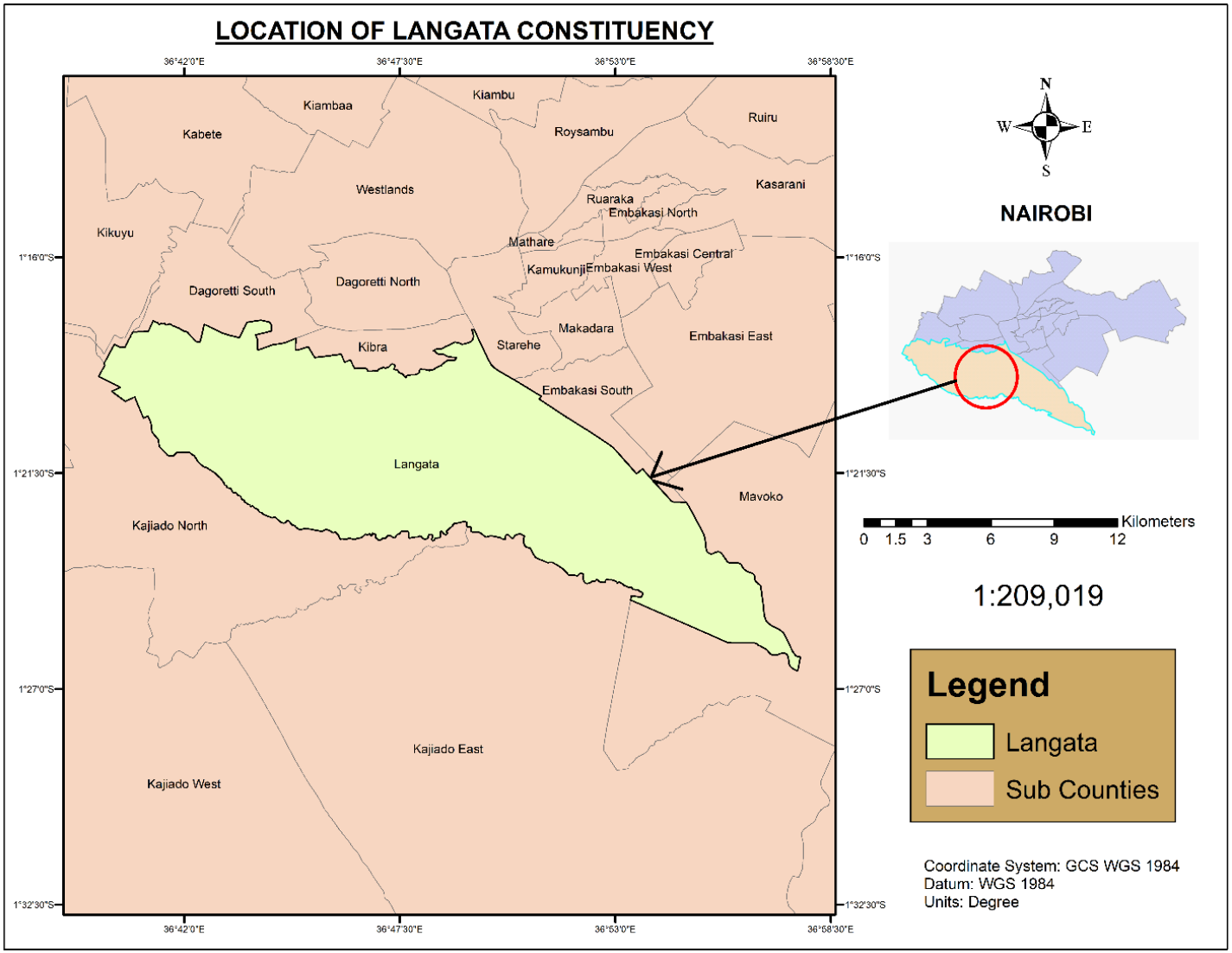
## 2.2 Project Location and Site Coordinates

Kibra Lot 1 is located in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County. The approximate geographic coordinates of the site are -1.318502, 36.782509.

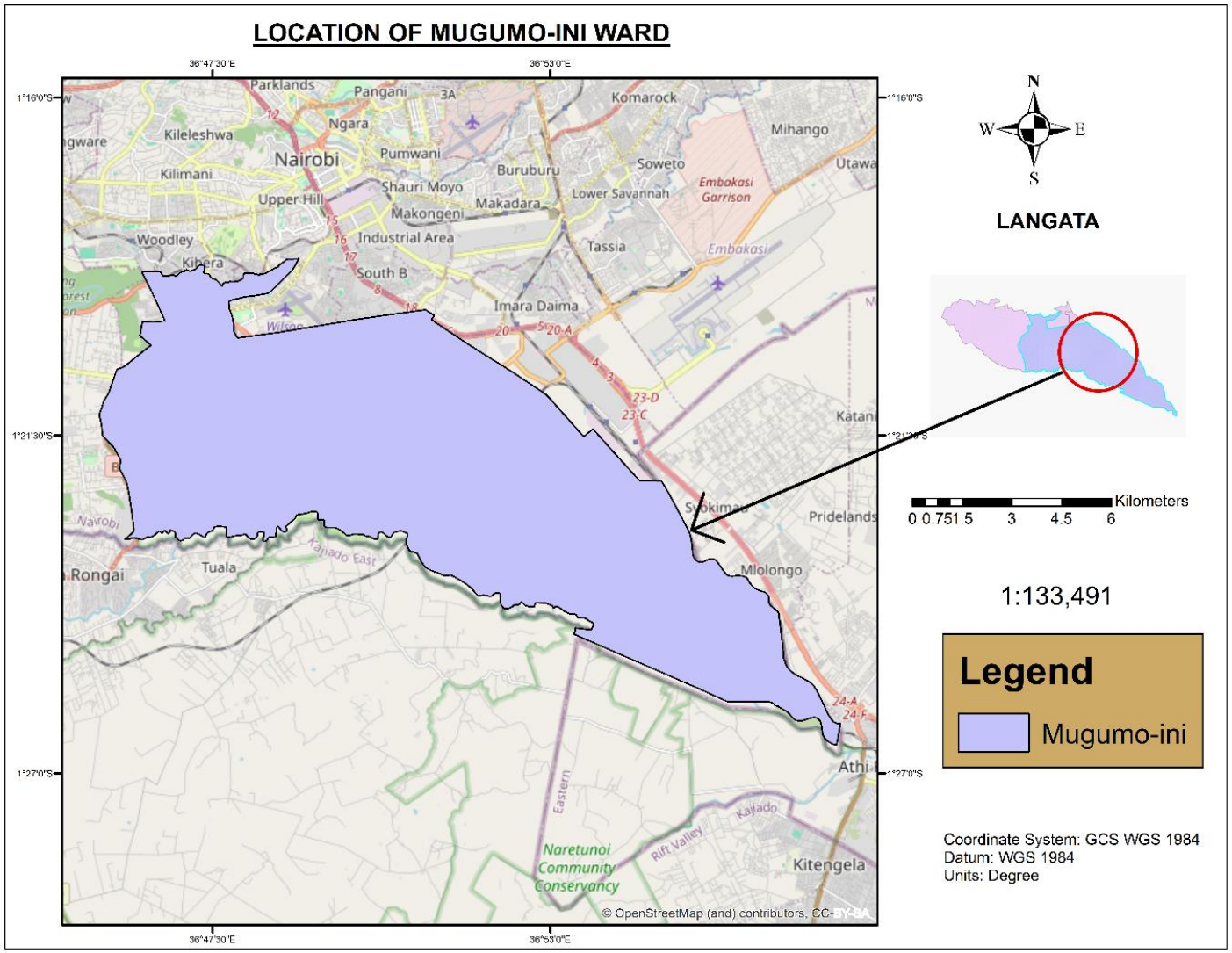
Lang'ata Constituency is bordered by several neighbouring constituencies. To the north it borders Kibra and Dagoretti North; to the northwest it shares boundaries with Dagoretti South and Kikuyu; to the west it is adjacent to Kajiado North; to the south it borders Kajiado East; the northeastern boundary 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.



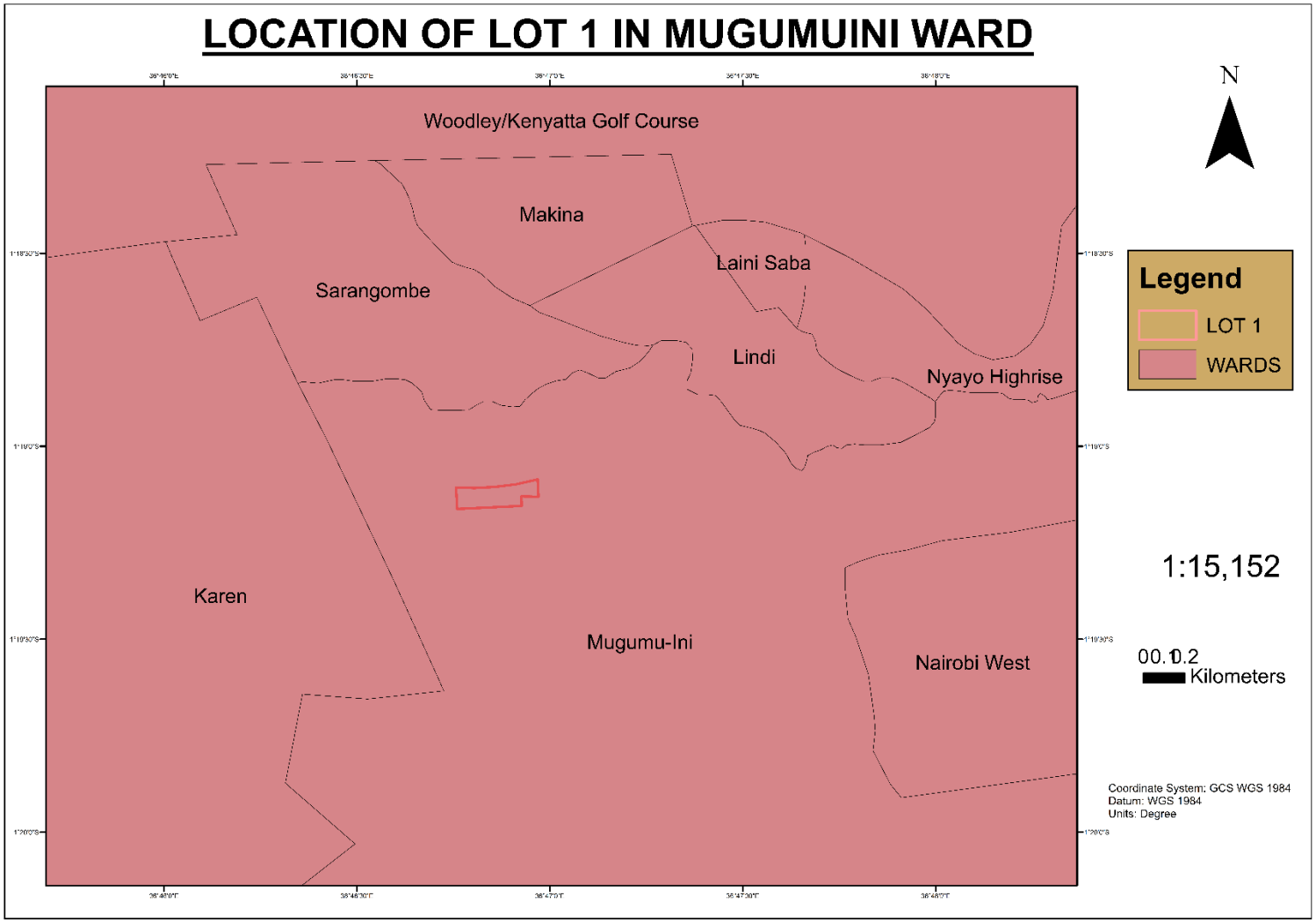

***Map 2-1: Google Earth Map showing boundary of Lot 1***




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




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




***Map 2-4: Location of Lot 1 in Mugumo-ini Ward***

### 2.3 Land Size

The project site for Lot 1 measures approximately 8.4 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 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 proposed use (residential flats) is consistent with the permitted land uses. As such, no change of use is required.

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

Due to the site's 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. 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

#### Temporary Informal Settlements

The site currently hosts temporary informal settlements characterised by a mix of residential structures, schools, churches and micro-enterprises/retail activities (including small kiosks, vegetable stands and grocery shops). These structures and activities will be cleared prior to construction, following completion of Project Affected Persons (PAPs) documentation, valuation and the required facilitation processes.



***Plate 2-1: Existing temporary informal settlements / residential structures on site***

**Neighbouring Developments**

The principal immediate neighbour on the eastern side of the site is Langata View Corner Apartments. Other residential apartments and estates in the wider Southlands/Langata area form additional receptors. The proximity of established residential developments is a key sensitivity consideration, particularly with respect to privacy, visual impact, noise, dust, traffic and overshadowing.



***Plate 2-2: Langata View Corner Apartments (eastern neighbour)***

**Utilities**

An existing electricity distribution line crosses the site and will require rerouting prior to or during construction. Other utilities in the vicinity include water supply infrastructure under the Nairobi City Water and Sewerage Company and limited sewerage networks.

**Existing Access**

Primary access to the site is available through Chweya Road just off Langata Link Road. The Southern Bypass is a controlled-access highway under the jurisdiction of the Kenya National Highways Authority (KeNHA). Access arrangements will be refined in coordination with KeNHA and the Traffic Impact Assessment recommendations.



***Plate 2-3: Chweya Access Road to Lot 1***

**2.6 Proposed Development**

The proposed development entails the construction of a high-density social and affordable housing estate comprising fourteen (14) multi-storey residential blocks. The development is designed to deliver a total of 1,386 housing units on approximately 8.4 acres of land, equating to a density of approximately 165 units per acre.

The project adopts 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 due 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 (including borehole(s)), foul and stormwater drainage, power supply with backup generation, solid-waste management facilities, green spaces and attractive landscaping, outdoor children's play areas, commercial/shopping stalls, and perimeter security infrastructure (chain-link fence with two gates and gate houses, together with street lighting). A Corporate Social Responsibility (CSR) component will support improvement of existing schools in the wider area.

**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 to serve 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 Affordable Housing Board processes.

***SOCIAL HOUSING***

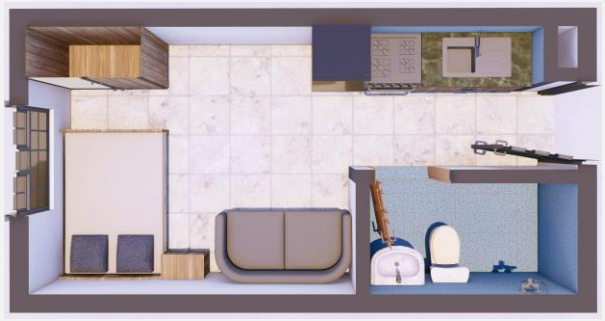


***Plate 2-5: Social Housing 1 Room***



***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:

- Site mobilisation and establishment of temporary site facilities (site offices, material storage yards, worker welfare facilities and security installations).
- Demolition and clearance of existing temporary informal settlement structures (residential, schools, churches and micro-enterprises), following completion of Project Affected Persons documentation, valuation and any required facilitation processes.
- Removal of vegetation and treatment of any localised waterlogged areas.
- Site preparation works, including stripping of topsoil, excavation, levelling and foundation construction for the 14 residential blocks and associated infrastructure.
- Structural works comprising reinforced concrete frames, floor slabs, staircases, lift shafts and roof structures for the G+8 blocks.
- Building envelope works, including external and internal walls, windows, doors and roofing.
- Installation of building services (electrical, plumbing, drainage and lift systems).
- Construction of supporting civil infrastructure: internal roads and parking areas (cabro-paved), stormwater drainage, foul sewerage, water reticulation, power infrastructure (including power house and backup generator) and solid-waste facilities.
- Landscaping, establishment of green spaces and children's play areas, and construction of commercial stalls, perimeter fencing, gates and gate houses.
- External works, street lighting and final site finishing.
- Testing, commissioning and handover of the completed development.

Rerouting of the existing electricity line that crosses the site will be undertaken in coordination with Kenya Power and Lighting Company (KPLC) prior to or during the early construction phase.

### 2.9 Construction Materials and Resources

The construction materials and resources required for the development 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
- 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).
- 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 labour 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 Project Implementation Schedule

The overall construction period for Kibra Lot 1 is estimated at 24 months from the date of commencement of works, following receipt of all statutory approvals.

### 2.13 Operation and Maintenance

Upon completion and handover, the Lot 1 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.

**2.14 Project Decommissioning**

Decommissioning of the Lot 1 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 minimises 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 presents the policy, legal and institutional framework relevant to the proposed Kibra Lot 1 social and affordable housing development. The framework guides the planning, assessment, approval and implementation of the project and ensures that environmental, social, land-use, housing, climate and related considerations are adequately addressed.

## 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 directly advances the right to housing while the ESIA process and mitigation measures give effect to the right to a clean and healthy environment, public participation, and sustainable land use. |
| Kenya Vision 2030 | Social Pillar – Housing and urbanization goals aimed at 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 1 contributes directly to the Vision 2030 target of increasing 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. Emphasizes integration of environmental considerations into development planning and the application of the precautionary and polluter-pays principles. | Supports the requirement for a comprehensive ESIA. Guides the identification of impacts, formulation of mitigation measures, and preparation of the ESMP for Lot 1. |
| 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 1 development as part of the national Affordable Housing Program. 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 design of climate-resilient measures for Lot 1 (drainage, water, energy, 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. Emphasizes protection of public land and environmentally sensitive areas. | Supports the requirement for clear land ownership/authorization documentation and orderly high-density development consistent with planning law. |
| National Urban Development Policy (2016) | Promotes sustainable urbanization, 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 1 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 1 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 1. 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, public comments, and consideration of hearings. | Directly governs the preparation of this ESIA Study Report and stakeholder engagement requirements. |
| Sustainable Waste Management Act, 2022 | Provides for sustainable waste management, extended producer responsibility, and the hierarchy | Guides the design of solid waste management facilities on Lot 1, |

| | | |
|---|---|---|
| | of waste prevention, reuse, recycling and safe disposal. Requires waste management plans and compliance with county and national standards. | 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 Nairobi Dam, 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. |
| 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 1. |
| 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 1 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 1. |
| 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, access to/from the Southern Bypass (KeNHA) and local road network serving Lot 1. |
| 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 authorization of land for Lot 1. |

| | | |
|---|---|---|
| Affordable Housing Act, 2024 | Provide the legal framework for the Affordable Housing Program, 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 1, 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 apartments (including Langata View Corner Apartments) and other receptors. |
| 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 1. |
| 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 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 1. |
| 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 and any biodiversity values on or near the Lot 1 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 1. |

### 3.4 Institutional Framework

| Institution | Mandate / Role | Relevance to Lot 1 |
|---|---|---|

| | | |
|---|---|---|
| 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 1. |
| State Department for Housing and Urban Development | Proponent and implementing agency for the national Affordable Housing Program. Responsible for project design, financing coordination, construction oversight and delivery of social and affordable housing. | Project proponent for Lot 1. 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 Program. | Oversees allocation systems (*832# / eCitizen – Boma Yangu), payment modalities and estate management arrangements for the 1,386 units on Lot 1. |
| 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 1 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 (e.g., from stagnant water), glare, and emergency provisions associated with the Lot 1 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 1, oversees hydrogeological assessments, and protects downstream water resources (River Motoine 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 1. |
| 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 1. |

| | | |
|---|---|---|
| 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 the existing electricity line crossing 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. |
| 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 1 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 organizing and authenticating public participation meetings, mobilizing stakeholders, and supporting the Grievance Redress Mechanism for Lot 1. |

# CHAPTER FOUR: DESCRIPTION OF THE BASELINE ENVIRONMENT

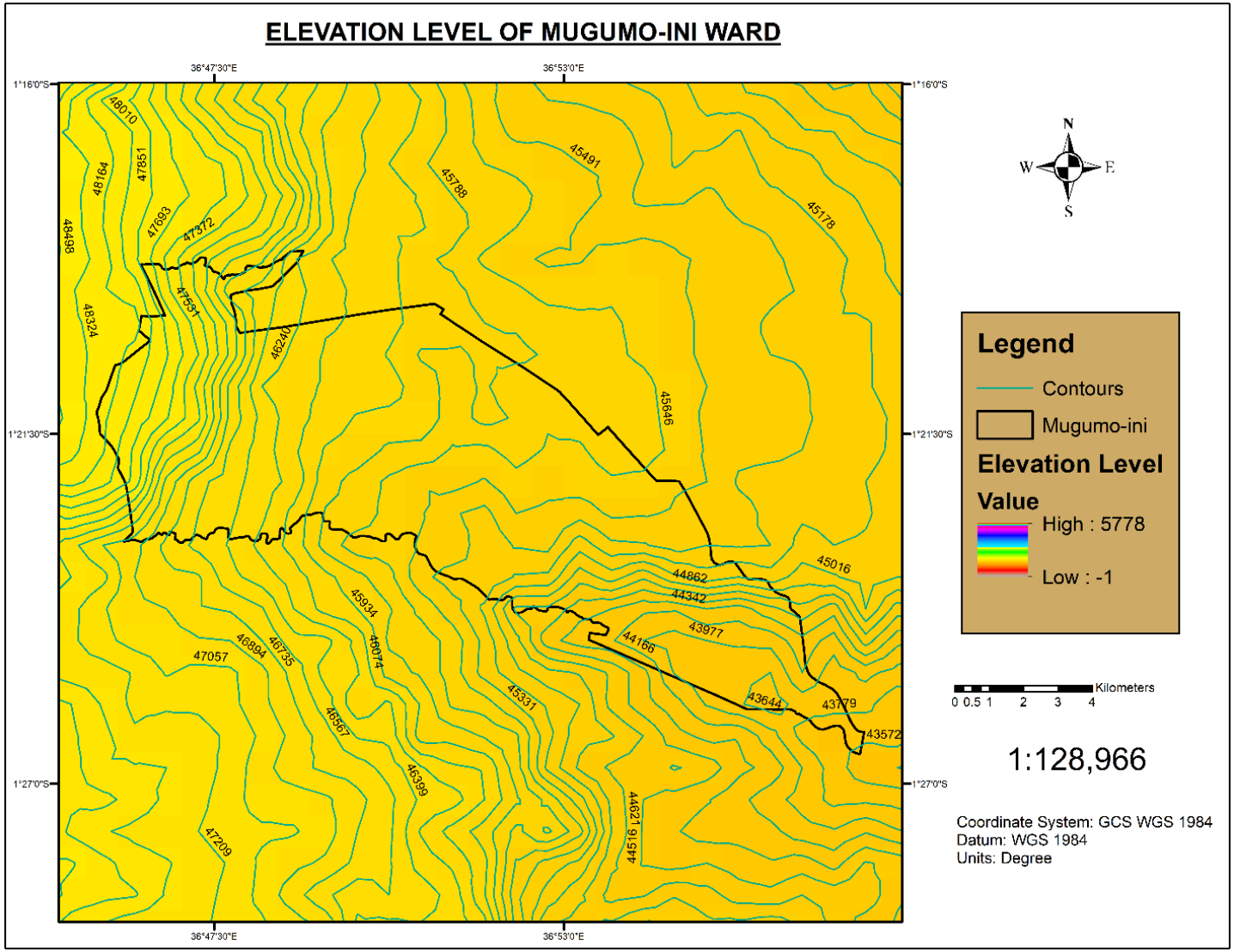
## 4.1 Introduction

This chapter describes the existing biophysical and socio-economic baseline conditions of the proposed Kibra Lot 1 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.



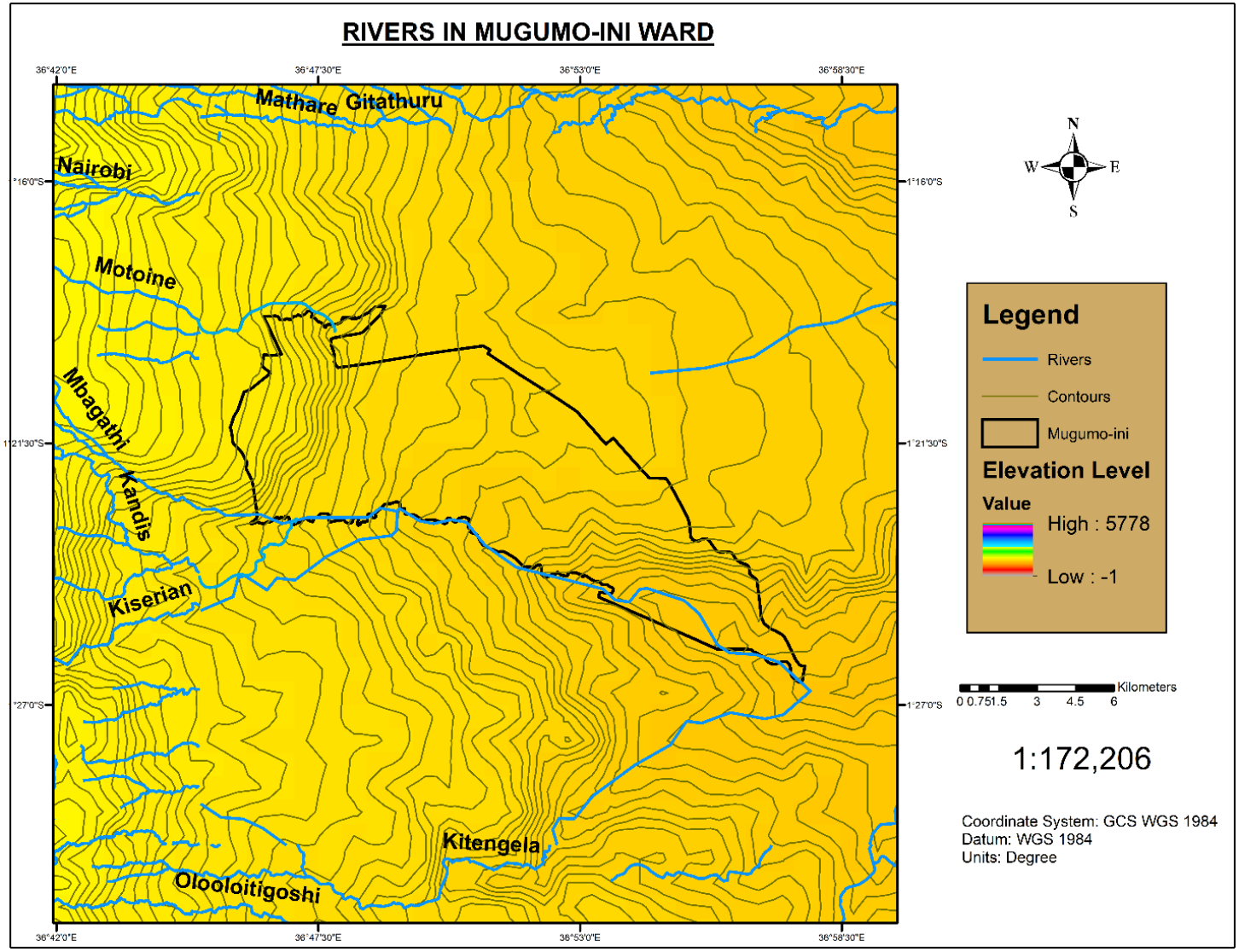

***Map 4-3: Elevation level of Mugumo-ini Ward***

### *4.2.2 Soils*

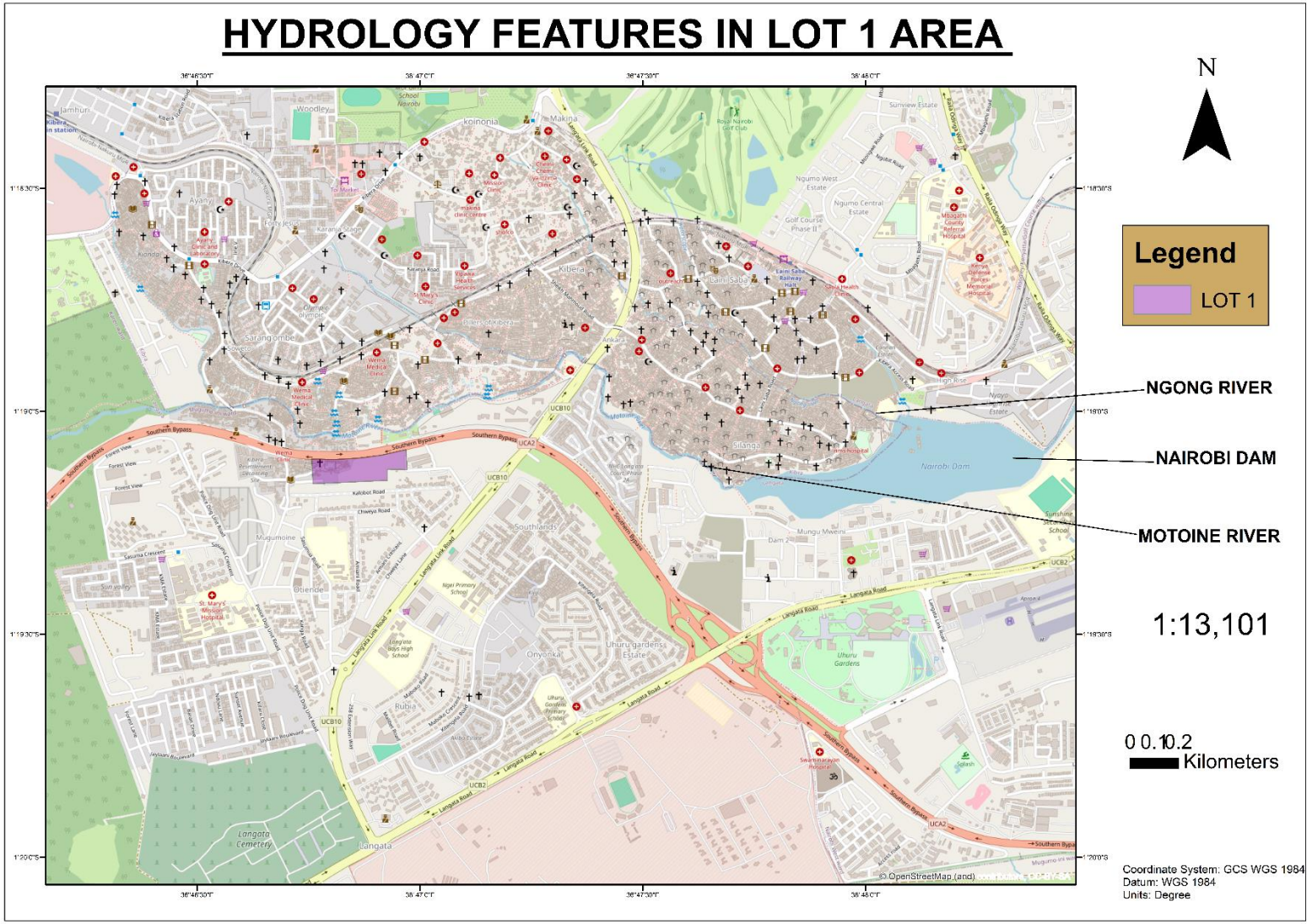
The predominant soil type on the site is red soil, which is common in the region due to its lateritic properties. Red soils are typically well-drained and moderately fertile but may require stabilization measures during construction to prevent erosion, particularly during heavy rainfall. The presence of sedimentary rocks and red soil suggests a stable.

### *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 450 meters away, and River Ngong (a tributary of the Nairobi River), approximately 820 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 1 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.

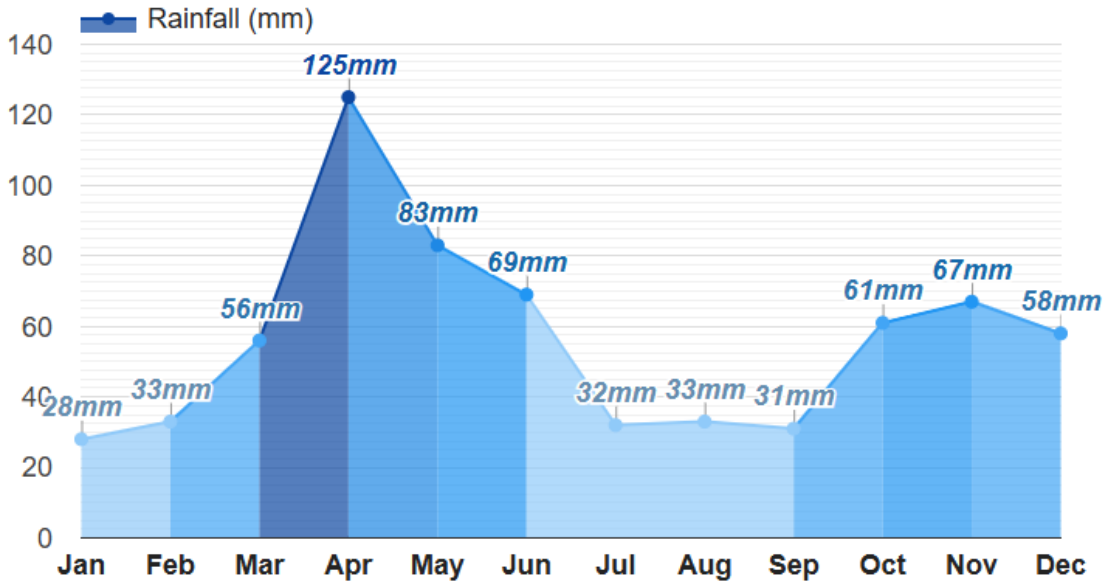



***Figure 4-1: Annual Rainfall Ranges***

**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.

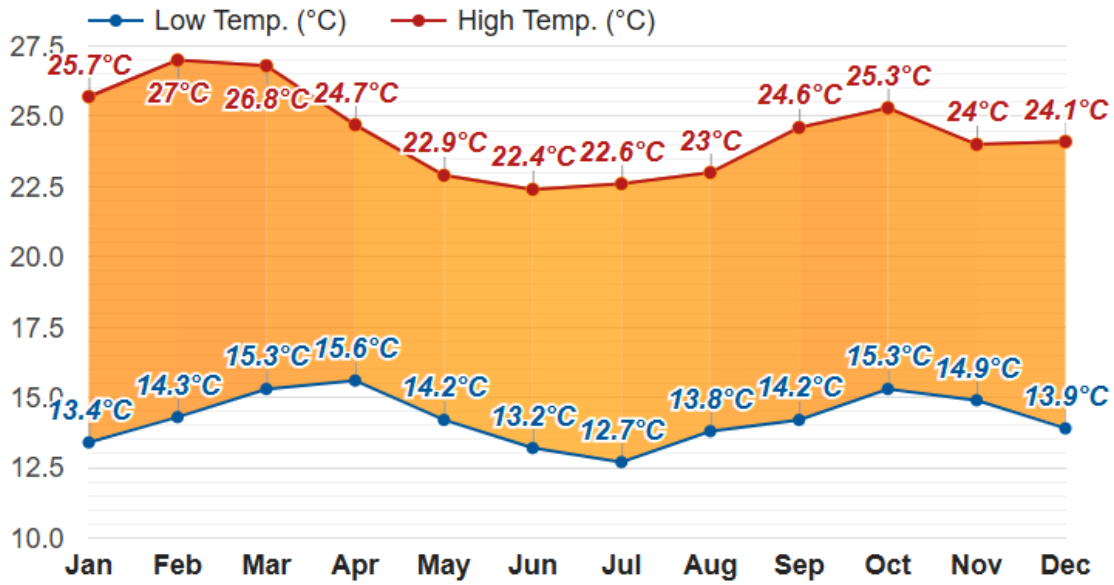



***Figure 4-2: Annual Temperature Ranges***

**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).

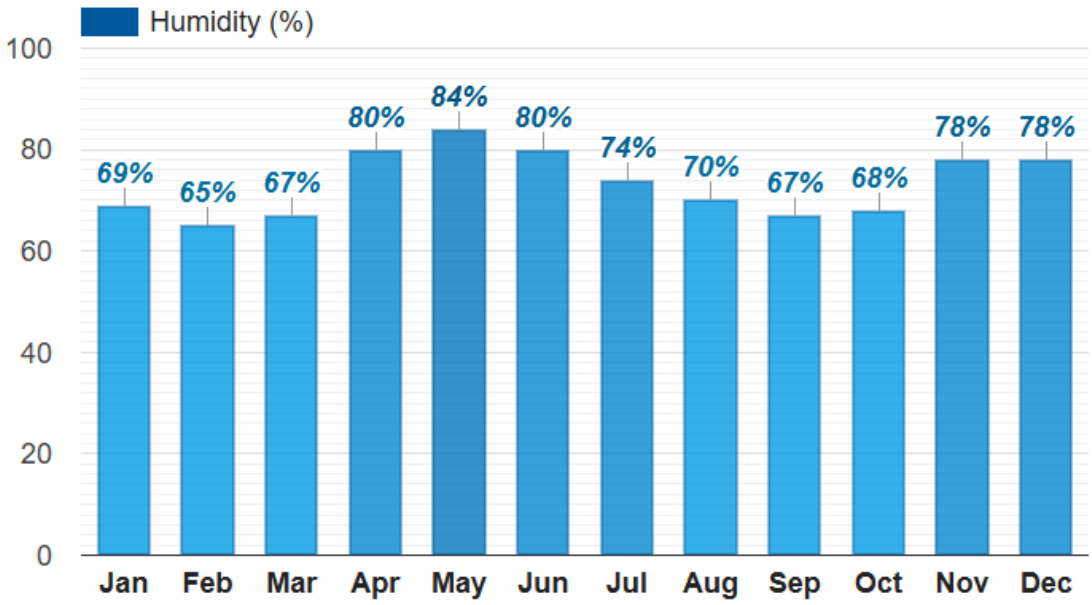



***Figure 4-3: Annual Humidity Ranges***

**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.

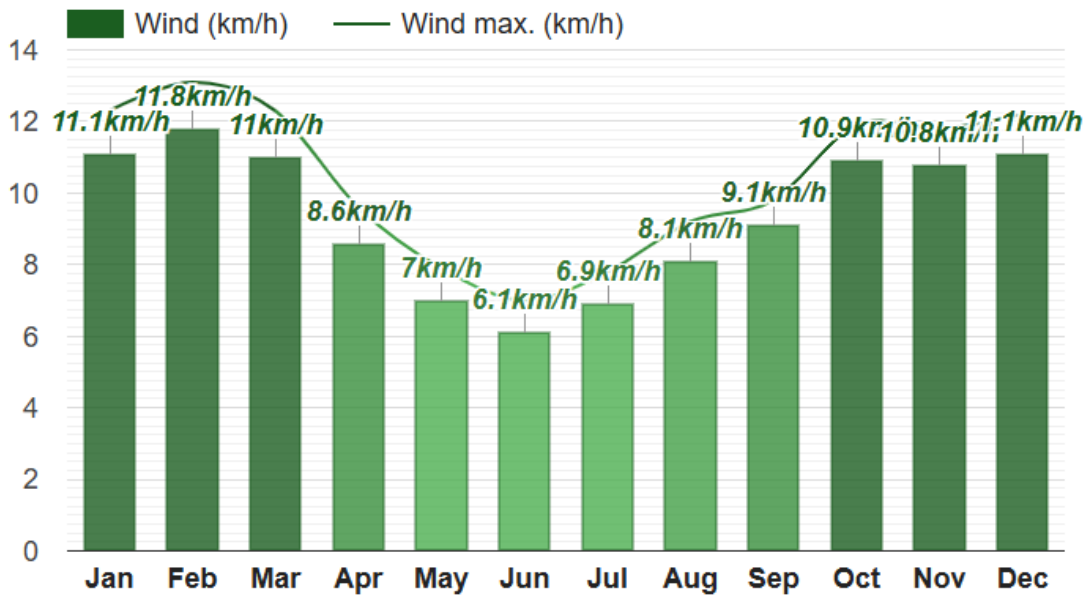



***Figure 4-4: Annual Wind Ranges***

## 4.3 Biological Environment

### *4.3.1 Flora*

Vegetation on Lot 1 is characteristic of a disturbed urban-fringe site that has been partially occupied by temporary informal settlements. The flora consists mainly common grasses and weeds. Scattered mature trees are also present. No nationally or internationally protected tree species have been recorded on the site during the current baseline observations.

### *4.3.2 Fauna*

Given the urban setting and the presence of temporary residential structures, schools, churches and micro-enterprises on the site, no significant fauna populations were observed during baseline surveys. No rare, threatened or protected fauna have been recorded.

## 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 1 is dominated by temporary informal settlements. These include residential structures, schools, churches and a range of micro-enterprises and retail activities (small kiosks, vegetable stands, grocery shops and similar). The site also contains limited open ground and vegetation. Surrounding land use is characterised by formal residential apartments (Langata View Corner Apartments on the eastern side), other residential estates in the Southlands/Langata area, the Southern Bypass road reserve, and institutional facilities. The proposed high-density residential development is consistent with the broader residential character of the zone, subject to the height and aviation constraints applicable to the site.

### *4.4.3 Infrastructure*

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

**Water supply** The area relies primarily on Nairobi City Water and Sewerage Company (NCWSC) supply, which is subject to rationing. Residents of neighbouring estates have consistently reported intermittent supply, low pressure and seasonal shortages. Illegal connections and high demand exacerbate the problem. The project proposes borehole(s) 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. An existing electricity distribution line crosses the Lot 1 site and will require rerouting in coordination with Kenya Power and Lighting Company (KPLC). Illegal connections have been noted as an issue in the wider area. The project design includes a power house with backup generator and street lighting.

**Education and other social services** Nearby educational facilities and the schools currently operating within the temporary informal settlements on site will be affected by clearance. CSR commitments linked to the wider Southlands project include support to selected local schools (including facilities in Langata). The increased residential population from the 1,386 units will place additional demand on education, health and security services.

**Access and transport** Primary access is through the local road network connecting to Langata Link Road and the Southern Bypass (a controlled-access highway under KeNHA). Traffic congestion and limited access points are existing concerns that will be addressed through the Traffic Impact Assessment and design of project access.

### 4.5 Cultural/Religious Features

The temporary informal settlements on Lot 1 include churches and other places of worship that currently serve the on-site and neighbouring communities. These structures will be cleared as part of site preparation, following documentation, valuation and facilitation of the Project Affected Persons. During public participation, representatives of faith-based organisations emphasised the spiritual and social importance of places of worship and requested that such organisations be considered in planning and CSR activities.

No registered cultural heritage sites, monuments or archaeological features of national significance have been identified on the Lot 1 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 1 include:

- Langata View Corner Apartments (eastern neighbour) – privacy, sunlight, noise, dust, visual intrusion, property-value and traffic concerns.
- Temporary informal settlement residents, schools, churches and micro-enterprises currently on the site – displacement and livelihood restoration.
- Other residential apartments and estates in the wider Southlands/Langata area.
- Users of Langata Link Road, the Southern Bypass and connecting local roads – traffic safety and congestion.
- Downstream water users and ecological systems linked to River Motoine (approximately 300 m from the site) and Nairobi Dam (approximately 1.2 km away).
- Vulnerable groups (persons with disabilities, widows, elderly and low-income households) who may face particular challenges in accessing housing or coping with construction impacts.

Aircraft operations associated with Wilson Airport constitute a regional sensitivity, primarily addressed through KCAA height restrictions (maximum 29 m / G+8) and related Obstacle Limitation Surface requirements.

### 4.7 Existing Environmental and Social Challenges

The baseline environment of Lot 1 and its surroundings is characterised by a number of pre-existing challenges that the project both inherits and has the potential to exacerbate:

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/water-logging.

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

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

e) **Informal settlement and livelihood displacement** — presence of residential structures, schools, churches and micro-enterprises that will be affected by site clearance.

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.

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 held between 31 July and 7 August 2026) and will be carried forward into the impact assessment, alternatives analysis and Environmental and Social Management Plan.

## 4.8 SOCIO-ECONOMIC STUDY FINDINGS

### *4.8.1 Sub-County*

The demographic assessment reveals a significant population concentration within Kibra sub-county at 60%, followed by Lang'ata, accounting for the remaining 40% of surveyed households. This distribution, as shown in Figure 4-5 below, reflects the historical settlement patterns and urbanisation trends across the broader region. The proposed social housing project must strategically balance resource allocation between these two areas, ensuring proportional infrastructure development that addresses the higher density in Kibra while maintaining equitable service provision for Lang'ata communities throughout the implementation phase.

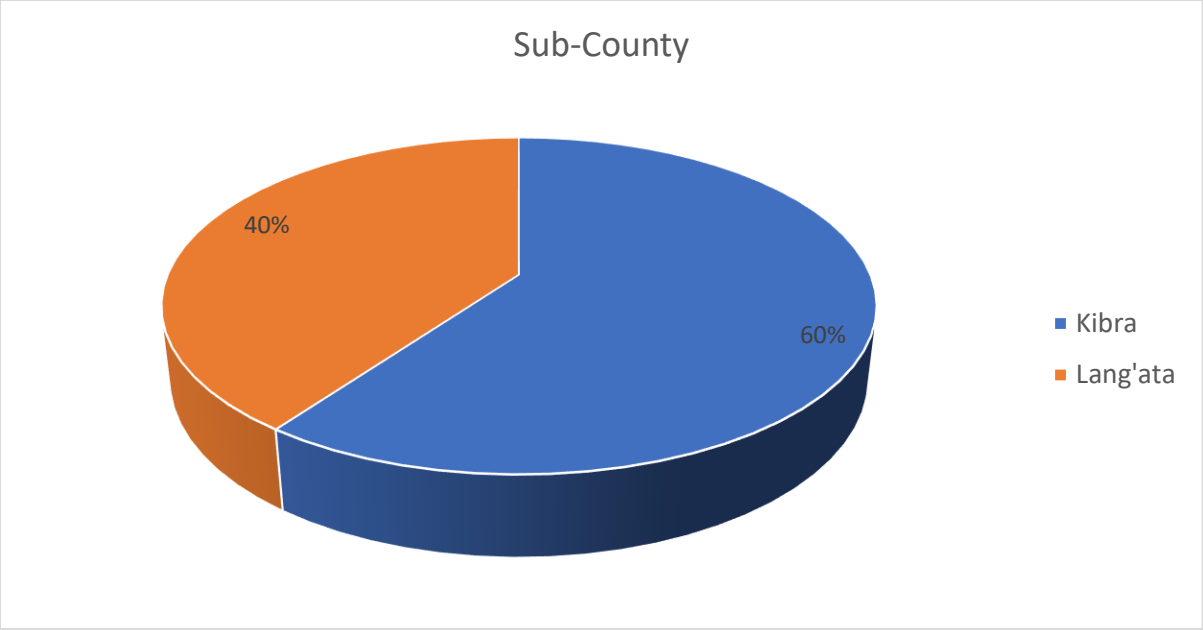



***Figure 4-5: Sub-County***

### *4.8.2 Village Distribution*

Figure 4-7 below demonstrates that Otiende village represents the largest population concentration at 40% across the survey area, while Gatwekera and Kisumu Ndogo each account for 30% of surveyed households. This balanced distribution across the three villages reflects established settlement patterns shaped by historical migration and community development dynamics. The social housing project must implement village-specific approaches, recognising Otiende's higher population density while ensuring equitable resource allocation to Gatwekera and Kisumu Ndogo, with customised community engagement strategies respecting each village's unique social fabric and needs.

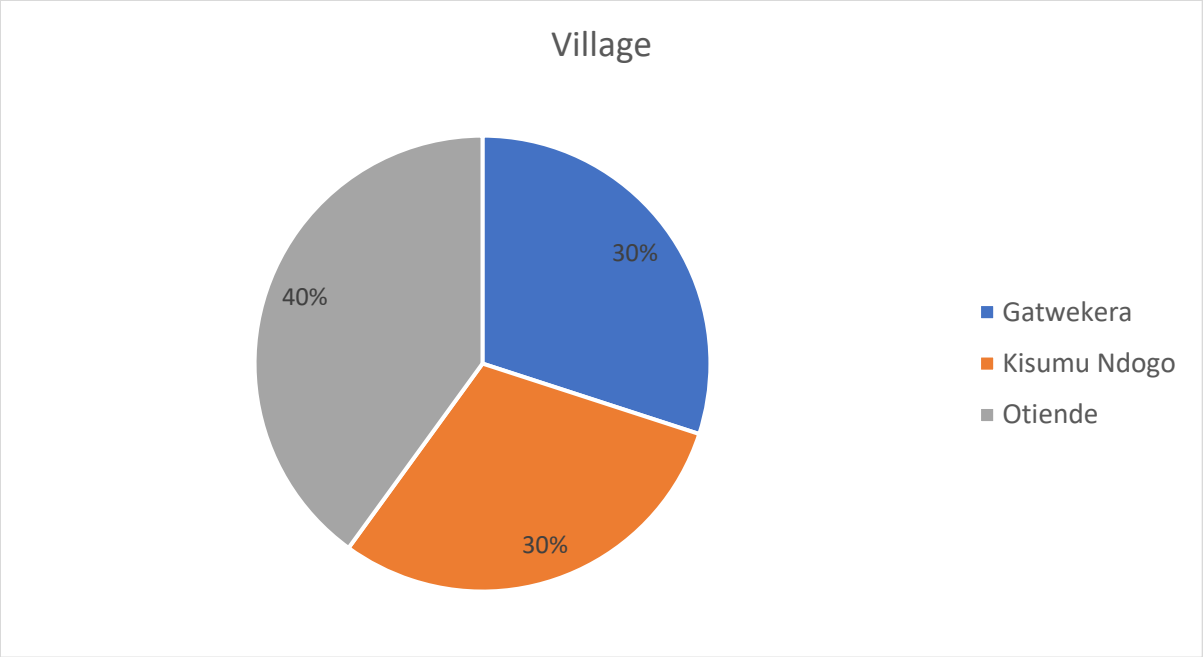



***Figure 4-7: Village Distribution***

### *4.8.3 Relationship to Head of Household*

Survey respondents are predominantly household heads themselves (64%), with spouses constituting 26%, tenants 6%, and relatives 4% across Kibra and Lang'ata settlements. As demonstrated in Figure 4-8 below, this direct access to decision-makers provides reliable household information and indicates stable family structures despite informal settlement challenges. The social housing project should leverage this household composition when designing family-appropriate units, ensuring adequate space for primary family members while establishing clear communication channels with household heads during relocation and resettlement processes throughout the implementation phase.

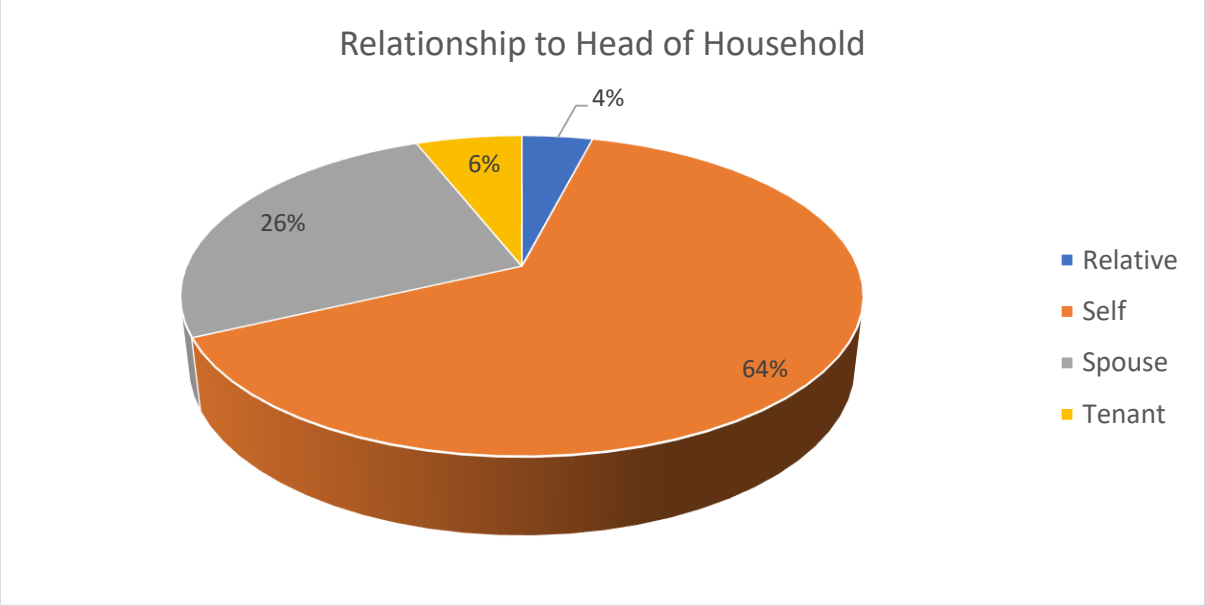


***Figure 4-8: Relationship to Head of Household***

### *4.8.4 Gender of Respondent*

As shown in Figure 4-9 below, female respondents constitute the majority at 58% across Otiende, Gatwekera, and Kisumu Ndogo villages, while males account for 42% of survey participants. This gender distribution ensures comprehensive perspectives encompassing women's unique experiences regarding housing, security, and service access within informal settlements. The social housing project must incorporate gender-responsive design elements addressing women's specific needs, including safe communal spaces, adequate lighting, and accessible service points, while engaging female community representatives throughout the planning and implementation phases to maintain gender-sensitive approaches across all development aspects.

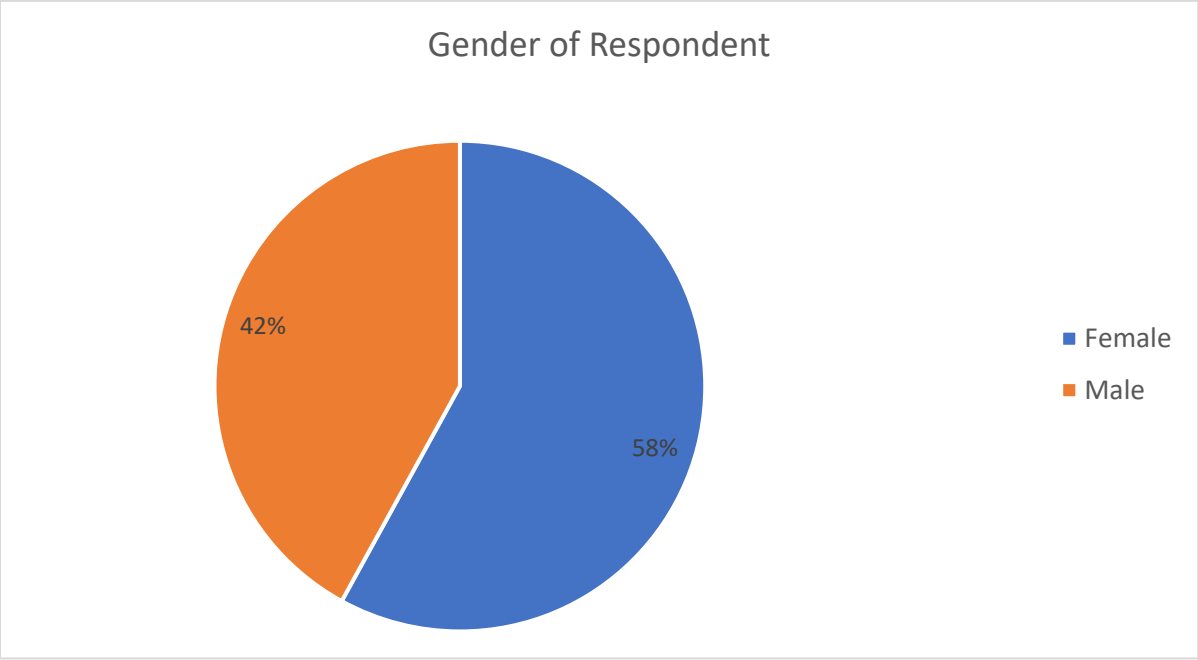



***Figure 4-9: Gender of Respondent***

### *4.8.5 Age of Respondent*

The demographic profile reveals a predominantly young adult population with 52% aged 20-30 years, followed by 36% aged 31-40 years across Kibra and Lang'ata sub-counties. The remaining age groups, as depicted in Figure 4-10 below, comprise smaller proportions, with 8% below 20 years and 4% between 41 and 50 years. This youthful demographic indicates significant productive workforce potential within the community, requiring employment opportunities. The proposed social housing project should incorporate youth-oriented facilities, skills development centres, and social spaces while designing housing units that accommodate growing families and potential multigenerational households throughout Otiende, Gatwekera, and Kisumu Ndogo villages.

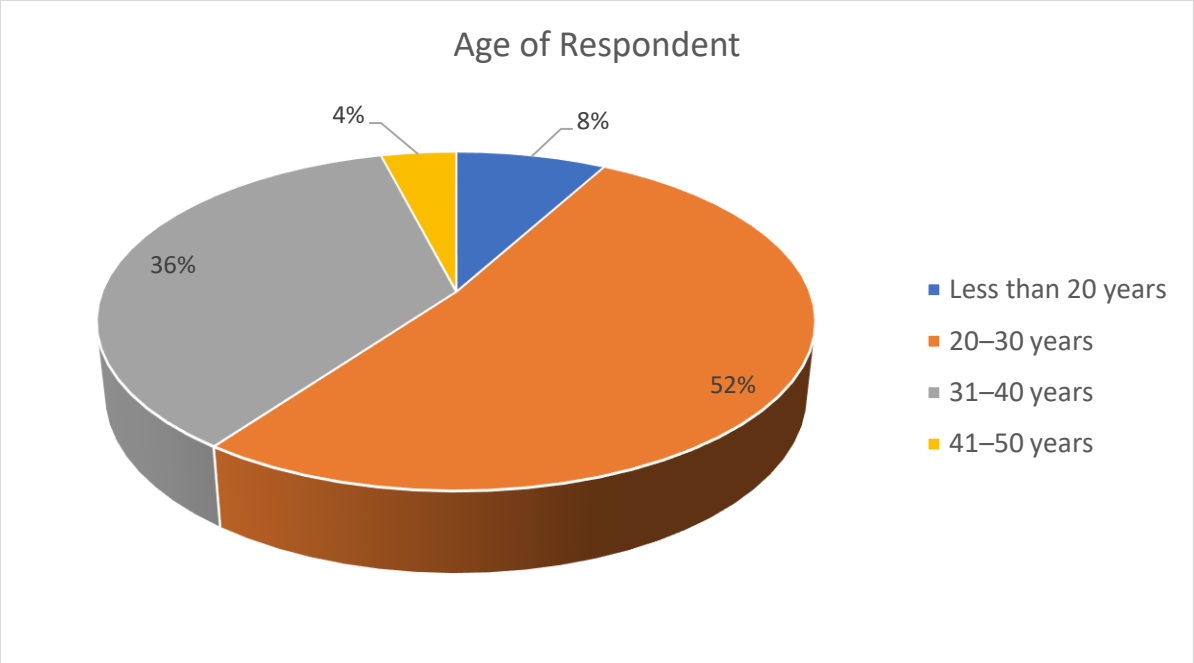



***Figure 4-10: Age of Respondent***

### *4.8.6 Marital Status*

Married respondents form the clear majority at 60% across Kibra and Lang'ata settlements, with single residents comprising 26%, divorced/separated individuals 12%, and widowed persons only 2%. Figure 4-11 below, highlights this family-oriented community structure, which signals stable household compositions despite challenging living conditions in informal settlements. The social housing project must prioritise family-appropriate housing units with adequate rooms for couples and children, while also providing appropriate smaller units for single, separated, and widowed residents to ensure inclusive development that accommodates diverse family structures throughout the constituency.

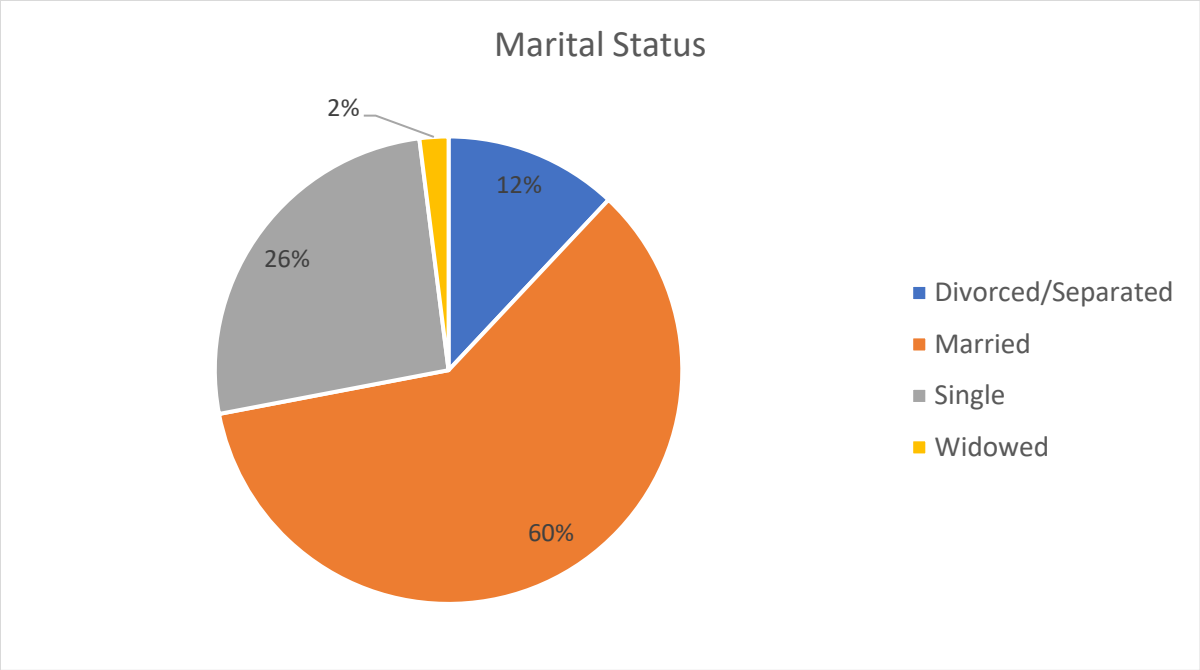



***Figure 4-11: Marital Status***

### *4.8.7 Highest Education Level Completed*

Educational attainment shows balanced achievement with secondary and tertiary education each representing 42% of residents, while primary education and no formal education each account for only 8% across Kibra and Lang'ata communities, as shown in Figure 4-12 below,. This surprisingly high education level contradicts typical informal settlement patterns and represents significant human capital potential within the area. The proposed housing project should leverage this educated population through participatory planning processes while incorporating education-supportive infrastructure, including study spaces, community libraries, and digital learning centres, to further enhance residents' skills development and economic opportunities throughout the constituencies.

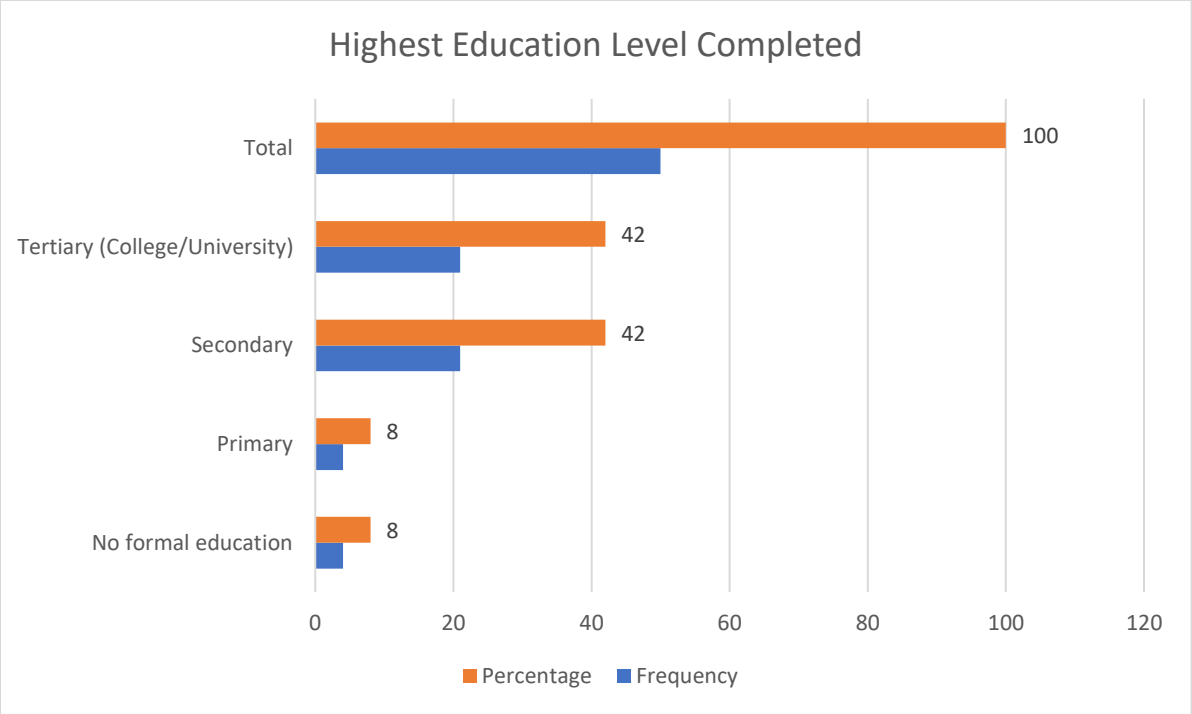



***Figure 4-12: Highest Education Level Completed***

### *4.8.8 Main Occupation/Source of Income*

Figure 4-13 below,demonstrates that casual labour dominates the livelihood landscape at 62% across the surveyed villages, with unemployment affecting 14%, business activities engaging 10%, and formal employment, informal sector work, and student status each representing only 4%, while farming contributes a mere 2%. This precarious employment pattern highlights economic vulnerability and income instability among residents. The social housing project must integrate economic opportunity zones, skills development centres, and employment linkage programs while ensuring affordable housing solutions aligned with residents' irregular income patterns to prevent displacement and enhance financial stability throughout implementation.

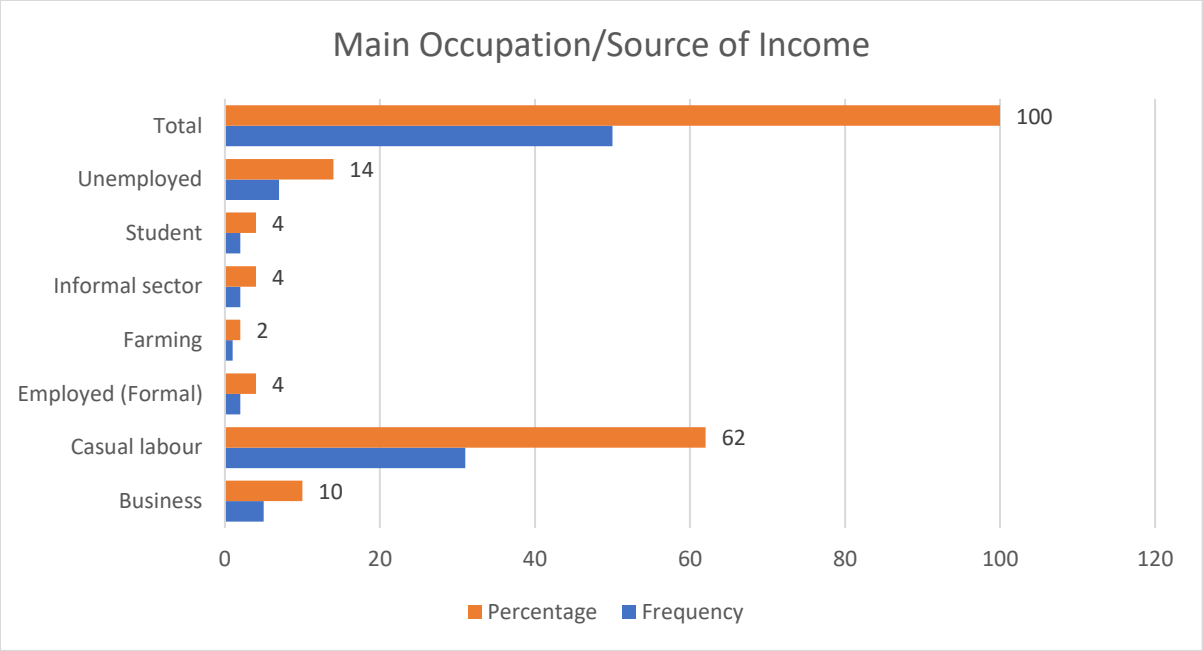



***Figure 4-13: Main Occupation/Source of Income***

### *4.8.9 Monthly Household Income Bracket*

The economic profile reveals 80% of households earning between KES 10,001-20,000 monthly, with 16% below KES 10,000 and only 4% reaching KES 20,001-30,000 across Otiende, Gatwekera, and Kisumu Ndogo villages, as illustrated in Figure 4-14 below,. This concentrated low-income distribution confirms economic vulnerability, requiring affordable housing solutions. The proposed social housing project must establish appropriate pricing structures, flexible payment options, and potential subsidies aligned with these income realities, while incorporating economic empowerment initiatives, income diversification programs, and cooperative savings mechanisms to enhance financial stability throughout the communities during and after project implementation.

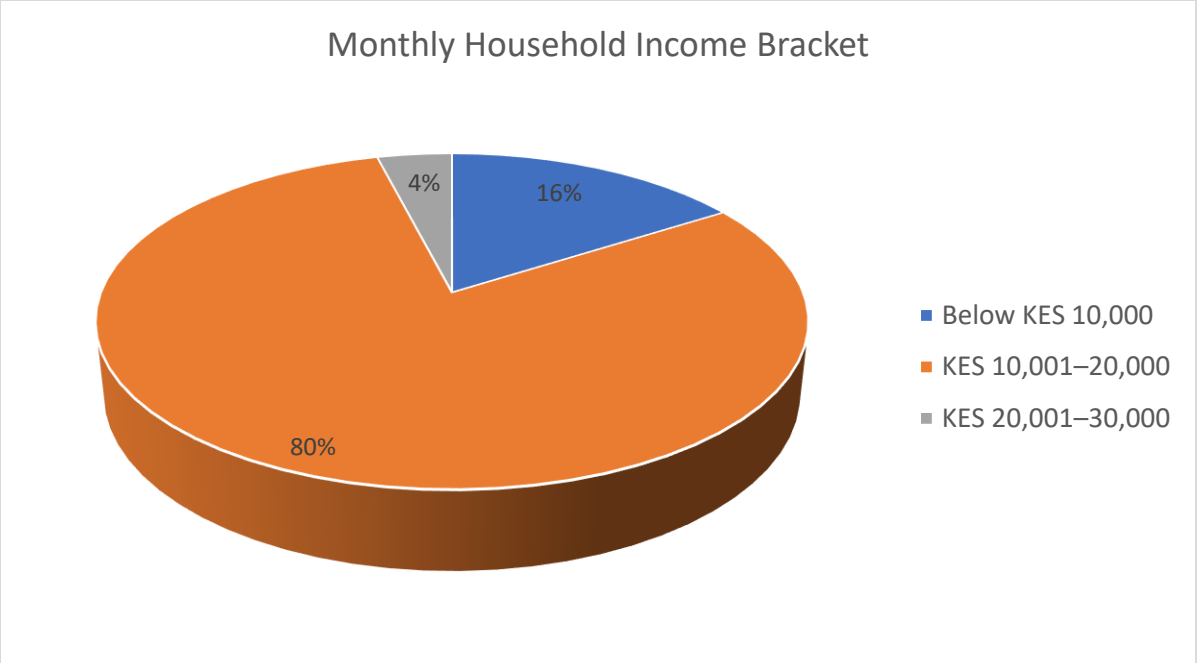



***Figure 4-14: Monthly Household Income Bracket***

### *4.8.10 Total Household Members*

Household size distribution, as depicted in Figure 4-15 below, reveals a predominance of three-person households at 28%, followed closely by single-person households at 26%, four-person families at 20%, five-person households at 12%, and smaller proportions for other sizes across Kibra and Lang'ata settlements. This varied household composition reflects diverse family structures requiring flexible housing solutions. The proposed social housing project must develop a range of unit sizes accommodating different household configurations, from single-occupancy apartments to larger family units, while ensuring appropriate community facilities serving various age groups and family needs throughout all villages in the constituency.

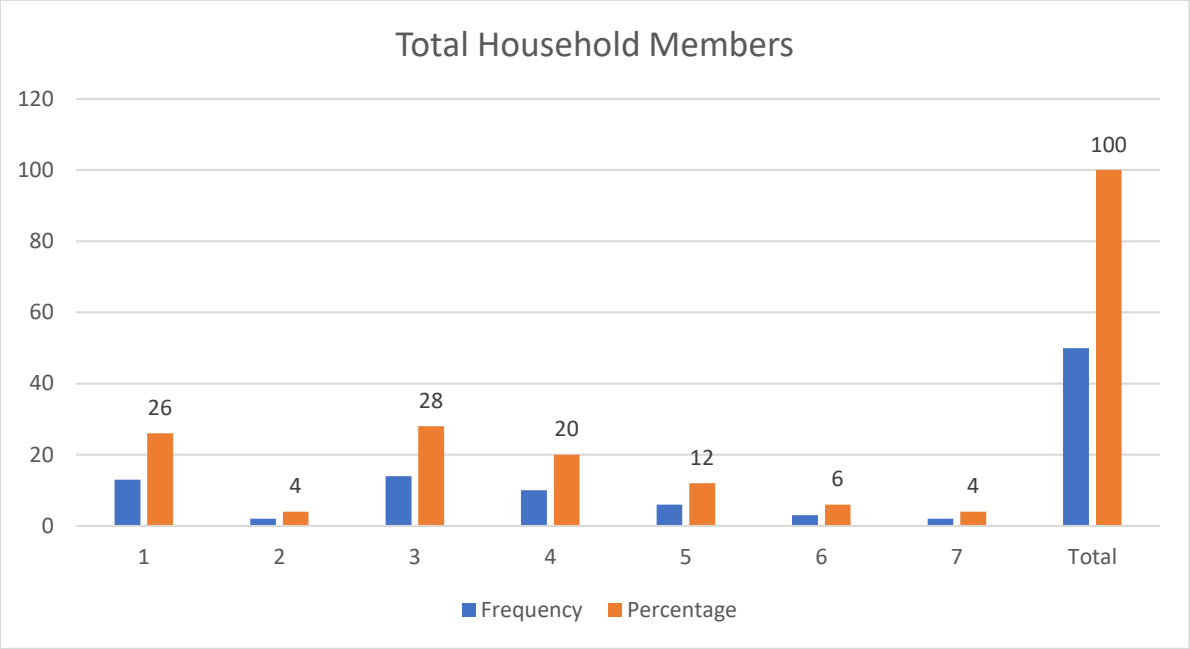



***Figure 4-15: Monthly Household Income Bracket***

### *4.8.11 Number of Adults (18+ years)*

Two-adult households predominate at 46% across the Kibra communities, followed by single-adult households at 30%, three-adult households at 14%, and smaller proportions for larger adult groupings Figure 4-16 below, illustrates this distribution, which indicates primarily nuclear families with some extended family arrangements within the constituency. The proposed social housing project should design units accommodating these adult household compositions with appropriate privacy considerations, while creating communal spaces fostering adult interaction, skills development facilities supporting livelihood enhancement, and community governance structures leveraging adult participation throughout the planning and implementation phases.

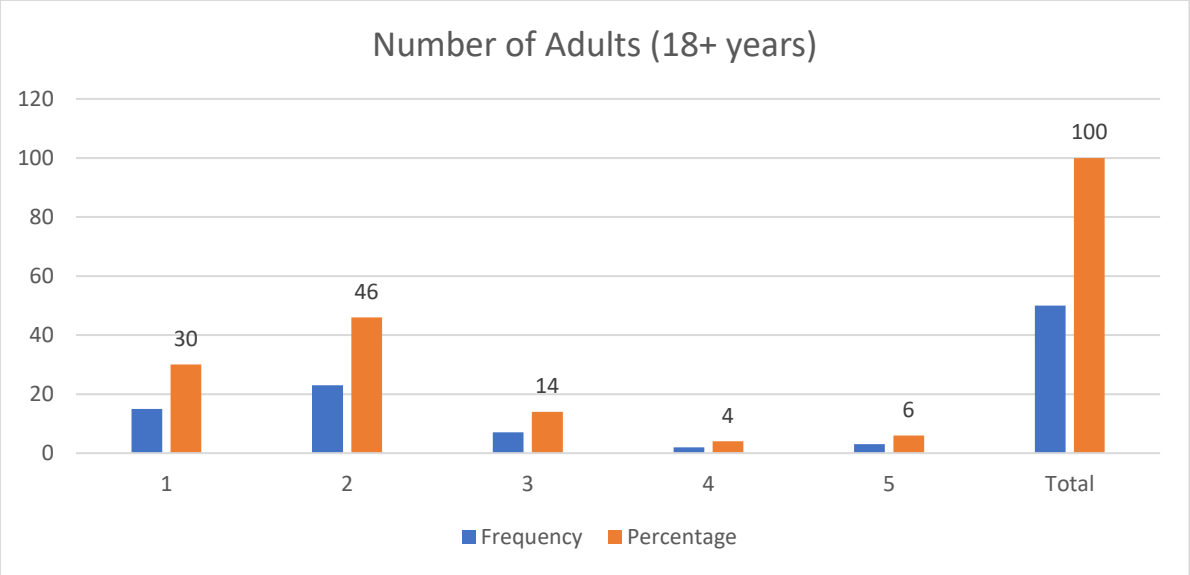



***Figure 4-16: Number of Adults (18+ years)***

### *4.8.12 Children (Under 18 years)*

The distribution of children shows balanced patterns with one-child households leading at 36%, as demonstrated in Figure 4-17 below,, followed closely by two-child families at 32%, childless households at 28%, and three-child families at only 4% across Otiende, Gatwekera, and Kisumu Ndogo villages. This moderate number of children per household indicates controlled family sizes despite challenging living conditions. The social housing project must incorporate child-friendly design elements, including safe play areas, educational facilities, healthcare access points, and pedestrian safety features, while ensuring housing units provide adequate space for children's development needs and proximity to essential child services throughout the villages.

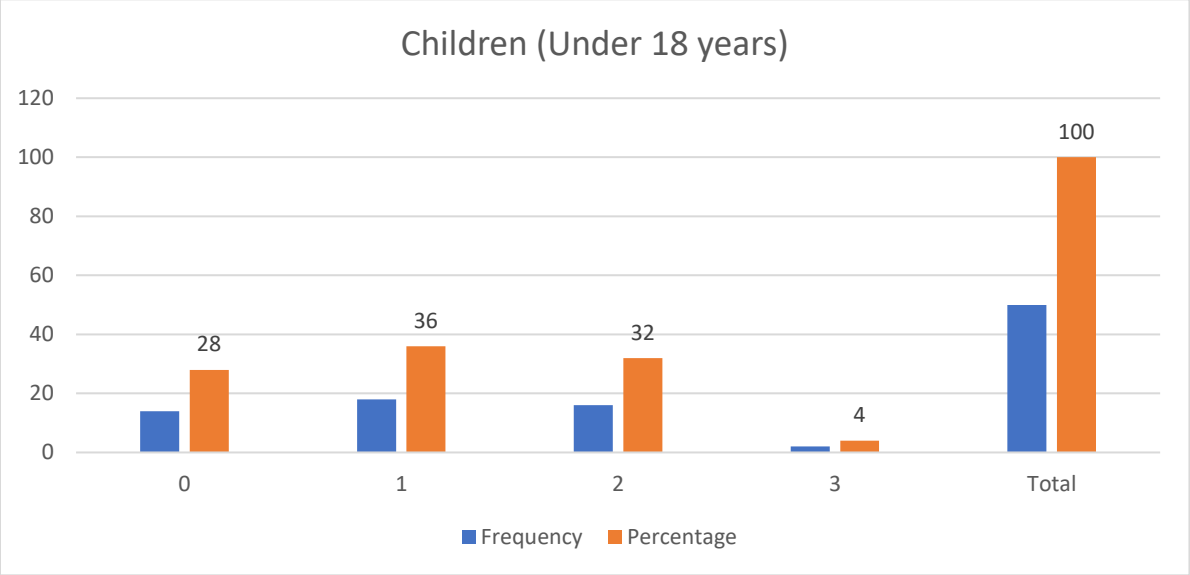


***Figure 4-17: Children (Under 18 years)***

### *4.8.13 Household Head's Gender*

Male-headed households overwhelmingly dominate at 82% across Kibra and Lang'ata settlements, with female-headed households constituting only 18%. This pronounced gender disparity in household leadership, as shown in Figure 4-18 below, reflects traditional family structures despite evolving gender roles in urban contexts. The proposed social housing project must recognise this leadership pattern while ensuring female household heads receive equitable consideration during allocation processes, targeted support services addressing their unique challenges, and inclusion in community governance structures to promote gender-balanced decision-making throughout project planning, implementation, and management phases.

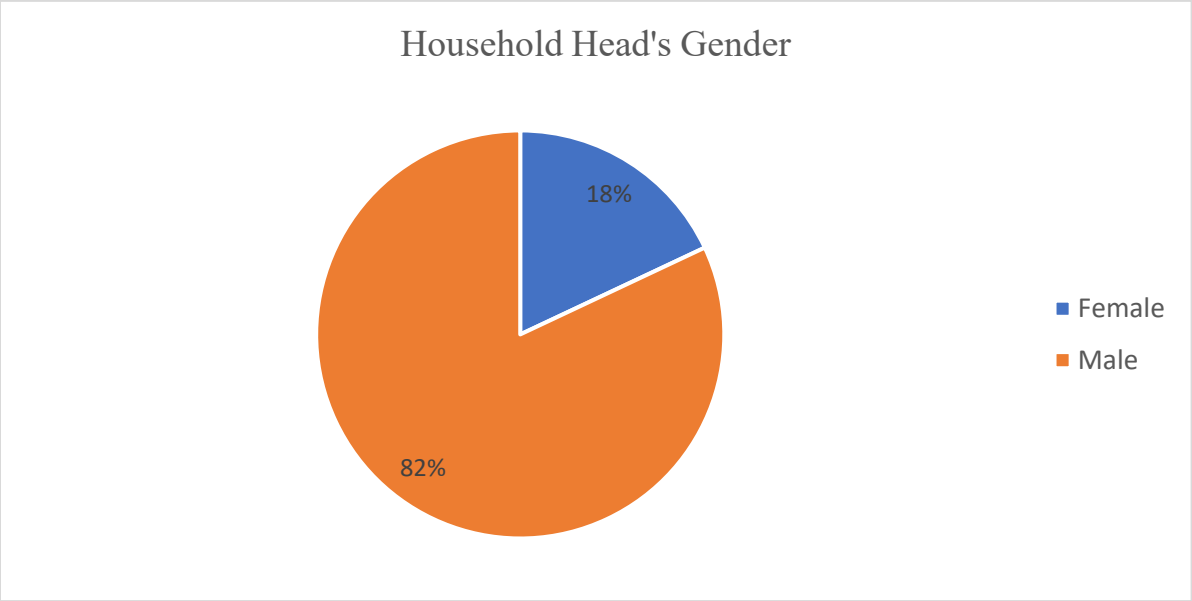



***Figure 4-18: Household Head's Gender***

### *4.8.14 Vulnerable Members in the Household*

Figure 4-19 below, depicts that most households (68%) report no vulnerable members, while specific vulnerabilities include pregnant or lactating women (14%), persons dependent on charity or government aid (6%), combined vulnerability cases (8%), persons with disabilities (2%), and widowed single parents (2%) across Kibra constituency. This vulnerability profile, though relatively limited, identifies specific groups requiring targeted support. The social housing project should incorporate universal design principles, specialized support services, and preferential allocation mechanisms for vulnerable households, while ensuring essential facilities, including healthcare access, disability-friendly infrastructure, and social protection linkages throughout all project phases.

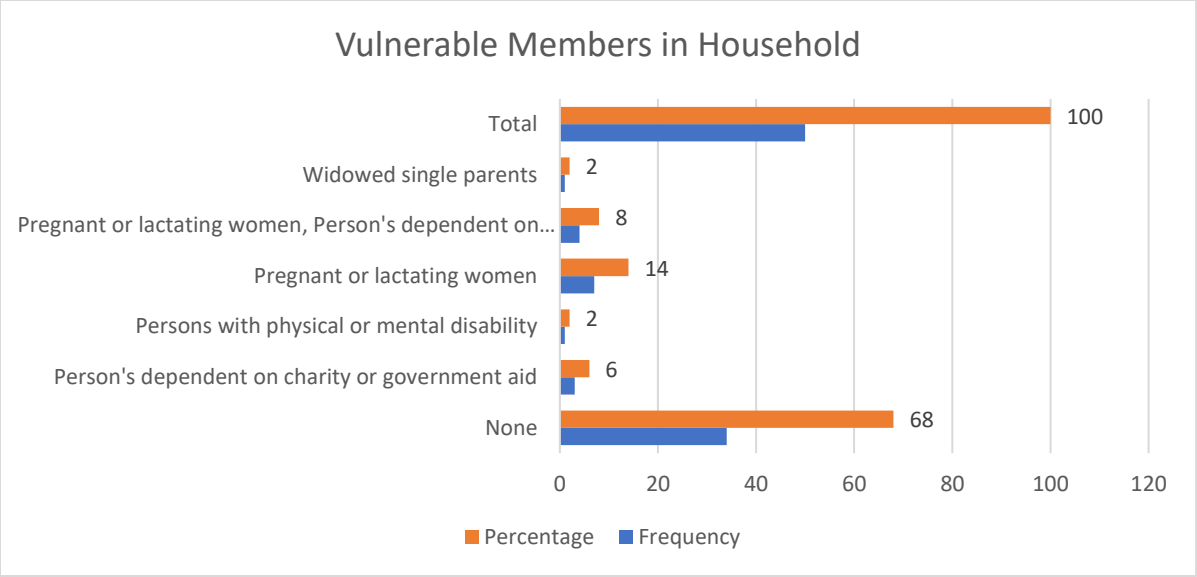



***Figure 4-19: Vulnerable Members in the Household***

### *4.8.15 Support for Vulnerable Members*

Figure 4-20 below,reveals a concerning support pattern with 68% of households reporting no vulnerable members, as discussed before, while 16% with vulnerable members receive no assistance, and only 16% access external support across Otiende, Gatwekera, and Kisumu Ndogo villages. This substantial support gap indicates significant welfare challenges for vulnerable populations throughout Kibra and Lang'ata constituencies. Among the limited 16% receiving support, non-governmental organizations provide the majority with government assistance, reaching a mere percentage of vulnerable households. This NGO-dominated support landscape highlights critical governmental service gaps affecting vulnerable residents. The social housing project must establish comprehensive support networks connecting vulnerable residents with existing programs, strengthen partnerships with NGOs while advocating for enhanced government involvement, and create specialised facilities addressing specific vulnerability needs throughout all phases of development implementation across the villages.

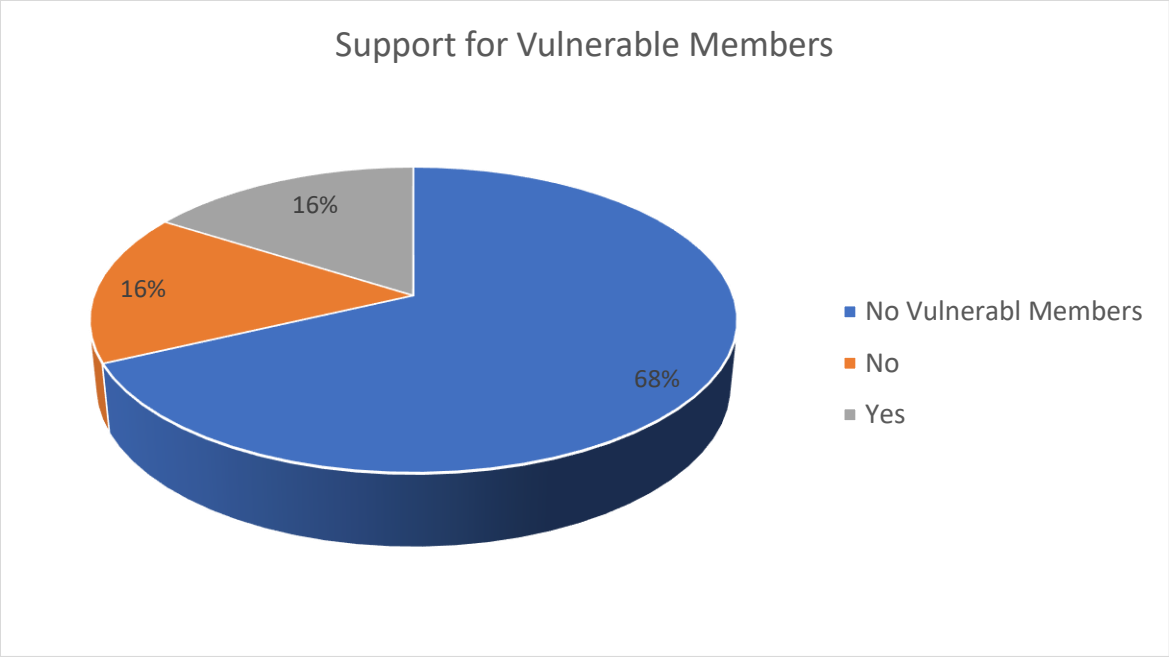



***Figure 4-20: Support for Vulnerable Members***

### *4.8.16 Length of Residence in Area*

Residential tenure patterns, as shown in Figure 4-21 below,, reveal 44% of households settled for 1-5 years, followed by 26% for 6-10 years, 14% exceeding 10 years, 10% under one year, and 6% since birth across Otiende, Gatwekera, and Kisumu Ndogo villages. This relatively short-term residency profile indicates significant population mobility despite settlement establishment. The proposed social housing project must acknowledge these residential patterns through appropriate allocation criteria, considering length of residence, developing community integration programs for newer residents, preserving existing social networks, and implementing phased relocation strategies, minimising disruption to long-established households throughout the constituency's villages.

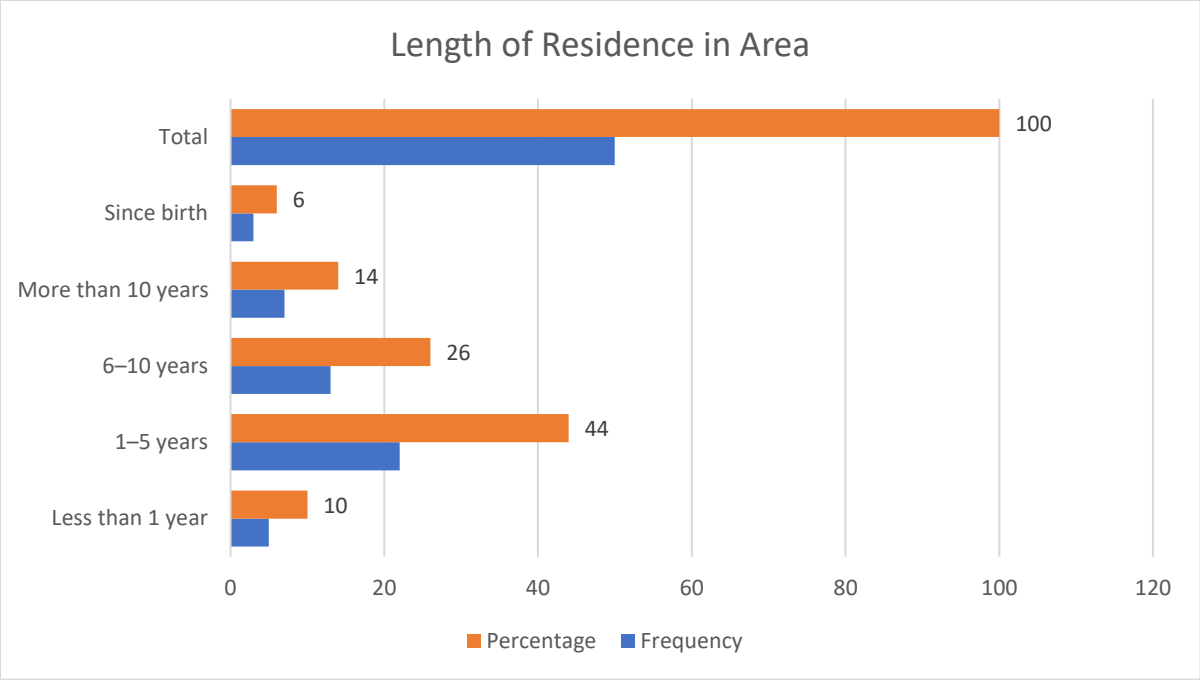



***Figure 4-21: Length of Residence in Area***

### *4.8.17 Type of Dwelling Unit*

Semi-permanent structures dominate housing typologies at 64% across Otiende, Gatwekera, and Kisumu Ndogo villages, with permanent structures representing 34% and temporary dwellings only 2% as shown in Figure 4-22 below. The prevalence of semi-permanent housing indicates residents' aspirations for improved housing despite limited resources and insecure tenure. The proposed social housing project should implement significant structural upgrades through durable, weather-resistant constructions while maintaining affordability, incorporating community preferences regarding layout and materials, and ensuring incremental improvement options allowing residents to invest in their housing units throughout the project development phases.

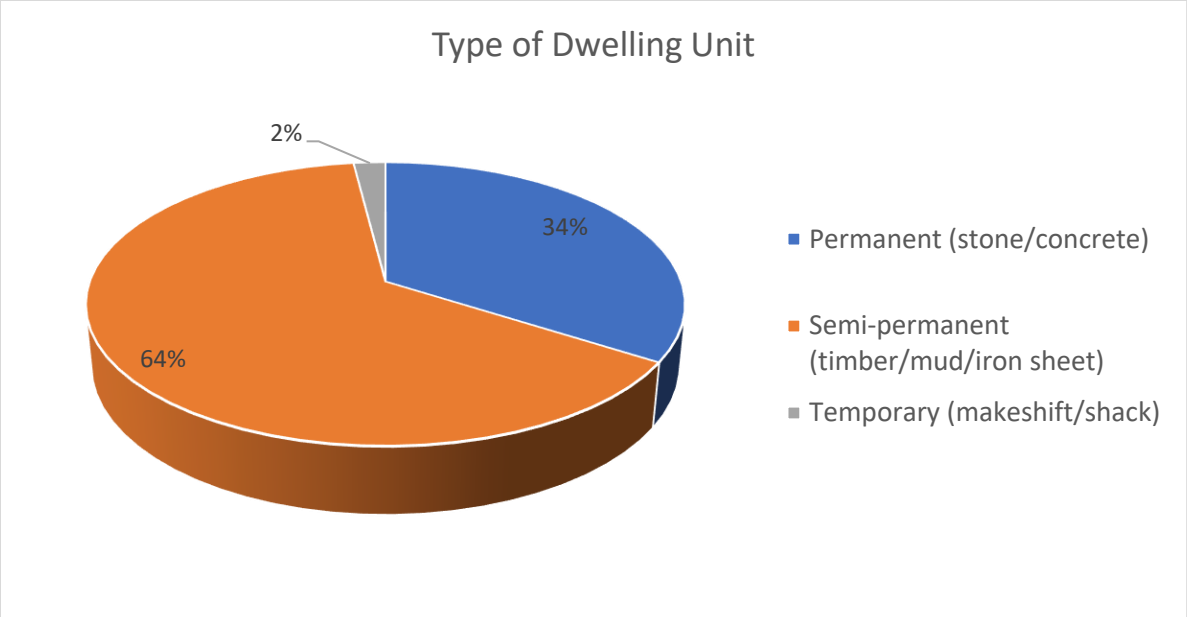



***Figure 4-22: Type of Dwelling Unit***

### *4.8.18 Main Source of Water Supply*

Figure 4-24 below, shows that piped water directly to dwellings serves 54% of households across Kibra and Lang'ata villages, with water vendors supplying 28%, yard connections serving 16%, and river/stream sources used by only 2%. This relatively high direct connection rate indicates functional infrastructure despite informal settlement conditions. The social housing project should build upon this foundation by ensuring universal in-house water connections, implementing water quality monitoring systems, establishing affordable tariff structures, and creating community water management committees while incorporating water conservation technologies throughout the development to ensure sustainable and equitable water access.

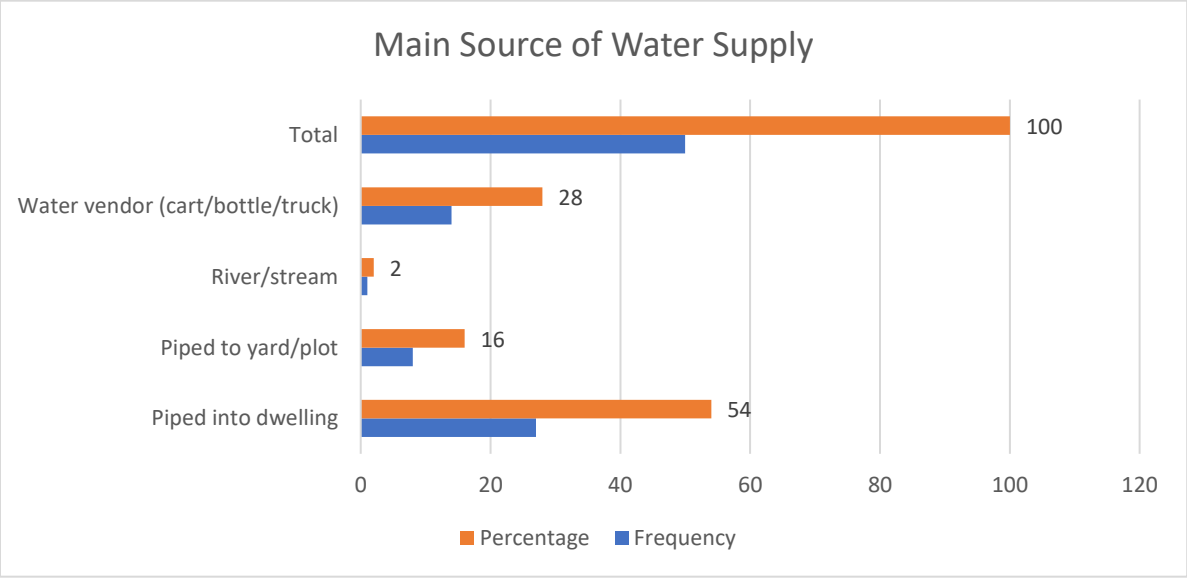


***Figure 4-24: Main Source of Water Supply***

### *4.8.19 Regularity of Water Supply*

Daily water access benefits 42% of the residents, while 34% receive water thrice weekly, 22% twice weekly, and 2% four times weekly across the villages, as illustrated in Figure 4-25 below, This intermittent supply pattern indicates infrastructure challenges despite relatively good connection coverage. The proposed social housing project must address supply consistency through improved storage systems, pressure regulation infrastructure, and maintenance programs, while implementing household storage solutions, establishing community management mechanisms, and developing emergency supply protocols to ensure reliable access during disruptions throughout the implemented housing development across all villages.

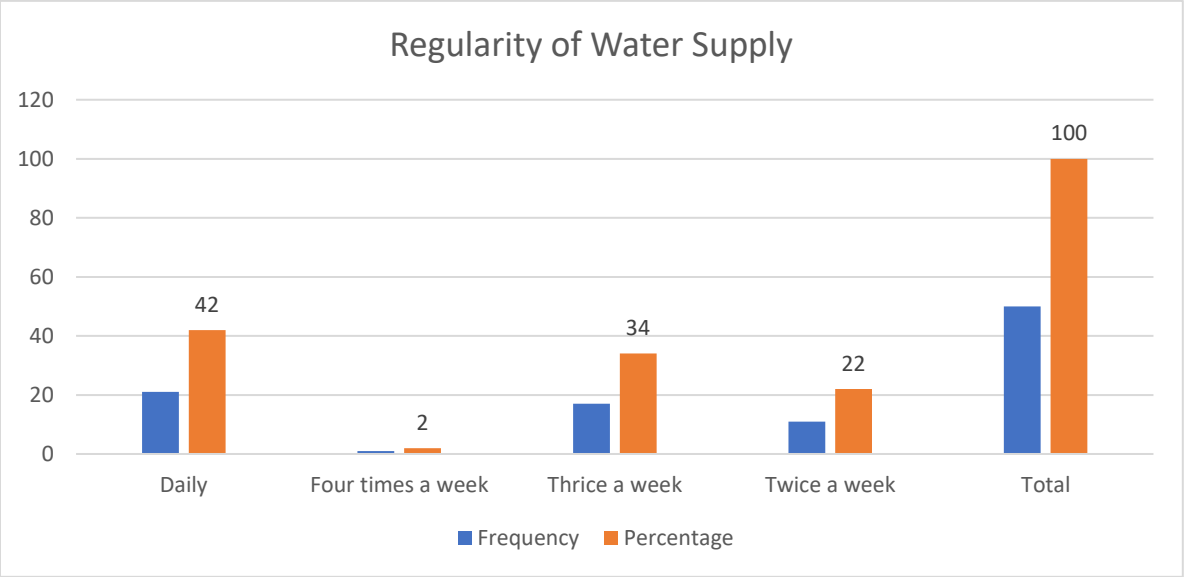



***Figure 4-25: Regularity of Water Supply***

### *4.8.20 Energy for Cooking*

LPG (Gas) dominates cooking energy sources at 52% across Otiende, Gatwekera, and Kisumu Ndogo settlements, followed by electricity at 40% and charcoal at only 8%. Figure 4-26 below, indicates this relatively modern energy profile, which demonstrates significant infrastructure development despite informal settlement conditions throughout the constituency. The proposed social housing project should build upon this foundation by incorporating efficient gas connections, electrical cooking infrastructure, and improved ventilation systems, while promoting clean cooking awareness programs to eliminate remaining solid fuel usage and establishing community-based energy cooperatives for bulk purchasing to ensure affordable access for all households.

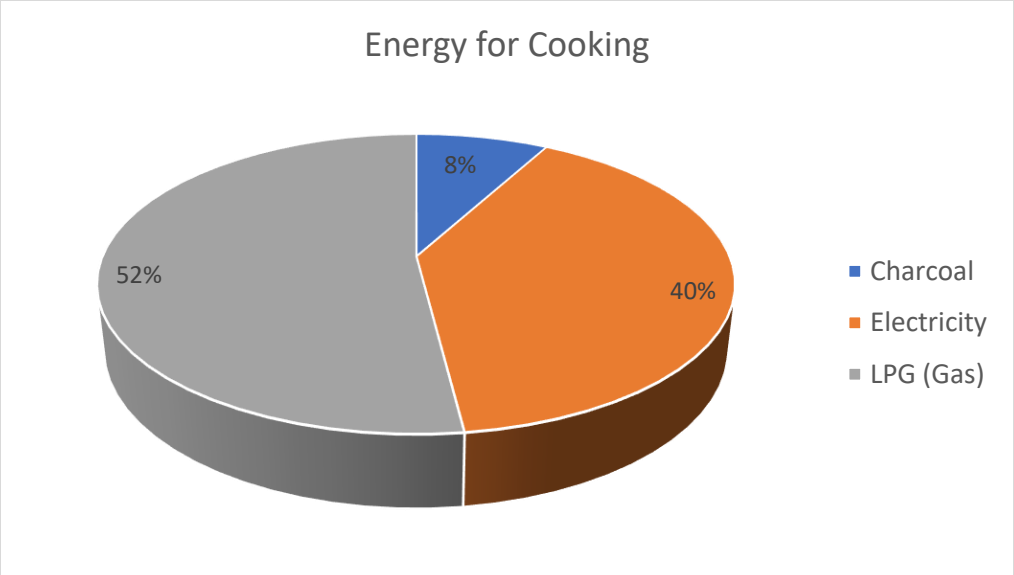



***Figure 4-26: Energy for Cooking***

### *4.8.21 Main Source of Energy for Lighting*

Electricity from the main grid powers an overwhelming 98% of households' lighting needs throughout Otiende, Gatwekera, and Kisumu Ndogo villages, with solar energy serving just 2% of residents. This near-universal grid connectivity, as shown in Figure 4-27 below, represents exceptional infrastructure development compared to typical informal settlements. The social housing project must preserve and enhance this reliable electricity access through improved distribution networks, backup systems during outages, and energy-efficient lighting installations, while incorporating limited solar capabilities for common areas to reduce operational costs and promote sustainability across the development.

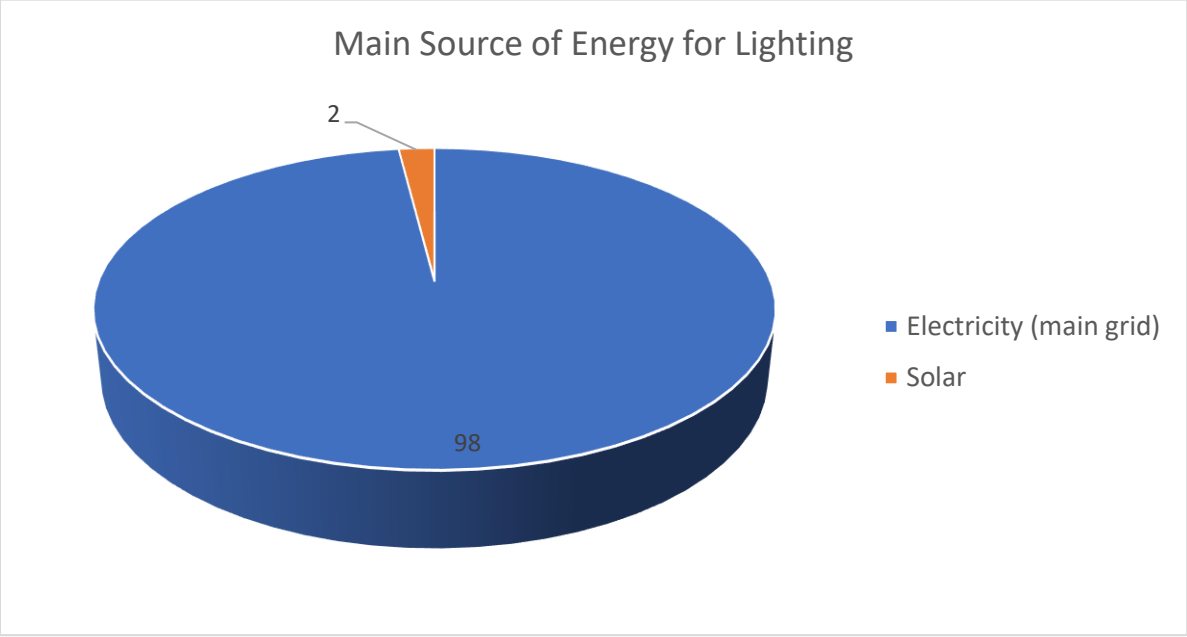


***Figure 4-27: Main Source of Energy for Lighting***

### *4.8.22 Type of Sanitation Facility*

Figure 4-28 below, demonstrates remarkable development in sanitation infrastructure, with 80% of households utilising flush toilets connected to sewers throughout Kibra and Lang'ata constituencies. Septic tank connections serve 12% of residents, while pit latrines with slabs account for only 8%. This advanced sanitation profile contrasts sharply with typical informal settlement conditions and provides a strong foundation for further development. The proposed social housing project should maintain and expand this sewer connectivity through upgraded infrastructure, regular maintenance programs, and wastewater treatment facilities, while implementing water conservation technologies and community management systems to ensure sustainable sanitation service delivery.

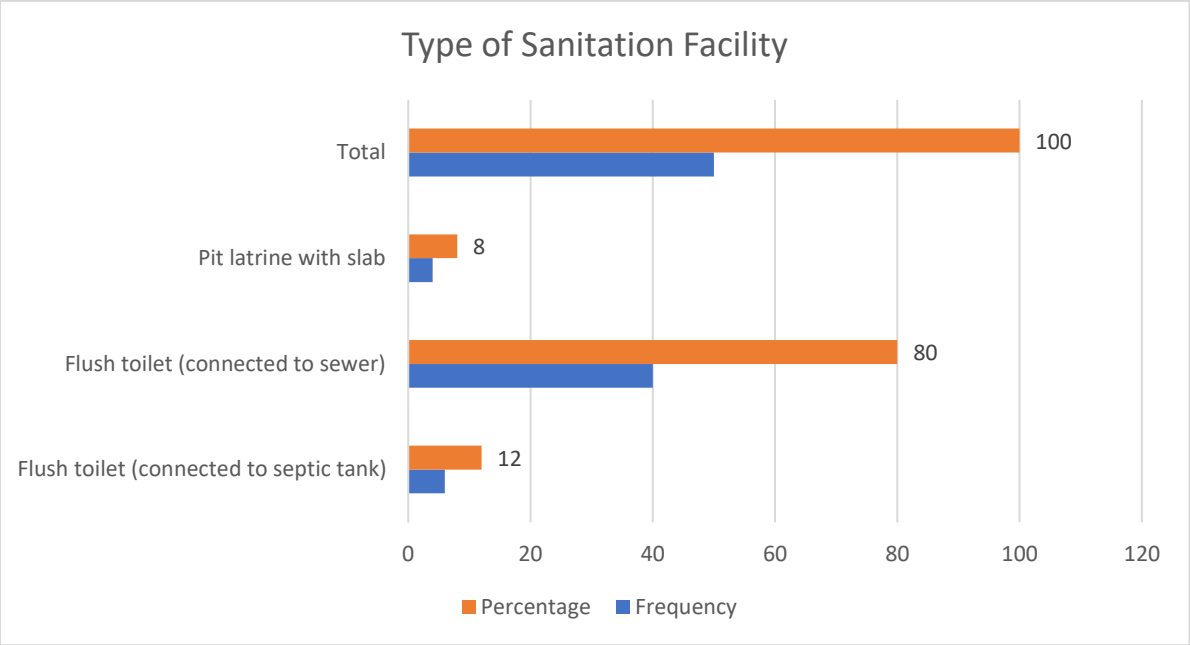



***Figure 4-28: Type of Sanitation Facility***

### *4.8.23 Solid Waste Disposal Method*

Formal waste collection systems serve an impressive 90% of Kibra and Lang'ata households, with composting practiced by 8% and burning representing only 2% of disposal methods, as illustrated in Figure 4-29 below, This highly organised waste management indicates effective municipal services despite informal settlement challenges across Otiende, Gatwekera, and Kisumu Ndogo villages. The proposed social housing project must integrate with and enhance these existing collection systems through designated waste collection points, segregation facilities promoting recycling, and potential waste-to-resource initiatives, while implementing community waste management committees and awareness programs to maintain high collection rates throughout the development implementation.

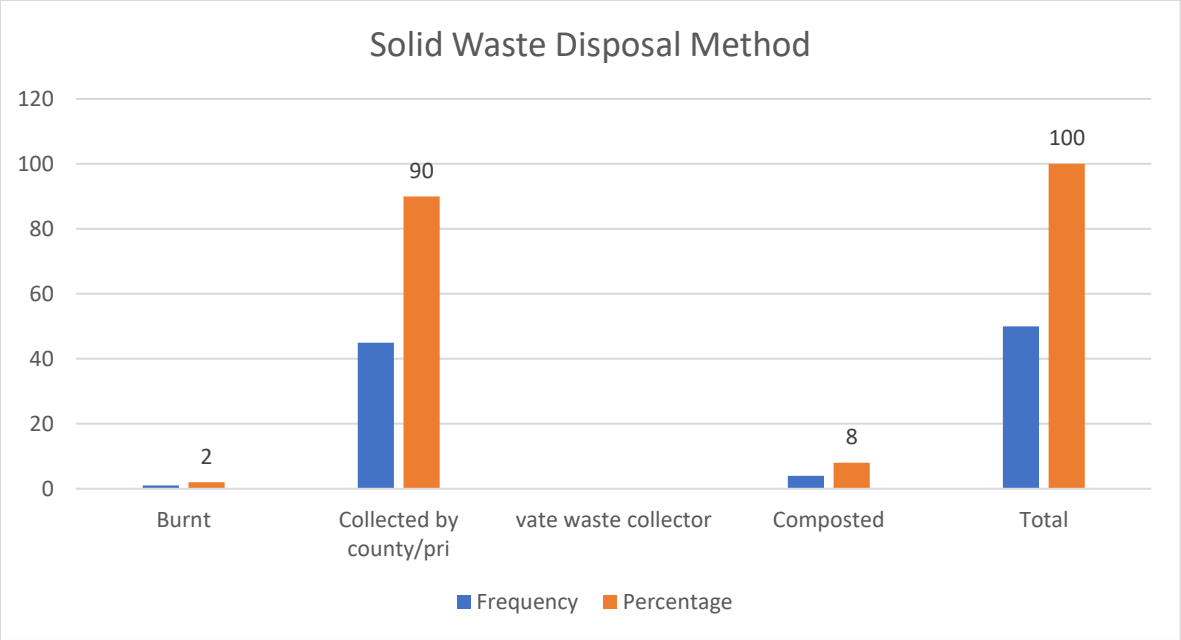



***Figure 4-29: Solid Waste Disposal Method***

### *4.8.24 House Location Near Environmental Hazards*

Significant infrastructure concerns are revealed in Figure 4-30 below, with 65.5% of households located near high-voltage electricity lines across Otiende, Gatwekera, and Kisumu Ndogo villages. Open sewers or drainage channels affect 25.5% of residences, while dumpsites impact 7.3% and industrial facilities 1.8%. This hazard profile highlights critical safety considerations for the social housing project, which must implement appropriate setbacks from electrical infrastructure, upgraded drainage systems with proper coverage, comprehensive waste management, preventing illegal dumping, and industrial buffer zones, ensuring resident safety throughout the development implementation.

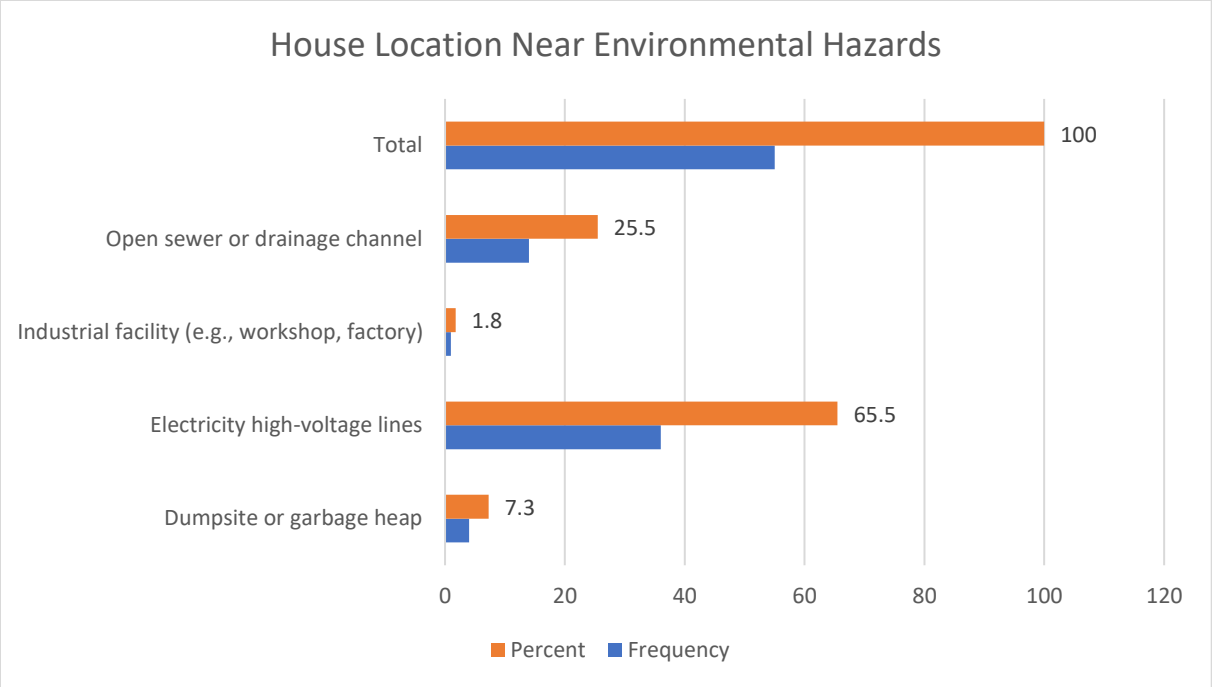



***Figure 4-30: House Location Near Environmental Hazards***

### *4.8.25 Distance to Primary School in Kilometres*

Educational access varies across Kibra and Lang'ata sub-counties, with 24% of households located 0.2km from primary schools, followed by 18% at 1km, 16% at 3km, 12% each at 0.3km and 2km, 10% at 0.5km, and smaller percentages at other distances as demonstrated in Figure 4-35 below, This dispersed distribution indicates uneven educational infrastructure throughout the constituencies. The proposed social housing project should integrate additional school facilities within the development, establish safe walking routes with proper lighting and crossings, implement school transport services for distant locations, and coordinate with education authorities to ensure adequate capacity for the development's school-age population across all educational levels.

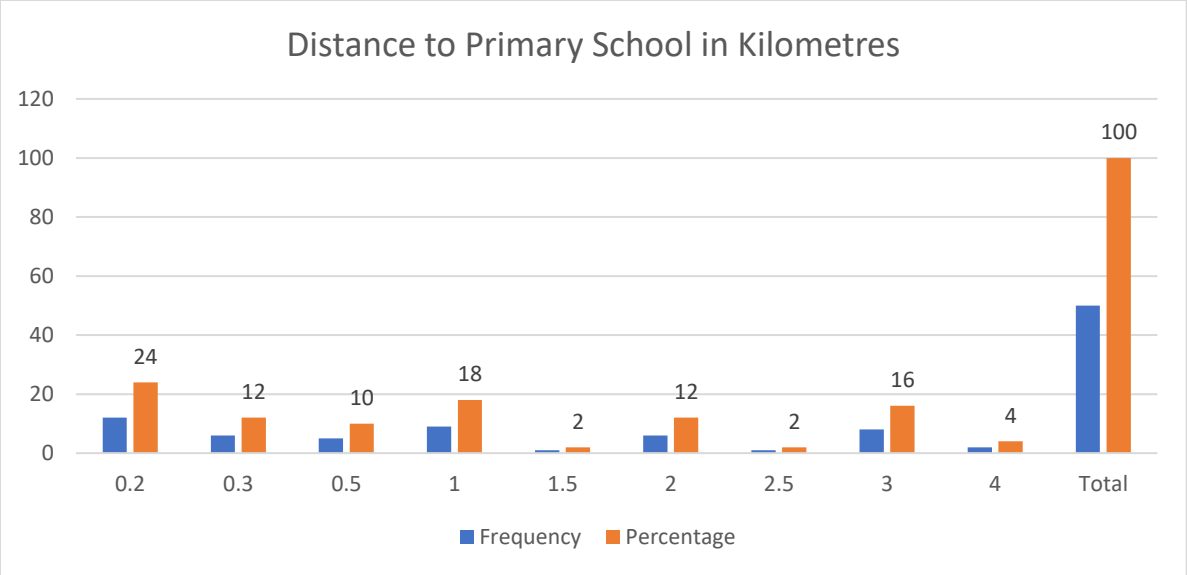



***Figure 4-35: Distance to Primary School in Kilometres***

### *4.8.26 Distance to Secondary School in Kilometres*

Secondary education proximity centres around 0.3km for 36% of households across Kibra and Lang'ata constituencies, with 24% at 1km, 12% each at 2km and 2.5km, and smaller percentages at other distances throughout the area. Figure 4-36 below, illustrates this variable distribution, which indicates reasonably accessible but unevenly distributed secondary education infrastructure. The housing project should ensure adequate secondary school provision through potential facility integration, established transport systems for distant schools, educational support programs promoting transition to secondary education, and partnerships with existing institutions to accommodate the increased student population resulting from the development implementation.

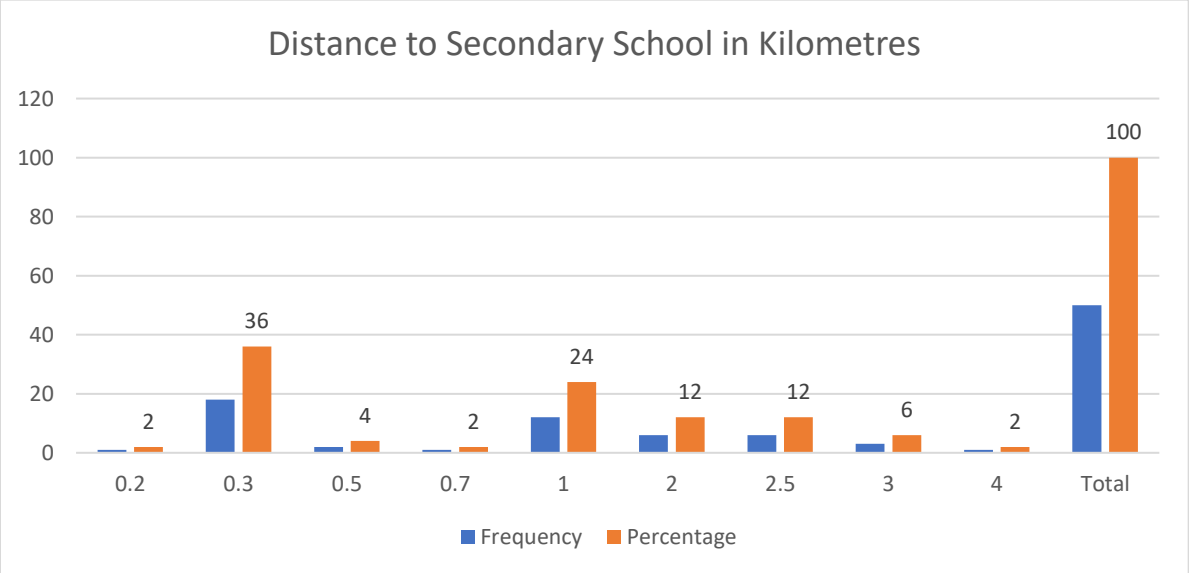


***Figure 4-36: Distance to Secondary School in Kilometres***

### *4.8.27 Distance to Health in Kilometres*

Health facility access shows clustering around 0.8km for 40% of Kibra and Lang'ata households, with 28% at 1km, 22% at 0.5km, and minimal percentages at greater distances throughout Otiende, Gatwekera, and Kisumu Ndogo villages, as shown in Figure 4-37 below, This relatively close proximity indicates functional healthcare distribution despite informal settlement challenges. The proposed social housing project should strengthen this accessibility through integrated primary healthcare facilities, established emergency response systems, health outreach programs, and potential specialised services addressing prevalent community health issues, while ensuring universal design enabling healthcare access for elderly and disabled residents throughout the development implementation.

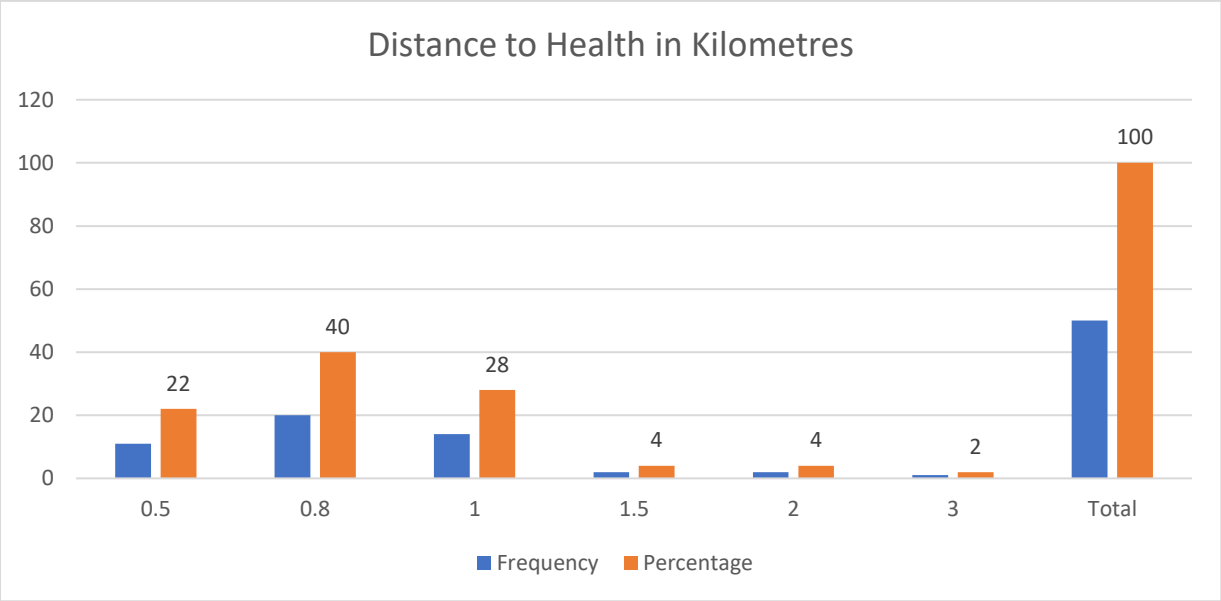



***Figure 4-37: Distance to Health in Kilometres***

### *4.8.28 Distance to Market/Shopping Centre in Kilometres*

Figure 4-38 below, demonstrates excellent commercial service proximity with 44% of households located 0.5km from markets or shopping centres, followed by 40% at just 0.2km, 12% at 1km, and only 4% at 2km across Otiende, Gatwekera, and Kisumu Ndogo villages. This exceptional market access facilitates convenient essential goods procurement throughout the area. The housing project must preserve and enhance this commercial accessibility through integrated market spaces, mixed-use development incorporating ground-floor retail, designated vendor areas supporting informal trade, and improved pedestrian connections to existing commercial zones, ensuring sustained economic activity throughout the development implementation.

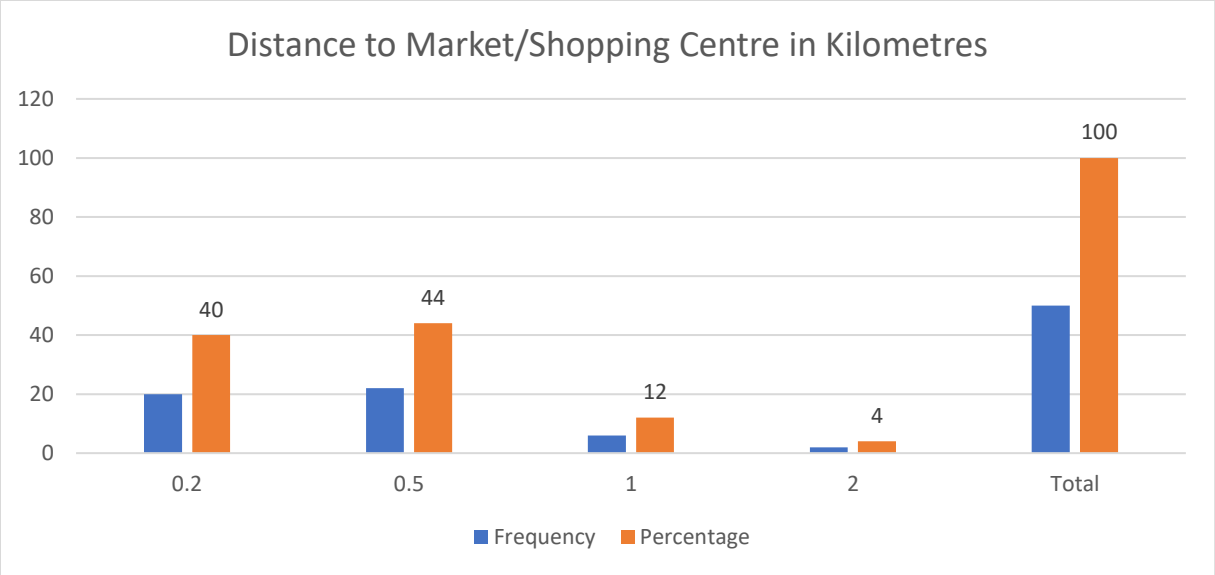



***Figure 4-38: Distance to Market/Shopping Centre in Kilometres***

### *4.8.29 Distance to Police Post/Station in Kilometres*

Security infrastructure shows balanced distribution with 44% of households located 1km from police facilities, followed by 40% at 0.8km, 14% at 0.5km, and 2% at 2.5km throughout Kibra and Lang'ata constituencies, as illustrated in Figure 4-39 below, This relatively consistent security presence provides foundational public safety despite informal settlement challenges. The project should strengthen this security framework through integrated police posts, community policing initiatives, security-conscious environmental design, including proper lighting and clear sightlines, and resident-based neighbourhood watch programs, ensuring comprehensive safety measures throughout the development implementation across all villages.

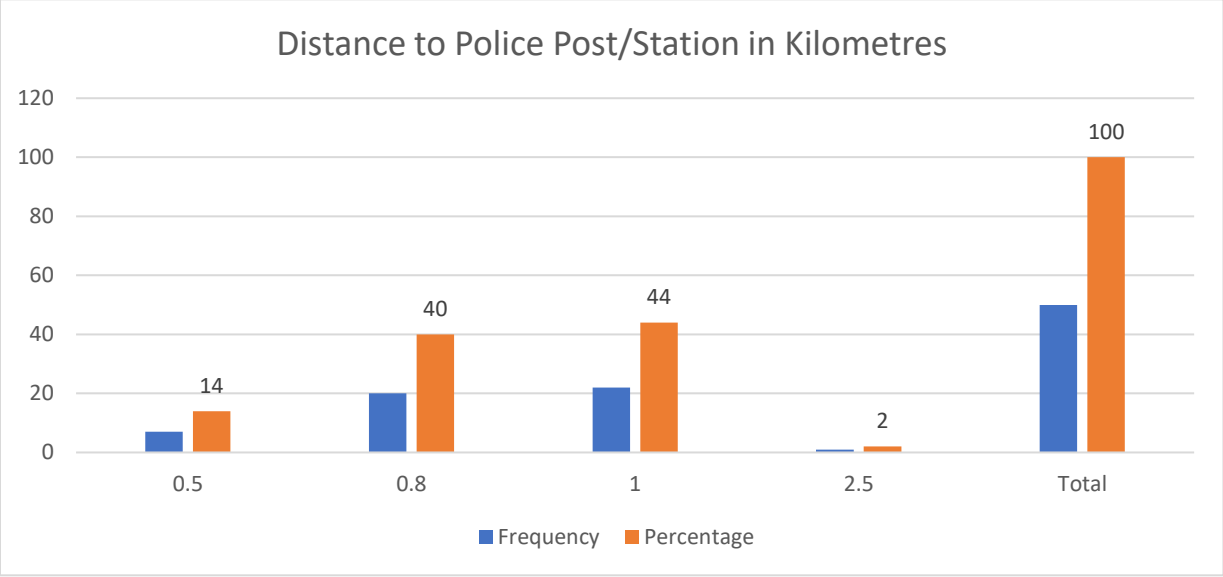


***Figure 4-39: Distance to Police Post/Station in Kilometres***

### *4.8.30 Distance to Water Point (if not piped) in Kilometres*

Water access for non-piped households shows 54% located 0.5km from water points across Kibra and Lang'ata settlements, with 20% at 0.25km, 18% at 0.3km, and 4% each at 0.2km and 0.4km. Figure 4-40 below, highlights this relatively close but inconvenient water access, which indicates infrastructure challenges affecting significant population segments. The housing project must prioritise universal in-house water connections, eliminating external water point dependence, while implementing community water management committees, establishing emergency supply protocols, and incorporating water conservation technologies, ensuring sustainable access throughout the development implementation.

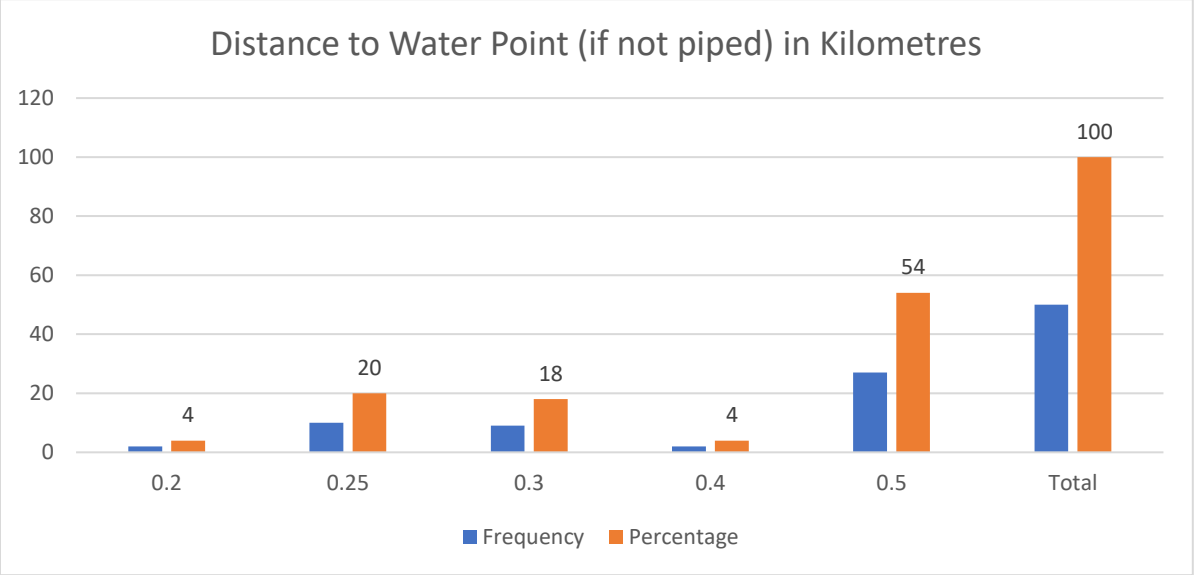



***Figure 4-40: Distance to Water Point (if not piped) in Kilometres***

### *4.8.31 Distance to Public Transport Stop/Stage in Kilometres*

Figure 4-41 below, reveals balanced transport accessibility distribution with 40% of households located 0.8km from public transport points, followed by 32% at 1km, 24% at 0.5km, and 4% at 0.25km throughout Kibra and Lang'ata constituencies. This reasonably accessible transport network enables resident mobility despite informal settlement infrastructure limitations. The proposed social housing project should enhance this connectivity through integrated transport hubs, improved access roads, dedicated pedestrian pathways to transport points, and potential shuttle services connecting with main transport corridors, ensuring comprehensive mobility options throughout the development implementation.

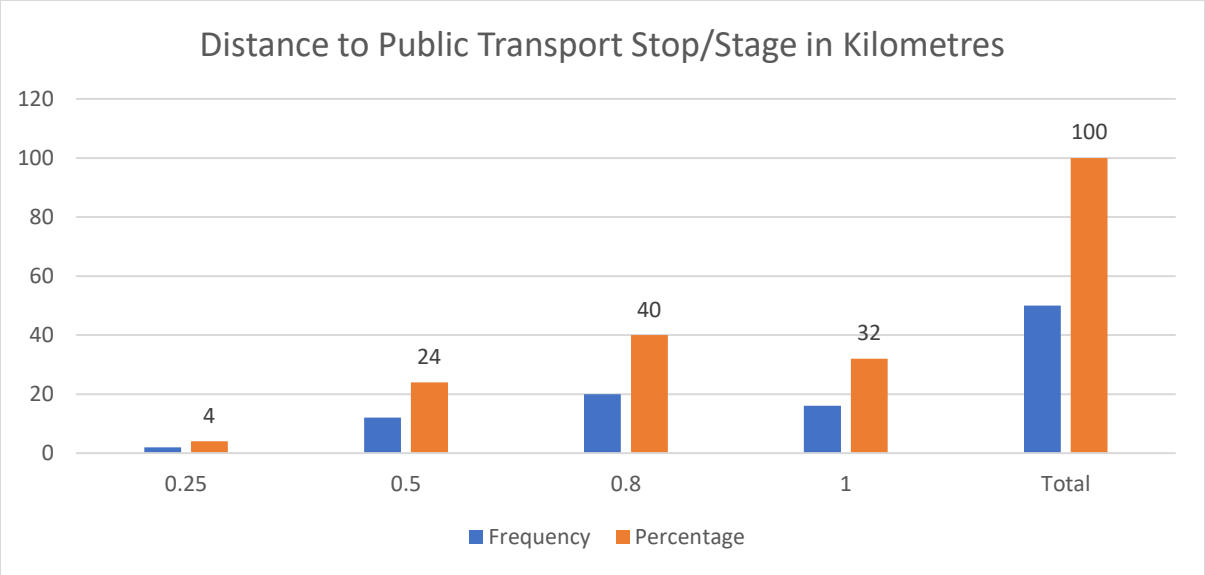



***Figure 4-41: Distance to Public Transport Stop/Stage in Kilometres***

### *4.8.32 Distance to Place of Worship in Kilometres*

Religious facility access as shown Figure 4-42 below, concentrates at 1km for 54% of Kibra and Lang'ata households, with 18% at 0.5km, 12% at 2km, and smaller percentages at various other distances throughout Otiende, Gatwekera, and Kisumu Ndogo villages. This balanced distribution reflects the community's spiritual infrastructure, accommodating diverse faith practices. The proposed social housing project should respect this religious access through multi-faith spaces within the development, improved pathways to existing worship places, and potential land allocation for additional religious facilities based on community needs, ensuring spiritual practice accommodation throughout the development while promoting interfaith harmony across all villages.

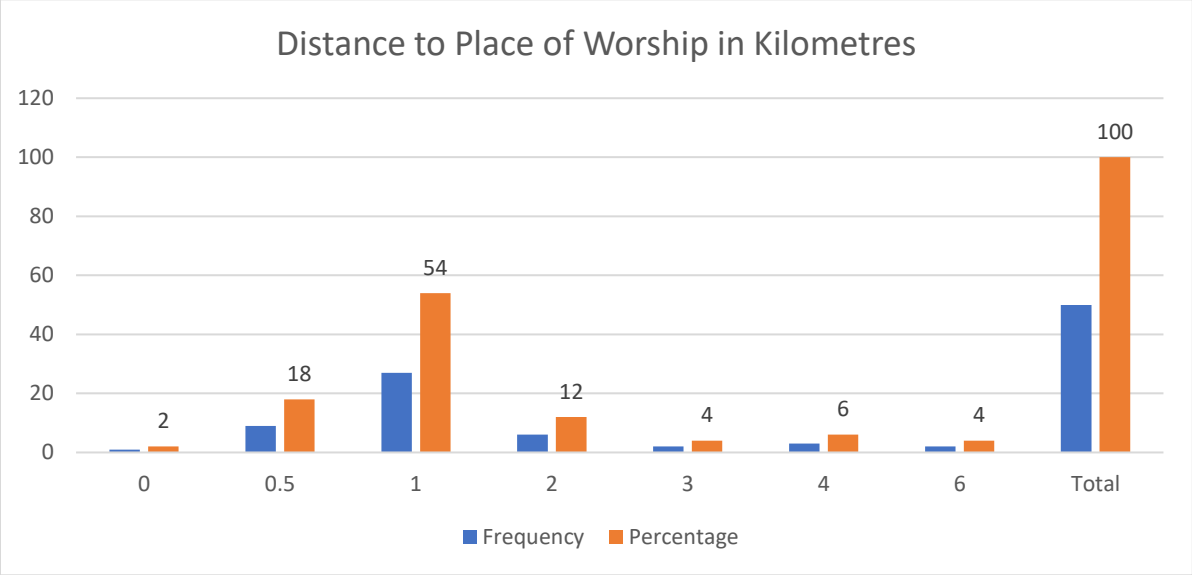


***Figure 4-42: Distance to Place of Worship in Kilometres***

### *4.8.33 Mode of Transport to Work*

Public transportation dominates commuting patterns with matatu/bus usage at 72% across Kibra and Lang'ata constituencies, while motorcycle (boda boda) services account for 22% and walking represents only 6% of work-related travel, as illustrated in Figure 4-43 below, This overwhelming dependence on motorised public transport indicates significant employment distances requiring efficient connectivity. The proposed social housing project must prioritise integration with existing transport networks through improved bus stops, dedicated motorcycle parking facilities, enhanced pedestrian connections to transport points, and potential employer shuttle services, ensuring residents maintain employment access throughout the development implementation.

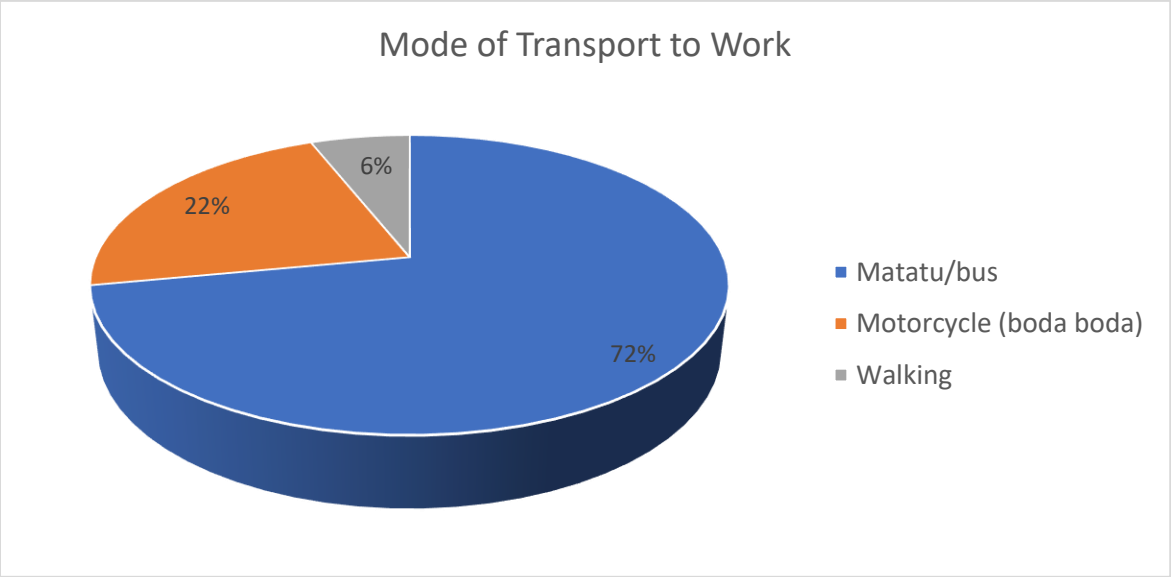



***Figure 4-43: Mode of Transport to Work***

### *4.8.34 Challenges Experienced While Accessing Services*

Educational service challenges predominate at 51.1% of households across Otiende, Gatwekera, and Kisumu Ndogo villages, with healthcare difficulties affecting 37.8%, water supply problems impacting 7.8%, and sanitation issues concerning 2.2%, while 1.1% report no service challenges. Figure 4-44 below, highlights this significant education and healthcare access burden, which indicates critical service gaps requiring targeted interventions. The proposed social housing project must integrate educational and healthcare facilities within the development, establish supportive infrastructure, including safe access routes and adequate service capacity, and implement community-based monitoring systems ensuring responsive service delivery throughout project implementation and beyond.

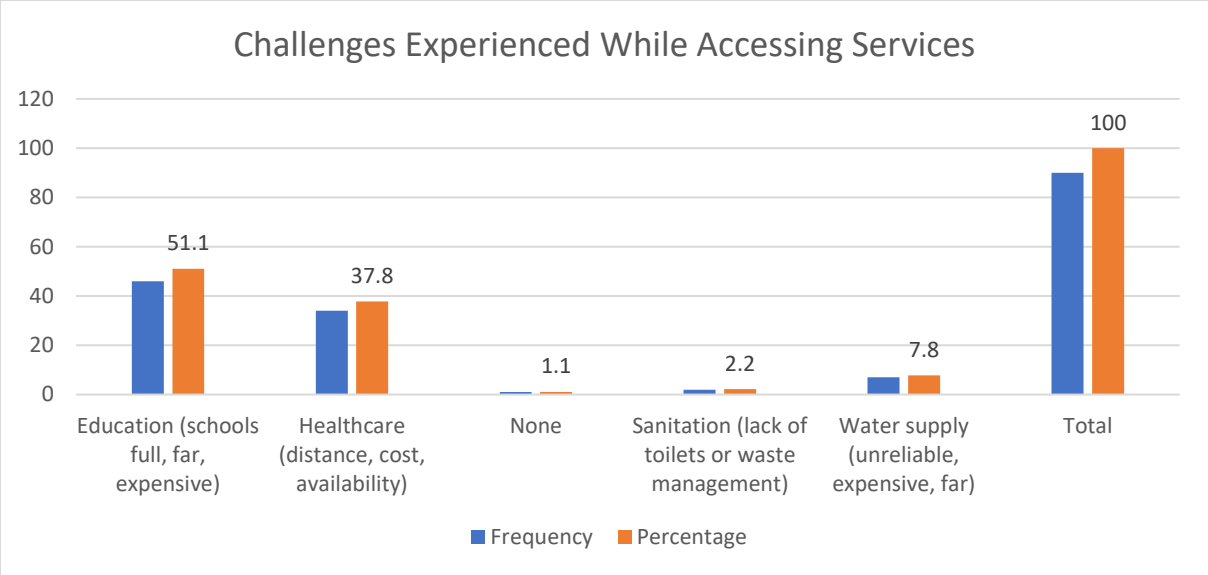



***Figure 4-44: Challenges Experienced While Accessing Services***

### *4.8.35 Services Lacking in the Area*

Figure 4-48 below, demonstrates that 60% of residents report no lacking services across Otiende, Gatwekera, and Kisumu Ndogo villages, while 40% identify specific service gaps throughout the area. This generally positive service perception indicates a relatively comprehensive infrastructure despite informal settlement challenges. The proposed social housing project should investigate the specific needs of residents reporting service deficiencies through targeted consultations, implementing responsive service enhancements addressing identified gaps, while preserving and strengthening the service elements generating widespread satisfaction to maintain community well-being throughout all phases of the development implementation.

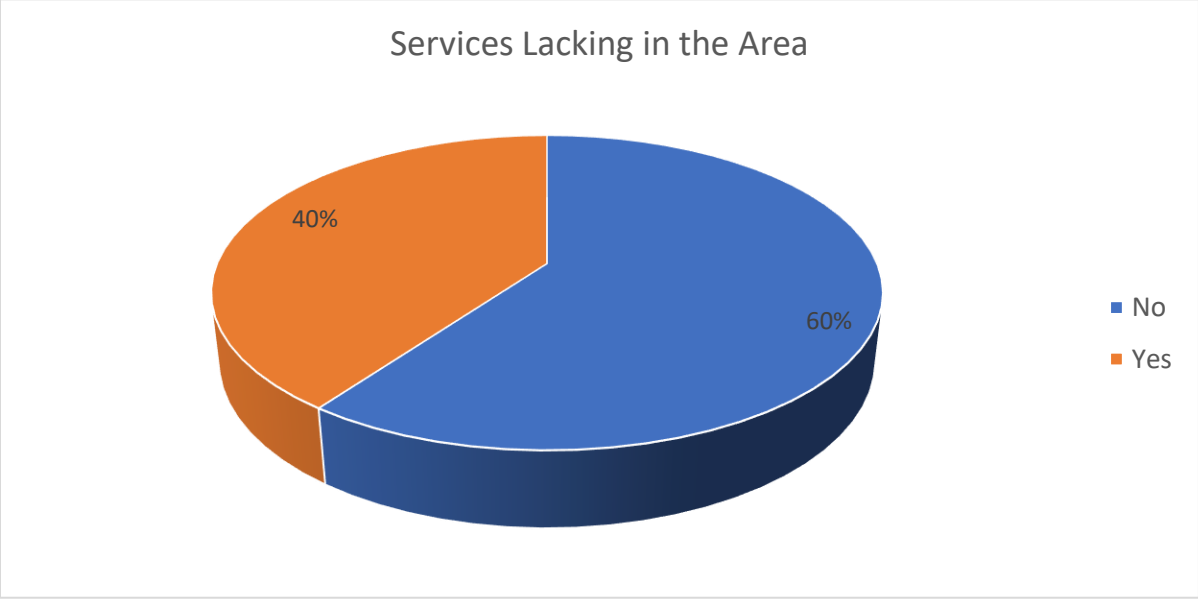


***Figure 4-48: Services Lacking in the Area***

### *4.8.36 Specific Lacking Services*

Affordable housing represents the most significant service gap at 28%, while sanitation infrastructure (6%), water supply (4%), and slum upgrading programs (2%) affect smaller proportions, with 60% reporting no lacking services as discussed before across Kibra and Lang'ata communities. As shown in Figure 4-49 below, this clear prioritisation of housing validates the social housing project's fundamental premise. The development must deliver genuinely affordable units meeting community economic realities, while integrating comprehensive sanitation systems, reliable water infrastructure, and holistic neighbourhood enhancement approaches addressing all identified service gaps throughout the villages during implementation.

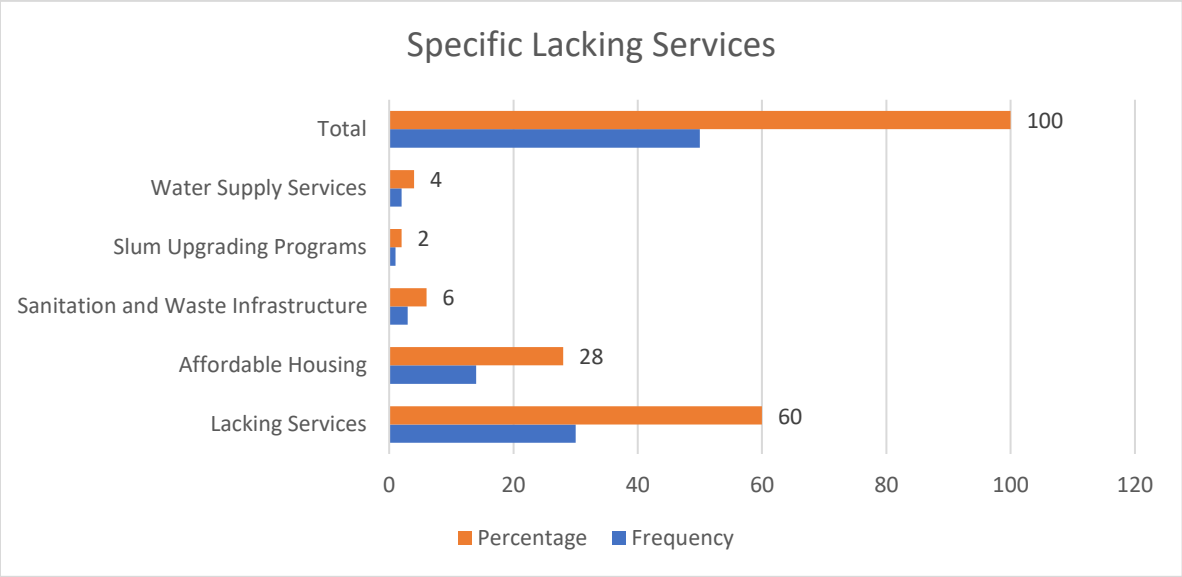



***Figure 4-49: Specific Lacking Services***

### *4.8.37 Awareness of Proposed Social Housing Project*

Exceptional project awareness at 94% throughout Kibra and Lang'ata constituencies is demonstrated in Figure 4-50 below, with only 6% unaware of the development plans. This remarkable community knowledge indicates highly effective information dissemination and engagement strategies reaching virtually all residents. The proposed social housing project benefits from this widespread awareness foundation, enabling meaningful participation and informed feedback. Maintaining this high awareness through continued communication channels, regular updates, and transparent engagement processes will ensure sustained community involvement throughout all project phases, while targeted outreach should address the small percentage remaining uninformed across all villages.

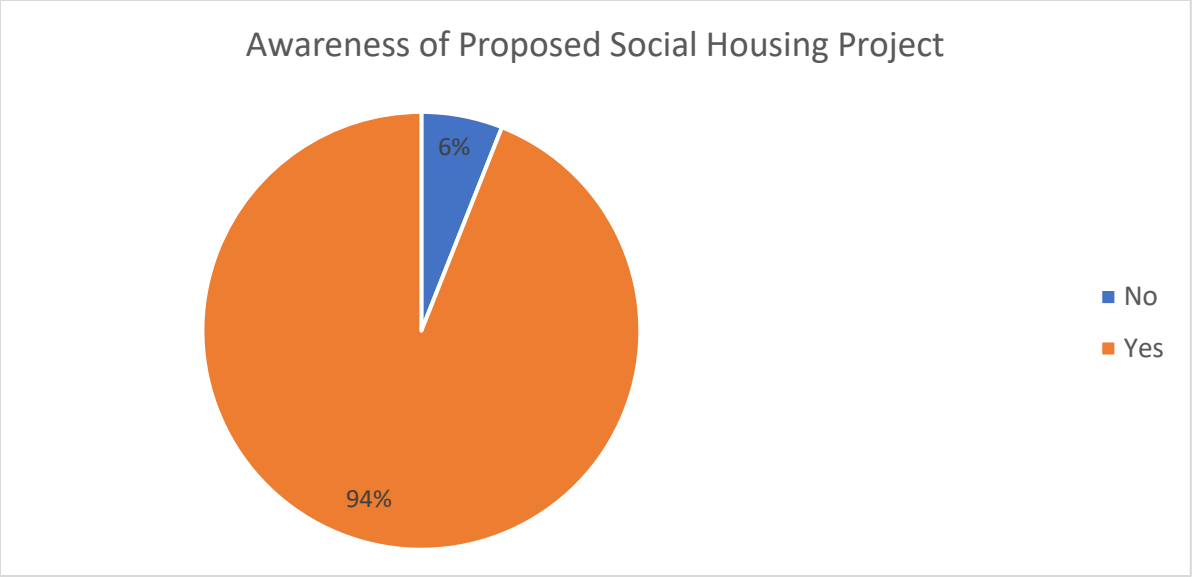



***Figure 4-50: Awareness of Proposed Social Housing Project***

### *4.8.38 Mode of Spreading Awareness of the Project*

Figure 4-51 below, shows that traditional media channels dominate information dissemination, with radio/TV reaching 50% of residents across Kibra and Lang'ata settlements, while chief's barazas and social media each informed 20%, with word-of-mouth and local leaders reaching 2% and 8% of the residents, respectively. This media-centric information landscape indicates effective mass communication strategies throughout the constituency. The proposed housing project should continue leveraging these established channels, particularly radio/TV broadcasts, while strengthening community meetings and social media engagement to ensure comprehensive information dissemination through residents' preferred communication methods, maintaining transparency, and addressing misinformation throughout all implementation phases.

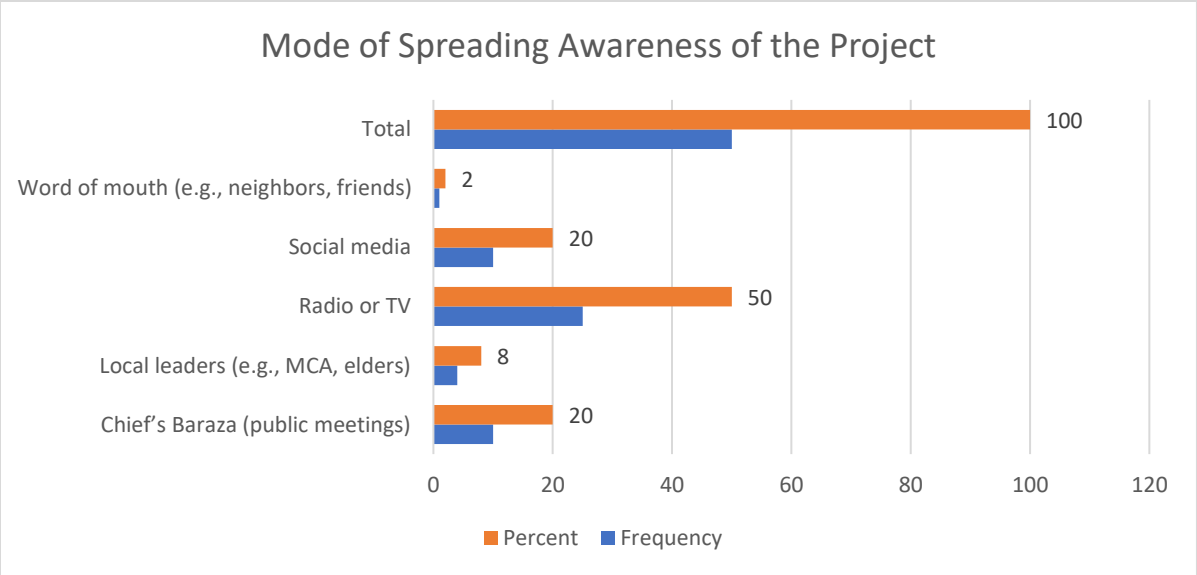


***Figure 4-51: Mode of Spreading Awareness of the Project***

### *4.8.39 Benefits Expected from the Project*

Improved housing affordability, as illustrated in Figure 4-52 below, leads community expectations at 36.2% across Otiende, Gatwekera, and Kisumu Ndogo villages, followed by employment opportunities (23.8%), youth/women empowerment and economic stimulus (18.1% each), with transport, health, and water improvements each at approximately 1%. These prioritised expectations align with fundamental project objectives while highlighting the critical importance of employment alongside housing. The proposed social housing development must deliver on these core expectations through genuinely affordable units, integrated employment generation, targeted empowerment programs, and local economic stimulation, while incorporating the infrastructure improvements mentioned by smaller respondent segments throughout implementation.

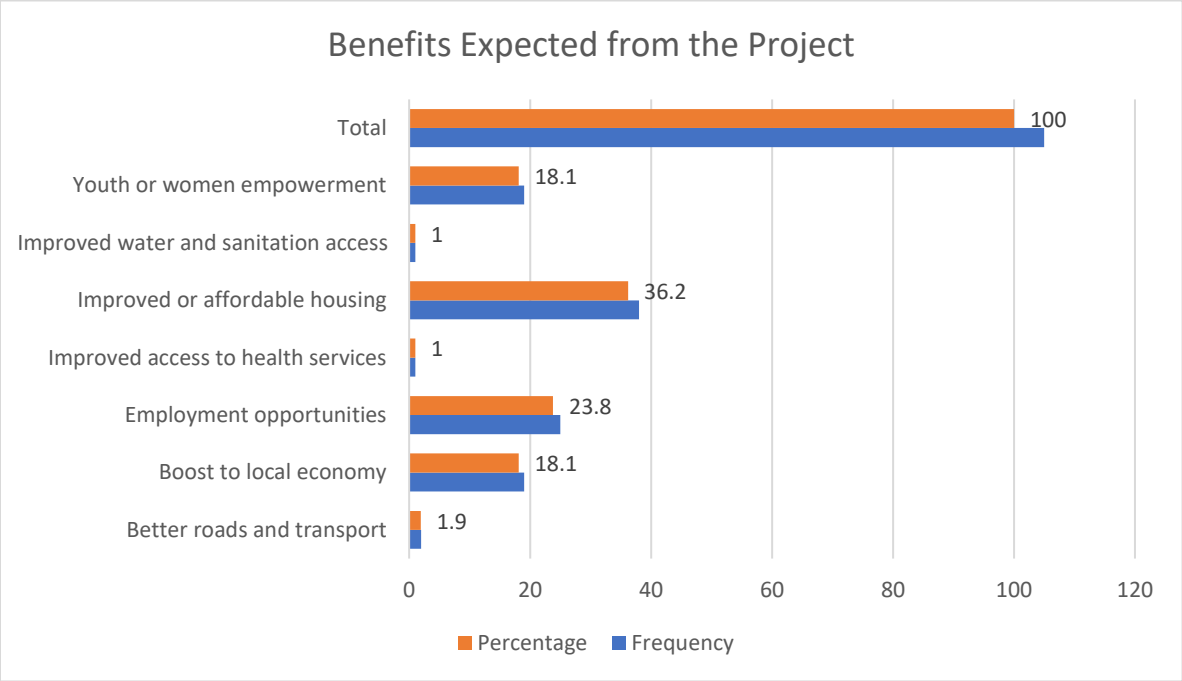



***Figure 4-52: Benefits Expected from the Project***

### *4.8.40 Concerns or Risks About the Project*

Livelihood disruption emerges as the primary community concern at 43.8%, followed by increased living costs (29.7%), physical displacement (25%), and infrastructure pressure (1.6%) across Kibra and Lang'ata constituencies. Figure 4-53 below, highlights these economic and displacement anxieties, which reveal significant community vulnerabilities requiring careful management. The social housing project must implement comprehensive livelihood protection measures, including business relocation assistance, employment prioritisation for affected residents, and subsidised housing options preventing cost escalation, while establishing transparent relocation procedures, phased implementation, minimising disruption, and infrastructure upgrades accommodating increased population density throughout all villages affected by development.

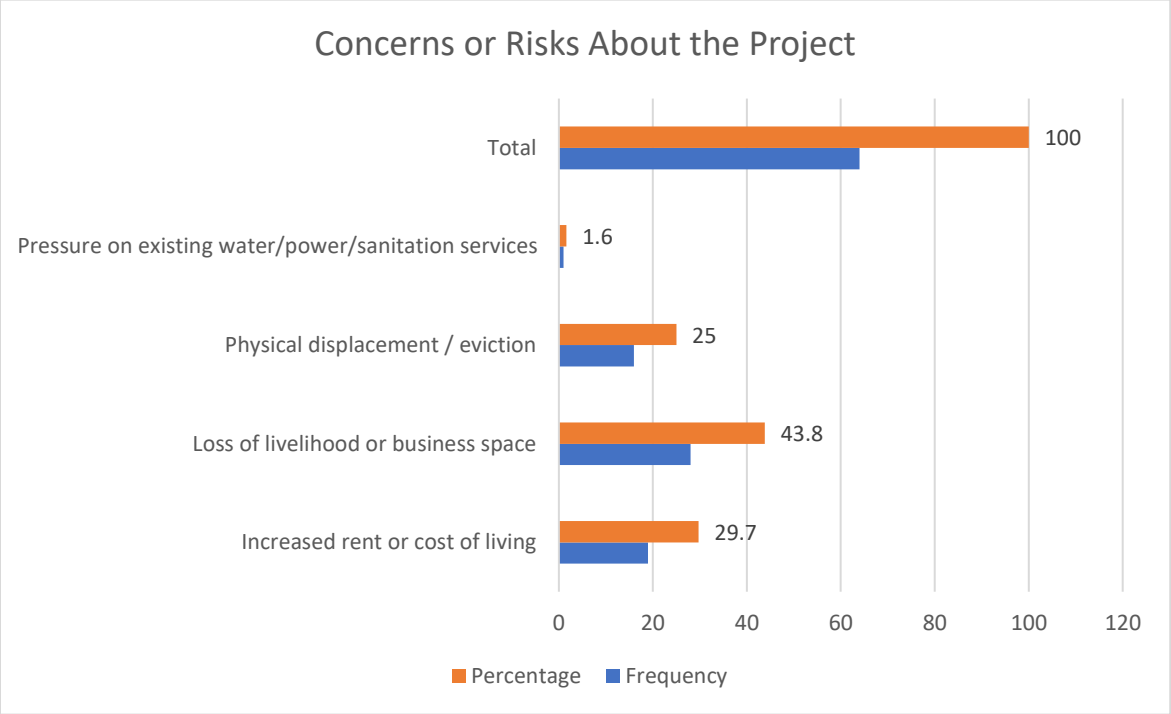



***Figure 4-53: Concerns or Risks About the Project***

### *4.8.41 Environmental Improvements That Should be Supported by the Housing Project*

Drainage improvement represents the leading environmental priority at 31.5% across Kibra and Lang'ata settlements, followed by clean water access (25%), sanitation enhancement (22.8%), green space development (10.9%), and waste management systems (9.8%) as demonstrated in Figure 4-54 below, This prioritisation reflects both infrastructure deficiencies and quality-of-life aspirations throughout the constituencies. The proposed social housing project must integrate comprehensive drainage solutions, preventing flooding, universal clean water access, improved sanitation facilities, strategically placed green spaces, and efficient waste management systems, implementing these environmental enhancements through community-led design processes, ensuring contextually appropriate solutions throughout all villages within the development area.

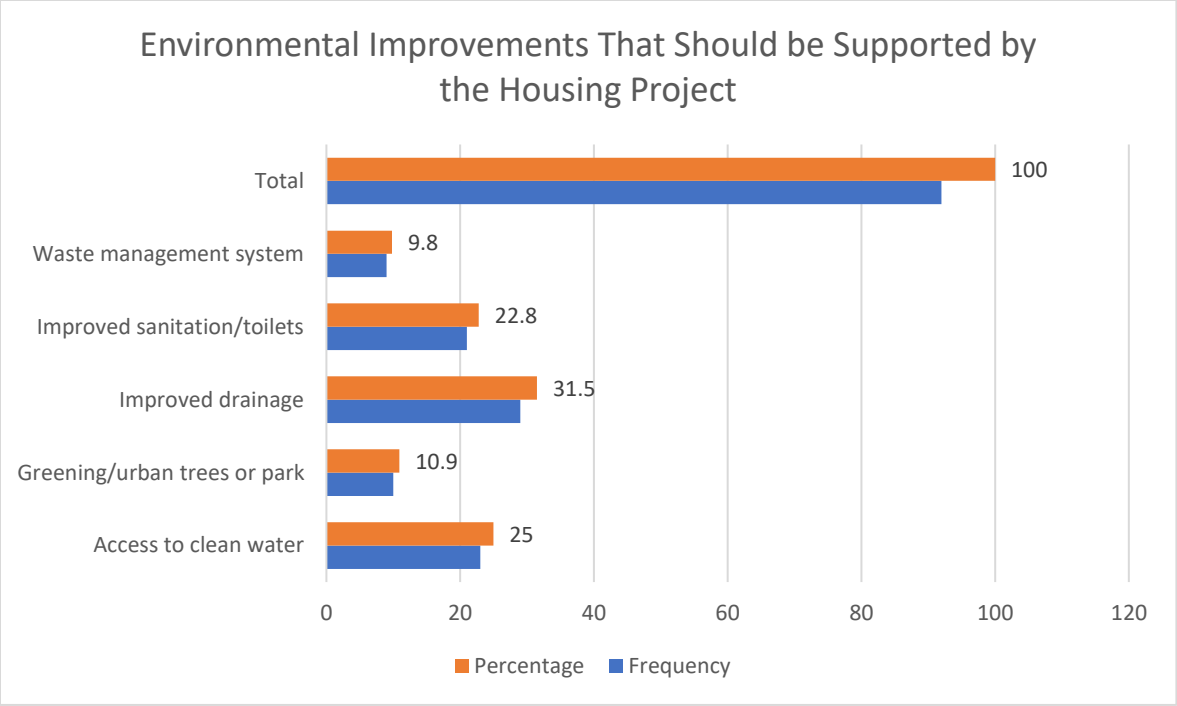



***Figure 4-54: Environmental Improvements That Should be Supported by the Housing Project***

### *4.8.42 Environmental Problems Anticipated from the Construction of the Housing Project*

Figure 4-55 below, shows that dust and air pollution represent the primary environmental concern at 35.9% across Kibra and Lang'ata communities, followed by construction waste accumulation (28.2%), noise disturbances (25.6%), and increased traffic (10.3%). These anticipated construction impacts reflect legitimate community anxieties regarding temporary quality-of-life disruptions. The proposed social housing project must implement comprehensive environmental management plans, including dust suppression techniques, waste recycling protocols, noise reduction measures, and traffic management systems, while establishing community monitoring committees, transparent grievance mechanisms, and regular impact assessments, ensuring minimal environmental disruption throughout all construction phases across affected villages.

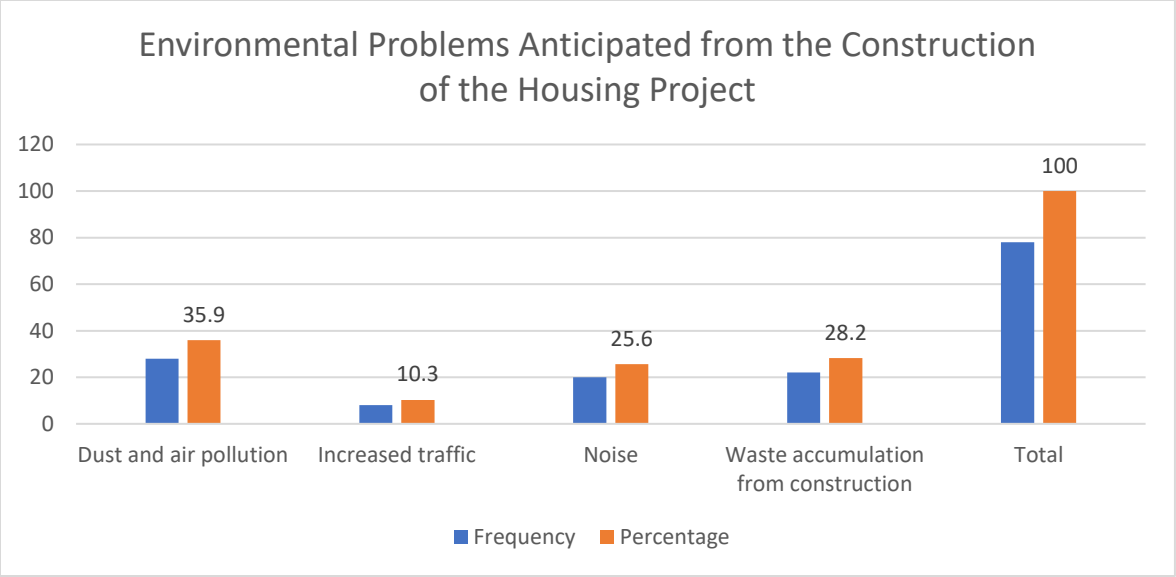



***Figure 4-55: Environmental Problems Anticipated from the Construction of the Housing Project***

# 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 of 29 May 2026, which quashed the earlier EIA licence for the wider Southlands (Kibra Lots) development and directed a fresh, fully compliant ESIA process, a comprehensive and inclusive stakeholder engagement programme was undertaken for the proposed Kibra Lot 1 project (as part of the coordinated engagement for Lots 1–5).

This chapter documents the objectives, stakeholder identification and analysis, methodology, programme of meetings, notices and publicity, and the key outcomes of the engagement process. The issues raised have been analysed and, where feasible, incorporated into the project design, impact assessment and Environmental and Social Management Plan (ESMP).

## 5.2 Objectives of Public Participation

The objectives of the public participation process for Kibra Lot 1 were to:

a) Inform Project Affected Persons (PAPs), neighbouring communities and other stakeholders about the proposed development, its potential environmental and social impacts, and the ESIA process.

b) Provide accessible and inclusive platforms for stakeholders to raise concerns, ask questions and submit written comments.

c) Ensure that vulnerable and marginalised groups (including persons with disabilities, women, youth, the elderly and informal settlers) are able to participate effectively.

d) Gather local knowledge on baseline conditions, sensitive receptors and existing challenges that may not be fully captured through desk review or field surveys alone.

e) Analyse public comments and incorporate them into the ESIA Study Report, the project design where feasible, and the 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 under Articles 10 and 47.

h) Build trust and social licence for the project by demonstrating that the process is not a formality but a genuine opportunity for dialogue and influence on project outcomes.

## 5.3 Stakeholder Identification and Analysis

Stakeholder identification was undertaken through a combination of desk review of the project site context, field reconnaissance, consultation with the local administration (County Commissioner, Deputy County Commissioner, Assistant County Commissioner, Chief and

Assistant Chief of Mugumo-ini Location), review of the court judgment of 29 May 2026, and analysis of the receptors identified in the project description for Lot 1.

The main stakeholder categories relevant to Lot 1 are:

**Primary Stakeholders (directly affected)**

- Project Affected Persons (PAPs) – including residents of the temporary informal settlements currently on the site (residential structures, schools, churches and micro-enterprises/retail activities such as kiosks, vegetable stands and grocery shops), and persons whose livelihoods depend on the site.
- Neighbouring residential communities – particularly residents of Langata View Corner Apartments (eastern neighbour) and other residential apartments and estates in the immediate vicinity.
- Persons with Disabilities (PWDs) living in or near the project area.
- 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 and Lighting Company (KPLC).
- Business community representatives operating in the vicinity.
- Faith-based organisations and institutions (churches and related facilities currently on or near the site).
- Educational institutions (including schools that may benefit from CSR initiatives).

**Tertiary / Institutional Stakeholders**

- National Environment Management Authority (NEMA).
- 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 (particularly those in the temporary informal settlements on Lot 1) and neighbouring residents of Langata View Corner Apartments and surrounding estates 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 to take minutes, photographs and attendance lists at the start of each meeting).
- 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 for the wider Southlands project engagement covering Lots 1–5) under the facilitation of the local Chief and Assistant Chief, with the presence of the ESIA consultant, Contractor's engineer, and State Department for Housing representative.

### 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). The programme covered all five lots, including Lot 1, ensuring that site-specific concerns (such as the temporary informal settlements on Lot 1 and the proximity of Langata View Corner Apartments) were captured.

### 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 and assessment.

### 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. It was facilitated by the Assistant Chief and Chief, with presentations by the ESIA consultant and the contractor's 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. Concerns were also raised about process integrity and proximity of the development. Consent was obtained for minutes, photographs and attendance recording.



***Plate 5-1: Area Chief engaging the PWDs***

### *5.7.2 Residential Associations Officials Meeting – 1 August 2026*

The meeting was held at Lot 3 from 11:35 am to 2:00 pm with 18 participants. It was facilitated by the Assistant County Commissioner, who clarified the project naming (Southlands rather than Kibra) and the context of the court ruling of 29 May 2026. The ESIA consultant and site engineer presented the project design, height constraints (KCAA maximum of 29 m / G+8), and the fresh ESIA process.

A formal written memorandum was presented by the Residential Associations opposing the project on grounds of pressure on water and sewerage infrastructure, traffic congestion, dust and noise from previous works, lack of prior access to the ESIA report, and process concerns. Additional issues raised included privacy (particularly for residents of neighbouring apartments such as Langata View Corner Apartments adjacent to Lot 1), property devaluation, sunlight/shadow effects, the need for green space/buffer zones, zoning compliance, and requests for feasibility studies and longer preparation time for meaningful participation. Consent for photographs was declined by the group.

### *5.7.3 Youth Meeting – 3 August 2026*

The meeting was held at Lot 3 from 11:30 am to 1:30 pm with 45 participants. Presentations covered project design and location maps for the lots (including Lot 1), unit access through *832# / eCitizen (Boma Yangu), employment prioritisation (target of approximately 90 % local labour), amenities (green spaces, play areas, commercial stalls), and the ESIA process.

Youth raised questions on floor height (requests for higher floors were constrained by the KCAA 29 m limit), employment opportunities and local prioritisation, recreation space, privacy and

sunlight impacts on neighbouring residences, beneficiary prioritisation (including written assurances), and the need for education on the Boma Yangu registration and application process. Consent was obtained for minutes, photographs and attendance recording.



***Plate 5-2: Youths meeting***

### *5.7.4 Women Meeting – 3 August 2026*

The 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 opportunities without discrimination, health and safety during construction, project timelines, and accessibility features for persons with disabilities.

Support mechanisms such as merry-go-rounds/chamas for deposit mobilisation and different payment modes (tenant purchase, mortgage, cash) were explained. The project team confirmed that the development is open to all eligible Kenyans and that special consideration would be given to vulnerable groups in allocation and support processes. Consent was obtained for minutes, photographs and attendance recording.



***Plate 5-3: Assistant Chief engaging the women***

### *5.7.5 Business Community Meeting – 4 August 2026*

The meeting was 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 within the development), prioritisation of displaced or nearby traders (including those operating micro-enterprises on Lot 1), registration and management of commercial spaces, and avoidance of congestion outside the site gates.

The project team indicated that commercial spaces would be managed through a management committee once the estate is operational and that further registration meetings would be organised. Health and safety requirements for food vendors and the Grievance Redress Mechanism were also explained. Consent was obtained for minutes, photographs and attendance recording.



***Plate 5-4: ESIA consultant engaging the business representatives***

### *5.7.6 Public Baraza (Community Members) – 5 August 2026*

The open community baraza was held at Lot 3 from 11:16 am to 1:50 pm with 107 participants. This meeting allowed broader community input on the overall Southlands development, including Lot 1. Key concerns included employment processes and local prioritisation (target 90 % local labour coordinated through the Chief), formation of community representatives/committee, facilitation for demolition of affected structures and businesses (including temporary informal settlements, churches, schools and micro-enterprises on Lot 1), transparency and accountability, clarification of social versus affordable housing categories and deposit requirements, and the need for continuous communication.

Representatives of PAPs (including farmers/urban cultivators, garage operators, churches, mosques and informal settlement residents) were identified for follow-up. The Grievance Redress Mechanism was presented and explained. Consent was obtained for minutes, photographs and attendance recording.



***Plate 5-5: Area Chief addressing the community***



***Plate 5-6: Community Baraza meeting***

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

The meeting was held at Lot 3 from 12:20 pm to 2:20 pm with 32 participants. This session focused on directly affected persons, including owners/operators of structures on or adjacent

to the lots (churches, schools, micro-enterprises and temporary residential structures on Lot 1), neighbouring residents (including those near Langata View Corner Apartments), and other livelihood operators.

Dominant issues were the need for infrastructure (water, sewer, stormwater drainage, roads and power-line relocation) to be addressed before or in parallel with construction, buffer zones and height considerations, facilitation processes for demolition and relocation, formation of representative structures, privacy impacts on neighbouring apartments, prioritisation of CSR initiatives for Lang'ata institutions, and the need for clear, early and continuous communication. The Grievance Redress Mechanism was presented in detail and notices were distributed through the Chief. Consent was obtained for minutes, photographs and attendance recording.



***Plate 5-7: Ongoing PAPs meeting***

### *5.7.8 Institutions Meeting – 7 August 2026*

The institutional consultation was held at Lot 3 from 11:05 am to 1:50 pm with approximately 30 participants, including representatives from Nairobi City County Government (Planning and Engineering), Kenya Civil Aviation Authority (KCAA), Kenya Airports Authority (Wilson Airport), Kenya National Highways Authority (KeNHA), Kenya Power and Lighting Company (KPLC), Water Resources Authority (WRA), Nairobi City Water and Sewerage Company (NCWSC), and local administration.

The ESIA consultant and site engineer presented the project design, height constraints, and key community concerns raised in earlier meetings. Institutional representatives provided guidance on zoning and development control, aviation safety and Obstacle Limitation Surfaces (confirming the 29 m height limit), access and road-reserve requirements, power-line

relocation, borehole permitting and water resources protection, sewer and stormwater capacity, and the need for a Traffic Impact Assessment. The multi-agency nature of the approval process was emphasised. Consent was obtained for minutes, photographs and attendance recording.



***Plate 5-8: Representative from KCAA making his contribution to the meeting***



***Plate 5-9: Representative from KPLC***

### 5.8 Issues and Concerns Raised

Across the full programme of stakeholder engagement (31 July – 7 August 2026), the following categories of issues and concerns were consistently raised by participants:

**Infrastructure and Services**

- Existing water scarcity, rationing, low pressure and illegal connections.
- Inadequate or overloaded sewerage systems, overflows and blocked drains.
- Stormwater drainage deficiencies and localised flooding/water-logging.
- Pressure on the Southern Bypass, Langata Link Road and local access roads; traffic congestion and safety.
- Existing electricity lines requiring relocation and concerns about power reliability.
- Capacity of education, health and security services to absorb additional population.

**Displacement and Livelihoods**

- Clearance of temporary informal settlements (residential structures, schools, churches and micro-enterprises) currently occupying Lot 1.
- Facilitation, valuation, notice periods and livelihood restoration for Project Affected Persons.
- Displacement of businesses (kiosks, vegetable stands, grocery shops, garages) and the need for prioritisation in commercial stalls or alternative support.

**Design, Height, Privacy and Amenity**

- Building height (G+8 / 29 m) and associated impacts on privacy, sunlight, overshadowing and property values of neighbouring residences, particularly Langata View Corner Apartments.
- Requests for greater setbacks, buffer zones or alternative layouts that retain more open/green space.
- Visual intrusion and loss of existing green/open space.
- Noise, dust, vibration and light pollution during construction (including previous night-time works).

**Process, Transparency and Governance**

- Adequacy and timing of public participation following the court ruling.
- Requests for advance access to drawings, feasibility studies and the full ESIA report.
- Formation of community representatives or a committee to interface with the proponent.

- Naming of the project ("Kibra" versus "Southlands/Lang'ata").
- Transparency in employment, allocation of houses and CSR implementation.
- Accountability mechanisms and the Grievance Redress Mechanism.

**Affordability, Access and Inclusion**

- Deposit requirements and payment modalities, especially for widows, persons with disabilities and low-income households.
- Accessibility features for persons with disabilities (ramps, lifts, ground/first-floor preference).
- Prioritisation of local residents (including Southlands and neighbouring estates) in allocation and employment.
- Clarification of social housing versus affordable housing categories and eligibility.

**Other**

- CSR prioritisation for Lang'ata institutions (schools, health facilities) rather than distant locations.
- Aviation safety and bird-attraction risks associated with Wilson Airport.
- Solid-waste management during and after construction.

### 5.9 Lot 1-Specific Concerns

In addition to the project-wide issues, the following concerns were raised specifically or with particular emphasis in relation to Lot 1:

- Presence of temporary informal settlements containing residential structures, schools, churches and micro-enterprises (kiosks, vegetable stands, grocery shops) that will require complete clearance.
- Proximity of Langata View Corner Apartments on the eastern boundary and the associated risks of privacy loss, sunlight obstruction, noise, dust and visual intrusion.
- Existing electricity distribution line that crosses the Lot 1 site and must be rerouted before or during early construction.
- Relatively closer proximity of River Motoine (approximately 300 m) compared with some other lots, raising concerns about sediment runoff, stormwater discharge and downstream water quality.
- Access arrangements from the local road network connecting to Langata Link Road and the Southern Bypass, including pedestrian safety and construction traffic routing.
- Requests that any green space or buffer retained on Lot 1 be oriented to protect the interface with Langata View Corner Apartments and to provide residual amenity for both new residents and neighbours.

### 5.10 Responses from the Proponent / Consultant

The project team (ESIA consultant, site engineer and State Department for Housing representative) provided the following responses during the meetings and has incorporated them into this ESIA and the project design where feasible:

- **Infrastructure**: Boreholes with underground and overhead storage will supplement NCWSC supply (subject to WRA permitting and hydrogeological confirmation). Stormwater and foul drainage systems form part of the civil works. Power-line relocation is being coordinated with KPLC. A Traffic Impact Assessment has been commissioned and access design will be refined with KeNHA. Broader sewer and water network improvements are linked to ongoing Nairobi Rivers regeneration and Athi Water / NCWSC programmes.
- **Displacement**: All structures and livelihoods on Lot 1 will be documented, valued and facilitated in accordance with applicable regulations before clearance. Notice periods and relocation support will be provided. Commercial stalls within the development will prioritise eligible local traders where feasible.
- **Height and design**: The G+8 configuration is the maximum permitted by KCAA (29 m) following aeronautical study. Setbacks, landscaping and green spaces will be maximised within the site constraints. Alternative layout options (including greater buffers toward Langata View Corner Apartments) have been examined in the alternatives analysis.
- **Employment**: Target of approximately 90 % local labour, coordinated through the area Chief. Women, youth and persons with disabilities will be prioritised for suitable opportunities.
- **Affordability and inclusion**: Access is through the national Boma Yangu system (*832# / eCitizen). Deposit is 5 % of unit cost; multiple payment modes exist. Accessibility features (ramps, lifts, preferential lower floors) are incorporated. Support mechanisms (e.g., merry-go-rounds/chamas) were explained for deposit mobilisation.
- **Process and transparency**: The current process is a fresh ESIA following the court ruling. All comments are recorded and analysed. A functional Grievance Redress Mechanism with multiple channels (Chief's office, project contacts, written submissions) has been established and publicised.
- **CSR**: Commitments prioritise Lang'ata institutions (including local primary schools). Details will be confirmed with the respective contractors.
- **Naming**: The development is located in Southlands, Mugumo-ini Ward, Lang'ata Constituency. "Kibra Lot" is an administrative designation only.

### 5.11 Issues Not Accepted and Reasons

Certain requests raised during engagement could not be accepted for the following technical, legal or policy reasons:

| Issue Raised | Reason Not Accepted |
|---|---|

| | |
|---|---|
| Increase of building height beyond G+8 / 29 m | Constrained by Kenya Civil Aviation Authority Obstacle Limitation Surfaces and aeronautical study for the Wilson Airport flight path. |
| Reduction to G+3 or single-unit low-density development | Inconsistent with the strategic national project status, Affordable Housing Programme objectives, and the approved high-density residential zoning. Land efficiency and unit delivery targets would not be met. |
| Complete relocation of the project away from Southlands / Lot 1 | The site forms part of the identified public land parcels for the Southlands (Kibra Lots) programme. Alternative sites were examined at programme level; the current parcels remain the designated locations. |
| Formation of a formal community management committee before construction completion | Affordable Housing regulations provide for estate management structures after handover and occupation. Pre-construction liaison will continue through local administration and identified PAP representatives. |
| Guaranteed allocation of units exclusively to current Southlands / Lot 1 residents | Allocation is governed by the national Affordable Housing Board criteria and is open to all eligible Kenyans. Local residents are encouraged to register and will be considered on merit; exclusive reservation is not provided for under the Act. |
| Indefinite postponement of works until all surrounding infrastructure is fully upgraded by third parties | The project includes on-site infrastructure (boreholes, drainage, power house, internal roads). Off-site upgrades are the responsibility of the respective agencies and are being coordinated, but cannot be made a pre-condition that indefinitely delays a strategic national project. |

All other substantive issues have been accepted in principle and are addressed through design modifications, mitigation measures, monitoring or ongoing institutional coordination.

### *5.12 Stakeholder Engagement Matrix*

| Stakeholder Category | Key Interests / Concerns | Engagement Method | Timing | Outcome / Follow-up |
|---|---|---|---|---|
| Project Affected Persons (temporary informal settlers, schools, churches, micro-enterprises on Lot 1) | Displacement, facilitation, livelihood restoration, notice periods | Dedicated PAPs meeting; individual documentation | 6 Aug 2026 & ongoing | Valuation and facilitation process initiated; GRM activated |
| Langata View Corner Apartments & neighbouring residents | Privacy, sunlight, noise, dust, visual impact, property values | Residential Associations meeting; Community Baraza | 1 & 5 Aug 2026 | Design setbacks & landscaping reinforced; issues carried into impact assessment |
| Persons with Disabilities | Accessibility, ground/first-floor preference, employment | Dedicated PWDs meeting | 31 July 2026 | Ramps, lifts and preferential floors confirmed in design |
| Women & vulnerable groups | Affordability, deposits, employment without discrimination | Women meeting | 3 Aug 2026 | Payment modalities & support mechanisms explained; inclusion measures in ESMP |
| Youth | Employment (90 % local), recreation, registration process | Youth meeting | 3 Aug 2026 | Local labour target & Boma Yangu education sessions planned |
| Business community | Commercial stalls, prioritisation of local/displaced traders | Business meeting | 4 Aug 2026 | Commercial space management & further registration meetings committed |
| Local administration (Chief, ACC, DCC) | Coordination, public order, authentication of participation | All meetings | Throughout | Meetings authenticated; GRM channel through Chief's office |
| Lead agencies (KCAA, KAA, KeNHA, WRA, NCWSC, KPLC, Nairobi City County) | Technical clearances, infrastructure capacity, aviation safety | Institutions meeting | 7 Aug 2026 | Technical guidance received; ongoing coordination for permits |
| Wider community | Employment, transparency, infrastructure, CSR | Public Baraza | 5 Aug 2026 | Issues recorded; representatives identified for follow-up |

### 5.13 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. Area Chief:

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 publicized before any works resume.

# CHAPTER SIX: ANALYSIS OF PROJECT ALTERNATIVES

## 6.1 Introduction

This chapter examines the alternatives considered for the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 1. The analysis evaluates the No-Project Alternative, alternative sites, alternative designs, building heights, site layouts, access arrangements, water supply, wastewater and stormwater management, and energy sources. The evaluation is informed by the project objectives, the outcomes of stakeholder engagement, technical and regulatory constraints (particularly KCAA height limits), and the need to balance housing delivery with environmental and social sustainability.

## 6.2 No-Project Alternative

Under the No-Project Alternative, the proposed development on Lot 1 would not proceed. The site would remain in its current state, characterised by temporary informal settlements (residential structures, schools, churches and micro-enterprises), limited vegetation, an existing electricity line crossing the parcel, and proximity to Langata View Corner Apartments and the wider Southlands residential area.

### Advantages

- Avoidance of all construction-phase impacts (dust, noise, vibration, traffic, vegetation clearance and temporary disruption).
- No increase in local population density or associated pressure on water, sewerage, drainage and traffic infrastructure.
- Retention of existing informal residential and livelihood uses currently on the site.
- No additional privacy, overlooking or visual impacts on neighbouring Langata View Corner Apartments and other nearby residences.

### Disadvantages

- Failure to contribute 1,386 housing units toward Kenya's affordable and social housing deficit, contrary to Article 43 of the Constitution, the Affordable Housing Act and Kenya Vision 2030.
- Continued under-utilisation of public land designated for housing development.
- Lost employment and local economic opportunities during construction and operation.
- No contribution to planned on-site infrastructure upgrades or CSR initiatives in Lang'ata.
- Persistence of informal settlement conditions with associated environmental, health and safety risks.
- 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 construction 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 the continued informal occupation 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 1 forms part of a strategically selected cluster of public land parcels along the Southern Bypass corridor that have been identified for the Southlands (Kibra Lots) housing programme.

**Key considerations**

- Availability of alternative public land of comparable size (approximately 8.4 acres) with secure tenure and suitability for multi-storey housing is limited within the immediate area.
- Any new site would still require a full ESIA, lead-agency clearances (including KCAA if within the Wilson Airport flight path), and public participation, without guaranteeing lower environmental or social impacts.
- Relocation would displace the current programme sequencing and delay delivery of the 1,386 units planned for this parcel.

**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 optimisation and mitigation measures.

### 6.4 Alternative Project Designs

Alternative design approaches examined include:

- Lower-density walk-up housing or maisonettes;
- Mixed-use development with a higher commercial component;
- Phased development of fewer blocks; and
- Higher or lower proportions of social versus affordable units.

Lower-density designs would significantly reduce the number of units achievable on 8.4 acres (currently planned at approximately 165 units per acre), 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 (one-roomed, two-roomed, three-roomed, studio, two-bedroom and three-bedroom 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:

- **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.
- **Proposed G+8 (maximum 29 metres)** – Compliant with the KCAA clearance issued after multi-agency aeronautical study. Delivers the target 1,386 units.
- **Lower height (G+3 or similar)** – Requested by some neighbouring residents to better match surrounding character, reduce visual impact, privacy concerns and shadowing, particularly in relation to Langata View Corner Apartments.

**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).

### 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 and retains a substantial buffer/open-space corridor adjacent to neighbouring residential developments, especially Langata View Corner Apartments on the eastern side of Lot 1.

**Options considered**

- Uniform distribution of 14 blocks across the site (baseline concept);
- Concentrated layout with blocks clustered away from the eastern residential interface and a landscaped buffer zone of varying width along the boundary with Langata View Corner Apartments;
- 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 apartments;
- 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;
- Better management of the interface with the existing electricity line (to be rerouted) and the local road network.

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 eastern boundary with Langata View Corner Apartments, with the majority of blocks oriented to minimise direct overlooking 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 1 is served by the local road network that connects to Langata Link Road and the Southern Bypass (a controlled-access corridor under KeNHA). Alternative access options include:

- Primary access from the existing local road network with secondary emergency access;
- Combined primary and secondary access points designed to distribute traffic;
- Restricted construction-phase access routes to minimise disruption to neighbouring residences and Langata View Corner Apartments.

The preferred arrangement will prioritise safe, appropriately designed access that complies with KeNHA and county 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:

- Reliance solely on Nairobi City Water and Sewerage Company (NCWSC) supply;
- On-site borehole(s) with storage;
- Combination of municipal supply, borehole(s) and rainwater harvesting;
- 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 borehole(s), 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:

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

- Connection to the existing municipal sewer network;
- 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 of River Motoine (approximately 300 m from the site) and the need to manage site runoff, alternatives include:

- Conventional piped drainage discharging to existing systems;
- Sustainable Urban Drainage Systems (SUDS) incorporating retention/detention, swales, permeable paving and infiltration where soil conditions allow;
- 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 River Motoine 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:

- Conventional grid electricity only;
- Grid supply with backup diesel generator (baseline);
- 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 (following relocation of the existing electricity line that crosses the site) 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 1 is the proposed G+8 development of 14 blocks delivering 1,386 social and affordable housing units on approximately 8.4 acres, refined as follows:

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

b) **Layout**: Optimised site plan that incorporates a landscaped buffer/setback zone along the eastern interface with Langata View Corner Apartments, with blocks arranged to minimise direct overlooking and privacy impacts where feasible.

c) **Access**: Safe access arrangements from the local road network connecting to Langata Link Road and the Southern Bypass, with pedestrian facilities and a construction traffic management plan.

d) **Water**: Hybrid municipal + borehole(s) + 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 site runoff and protect downstream receptors (River Motoine and Nairobi Dam).

g) **Energy**: Grid supply (after electricity-line relocation) with backup generation and incorporation of solar PV for appropriate loads.

h) **Clearance and facilitation**: Complete documentation, valuation and facilitation of all Project Affected Persons currently occupying the temporary informal settlements prior to site clearance.

This preferred alternative balances the delivery of a substantial number of social and affordable housing units with the need to respond to legitimate concerns raised by neighbouring residents and Project Affected Persons, while remaining fully compliant with aviation safety, planning and environmental requirements.

# CHAPTER SEVEN: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

## 7.1 Introduction

This chapter assesses the potential environmental and social impacts of the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 1. The assessment addresses the pre-construction, construction, operational and decommissioning phases. It is informed by the project description (Chapter 2), baseline conditions (Chapter 4), stakeholder engagement outcomes (Chapter 5) and the analysis of alternatives (Chapter 6). Particular attention is paid to Lot 1-specific receptors, including the temporary informal settlements currently occupying the site (residential structures, schools, churches and micro-enterprises), the neighbouring Langata View Corner Apartments to the east, the existing electricity line that crosses the site, the Southern Bypass corridor, and the nearby River Motoine system (approximately 300 m distant), which drains into Nairobi Dam (approximately 1.2 km away).

## 7.2 Pre-Construction Impacts

Pre-construction activities for Lot 1 comprise final topographic and cadastral surveys, the design refinement, geotechnical and hydrogeological investigations, preparation for land clearance, contractor mobilisation planning, completion of remaining statutory approvals (including KCAA height confirmation, WRA borehole permits and KeNHA access coordination), and finalisation of the verified Project Affected Persons (PAP) register.

### Positive impacts

a) Limited short-term employment for surveyors, technicians, community liaison officers and local labour supporting site investigations. b) Early finalisation of the PAP register and facilitation arrangements for the informal settlements, schools, churches and micro-enterprises currently on the site. c) Generation of site-specific baseline data (soil, groundwater, noise, air quality) that strengthens design and the overall ESIA. d) Opportunity to secure the electricity-line relocation programme with KPLC before main works begin.

### Negative impacts and mitigation

a) Minor vegetation disturbance and soil compaction from survey trenches, borehole drilling and investigation pits. *Mitigation:* Restrict investigation footprints to the minimum necessary; reinstate disturbed areas immediately after use; avoid unnecessary removal of any remaining mature trees.

b) Temporary elevation of community expectations and anxiety among residents of the informal settlements and the neighbouring Langata View Corner Apartments. *Mitigation:* Maintain transparent communication through the established Grievance Redress Mechanism (GRM), the Chief's office and the project liaison team; provide clear, written timelines for facilitation and clearance.

c) Risk of speculative occupation, unauthorised construction or dumping on the site once investigation works become visible. *Mitigation:* Secure the perimeter with temporary fencing and controlled access points; maintain a continuous presence of local administration and security personnel; coordinate with the Assistant Chief and Nyumba Kumi structures.

d) Potential minor disruption to existing informal pathways and access routes used by neighbouring residents during survey works. *Mitigation:* Provide temporary alternative routes and advance notice to affected users.

Overall, pre-construction impacts are of low significance and short duration provided the above measures are implemented.

### 7.3 Construction Phase Impacts

The construction phase is expected to last approximately 24 months from the date of commencement of works following receipt of all statutory approvals. Key activities include full site clearance of the existing temporary informal settlements, schools, churches and micro-enterprises; demolition and debris removal; excavation and foundation works for 14 G+8 blocks; structural construction; installation of services (water, sewer, power, drainage); external works (cabro roads, parking, landscaping); and finishing. An existing electricity line crossing the site will be rerouted by KPLC as part of the enabling works.

#### *7.3.1 Positive Impacts*

a) **Employment creation:** Direct and indirect employment during the 24-month 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 take up suitable roles such as site support, dust suppression (water sprinkling), catering and waste segregation.

b) **Local economic benefits:** Increased demand for food, transport, construction materials, accommodation and services, benefiting nearby vendors and micro-enterprises (subject to health, safety and site-access controls).

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

d) **Infrastructure improvements:** Installation of on-site cabro roads, storm and foul drainage, water storage, power infrastructure (including backup generator) and landscaping that will remain as permanent assets.

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

f) **Advancement of housing objectives:** Delivery of 1,386 social and affordable housing units (1-roomed, 2-roomed, 3-roomed social units and studio, 2-bedroom and 3-bedroom affordable units), contributing directly to national and constitutional housing goals under Article 43.

#### *7.3.2 Negative Impacts and their Respective Mitigation Measures*

##### 7.3.2.1 Vegetation Clearance and Loss of Trees / Green Cover

Clearance of the existing informal settlement vegetation (scattered trees, Napier grass, weeds and any remaining cultivated plots) will result in loss of local biodiversity, shade and visual amenity.

*Mitigation:* a) Conduct a pre-clearance inventory of any remaining trees of ecological or amenity value and retain them where structurally and design-feasible. b) Implement compensatory planting at a minimum ratio of 1:3 using indigenous or suitable native species within the site landscaping, buffer zones and green spaces. c) Protect retained trees during construction with fencing and root-zone protection. d) Integrate the committed green spaces, attractive landscaping and outdoor children's play areas into the final layout.

#### 7.3.2.2 Soil Disturbance, Excavation and Erosion

Excavation for foundations, services and site levelling on the 8.4-acre parcel will disturb soils and increase the risk of erosion, sedimentation and dust, particularly during the rainy seasons.

*Mitigation:* a) Minimise the excavation footprint and duration. b) Implement progressive erosion and sediment control (silt fences, sediment traps, temporary drainage channels). c) Stockpile topsoil separately for later reuse in landscaping. d) Avoid major earthworks during periods of heavy rainfall where practicable; stabilise exposed surfaces promptly. e) Use the results of site-specific geotechnical investigations to optimise foundation design and reduce unnecessary over-excavation.

#### 7.3.2.3 Dust (Air Quality)

Earthworks, demolition of informal structures, vehicle movements, material handling and concrete works will generate dust that may affect the neighbouring Langata View Corner Apartments, remaining residents during phased clearance, and construction workers.

*Mitigation:* a) Regular water spraying of active areas, haul roads and stockpiles (especially in dry conditions) at least three times a day. b) Cover trucks transporting fine materials. c) Limit vehicle speeds on site. d) Erect dust screens / hoarding along the eastern boundary adjacent to Langata View Corner Apartments and other sensitive receptors. e) Monitor dust levels at boundary locations and respond to exceedances or complaints through the GRM. f) Comply with the Environmental Management and Coordination (Air Quality) Regulations, 2014: $PM_{10} \leq 50\ \mu g/m^3$ (24-hour average) at sensitive receptors.

#### 7.3.2.4 Noise

Construction equipment, vehicles, demolition, concrete mixing, and general site activity will elevate noise levels, particularly affecting the eastern residential apartments and any residual occupants during phased clearance.

*Mitigation:* a) Restrict noisy works to daytime hours (07:00–18:00 on weekdays; limited Saturday working; no noisy works at night, on Sundays or public holidays unless under exceptional approved circumstances). b) Use well-maintained equipment fitted with silencers / mufflers. c) Locate static noisy plant away from the eastern residential boundary. d) Install temporary noise barriers / screens along sensitive boundaries. e) Inform neighbours in advance of particularly noisy phases. f) Monitor noise at receptors and maintain a responsive GRM. g) Comply with 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 noise at the property boundary should preferably not exceed 60 dB(A).

#### 7.3.2.5 Vibration

Heavy machinery, compaction and any piling or deep foundation works may generate vibration that could affect nearby structures (Langata View Corner Apartments) or cause nuisance.

*Mitigation:* a) Select low-vibration equipment and methods where feasible. b) Conduct pre-construction condition surveys of nearby structures (including Langata View Corner Apartments) where risk is identified. c) Monitor vibration at sensitive locations during high-risk activities and limit continuous vibration at the property boundary / nearest structures to Peak Particle Velocity (PPV) ≤ 0.5 cm/s (5 mm/s). d) Notify neighbours of works that generate significant vibration at least 14 days in advance through gate notices, the liaison officer and the Chief's office. e) Maintain open communication with affected owners and respond promptly to claims through the GRM.

#### 7.3.2.6 Construction Traffic

Movement of construction vehicles, delivery trucks and workforce transport will increase traffic on the Southern Bypass and local access roads, with potential for congestion, road-safety risks and nuisance to neighbouring residents.

*Mitigation:* a) Implement a Construction Traffic Management Plan prepared 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 and enforce wheel-washing before exit onto public roads.

#### 7.3.2.7 Occupational Health and Safety (OHS)

Construction activities carry inherent risks of injury, falls, electrical hazards (especially during electricity-line relocation), plant-related incidents and exposure to dust and noise.

*Mitigation:* a) Enforce full compliance with the Occupational Safety and Health Act, 2007 and subsidiary regulations. b) Prepare and implement a site-specific OHS Management Plan and method statements for all high-risk activities (including demolition and line relocation). c) Provide appropriate Personal Protective Equipment (PPE) and enforce its use. d) Conduct induction training, daily toolbox talks and competency checks. e) Maintain first-aid facilities, emergency response procedures and incident reporting systems. f) Ensure welfare facilities (drinking water, sanitation, rest areas) meet required standards. g) Appoint qualified safety personnel and conduct regular internal and external audits.

#### 7.3.2.8 Community Health and Safety

Risks to the public include unauthorised site access, traffic accidents, dust and noise nuisance, and potential social tensions arising from displacement of informal settlements.

*Mitigation:* a) Secure the entire site with appropriate fencing / hoarding, controlled access points and security personnel from the start of clearance. b) Maintain clear physical separation

between active construction zones and any remaining public or residual-occupancy areas. c) Implement the dust, noise and traffic measures listed above. d) Operate an accessible and responsive GRM with clear channels through the Chief's office, project liaison officers and written complaint forms. e) Conduct community awareness sessions on site safety and emergency contacts before and during works. f) Prohibit or strictly control night-time works near residential boundaries.

#### 7.3.2.9 Waste Generation

Construction will generate large volumes of demolition debris from informal structures, 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 only licensed waste contractors for disposal at NEMA-approved facilities. d) Prohibit burning of waste on site. e) Maintain full records of waste quantities and disposal destinations. f) Reuse suitable excavated material on site for fill or landscaping wherever possible. g) Characterise and manage any potentially hazardous materials from demolished structures in accordance with the Sustainable Waste Management Act, 2022.

#### 7.3.2.10 Water Demand

Construction water for concrete, dust suppression, curing and worker welfare will increase local demand in an area already experiencing rationing.

*Mitigation:* a) Source construction water preferentially from WRA-permitted boreholes or authorised municipal supply; avoid illegal connections. b) Maximise water efficiency and recycling of process water where feasible. c) Provide adequate on-site storage to buffer peak demand. d) Monitor usage and comply with all WRA and NCWSC conditions.

#### 7.3.2.11 Wastewater

Worker sanitation and any process wastewater require proper management to avoid pollution of soils or the nearby River Motoine system.

*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 documented site environmental management procedure.

#### 7.3.2.12 Stormwater and Drainage

Exposed surfaces and altered topography can increase runoff volume and sediment load, potentially affecting local drainage and the River Motoine system (approximately 300 m distant).

*Mitigation:* a) Install temporary and progressive drainage controls from the outset of site clearance. b) Protect existing drainage channels and prevent blockage by construction materials or debris. c) Design and construct permanent stormwater systems (including

sustainable drainage elements) in parallel with building works. d) Avoid directing concentrated untreated runoff toward neighbouring properties or the River Motoine corridor.

#### 7.3.2.13 Employment-related Social Risks

While overall positive, there is a risk of local dissatisfaction if employment opportunities are perceived as captured by outsiders, particularly given the presence of displaced informal residents seeking work.

*Mitigation:* a) Formalise local recruitment exclusively through the Chief's office. b) Maintain transparent employment records open to community scrutiny. c) Address complaints through the GRM. d) Include enforceable local employment targets (70–90 % local workforce where skills match) in contractor contracts.

#### 7.3.2.14 Local Businesses and Micro-enterprises

Clearance will permanently displace the micro-enterprises (kiosks, vegetable stands, grocery shops) currently operating on the site. Temporary disruption may also affect nearby formal businesses through dust, noise and access constraints.

*Mitigation:* a) Include all verified micro-enterprise operators in the PAP register and provide facilitation support prior to clearance. b) Offer fair opportunity for displaced operators to apply for the new commercial / shopping stalls within the completed development through a transparent process. c) Maintain access to remaining nearby businesses where possible during construction. d) Prioritise local suppliers for suitable contracts. e) Communicate works schedules in advance and provide GRM access for business operators.

#### 7.3.2.15 Project Affected Persons (PAPs) – Informal Settlements, Schools, Churches and Livelihoods

Construction requires complete clearance of the temporary informal settlements, schools, churches and associated micro-enterprises currently occupying Lot 1. This constitutes the most significant social impact of the construction phase.

*Mitigation:* a) Complete a verified PAP census and register (names, identification, nature of interest/loss, vulnerability status) as a pre-construction priority. b) Provide adequate written notice and facilitation support prior to any displacement. c) Maintain dedicated engagement channels and GRM access for all PAP categories throughout the process. d) Coordinate the timing of physical clearance strictly with the delivery of facilitation and livelihood-restoration measures. e) Give particular attention to vulnerable groups (persons with disabilities, women-headed households, elderly persons, children) identified during the census.

#### 7.3.2.16 Community Conflict

Differences in expectations regarding employment, facilitation packages, design or the overall process can generate tension, especially given the scale of displacement on Lot 1.

*Mitigation:* a) Maintain transparent, continuous communication through local administration, project liaison officers and the GRM. b) Operationalise a fully functional, accessible GRM with clear escalation pathways. c) Ensure visible local benefits (employment targets, CSR

interventions). d) Hold regular feedback sessions with PAP representatives and neighbouring residents.

#### 7.3.2.17 Security

Influx of workers and materials, combined with the displacement of existing informal occupants, can increase risks of theft, social disruption or opportunistic crime.

*Mitigation:* a) Deploy professional site security personnel from the start of clearance. b) Maintain controlled access points and perimeter security. c) Coordinate closely with local police and administration. d) Enforce a Worker Code of Conduct. e) Provide adequate lighting of key areas during construction.

#### 7.3.2.18 Privacy and Visual Impacts

The multi-storey G+8 blocks and temporary construction activities will alter views and reduce privacy for residents of the neighbouring Langata View Corner Apartments to the east.

*Mitigation:* a) Implement the preferred layout with a landscaped buffer / setback along the eastern residential boundary (Chapter 6). b) Use temporary screening / hoarding 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 open dialogue with affected residents through the GRM and liaison officers.

#### 7.3.2.19 Electricity Line Relocation

The existing electricity line crossing the site must be rerouted by KPLC. This activity carries risks of service interruption, safety hazards and temporary access disruption.

*Mitigation:* a) Coordinate the relocation programme fully with KPLC prior to main site clearance. b) Provide advance notice to any affected consumers. c) Enforce strict electrical safety protocols and exclusion zones during works. d) Reinstate any disturbed areas promptly after relocation.

Overall, construction-phase impacts are of moderate to high significance (particularly social displacement and nuisance to immediate neighbours) but can be reduced to acceptable residual levels through rigorous application of the mitigation measures above, continuous monitoring, and an active, accessible GRM.

(End of Pre-Construction and Construction Phase sections. Operational, decommissioning, cumulative and residual impacts will follow in subsequent sections once you confirm.)

### 7.4 Operational Phase Impacts

The operational phase begins upon practical completion and occupation of the 14 G+8 residential blocks (1,386 units) and associated infrastructure on the 8.4-acre Lot 1 site. This phase is expected to extend over several decades. Primary activities will include residential occupation, routine operation and maintenance of buildings and services, management of common areas (green spaces, play areas, shopping stalls, parking and drainage), and ongoing interaction with neighbouring receptors—principally the Langata View Corner Apartments to

the east—and with the surrounding infrastructure networks (Southern Bypass, municipal water and sewer systems, and the River Motoine corridor approximately 300 m distant).

### *7.4.1 Positive Impacts*

a) **Provision of adequate housing** Delivery of 1,386 social and affordable housing units (1-roomed, 2-roomed and 3-roomed social units together with studio, 2-bedroom and 3-bedroom affordable units) directly advances the constitutional right to accessible and adequate housing under Article 43 and national housing policy objectives. The mix of unit types responds to a range of household sizes and income levels.

b) **Improved living conditions for occupants** Modern units equipped with reliable water storage, sanitation, electricity (with backup generator), solid-waste facilities, landscaped green spaces and an outdoor children's play area will provide significantly higher standards of habitation than the temporary informal settlements previously occupying the site.

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

d) **Enhanced security and urban management** Formal occupation, controlled access through gates and gatehouses, street lighting and an on-site security presence are expected to improve overall security and order in the immediate vicinity compared with the previous open informal-settlement condition of the land.

e) **Green and recreational amenities** Dedicated green spaces, attractive landscaping and the outdoor children's play area will provide recreational and social benefits for residents. Subject to management rules, limited controlled access may also be considered for the wider community.

f) **Contribution to orderly urban development** Replacement of under-utilised land previously occupied by temporary informal settlements with planned, fully serviced multi-storey housing supports more efficient land use along the Southern Bypass corridor and contributes to the rationalisation of the Mugumo-ini urban fabric.

g) **CSR and community facilities** Completed or ongoing CSR interventions (improvements to selected local schools and community facilities in Lang'ata) will leave lasting social benefits in the constituency.

h) **Climate and resilience co-benefits** Incorporation of on-site water storage, potential rainwater harvesting for non-potable uses, solar elements for common areas (where feasible) and permeable landscaped surfaces will contribute modestly to local climate resilience and reduced operational 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 on an 8.4-acre parcel.

*Mitigation:* a) Design and operate the development with adequate internal open space, circulation routes and service capacity. b) Coordinate with Nairobi City County and relevant agencies on broader infrastructure and service planning for the Mugumo-ini area. c) Maintain the landscaped buffer and setback along the eastern boundary adjoining Langata View Corner Apartments to reduce direct pressure on the closest neighbours. d) Sustain continuous engagement with neighbouring communities through the estate management structure and the Grievance Redress Mechanism (GRM). e) Monitor actual occupancy levels and service performance and adapt management measures as required.

**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 borehole(s) + 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 (quarterly or as required by WRA permit conditions) 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.

**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 and public-transport interfaces) will increase movements on the Southern Bypass and local access roads serving Lot 1.

*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 (especially during the first 12–24 months) 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 the River Motoine system (approximately 300 m distant) and, ultimately, Nairobi Dam.

*Mitigation:* a) Operate and maintain the integrated stormwater drainage system (engineered drains + sustainable drainage 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 (monthly and after heavy rainfall events).

**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 (particularly Langata View Corner Apartments) if not well managed.

*Mitigation:* a) Operate controlled access through the designed gates and gatehouses. 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. f) Include security performance in estate management reporting and respond promptly to incidents through the GRM and security protocols.

**Social Services** Additional population will increase demand on local education, health, recreational and administrative services.

*Mitigation:* a) The design includes children's play areas and green spaces to meet basic on-site recreational needs. b) Support selected local schools and facilities through CSR commitments. c) Share occupancy projections with Nairobi City County and relevant service providers to inform planning. d) Facilitate access to information on available public services for new residents. e) Monitor service-related grievances through the GRM and escalate systemic issues to the appropriate authorities.

**Green / Open Spaces** While the project incorporates dedicated green spaces and landscaping, intensive residential use can lead to degradation if not properly managed. Neighbouring residents have also expressed concern about overall loss of open space in the area.

*Mitigation:* a) Maintain the landscaped buffer, green spaces and play areas to a high standard under the estate management plan. b) Use appropriate indigenous or well-adapted species and replace failed planting promptly. c) Establish clear rules for use of common open spaces.

d) Protect and nurture compensatory trees planted during construction (minimum 1:3 ratio). e) Explore limited, managed access arrangements for neighbouring community members where security and management capacity allow.

**Community Health and Safety** Potential issues include inadequate maintenance of buildings and services, vector breeding in poorly managed drainage or waste areas, social tensions, and interface risks with neighbouring communities (especially Langata View Corner Apartments).

*Mitigation:* a) Enforce high standards of building, infrastructure and grounds maintenance through the estate management structure. b) Implement integrated vector and pest control as part of routine management. c) Maintain functional lighting, secure boundaries and responsive security. d) Operate an accessible GRM and community-liaison function. e) Promote resident awareness of health, safety and neighbourly conduct. f) Coordinate with public-health authorities on any area-wide health concerns.

**Noise (Operational)** Residential occupation, commercial stalls, backup-generator operation and communal activities will generate ongoing noise that could affect neighbouring Langata View Corner Apartments if not managed.

*Mitigation:* a) Enforce house rules and quiet hours (preferably 22:00–06:00). b) House the backup generator in an acoustically treated power house and operate it only when necessary. c) Maintain the landscaped buffer and screen planting along the eastern residential boundary. d) Comply with the Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009 at the property boundary / nearest receptors: – Residential outdoor: 50 dB(A) daytime / 35 dB(A) night-time; – Mixed residential: 55 dB(A) daytime / 35 dB(A) night-time. e) Respond promptly to noise complaints through the GRM.

Overall, operational-phase impacts are of moderate significance. With consistent application of the mitigation measures above, active estate management and an accessible GRM, residual impacts can be kept within acceptable limits while the substantial positive housing and socio-economic benefits are realised.

### 7.5 Decommissioning Impacts

Decommissioning refers to the eventual end-of-life phase of the development on Lot 1. This may involve major renovation, partial demolition, or complete removal of the 14 G+8 blocks and associated infrastructure at the end of the buildings' design life (typically 50–100 years or more) or in the event of a future change of use. Given the long-term residential nature of the project, decommissioning is considered a distant and currently hypothetical phase. Nevertheless, potential impacts are assessed to ensure that future decision-makers have a clear framework.

#### *7.5.1 Positive Impacts*

a) Opportunity to remediate any residual contamination or degraded areas and restore the 8.4-acre site to a higher environmental standard. b) Potential for recycling and reuse of building materials (steel, concrete aggregates, fixtures and fittings), contributing to circular-economy objectives. c) Creation of temporary employment during demolition, material recovery and site-restoration works. d) Possibility of redeveloping the site for alternative or improved land uses aligned with future urban-planning needs in Mugumo-ini Ward. e) Removal of structures

that may have become outdated, unsafe or incompatible with the evolving character of the neighbourhood (including the interface with Langata View Corner Apartments).

### *7.5.2 Negative Impacts and their Respective Mitigation Measures*

**7.5.2.1 Demolition-related Nuisances (Dust, Noise, Vibration)** Demolition of multi-storey structures will generate significant dust, noise and vibration, affecting neighbouring Langata View Corner Apartments, any remaining occupants (if phased) and the wider area.

*Mitigation:* a) Prepare and implement a Decommissioning and Demolition Management Plan, including method statements for controlled demolition. b) Use dust suppression (water sprays, enclosures), noise barriers and vibration monitoring. c) Restrict high-impact works to approved daytime hours (07:00–18:00) and provide advance notice to neighbours (minimum 48 hours for noisy activities; 14 days for major demolition phases). d) Conduct pre-demolition condition surveys of adjacent properties, particularly Langata View Corner Apartments. e) Comply with the following quantitative standards at the property boundary / nearest receptors: – Noise: Residential outdoor 50 dB(A) daytime / 35 dB(A) night-time; Mixed residential 55 dB(A) daytime / 35 dB(A) night-time (EMCA Noise Regulations, 2009). – Vibration: Continuous Peak Particle Velocity (PPV) ≤ 0.5 cm/s (5 mm/s). – Dust: $PM_{10}$ ≤ 50 µg/m³ (24-hour average) at sensitive receptors (NEMA Air Quality Regulations, 2014).

**7.5.2.2 Waste Generation** Large volumes of construction and demolition waste (concrete, steel, timber, fixtures, and potential hazardous materials such as residual oils or asbestos-containing materials if present in future modifications) will be produced.

*Mitigation:* a) Apply the waste hierarchy: maximise recovery, recycling and reuse of materials (target ≥ 80 % recovery/recycling of recyclable streams where feasible). b) Engage licensed demolition and waste contractors. c) Characterise and manage any hazardous wastes in accordance with the Sustainable Waste Management Act, 2022 and subsidiary regulations; dispose only through NEMA-licensed hazardous-waste handlers with full manifests. d) Maintain full records of waste streams and disposal/recovery destinations. e) Prohibit open burning and illegal dumping.

**7.5.2.3 Traffic and Access Disruption** Movement of heavy demolition equipment and waste-haulage vehicles will temporarily increase traffic and may disrupt local access on the Southern Bypass and roads serving Lot 1.

*Mitigation:* a) Implement a Traffic Management Plan coordinated with KeNHA and Nairobi City County. b) Schedule movements to avoid peak hours where practicable. c) Provide on-site holding areas to prevent queuing on public roads. d) Deploy trained flagmen/marshals and maintain clear signage. e) Provide temporary alternative access where required. f) Enforce wheel-washing, covered loads and speed controls.

**7.5.2.4 Occupational and Community Health & Safety** Demolition carries elevated risks of structural collapse, falls, falling objects and exposure to dust or hazardous substances.

*Mitigation:* a) Enforce strict OHS protocols in full compliance with the Occupational Safety and Health Act, 2007. b) Use only competent personnel and approved methods. c) Establish exclusion zones, secure scaffolding/temporary works and fall protection. d) Enforce PPE usage (including respiratory protection where required). e) Maintain first-aid facilities, emergency

response plan and regular drills. f) Secure the site with fencing/hoarding and controlled access; prevent unauthorised public access. g) Provide advance notice and maintain an active GRM and Community Liaison function throughout the works.

**7.5.2.5 Loss of Housing and Livelihood Disruption** Removal of occupied units would displace residents and terminate on-site employment and business opportunities associated with the shopping stalls and estate services.

*Mitigation:* a) Any future decommissioning must be preceded by a full social impact assessment. b) Prepare and implement relocation planning and livelihood-restoration measures consistent with national law and good practice at that time. c) Provide adequate notice and support to all verified affected persons before displacement. d) Maintain continuous engagement with affected persons and operate a fully functional GRM.

**7.5.2.6 Environmental Restoration Requirements** Failure to properly reinstate the site could leave residual contamination, unstable ground or loss of amenity.

*Mitigation:* a) Implement progressive restoration, soil remediation if needed, and re-vegetation with appropriate indigenous or climate-resilient species. b) Remove all temporary works, debris and contaminated materials. c) Aim for a stable, safe and environmentally acceptable end-state consistent with the approved end-use or handover requirements. d) Prepare and submit a final decommissioning and restoration report to NEMA and the Proponent.

### 7.6 Cumulative Impacts

Cumulative impacts arise from the incremental effects of the Lot 1 project when added to other past, present and reasonably foreseeable future actions in the same geographic and social area—principally the concurrent or sequential development of Kibra Lots 2, 3, 4 and 5.

Key cumulative pathways identified for Lot 1 include:

a) **Housing and population density** Concurrent or sequential development of Kibra Lots 1–5 (collectively approximately 7,000+ units) will produce a substantial increase in population in the Southlands / Mugumo-ini area. This amplifies demand on all shared infrastructure and services.

b) **Water resources** Combined borehole abstraction and municipal demand from all five lots, together with existing users and other developments, may stress local groundwater and the already constrained municipal supply system.

c) **Sewerage and wastewater** Cumulative wastewater flows will increase pressure on trunk sewers and the Nairobi Rivers / Ruai treatment systems.

d) **Traffic and transport** Construction and operational traffic from multiple lots, interacting with Southern Bypass volumes and other Lang'ata developments, may produce significant congestion and safety impacts at key junctions and access points serving Lot 1.

e) **Stormwater and drainage** Increased impermeable area across the cluster of lots will elevate cumulative runoff volumes entering the River Motoine system (approximately 300 m from Lot 1) and, ultimately, Nairobi Dam, potentially exacerbating flooding and water-quality risks.

f) **Social and amenity impacts** Collective effects on privacy, visual character, green-space availability, security perceptions and social-service demand for neighbouring estates, including Langata View Corner Apartments.

g) **Aviation safety and noise** Although individual lots comply with the 29 m height limit confirmed by KCAA, the cluster of multi-storey buildings within the Wilson Airport flight-path corridor requires ongoing attention to Obstacle Limitation Surfaces, lighting, glare and bird-attraction risks.

h) **Construction-phase nuisances** If several lots are under construction simultaneously, dust, noise, vibration and traffic impacts on shared receptors will be intensified.

**Mitigation of cumulative impacts**

a) Programme-level coordination among the five lots on infrastructure sequencing, traffic management, water and sewer planning, and construction scheduling. b) Joint or aligned Traffic Impact Assessments and stormwater master planning. c) Collective engagement with NCWSC, Athi Water, WRA, KeNHA, KCAA and Nairobi City County on capacity upgrades. d) Harmonised environmental and social management standards, GRM systems and community-liaison arrangements across the lots. e) Monitoring of cumulative indicators (water levels/quality, traffic, complaints) and adaptive management.

### 7.7 Residual Impacts

Residual impacts are those that remain after the full application of the proposed mitigation measures.

**Construction Phase Residual Impacts** a) Temporary dust, noise and visual intrusion on immediate neighbours (particularly Langata View Corner Apartments). b) Loss of individual trees and green cover previously present on the informal-settlement site. c) PAP displacement and livelihood disruption associated with clearance of informal settlements, schools, churches and micro-enterprises. d) Construction-traffic disruption on the Southern Bypass and local access roads.

**Operational Phase Residual Impacts** a) Increased demand on municipal water and sewer systems. b) Additional traffic generation on the Southern Bypass corridor. c) Permanent change in visual character and partial reduction in privacy for the closest neighbouring properties (Langata View Corner Apartments). d) Increased population density and associated social-service pressure. e) Residual security and social-cohesion risks.

**Decommissioning Phase Residual Impacts** a) Temporary demolition nuisances (dust, noise, vibration) and waste. b) Social displacement (if the development is still occupied at the time of decommissioning).

**Cumulative Residual Impacts** a) Combined infrastructure demand (water, sewer, traffic, drainage) across Lots 1–5. b) Collective effects on privacy, amenity and social services for neighbouring residential areas, including Langata View Corner Apartments.

# 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 1, with particular focus on Project Affected Persons (PAPs), livelihood disruption, physical displacement of structures and activities, and the measures required to avoid, minimise and mitigate these impacts. Although Lot 1 is located on public land, the 8.4-acre site currently hosts temporary informal settlements comprising residential structures, schools, churches and micro-enterprises (kiosks, vegetable stands, grocery shops and related retail activities). These uses will be cleared to make way for the 14 G+8 residential blocks and associated infrastructure.

The approach adopted follows the mitigation hierarchy: avoid displacement where feasible, minimise unavoidable impacts through design (including landscaped buffers along the eastern boundary with Langata View Corner Apartments), and provide fair facilitation, livelihood support and continuous engagement where impacts cannot be avoided. A verified PAP register, valuation of affected assets where applicable, and livelihood-restoration measures will be completed prior to any physical displacement. The assessment draws on field observations, the project description, stakeholder engagement meetings held between 31 July and 7 August 2026 (including the dedicated PAPs meeting of 6 August 2026, the community baraza, Residential Associations meeting and institutions meeting), and information provided by local administration.

## 8.2 Identification of Project Affected Persons

Project Affected Persons for Lot 1 have been identified through:

a) Field observations and project-description data; b) Stakeholder engagement meetings, particularly the PAPs meeting of 6 August 2026, the community baraza of 5 August 2026, and related focus-group discussions; c) Information provided by local administration (DCC, ACC, Chief and Assistant Chief); and d) Identification of representatives of affected groups during the August 2026 consultations.

Categories of PAPs relevant to Lot 1 and its immediate interface include:

a) **Residents of the temporary informal settlements** – households currently occupying residential structures on the site who will lose their dwellings and associated living space. b) **Operators and congregations of religious institutions** – churches located on or immediately adjacent to the site that will be affected by clearance. c) **Operators of schools / educational facilities** – any temporary or informal schools currently operating within the settlement that will be displaced. d) **Operators of micro-enterprises and retail businesses** – individuals running small kiosks, vegetable stands, grocery shops and related micro-enterprises on the site. e) **Urban cultivators / farmers** (if verified during the formal census) – persons who have been cultivating portions of open or residual land on the site. f) **Neighbouring residents** of Langata View Corner Apartments (to the east) whose privacy, amenity, access or perceived 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, household composition 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, the Lot 1 site supported a dense mix of livelihood and social activities within the temporary informal settlements:

- Residential occupation providing shelter for numerous households;
- Micro-enterprise and retail activities (kiosks, vegetable stands, grocery shops and related trading);
- Religious and community service provision through churches located on the site;
- Educational activities through any temporary schools operating within the settlement; and
- Limited urban cultivation on residual open spaces (where present).

These livelihoods are generally low-income, vulnerable to displacement, and in most cases lack formal tenure security. Women, elderly persons, persons with disabilities and households with limited alternative skills are likely to be disproportionately affected. The loss of these livelihood sources and social support networks, even if informal, constitutes a significant social impact that requires structured facilitation and livelihood-restoration support rather than simple eviction.

### 8.4 Informal Businesses / Micro-enterprises

The site hosts numerous micro-enterprises and retail activities, including small kiosks, vegetable stands, grocery shops and related trading. During public participation (particularly the business-community meeting of 4 August 2026 and the PAPs meeting of 6 August 2026), operators raised concerns about:

- Loss of trading space and customer base;
- Lack of prior formal notice in earlier processes;
- Desire for prioritisation in the allocation of the new commercial / shopping stalls within the completed development; and
- Need for transitional support during the displacement period.

**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 in a timely manner.

**Proposed measures** a) Inclusion of all verified micro-enterprise operators in the PAP register. b) Provision of adequate written notice and facilitation support prior to clearance. c) Fair opportunity to apply for commercial / shopping stalls within the new development through a

transparent, documented allocation process. d) Linkage to local economic-empowerment or short-term livelihood-support programmes where feasible. e) Continuous engagement through the GRM and designated PAP representatives. f) Priority consideration for verified operators in suitable employment opportunities during the construction phase.

### 8.5 Churches / Religious Institutions

Churches located on or immediately adjacent to Lot 1 will be affected by site clearance. During the PAPs meeting and community baraza, church representatives and community members emphasised:

- The spiritual and social importance of the facilities 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 (alternative site, reconstruction support or equivalent assistance); and
- The broader principle that faith-based organisations should be considered in planning alongside schools and other institutions.

**Impacts** a) Physical displacement of places of worship. b) Disruption of religious services, community gatherings and associated social support networks. c) Potential temporary or longer-term loss of livelihood for any church-employed staff. d) Loss of a key social and spiritual anchor for low-income congregants.

**Proposed measures** a) Early and continuous engagement with church leadership and the relevant governing bodies. b) Inclusion of the institutions in the verified PAP register. c) 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. d) Adequate written notice before any demolition. e) Assistance with transitional arrangements to minimise interruption of services. f) Documentation of all agreements and transparent implementation.

### 8.6 Schools / Educational Facilities

Any temporary or informal schools currently operating within the Lot 1 informal settlements will be displaced by the project.

**Impacts** Disruption of educational services for children residing in or near the settlement, potential loss of livelihood for teachers or support staff, and temporary interruption of learning.

**Proposed measures** a) Identification and verification of all affected educational facilities and associated staff / pupils during the PAP census. b) Coordination with the Ministry of Education / County education authorities to facilitate transitional arrangements (temporary alternative learning spaces or enrolment support). c) Adequate notice and facilitation support. d) Priority consideration of affected households in relevant project benefits (employment, information on housing application processes). e) Documentation of all support provided.

### 8.7 Urban Agriculture / Cultivators

Where portions of residual open land on Lot 1 have been used for small-scale urban agriculture, cultivators will lose access to land and standing crops.

**Impacts** a) Permanent loss of cultivated land and standing crops. b) Loss of a source of food security and supplementary 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. f) Documentation of all support provided.

### 8.8 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 1 include:

- Persons with disabilities (PWDs), including those who may have difficulty accessing information, participating in meetings or relocating independently;
- Women-headed households, widows and single mothers who often depend on informal livelihoods or micro-enterprises;
- Elderly persons with limited alternative income sources or physical capacity;
- Orphans and child-headed households (if identified during the census);
- Extremely poor households with no formal safety net;
- Persons living with chronic illness; and
- Members of religious congregations, school communities or farming groups 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 during construction, 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 and first-floor priority as already committed in the project design). e) Close monitoring of vulnerable households through the GRM and dedicated social specialists to ensure they do not fall through support gaps.

### 8.9 Impacts on Neighbouring Residents (Langata View Corner Apartments)

Although residents of Langata View Corner Apartments (located immediately to the east of Lot 1) are not 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:

- Loss of privacy and overlooking from the multi-storey G+8 blocks;
- Temporary construction nuisances (dust, noise, vibration, night-time lighting);
- Perceived or actual devaluation of neighbouring property;
- Increased traffic and pressure on local infrastructure;
- Loss of previous open-space amenity associated with the undeveloped or informally used site; and
- Concerns about social change and security once the new development is occupied.

**Proposed measures** a) Implementation of the preferred layout with a landscaped buffer / setback along the eastern boundary (Chapter 6). b) Use of temporary screening / hoarding during construction and establishment of rapid-growing screen planting. c) Strict adherence to noise, dust, vibration and working-hour controls detailed in Chapter 7. d) Continuous engagement with representatives of Langata View Corner Apartments through the GRM and project liaison officers. e) Transparent communication of construction schedules, facilitation processes and operational management arrangements. f) Monitoring of amenity-related grievances and adaptive management where feasible.

### 8.10 Facilitation, Livelihood Restoration and Implementation Arrangements

Because the land is public land allocated for the strategic national housing project, the primary form of support is facilitation rather than full market-value compensation for structures or land. Facilitation packages will be determined through a transparent valuation and engagement process and may include:

- Cash assistance for lost structures, crops or business interruption;
- Support for relocation or transitional housing;
- Priority access to employment opportunities during construction;
- Priority consideration for commercial stalls within the completed development;
- Linkage to housing application processes (Boma Yangu / *832#) and, where appropriate, support for deposit mobilisation through community groups; and
- Special measures for vulnerable households.

A dedicated PAP engagement team, working with local administration and verified PAP representatives, will oversee implementation. All agreements will be documented, and progress will be monitored through the GRM and periodic social audits until livelihood restoration is verified as complete.

### 8.11 Grievance Redress for PAPs

All PAPs will have full access to the project Grievance Redress Mechanism described in Chapter 12. Additional dedicated channels (including direct contact with the PAP liaison officer and regular feedback sessions with PAP representatives) will be maintained throughout the pre-construction, construction and early operational phases to ensure rapid resolution of displacement- and livelihood-related concerns.

In summary, the social impacts of Lot 1 are significant because of the presence of temporary informal settlements, schools, churches and micro-enterprises. With a verified PAP register, timely facilitation, livelihood-restoration support, continuous engagement and an accessible GRM, these impacts can be managed in accordance with the Constitution, EMCA, the Affordable Housing Act and good international practice, while the substantial positive housing benefits of the project are delivered.

# 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 1. It assesses the anticipated traffic impacts of the development and proposes appropriate mitigation measures. The assessment also addresses concerns repeatedly raised during public participation (including the community baraza of 5 August 2026, Residential Associations meeting and the institutions meeting of 7 August 2026) regarding existing congestion on the Southern Bypass, limited access points, road safety, pedestrian risks and the cumulative effect of the wider Southlands (Kibra Lots 1–5) housing programme.

The assessment covers:

- The existing road network and traffic conditions in the vicinity of Lot 1;
- 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 local connecting roads; 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 1 is located at coordinates approximately –1.318502, 36.782509 in Mugumo-ini Ward, directly 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). Access is primarily through the Southern Bypass corridor and local connecting roads serving the surrounding area, including routes that interface with Langata View Corner Apartments to the east of the site.

Key features of the network relevant to Lot 1 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) **Local connecting / estate roads** – Secondary and tertiary roads providing connectivity to neighbouring residential areas, including Langata View Corner Apartments

and other developments in Mugumo-ini. These roads are generally narrower, with mixed pedestrian and vehicular use. c) **Internal collectors** serving the immediate neighbourhood.

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 of 7 August 2026, 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. Local connecting roads experience moderate to heavy 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 1; 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;
- Junctions of local connecting roads with the Bypass; and
- Key local estate-road intersections serving Langata View Corner Apartments and adjacent areas.

### 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, demolition debris from the existing informal settlements 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. 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, particularly affecting the eastern boundary near Langata View Corner Apartments. d) Safety risks to pedestrians and local traffic on connecting 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 portion using local connecting roads for shorter journeys (including trips related to Langata View Corner Apartments and nearby facilities). 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 apartments, 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 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 (including those serving Langata View Corner Apartments) 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 Southern Bypass or approved local connecting roads through a carefully designed connection that meets 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 on the Bypass 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. 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 local connecting roads is inherently hazardous because of high vehicle speeds and limited formal crossing facilities.
- Local roads serving Langata View Corner Apartments and adjacent areas have mixed traffic and incomplete sidewalks in places.
- Construction-phase pedestrian–vehicle conflict risk is elevated along haul routes and site access points, particularly during clearance of the existing informal settlements.

**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 interfaces with local roads. 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 (including those serving Langata View Corner Apartments). b) Enforcement will be the responsibility of the estate management body. c) Monitoring of on-street parking conditions in adjacent areas 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 local connecting roads. 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, particularly near Langata View Corner Apartments. 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 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, including those serving Langata View Corner Apartments. f) Cumulative operational traffic from the full Southlands (Lots 1–5) programme producing more pronounced network effects than Lot 1 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 1 is located in a rapidly urbanising area of Mugumo-ini Ward characterised by existing water stress, periodic flooding associated with the River Motoine system (approximately 300 m from the site), and high population density. The development of 1,386 multi-storey housing units on the 8.4-acre parcel 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.

## 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 vegetation associated with clearance of the temporary informal settlements (including any remaining trees and cultivated plots) that previously provided limited carbon sequestration; and
- Waste transport and disposal (including demolition debris from informal structures).

### 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); and
- Maintenance activities and minor works.

### Decommissioning phase

- Demolition plant fuel use and transportation of demolition waste; and
- 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 material choices, energy-efficient design, incorporation of solar PV for common areas, water efficiency (reducing pumping energy), and promotion of non-motorised and public transport.

### 10.3 Climate Hazards

a) **Intense rainfall and flooding** — increasing frequency and intensity of heavy rainfall events leading to flash flooding, drainage overload and waterlogging. b) **Rising temperatures and heatwaves** — higher average and extreme temperatures, with urban heat-island amplification in dense built-up areas. c) **Stormwater and drainage failure** — already observed problems of blocked drains, erosion and overflow in the wider Lang'ata area, expected to worsen with more intense rainfall. d) **Secondary hazards** — including increased vector-borne disease risk, damage to infrastructure from extreme events, and potential disruption of energy and transport systems.

These hazards interact with existing site conditions (proximity to River Motoine approximately 300 m distant) and with the cumulative development of the wider Southlands housing cluster (Lots 1–5).

### 10.4 Flooding and Stormwater Risks

Flooding and stormwater management constitute the most immediate and significant climate-related risk for Lot 1.

**Current vulnerability** The surrounding Lang'ata / Mugumo-ini area experiences regular drainage problems, blocked drains and periodic flooding. Stakeholders repeatedly raised concerns about stormwater overflow, erosion and the capacity of existing drainage systems during the August 2026 public participation process. Downstream receptors (River Motoine and, ultimately, Nairobi Dam approximately 1.2 km away) are sensitive to increased runoff volume and sediment / pollutant loads.

**Projected climate influence** Climate models for the Nairobi region indicate a likely increase in the intensity of extreme rainfall events even if annual totals change only moderately. This will raise the probability of:

- On-site waterlogging and flooding of low-lying areas;
- Overwhelming of conventional drainage systems;
- Increased peak discharges into the River Motoine system;
- Erosion of unprotected surfaces and sedimentation downstream; and

- Damage to buildings, roads and services if floor levels and drainage design are inadequate.

**Implications for the project** Buildings and critical infrastructure (electrical rooms, water storage, access roads) must be elevated above expected flood levels and designed for the increased rainfall intensities projected over the asset life. Stormwater systems must be sized for higher return-period events and should incorporate Sustainable Urban Drainage Systems (SUDS) principles (retention, detention, infiltration where feasible, and quality treatment). Cumulative runoff from Lots 1–5 must be considered in drainage design. Failure to address these risks would expose residents to repeated flooding, health hazards and property damage, and could generate significant grievance and liability. A hydrological and hydraulic modelling exercise using future climate rainfall scenarios is recommended to finalise drainage design levels and storage volumes.

### 10.5 Heat Risks

Rising temperatures and the urban heat-island effect pose growing risks to occupant health, comfort and energy demand.

**Current and projected conditions** Nairobi is already experiencing a warming trend. Dense multi-storey development with extensive hard surfaces can further elevate local temperatures, especially during calm, clear conditions. Heatwaves are projected to become more frequent and intense.

**Vulnerability factors for Lot 1**

- High residential density and limited private outdoor space;
- Potential for heat build-up in upper floors of G+8 blocks if passive design is inadequate;
- Presence of vulnerable groups (elderly, children, persons with pre-existing health conditions, outdoor workers);
- Increased demand for cooling (fans or air-conditioning), which would raise electricity consumption and GHG emissions; and
- Reduced thermal comfort in units that are poorly oriented or lack adequate shading and ventilation.

**Implications** a) Building design must prioritise passive cooling: optimal orientation, cross-ventilation, shading of windows and façades, reflective or green roof elements where feasible, and use of materials with favourable thermal properties. b) Landscaping and the proposed green spaces and eastern buffer (adjoining Langata View Corner Apartments) should be designed to provide shade and evaporative cooling. c) Common areas and circulation spaces should remain comfortable without heavy reliance on mechanical cooling. d) Heat-health awareness and early-warning linkages with public health systems should form part of estate management in the longer term.

### 10.6 Water Availability Risks

Water scarcity is already a pressing concern in the Lang'ata / Southlands area. Residents and institutional stakeholders repeatedly highlighted rationing, low pressure, illegal connections and the fragile state of existing supply infrastructure during the public participation process.

**Climate influence on water availability** Climate projections for the Nairobi region indicate:

- Increased rainfall variability and longer dry spells;
- Higher potential evapotranspiration due to rising temperatures;
- Possible reduction in reliable surface-water yields and slower groundwater recharge in some seasons; and
- Greater competition for limited water resources as urban population and economic activity grow.

**Project-specific risks**

- Heavy reliance on the municipal system (already under stress) would expose residents to frequent shortages;
- Over-abstraction from the proposed on-site borehole(s) could lower local groundwater tables, affect neighbouring abstractors, or reduce base-flow to the nearby River Motoine if not properly regulated;
- Increased operational demand from 1,386 units will add permanent pressure to both surface and groundwater resources;
- Drought periods would simultaneously raise demand (higher outdoor and cooling use) and reduce supply reliability; and
- Cumulative demand from Lots 1–5 would significantly amplify these risks.

**Implications** Water security must be treated as a core design and operational issue. A diversified, efficient and climate-resilient water-supply strategy is essential to protect resident well-being and to avoid exacerbating existing community tensions over water.

### 10.7 Climate Vulnerability

Vulnerability is a function of exposure, sensitivity and adaptive capacity.

**Exposure** Lot 1 is exposed to intensifying rainfall extremes, rising temperatures and water-stress conditions. Its location near the River Motoine system (approximately 300 m) increases flood exposure. The wider Southlands cluster multiplies exposure through cumulative hard-surface area and population.

**Sensitivity**

- High residential density and the presence of vulnerable groups (children, elderly, PWDs, low-income households) increase sensitivity to heat, flooding and water shortages;
- Dependence on external infrastructure (municipal water, sewer, power, roads) that is itself climate-vulnerable;

- Limited private outdoor space and potential heat build-up in multi-storey blocks; and
- Social sensitivity arising from pre-existing water and drainage grievances in the neighbouring community (including Langata View Corner Apartments).

**Adaptive capacity**

- Current adaptive capacity of the surrounding area is relatively low due to infrastructure deficits and high poverty levels among some resident groups;
- The project itself can raise adaptive capacity by incorporating resilient design, diversified water sources, green infrastructure, energy efficiency and strong estate management systems;
- Institutional adaptive capacity depends on effective coordination with NCWSC, WRA, the county, KeNHA and other agencies.

### 10.8 Adaptation Measures

Adaptation measures aim to reduce the project's vulnerability and increase its resilience to current and future climate conditions. The following measures will be integrated into design, construction and operation:

**Flooding and stormwater** a) Set finished floor levels and critical infrastructure above design flood elevations informed by climate-adjusted hydrological analysis. b) Size stormwater drainage for higher-intensity rainfall events and incorporate SUDS (retention / detention basins, swales, permeable paving, infiltration where geotechnically feasible). c) Maintain and protect the landscaped green spaces and eastern buffer as part of the stormwater management system. d) Ensure overland flow paths remain clear and do not direct floodwater toward neighbouring properties (including Langata View Corner Apartments).

**Heat** a) Optimise building orientation, window placement and shading devices for passive cooling. b) Use materials and colours with favourable thermal performance. c) Maximise cross-ventilation in units and common areas. d) Implement extensive landscaping and tree planting for shade and micro-climate cooling. e) Avoid excessive hard surfacing; retain or create permeable and vegetated areas.

**Water security** a) Implement the hybrid water-supply system (municipal connection + WRA-permitted borehole(s) + storage + rainwater harvesting). b) Install water-efficient fixtures and fittings throughout. c) Design dual plumbing or dedicated non-potable networks for landscaping and selected uses where feasible. d) Establish clear water-conservation rules and monitoring for residents. e) Coordinate with NCWSC and Athi Water on supply reliability and network reinforcement.

**Broader resilience** a) Diversify energy supply with solar PV for common areas and critical loads to reduce vulnerability to grid outages. b) Design access roads and emergency routes to remain passable under extreme weather conditions. c) Include climate risk in estate management plans and emergency preparedness procedures. d) Support community-level awareness on heat-health and flood preparedness.

### 10.9 Mitigation Measures

Mitigation measures aim to reduce the project's contribution to greenhouse-gas emissions:

a) Specify low-carbon or supplementary-cementitious materials where technically and economically feasible to reduce embodied carbon in concrete. b) Optimise structural design to minimise material quantities without compromising safety. c) Promote recycling and reuse of construction and demolition materials. d) Require contractors to maintain plant and vehicles in efficient condition and to minimise idling. e) Incorporate energy-efficient lighting, appliances and building-envelope measures in the residential units and common areas. f) Install solar PV for common-area lighting, water pumping and selected critical loads where feasible. g) Maximise water efficiency (thereby reducing pumping energy). h) Design and manage the development to encourage non-motorised transport and public-transport use, reducing Scope 3 transport emissions. i) Protect and expand on-site green cover (compensatory planting at a minimum 1:3 ratio) to enhance local carbon sequestration and micro-climate benefits. j) Include GHG performance monitoring and continuous improvement in the estate management plan.

These adaptation and mitigation measures, implemented in conjunction with the Environmental and Social Management Plan (Chapter 11), will climate-proof the Lot 1 development in line with the Climate Change Act, 2016 and contribute to the overall resilience of the Southlands housing programme.

# CHAPTER ELEVEN: ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN — ESMP

## 11.1 Introduction

This Environmental and Social Management and Monitoring Plan (ESMP) sets out the practical measures required to avoid, minimise, mitigate and manage the environmental and social impacts identified in this ESIA Study Report for Kibra Lot 1. It translates the impact assessment findings (Chapter 7), social/PAP measures (Chapter 8), traffic assessment (Chapter 9) and climate resilience requirements (Chapter 10) into actionable commitments with clear responsibilities, timelines, monitoring indicators and performance standards. The ESMP covers the construction, operational and decommissioning phases. The Contractor shall prepare a detailed Contractor's Environmental and Social Management Plan (C-ESMP) consistent with this framework before works commence.

## 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, demolition of informal structures and concreting** | - Use low-noise equipment fitted with mufflers and silencers. - Restrict high-noise activities (piling, excavation, demolition, concrete pouring) to daytime hours only (07:00 – 18:00). - Erect temporary acoustic barriers / sound screens along the eastern boundary facing Langata View Corner Apartments and other sensitive receptors. - Maintain all machinery regularly. - Comply with EMCA Noise and Excessive Vibration | Throughout construction (24 months) | - Weekly noise measurements at site boundaries and key receptors (Langata View Corner Apartments and any residual sensitive points). - 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(A) day / ≤ 35 dB(A) night at receptors). - No unresolved noise complaints. - Barriers installed and maintained (100 %). |

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| | 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 noise at boundary preferably ≤ 60 dB(A). | | | | |
| **Noise from construction traffic and material delivery** | - Schedule deliveries during off-peak hours (09:00 – 15:00) where practicable. - Ensure all vehicles have functional mufflers. - Deploy traffic marshals to minimise idling and unnecessary honking. - Notify neighbouring receptors (especially Langata View Corner Apartments) 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 to neighbouring residents (Langata View Corner Apartments)** | - Provide advance written notice (minimum 48 hours) of high-noise activities. - Install dedicated acoustic screens facing the eastern residential boundary. - Avoid high-noise works on Sundays and public holidays unless under exceptional approved circumstances. | Throughout construction | - Review notification records. - Weekly noise monitoring specifically at the eastern boundary. | Main Contractor, ESO, CLO | - No unresolved complaints from Langata View Corner Apartments. - Evidence of notifications and targeted barriers. |

**2. AIR QUALITY AND DUST MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Dust from excavation, earthworks, demolition of informal settlements, stockpiles and vehicle movement** | - Water spraying of exposed surfaces, access roads and stockpiles at least three times daily (more frequently in dry/windy conditions). - Cover stockpiles with tarpaulins when not in use. - Enforce 20 km/h speed limit on unpaved internal roads. - Install dust screens / netting along the eastern boundary facing Langata View Corner Apartments. - Provide dust masks to workers. - Comply with EMCA Air Quality Regulations, 2014: $PM_{10} \leq 50\ \mu g/m^3$ (24-hour average) at sensitive receptors. | Throughout construction | - Daily verification of water spraying. - Weekly inspection of stockpile covers and dust screens. - Bi-weekly ambient air quality monitoring ($PM_{10}$ & $PM_{2.5}$) at receptors. | Main Contractor, ESO | - Dust levels within NEMA Ambient Air Quality Standards ($PM_{10} \leq 50\ \mu g/m^3$). - No unresolved dust complaints. - 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,** | - Conduct pre-construction structural condition survey of nearby buildings (especially Langata View | During foundation, piling and major | - Pre-construction structural survey reports. - Continuous or daily | Main Contractor, Structural Engineer, ESO | - No structural damage to neighbouring properties. - |

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| **demolition and heavy machinery** | Corner Apartments). - Prefer low-vibration methods (bored piles / hydraulic hammers) over driven piles where feasible. - Monitor vibration levels during critical activities and limit continuous Peak Particle Velocity (PPV) at the property boundary / nearest structures to ≤ 0.5 cm/s (5 mm/s). - Stop works immediately if vibration exceeds safe thresholds and investigate. - Notify neighbours of significant vibration works at least 14 days in advance. | demolition works | vibration monitoring during piling / high-risk activities. - Log any vibration complaints in GRM. | | Vibration levels within safe limits (PPV ≤ 0.5 cm/s). - 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 vegetation associated with informal settlements (scattered trees, Napier grass, weeds and any cultivated plots)** | - Limit clearance strictly to the project footprint. - Identify and mark any remaining mature trees for possible retention or transplanting. - Transplant viable mature trees where feasible. - Develop and implement a post-construction landscaping and replanting plan using indigenous or suitable native species at a minimum 1:3 compensatory ratio. | Site clearance and early construction | - Pre-clearance biodiversity walkover survey. - Record number of trees retained / transplanted and survival rate. - Monthly inspection of remaining vegetation and progressive landscaping. | Main Contractor, ESO, Environmental Consultant | - No unnecessary vegetation loss outside footprint. - ≥ 70 % survival rate of transplanted trees. - Replanting plan approved and ready for implementation. |

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| **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, demolition waste from informal settlements and general solid waste** | - Develop and implement a site-specific Waste Management Plan following the waste hierarchy. - 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. - Prohibit burning of waste on site. | 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 where feasible. - 100 % of residual waste disposed through licensed handlers. - No illegal dumping. |
| **Hazardous waste (used oil, solvents, batteries, empty chemical containers, potential hazardous materials from demolished structures)** | - Store hazardous waste in secure, bunded, labelled areas with impermeable floors. - Engage licensed hazardous-waste contractors for disposal. - Train workers on hazardous-waste handling. - Characterise any suspect materials from informal structures before disposal. | Throughout construction | - Weekly inspection of hazardous storage areas. - Quarterly training records and disposal certificates. | Main Contractor, ESO | - Zero contamination incidents. - All hazardous waste tracked and disposed correctly. |

**6. WATER RESOURCES, DRAINAGE AND EROSION MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Stormwater runoff, erosion and sedimentation** | - Install silt fences, sediment traps and temporary drainage channels before major earthworks. - Protect stockpiles from rain. - Direct clean runoff away from neighbouring properties (including Langata View Corner Apartments) and the River Motoine corridor (≈ 300 m). - 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. - Prohibit discharge of untreated wastewater into the environment. | 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 permitted boreholes, bowsers or authorised municipal supply; avoid illegal connections. - Promote water-efficient construction methods. - Provide adequate on-site storage. | 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 |
|---|---|---|---|---|---|

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| **Construction vehicle movements and congestion** | - Prepare and implement a Construction Traffic Management Plan (CTMP) approved by KeNHA and the county. - Schedule heavy deliveries during off-peak hours (09:00 – 15:00) where practicable. - Deploy trained traffic marshals at access points. - Provide adequate on-site holding areas to prevent queuing on the Southern Bypass or local roads. | Throughout construction | - Daily monitoring of delivery schedules and marshal deployment. - Weekly inspection of access road 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 walkways where needed. - Enforce vehicle speed limits strictly. - Conduct toolbox talks on road safety. - Maintain clear segregation of pedestrian and vehicular movements at site gates. | Throughout construction | - Weekly inspection of signage and walkways. - Record of any accidents or near-misses. | Main Contractor, Safety Officer, CLO | - Zero serious accidents involving community members. - Signage and walkways 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 neighbouring communities (especially Langata View Corner Apartments)** | - Implement all dust and noise controls listed above. - Maintain secure fencing / hoarding and controlled access to the site. - Provide clear GRM channels for community complaints. - Conduct community awareness on site safety and emergency contacts. | 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. |

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| **Security and social risks from worker influx** | - Register and issue identification to all workers. - Prefer local labour (target 70–90 % unskilled and semi-skilled from the community through the Chief). - Collaborate with local administration and police. - Enforce a strict Worker Code of Conduct. | Throughout construction | - Weekly review of worker register. - Monthly meetings with local administration. | Main Contractor, CLO, ESO | - ≥ 70–90 % local unskilled labour achieved. - No major security or social incidents linked to workers. |
| **Public health (HIV/AIDS, sanitation, communicable diseases)** | - 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, demolition of informal structures)** | - Enforce OSHA 2007 requirements fully. - Provide and enforce use of appropriate PPE (helmets, safety boots, high-visibility vests, gloves, harnesses, respiratory protection where required). - 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. |

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| **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. |
| **Electrical hazards (including electricity-line relocation)** | - Coordinate fully with KPLC on line relocation. - Enforce strict electrical safety protocols and exclusion zones during works. - Use only competent personnel for electrical works. | During enabling and relevant construction works | - Method statements approved before works. - Daily toolbox talks on electrical safety. | Main Contractor, Safety Officer, KPLC liaison | - Zero electrical incidents. - All electrical works executed under approved method statements. |

**10. GENDER AND SOCIAL INCLUSION / PAP 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 structures. - Provide separate sanitary facilities for women. - Prefer local labour (70–90 % target) through the Chief's office. | 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. - Local labour targets met. |
| **Prevention of gender-based violence and harassment** | - Enforce a clear zero-tolerance policy on sexual harassment and GBV. - Conduct mandatory induction on the Worker Code of Conduct. - Provide | 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. |

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| | confidential reporting channels through the GRM. | | | | |
| **PAP facilitation and livelihood restoration (informal settlements, schools, churches, micro-enterprises)** | - Complete verified PAP register before any displacement. - Provide adequate written notice and facilitation support prior to clearance. - Maintain dedicated PAP engagement and GRM access. - Coordinate timing of physical clearance with delivery of facilitation and livelihood-restoration measures. - Give priority attention to vulnerable PAPs (PWDs, women-headed households, elderly, children). | Pre-construction and throughout clearance phase | - PAP register completion and verification records. - Facilitation delivery records. - Monthly review of PAP-related grievances in GRM. | Proponent, Main Contractor, CLO, Social Specialist | - 100 % of verified PAPs receive agreed facilitation before displacement. - No unresolved critical PAP grievances. - Vulnerable PAPs specifically tracked and supported. |

### 11.3 Operational Phase ESMP

### 1. NOISE MANAGEMENT PLAN

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Noise from residential activities, backup generators and mechanical equipment** | - Restrict use of backup generators to emergency periods only and house them in an acoustically treated power house. - Ensure all generators and pumps are fitted with acoustic enclosures and mufflers. - Enforce quiet hours (preferably 22:00 – 06:00). - Maintain all | Throughout operation | - Quarterly noise measurements at site boundary and sensitive receptors (especially Langata View Corner Apartments to the east). - Log all noise complaints in the GRM. - Review | Facility Management Company / Estate Manager, Environmental & Social Officer (ESO) | - Noise levels within EMCA limits (≤ 50/55 dB(A) day / ≤ 35 dB(A) night at receptors). - No unresolved noise complaints. - 100 % compliance with quiet hours. |

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| | mechanical equipment regularly. - Comply with EMCA 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. | | generator operation logs monthly. | | |
| **Noise from commercial stalls and community activities** | - Restrict commercial activities (music, loading, loud operations) to 07:00 – 20:00. - Prohibit use of loudspeakers after 20:00. - Sensitise stall operators and residents on noise regulations. - Maintain landscaped buffer and screen planting along the eastern boundary. | Throughout operation | - Monthly inspections of commercial areas. - Record complaints in GRM. | Estate Manager, Community Liaison Officer (CLO) | - No unresolved complaints from Langata View Corner Apartments or other neighbours. - Evidence of sensitisation 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 ($PM_{10}$, $PM_{2.5}$, $NO_2$, $SO_2$) 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** | - Maintain cabro roads and parking areas in | Throughout operation | - Monthly inspection of road surfaces. - Record | Estate Manager | - Roads maintained (no significant dust). - |

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| **and parking areas** | good condition. - Sweep and water internal roads during dry seasons as needed. | | dust complaints in GRM. | | No unresolved dust complaints. |

**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 daily / 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 overhead / underground storage tanks in good working condition. - Implement water metering for each block / household where feasible. - Promote water-saving fixtures and resident awareness. - Monitor borehole yields and | Throughout operation | - Monthly water consumption records. - Quarterly borehole yield and water-quality tests (as per WRA requirements). - Log water-shortage complaints in GRM. | Facility Management, ESO | - No prolonged water shortages. - Water quality meets KEBS / WHO standards. - Borehole yields stable. |

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| | water quality quarterly (or as required by WRA permit conditions). - Coordinate with NCWSC and Athi Water on supply reliability. | | | | |
| **Wastewater and sewer management** | - Ensure proper connection and maintenance of the foul sewer system coordinated with NCWSC and the Nairobi Rivers Regeneration Project. - 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 the GRM. | Facility Management, ESO | - No sewer overflows. - 100 % of wastewater directed to approved system. - No unresolved sewer complaints. |
| **Stormwater drainage** | - Maintain stormwater drains, swales and any SUDS elements free of debris. - Ensure no blockage of natural drainage paths toward the River Motoine corridor (≈ 300 m). - Keep landscaped and permeable areas functional. | Throughout operation (especially rainy seasons) | - Pre-rainy season and monthly inspections of drains. - Post-heavy-rainfall inspections. | Facility Management | - No flooding of internal roads or neighbouring properties (including Langata View Corner Apartments). - Drains clear at all times. |

**5. TRAFFIC AND ACCESS MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Increased traffic from residents and visitors** | - Maintain clear internal circulation and adequate on-site parking in accordance with planning standards. - Enforce one-way systems and speed limits (20 km/h) inside the estate. - Coordinate with KeNHA on access from the Southern Bypass and local connecting roads. - Implement recommendations of the Traffic Impact Assessment. | 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. |

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| **Pedestrian and cyclist safety** | - Maintain continuous, well-lit pedestrian walkways linking residential blocks, commercial stalls, play areas, gates and public-transport points. - Ensure clear signage at entrances and exits. - Keep pedestrian–vehicle segregation at gates. | Throughout operation | - Monthly inspection of walkways, lighting and signage. | Facility Management | - Walkways and lighting functional (100 %). - No unresolved pedestrian-safety complaints. |
| **Parking management** | - Enforce estate parking rules to prevent obstruction of internal roads, emergency access and neighbouring streets (including those serving Langata View Corner Apartments). - Monitor for overspill onto adjacent roads. | Throughout operation | - Monthly parking audits. - Record overspill complaints in GRM. | Estate Manager, Security | - No significant parking overspill observed. - Emergency access always clear. |

**6. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Security and social risks** | - Operate controlled access through the designed gates and gatehouses. - Maintain functional street and compound lighting. - Deploy professional security personnel and CCTV where appropriate. - Establish clear resident rules and a code of conduct. - Foster good relations with neighbouring communities (especially Langata View Corner Apartments) and local police. | Throughout operation | - Monthly security performance reports. - Review of security-related grievances in GRM. | Facility Management, Security | - Controlled access operational at all times. - No major unresolved security incidents. - Lighting functional (100 %). |
| **Community health and vector control** | - Enforce high standards of building, infrastructure and grounds maintenance. - Implement integrated vector and pest control as part of routine management. - | Throughout operation | - Monthly inspection of drainage, waste points and common areas. - | Facility Management, ESO | - No significant vector-related complaints. - Common areas maintained to standard. |

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| | Maintain functional drainage and waste systems to prevent breeding sites. - Promote resident awareness of health, safety and neighbourly conduct. | | Records of vector-control activities. | | |
| **Interface with neighbouring residents (Langata View Corner Apartments)** | - Maintain the landscaped buffer and screen planting along the eastern boundary. - Respond promptly to amenity, privacy or nuisance complaints through the GRM. - Sustain continuous engagement with neighbouring representatives. | Throughout operation | - Quarterly review of neighbour-related grievances. - Inspection of buffer landscaping. | Estate Manager, CLO, ESO | - Buffer landscaping maintained. - No unresolved critical amenity complaints from neighbours. |

**7. GREEN SPACES, LANDSCAPING AND RECREATIONAL AREAS MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Maintenance of green spaces, landscaping and children's play area** | - Maintain landscaped buffer, green spaces and outdoor children's play area to a high standard under the estate management plan. - Use appropriate indigenous or well-adapted species and replace failed planting promptly. - Protect and nurture compensatory trees planted during construction (minimum 1:3 ratio). - Establish clear rules for use of common open spaces. | Throughout operation | - Monthly inspection of landscaping and play equipment. - Record of replacement planting. | Facility Management, ESO | - Green spaces and play area functional and well maintained. - Compensatory trees surviving (≥ 70 % survival target). - No significant degradation reported. |

**8. SOCIAL SERVICES AND LIVELIHOOD / EMPLOYMENT MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Local employment in estate operations** | - Prioritise local residents (where skills match) for permanent and semi- | Throughout operation | - Quarterly employment statistics (local / | Facility Management, CLO | - Evidence of local prioritisation in recruitment. - |

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| | permanent jobs in estate management, security, cleaning, landscaping and maintenance. - Maintain transparent recruitment records. | | gender / PWD). - Review of recruitment records. | | Transparent records available. |
| **Commercial stalls and local economic opportunities** | - Operate transparent allocation and management of commercial / shopping stalls. - Give fair opportunity to verified former micro-enterprise operators (from the PAP register) where feasible. - Maintain good relations with surrounding businesses. | Throughout operation | - Review of stall allocation records. - Log of business-related grievances in GRM. | Facility Management / Housing Board liaison | - Transparent allocation process documented. - No unresolved critical business grievances. |
| **Ongoing PAP / vulnerable-group support** | - Continue monitoring of vulnerable PAPs through the GRM and social specialists until livelihood restoration is verified as complete. - Facilitate access to information on public services and housing-related support for new residents. | Early operational phase (first 12–24 months) and ongoing as needed | - Monthly review of PAP-related grievances. - Social audit reports. | Proponent, Facility Management, CLO, Social Specialist | - Livelihood restoration verified for tracked PAPs. - No unresolved critical PAP grievances. |

**9. CLIMATE RESILIENCE AND RESOURCE-EFFICIENCY MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Water efficiency and climate adaptation** | - Maintain hybrid water-supply system (municipal + borehole(s) + storage + rainwater harvesting where installed). - Enforce water-conservation rules and monitor consumption. - Keep SUDS and drainage elements functional. | Throughout operation | - Monthly water-consumption records. - Quarterly water-quality and borehole-yield monitoring. - Pre- and post-rainy-season drainage inspections. | Facility Management, ESO | - Water consumption within design targets. - No prolonged shortages or flooding incidents. |

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| **Energy efficiency and GHG reduction** | - Maintain solar PV (if installed) for common areas and critical loads. - Promote energy-efficient practices among residents. - Service backup generator only as needed and keep it in efficient condition. | Throughout operation | - Quarterly review of energy-use records and generator logs. | Facility Management, ESO | - Generator used only for emergencies. - Evidence of energy-efficiency measures. |

### 11.4 Decommissioning Phase ESMP

### 1. NOISE MANAGEMENT PLAN

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Noise from demolition, dismantling and heavy machinery** | Use demolition equipment with effective mufflers and select low-noise dismantling methods where practicable. Restrict high-noise demolition works to daytime hours of **7:00 AM–6:00 PM**. Install temporary acoustic barriers along boundaries facing **Langata View Corner Apartments, nearby schools, churches and other sensitive receptors**. Notify neighbouring receptors at least **7 days** before major demolition activities. Comply with the EMCA Noise and | Throughout decommissioning | Weekly noise measurements at site boundaries and representative sensitive receptors. Record and analyse noise-related complaints through the GRM. Inspect acoustic barriers weekly. | Main Contractor, Environmental/Social Officer (ESO), Community Liaison Officer (CLO) | Noise levels maintained within applicable limits; no unresolved noise complaints; 100% of required acoustic barriers maintained. |

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| | Excessive Vibration Pollution (Control) Regulations, 2009, including the residential-area limits of **≤55 dB(A) during daytime and ≤35 dB(A) at night**. | | | | |
| **Noise generated by demolition-material haulage** | Schedule demolition-waste transportation during relatively low-traffic periods, preferably **9:00 AM–3:00 PM**. Ensure haulage vehicles are fitted with functional mufflers. Prohibit unnecessary idling, revving and horn use. | Throughout decommissioning | Daily review of haulage schedules and vehicle practices. Record transport-related noise complaints. | Main Contractor, Transport Supervisor, CLO | No persistent haulage-related noise complaints; 100% of haulage vehicles meet noise-control requirements. |

**2. AIR QUALITY AND DUST MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Dust generated during demolition, breaking and handling of debris** | Undertake regular water spraying/misting of active demolition areas and debris handling points. Install dust screens/netting around demolition areas, particularly towards **residential apartments, schools, churches and businesses**. Cover demolition stockpiles and loaded trucks with tarpaulins. Prohibit dry sweeping and use wet- | Throughout decommissioning | Daily verification of dust suppression. Weekly inspection of dust screens and covered stockpiles. **Bi-weekly monitoring of PM10 and PM2.5** at selected sensitive receptors during intensive demolition. | Main Contractor, ESO | Ambient particulate concentrations maintained within applicable NEMA standards; no unresolved dust complaints; 100% compliance with dust suppression requirements. |

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| | cleaning methods. Provide suitable respiratory protection, including **N95 or equivalent masks**, to workers exposed to dust. | | | | |
| **Exhaust emissions from demolition plant and haulage vehicles** | Use properly maintained machinery and vehicles. Minimise unnecessary engine idling. Undertake scheduled servicing of plant and vehicles. Remove visibly smoking or poorly maintained equipment from service until corrective maintenance is completed. | Throughout decommissioning | Weekly review of equipment maintenance records and daily observation of idling and visible emissions. | Main Contractor, Transport Supervisor, ESO | No excessive visible emissions; maintenance records up to date for all major plant and vehicles. |

**3. VIBRATION MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Vibration arising from demolition of G+8 residential blocks** | Undertake a pre-demolition condition survey of potentially affected neighbouring structures, particularly **Langata View Corner Apartments and other immediately adjoining buildings**. Use controlled, sequential dismantling methods rather than uncontrolled demolition. Avoid explosive demolition techniques. Monitor vibration during critical demolition activities and immediately suspend | Before and during structural demolition | Pre- and post-demolition structural condition surveys. Continuous or daily vibration monitoring during high-impact activities. Record vibration complaints through the GRM. | Main Contractor, Structural Engineer, ESO | No demonstrable demolition-related structural damage to neighbouring properties; vibration remains within applicable safe limits; complete survey records maintained. |

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| | works where monitoring indicates a risk of structural damage. | | | | |

**4. WASTE MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Demolition waste including concrete, masonry, steel, timber and other construction materials** | Prepare a detailed Demolition Waste Management Plan before decommissioning works. Segregate materials at source and maximise recovery, reuse and recycling of concrete, steel, timber and other suitable materials. Establish designated temporary waste-storage areas within the site. Prevent uncontrolled dumping or burning. Dispose of residual waste only through appropriately licensed waste handlers and facilities. | Throughout decommissioning | Weekly inspection of waste segregation and storage areas. Monthly review of recycling, transport and disposal records/manifests. Record waste-related complaints through the GRM. | Main Contractor, ESO, Licensed Waste Contractor | At least **70% of suitable demolition waste reused or recycled**; 100% of residual waste transferred to licensed handlers; zero illegal dumping. |
| **Hazardous materials and hazardous waste** | Undertake a pre-demolition hazardous-materials survey to identify potential asbestos-containing materials, residual oils, chemicals, electrical components, fluorescent lamps and e-waste. Where hazardous materials are identified, | Before and during decommissioning | Pre-demolition hazardous-material survey. Weekly inspection of hazardous-material storage areas. Retain disposal certificates and waste-tracking records. | Main Contractor, ESO, Licensed Hazardous Waste Contractor | Zero uncontrolled releases of hazardous materials; 100% of identified hazardous waste properly tracked and disposed of through |

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| | isolate and remove them using licensed and appropriately qualified specialists. Store hazardous waste in secure, labelled and bunded areas pending disposal. | | | | approved channels. |

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

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Stormwater runoff, erosion and sedimentation** | Maintain temporary drainage channels, silt fences and sediment traps throughout demolition. Protect exposed soil and material stockpiles from rainfall. Avoid directing sediment-laden runoff towards neighbouring properties or drainage systems. Progressively stabilise disturbed surfaces as sections of the site are cleared. Particular attention shall be given to protecting drainage pathways towards **River Motoine**, located approximately 300 m from the site. | Throughout decommissioning, particularly during rainy periods | Weekly inspection of drainage channels and sediment controls and additional inspections following heavy rainfall. Monitor off-site runoff where discharge occurs. | Main Contractor, ESO | No significant sedimentation of neighbouring drainage systems; temporary drainage and erosion controls remain functional; no visible pollution of receiving drainage pathways. |
| **Soil and water contamination** | Store residual fuels, oils and chemicals in properly bunded and | Throughout decommissioning | Weekly inspection of storage areas and | Main Contractor, ESO | No uncontrolled release of fuels or chemicals; all spills |

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| **from fuel, oil and chemical spills** | labelled areas. Maintain spill kits at fuel-storage and equipment-maintenance locations. Train workers in spill response. Immediately contain and clean any spill and prevent contaminated runoff from leaving the site. | | spill kits. Record and investigate all spills. Conduct soil inspection where contamination is suspected. | | recorded and remediated; site left free of residual contamination at handover. |
| **Decommissioning of water infrastructure** | Protect water infrastructure that may still serve neighbouring developments. Any borehole or water-related infrastructure requiring closure shall be decommissioned in accordance with the requirements of the relevant water authorities. Existing drainage infrastructure shall not be blocked during utility removal. | During utility removal | Verification of utility-removal records and inspection of drainage and water infrastructure. | Main Contractor, ESO, relevant Water Authority | Water infrastructure safely protected or decommissioned; no avoidable disruption to neighbouring water or drainage systems. |

**6. TRAFFIC AND ROAD SAFETY MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Movement of demolition-waste trucks and heavy equipment** | Prepare and implement a decommissioning Traffic Management Plan. Schedule heavy haulage during off-peak periods, | Throughout decommissioning | Daily monitoring of truck movements and marshal | Main Contractor, Transport Supervisor, CLO | No persistent traffic congestion or safety complaints attributable to decommissioning; |

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| | preferably **9:00 AM–3:00 PM**. Deploy trained traffic marshals at access and egress points. Maintain the site access road in a safe and reasonably dust-free condition. Coordinate haulage activities to minimise disruption to surrounding residential, commercial and institutional receptors. | | deployment. Weekly inspection of access roads. Record traffic complaints and incidents in the GRM. | | traffic marshals present during at least **95% of haulage periods**. |
| **Pedestrian and community safety** | Provide warning signs, barriers and clearly defined temporary pedestrian routes wherever demolition traffic intersects with pedestrian movement. Enforce a maximum site/access-road speed of **20 km/h**. Provide adequate lighting and visibility around controlled access areas. | Throughout decommissioning | Weekly inspection of signs, barriers and pedestrian routes. Maintain records of accidents and near-misses. | Main Contractor, Safety Officer, CLO | Zero serious accidents involving community members; 100% of required signs, barriers and pedestrian controls maintained. |

**7. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Risks to neighbouring residents, schools, churches and businesses** | Maintain secure perimeter fencing and controlled site access throughout demolition. Implement the prescribed dust, noise and vibration controls. Notify | Throughout decommissioning | Weekly inspection of site fencing and access controls. Monthly review of GRM records, complaints and community notifications. | Main Contractor, ESO, CLO, Security Team | No unresolved community health, safety or nuisance complaints; site remains fully secured. |

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| | sensitive receptors before major demolition stages. Maintain accessible GRM channels through the CLO and local administration. Clearly communicate work schedules and expected temporary disturbances to affected neighbours. | | | | |
| **Security and social risks associated with decommissioning workforce** | Register all workers and provide identification. Enforce a worker Code of Conduct. Maintain coordination with local administration and security agencies. Control access of visitors, contractors and waste-transport personnel. | Throughout decommissioning | Weekly review of worker registers and access records. Maintain records of coordination with local administration/security agencies. | Main Contractor, CLO, ESO | No major security or social incidents attributable to the decommissioning workforce; 100% of workers registered and identifiable. |
| **Disruption to neighbouring businesses and community activities** | Provide advance information concerning demolition schedules, temporary access | Prior to and throughout major decommissioning activities | Records of notifications, meetings and complaints. | Main Contractor, CLO, ESO | Evidence of timely notification; no prolonged unresolved access-related grievances. |

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| | restrictions and haulage movements. Maintain safe access to neighbouring premises wherever practicable. Where temporary disruption is unavoidable, communicate the duration and proposed management measures in advance. | | | | |

**8. OCCUPATIONAL HEALTH AND SAFETY (OHS) MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Hazards associated with demolition and dismantling of G+8 structures** | Comply fully with the Occupational Safety and Health Act, 2007 and applicable demolition safety requirements. Provide and enforce appropriate PPE, including helmets, safety boots, gloves, high-visibility clothing, respiratory protection and fall-arrest equipment. Use certified scaffolding, lifting equipment and demolition machinery. Conduct daily toolbox | Throughout decommissioning | Daily PPE and equipment checks. Weekly OHS inspections. Monthly review of accidents, incidents and near-misses. | Main Contractor, Safety Officer | Zero fatalities; lost-time injury frequency maintained as low as reasonably practicable; 100% PPE compliance. |

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| | talks focused on demolition hazards. Maintain first-aid facilities and emergency response arrangements on site. | | | | |
| **Working at height and uncontrolled structural collapse** | Prepare and approve detailed demolition method statements before structural works commence. Apply sequential and controlled demolition techniques. Establish exclusion zones around active demolition areas. Use safety nets, catch platforms and other suitable fall-protection systems. | During structural demolition | Daily inspection of exclusion zones, scaffolding and fall-protection systems. Verify approval of demolition method statements before works begin. | Main Contractor, Safety Officer, Structural Engineer | No uncontrolled structural collapse or falls from height; all demolition method statements approved before implementation. |
| **Emergency situations during demolition** | Maintain an Emergency Preparedness and Response Plan covering structural collapse, fire, medical emergencies, hazardous-material spills, flooding, extreme weather and security incidents. Provide emergency contacts, first-aid equipment, fire-fighting equipment and spill kits. Conduct emergency drills as appropriate. | Throughout decommissioning | Periodic inspection of emergency equipment and review of incident records. | Main Contractor, Safety Officer, ESO | Emergency equipment available and functional; incidents responded to and documented appropriately. |

**9. BIODIVERSITY AND SITE RESTORATION MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
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| **Protection of vegetation retained during decommissioning** | Identify and mark trees and other vegetation designated for retention before demolition begins. Protect retained trees from machinery movement, debris storage and accidental damage. Avoid unnecessary vegetation clearance outside active demolition areas. | Throughout decommissioning | Regular inspection of tree-protection measures and site vegetation. | Main Contractor, ESO | No avoidable damage to trees designated for retention. |
| **Final site restoration and landscaping** | Remove demolition debris, temporary structures and contaminated materials. Regrade disturbed areas to stable contours. Restore suitable soil cover and implement a site rehabilitation and landscaping programme using appropriate species. Reinstate or improve green areas where feasible. | Final stage of decommissioning | Post-demolition site inspection. Verify landscaping and rehabilitation works. Assess vegetation establishment and survival **3–6 months after planting**. | Main Contractor, ESO | Site left clean, stable and free of demolition debris; rehabilitation successfully implemented; **≥80% survival** of planted vegetation. |
| **Prevention of secondary environmental impacts from abandoned disturbed areas** | Secure the site during rehabilitation. Prevent exposed areas from becoming sources of erosion, illegal dumping or stagnant-water accumulation. | During and after decommissioning | Periodic inspection until site handover. | Main Contractor, ESO | No significant erosion, uncontrolled dumping or persistent stagnant-water areas associated with decommissioning. |

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| | Maintain drainage until the site is fully stabilised. | | | | |

**10. SOCIO-ECONOMIC AND GRIEVANCE MANAGEMENT PLAN**

| Aspect/Activity | Management Measures | Timing | Monitoring Measure | Responsibility | Performance Indicator |
|---|---|---|---|---|---|
| **Grievance redress during decommissioning** | Maintain a functional and accessible GRM throughout the decommissioning period. Provide clear channels through the CLO, local administration and designated project communication channels. Acknowledge complaints within **7 days** and seek to resolve them within **30 days**, where practicable. | Throughout decommissioning | Monthly GRM performance reports showing complaints received, resolved and pending. Community feedback meetings where necessary. | Main Contractor, CLO, ESO | **≥90% of grievances resolved within 30 days**; GRM remains accessible and known to affected stakeholders. |
| **Communication with neighbouring stakeholders** | Provide regular and timely information to **Langata View Corner Apartments, nearby schools, churches, businesses, local administration and other affected stakeholders** concerning the decommissioning programme, major demolition activities, haulage schedules, temporary access | Throughout decommissioning | Maintain records of notifications, meetings, attendance and issues raised. | Main Contractor, CLO | Evidence of timely, transparent and documented stakeholder communication. |

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| | restrictions and rehabilitation timelines. | | | | |
| **Labour transition and workforce disengagement** | Provide workers with advance information on the anticipated completion of decommissioning activities. Comply with applicable labour requirements concerning termination and payment of workers. Where feasible, provide information on other available employment opportunities associated with rehabilitation, landscaping and site restoration. | During the final stage of decommissioning | Review worker records, final payments and exit documentation. | Main Contractor, Human Resources Officer, CLO | Workers receive applicable entitlements and clear communication on completion of employment. |
| **Vulnerable groups and affected community members** | Ensure that communication and grievance channels remain accessible to persons with disabilities, elderly persons, women, children and other vulnerable community members. Where temporary access restrictions affect vulnerable persons, provide reasonable alternative arrangements. | Throughout decommissioning | Review complaints and stakeholder engagement records for inclusion of vulnerable groups. | Main Contractor, CLO, ESO | No unresolved accessibility-related grievances; evidence that vulnerable groups can access communication and grievance channels. |

### 11.5 Emergency Preparedness and Response

An Emergency Preparedness and Response Plan (EPRP) shall be developed and maintained for Kibra Lot 1 throughout the project lifecycle. The plan shall provide a structured framework for preventing, preparing for and responding to emergencies that may occur during construction, operation and any future decommissioning of the development.

Given the location of Lot 1 within a densely settled urban environment and its proximity to Langata View Corner Apartments, existing residential areas, schools, churches, businesses and River Motoine, the emergency response arrangements shall provide for both on-site incidents and emergencies that could affect neighbouring communities.

The EPRP shall be reviewed periodically and updated whenever there are significant changes in the project activities, site layout, emergency risks or applicable requirements.

**Core elements of the Emergency Preparedness and Response Plan shall include:**

**a) Identification of potential emergencies**

The EPRP shall identify and assess foreseeable emergencies, including:

Fire and explosion; Medical emergencies and serious occupational injuries; Structural failure or partial/total collapse of structures; Falls from height and falling objects; Electrical accidents, particularly during utility installation, maintenance and the proposed rerouting of the existing electricity line; Hazardous-material and fuel spills; Flooding and stormwater-related incidents; Severe weather events; Traffic and road accidents involving project vehicles; Security incidents and unauthorised access; Community disturbances or conflict; Water-supply or sewerage emergencies; and Environmental incidents affecting drainage systems or nearby water resources.

**b) Emergency roles and responsibilities**

Clear roles shall be assigned to the Proponent, Contractor, Supervising Consultant, Environmental and Social Officer, Safety Officer, Community Liaison Officer, security personnel, estate management and other relevant personnel.

Emergency reporting lines and decision-making responsibilities shall be clearly communicated to all workers and relevant estate personnel.

**c) Emergency contact arrangements**

A current emergency contact list shall be maintained and displayed at strategic locations within the site. The list shall include, as applicable:

Project/estate management; State Department for Housing and Urban Development; Environmental and Social Officer; Safety Officer; Community Liaison Officer; Local administration; Police/security services; Nairobi City County emergency services; Fire and rescue services; Ambulance services; Nearest appropriate health facilities; NEMA and relevant regulatory agencies; and Relevant utility providers, including Kenya Power, where electrical emergencies occur.

**d) Evacuation and assembly arrangements**

Clearly marked emergency exits, evacuation routes and assembly points shall be provided and maintained. Emergency routes shall remain unobstructed and shall be accessible to workers, residents, visitors and persons with disabilities.

For the operational phase, emergency evacuation arrangements shall take account of the large residential population expected within the **1,386-unit development**.

**e) Emergency equipment**

Appropriate emergency equipment shall be provided, inspected and maintained, including:

Fire extinguishers and other fire-fighting equipment; First-aid kits; Emergency lighting; Spill-response kits; Warning signage; Communication equipment; and Other emergency response equipment appropriate to identified risks.

**f) Training and emergency drills**

Workers shall receive emergency response training during induction and periodic refresher training thereafter. Emergency drills shall be conducted at appropriate intervals and shall cover scenarios relevant to the identified risks.

During the operational phase, estate management personnel and appropriate resident representatives shall receive emergency preparedness training, including fire safety, evacuation procedures and reporting of emergencies.

**g) Coordination with external emergency services**

The project shall establish and maintain appropriate coordination arrangements with local administration, police, fire and rescue services, health facilities, utility providers and other relevant emergency-response agencies.

**h) Provisions for vulnerable persons**

Emergency procedures shall make specific provision for persons with disabilities, elderly persons, children, pregnant women and other persons who may require assistance during evacuation or emergency response.

Emergency routes, assembly areas and communication methods shall be designed to facilitate their effective participation.

**i) Incident reporting and corrective action**

All significant emergencies, accidents, near-misses and environmental incidents shall be recorded, investigated and reported to the relevant project authorities and regulatory agencies as required.

Corrective and preventive measures shall be identified following investigations, and the EPRP shall be updated where lessons from an incident indicate the need for improvement.

The EPRP shall be communicated to all workers during induction and refresher training and, during operation, to estate management personnel and residents through appropriate orientation and awareness programmes. Emergency drills shall be conducted at defined

intervals. Significant incidents shall be reported to the Proponent, NEMA and other relevant authorities within the applicable reporting timeframes.

### 11.6 Stakeholder Engagement / Communication Plan

Stakeholder engagement for Kibra Lot 1 shall continue beyond the ESIA public participation process. A structured **Stakeholder Engagement and Communication Plan (SECP)** shall be maintained throughout project implementation, construction, operation and, where applicable, future decommissioning.

The engagement approach shall recognise that Lot 1 is situated within an active urban and residential environment. Particular attention shall therefore be given to neighbouring residents, existing informal-settlement occupants and PAPs, schools, churches, small businesses, local administration and utility/service providers.

#### 11.6.1 Objectives

The stakeholder engagement and communication programme shall seek to:

a) Keep PAPs, neighbouring residents, local businesses, institutions, local administration and other stakeholders informed about project activities, schedules and potential disruptions.

b) Provide appropriate opportunities for stakeholders to raise concerns, make recommendations and receive feedback on how their concerns have been addressed.

c) Maintain transparent and consistent communication throughout the project lifecycle.

d) Reduce the potential for misinformation, conflict, misunderstanding and unnecessary disruption arising from project activities.

e) Maintain effective communication with PAPs and support implementation of agreed social and livelihood measures.

f) Facilitate continuous community input into environmental and social management and adaptive management of project impacts.

g) Ensure that vulnerable and potentially marginalised groups are able to participate meaningfully in project-related consultations.

h) Maintain an accessible and functional **Grievance Redress Mechanism (GRM)** throughout the project lifecycle.

#### 11.6.2 Key Stakeholder Groups

The principal stakeholders for Lot 1 shall include:

**Primary stakeholders**

Project Affected Persons associated with the existing informal settlement and affected structures/livelihoods; Existing small businesses, kiosks, vegetable vendors, grocery outlets and other micro-enterprises within the project area; Residents of neighbouring residential developments, particularly **Langata View Corner Apartments**; Nearby schools and educational institutions; Churches and other religious institutions; Women, youth and elderly

persons within affected and neighbouring communities; Persons with disabilities and other vulnerable groups; and Future residents of the proposed social and affordable housing development.

**Secondary and institutional stakeholders**

Mugumo-ini local administration, including the Chief and Assistant Chief; Lang'ata Constituency administration; Nairobi City County Government; National Environment Management Authority (NEMA); Kenya National Highways Authority (KeNHA); Water Resources Authority (WRA); Nairobi City Water and Sewerage Company (NCWSC); Kenya Power; relevant health, security and emergency-service agencies; educational and faith-based institutions; local business representatives; and other lead agencies and service providers with a regulatory or technical interest in the project.

### 11.6.3 Key Engagement and Communication Activities

The following activities shall be undertaken as appropriate to the project phase:

**a) Regular project updates**

Project updates shall be disseminated through the local administration, community meetings, appropriate notice boards and other accessible communication channels.

**b) PAP engagement**

Dedicated engagement shall be maintained with PAP representatives concerning facilitation, livelihood restoration, relocation-related matters, access arrangements and other issues affecting their interests.

**c) Neighbouring residential community engagement**

Regular communication shall be maintained with Langata View Corner Apartments and other neighbouring residential communities, particularly before activities likely to generate increased noise, dust, vibration, traffic or temporary access restrictions.

**d) Engagement with schools and religious institutions**

Nearby schools and churches shall receive advance information concerning activities that could affect access, safety, noise levels or normal institutional operations.

**e) Business-community engagement**

Local businesses and micro-enterprises shall be informed of project schedules, access arrangements and opportunities associated with the project, including opportunities for local procurement and employment where applicable.

**f) Utility-related communication**

Any activity involving the rerouting, isolation or reconnection of the existing electricity infrastructure shall be communicated and coordinated with affected stakeholders and the relevant utility provider in advance to minimise unplanned service interruptions and safety risks.

**g) Communication before disruptive activities**

Advance notification shall be provided before particularly disruptive activities, including: major excavation or demolition activities; heavy equipment movement; unusually noisy works; temporary road/access restrictions; utility interruptions; major deliveries; and activities with potential to affect neighbouring institutions or residences.

**h) GRM communication**

The GRM shall remain clearly publicised and accessible. Complaints shall be recorded, tracked, responded to and escalated in accordance with the established grievance procedure.

**i) Disclosure of monitoring information**

Where appropriate, summaries of environmental and social monitoring results and GRM performance shall be communicated to relevant stakeholders in accessible formats.

**j) Documentation**

All engagement activities shall be properly documented, including:

date and venue; stakeholder group; attendance; issues and concerns raised; responses provided; commitments made; responsible persons; agreed follow-up actions; and status of implementation.

The information shall be used to improve project implementation and inform adaptive environmental and social management.

**11.7 Institutional Responsibilities**

Clear allocation of institutional responsibilities is essential for effective implementation, supervision and monitoring of the ESMP for Kibra Lot 1.

| Entity | Main Responsibilities |
|---|---|
| Proponent – State Department for Housing and Urban Development | Overall accountability for implementation of the ESMP; provision of adequate resources; ensuring compliance with approval conditions; oversight of PAP facilitation and livelihood-restoration measures; maintaining the project-level GRM; reporting to NEMA and relevant lead agencies; coordinating environmental and social management across the Southlands/Kibra Lots; and appointing appropriately qualified environmental and social specialists. |
| Supervising Consultant | Day-to-day supervision of Contractor compliance with the ESMP and C-ESMP; review of environmental, social, health and safety method statements; verification of mitigation measures; regular site inspections; review of monitoring results and reports; identification of non-conformances; recommendation and follow-up of corrective actions; and reporting to the Proponent. |
| Main Contractor | Full implementation of the approved C-ESMP and applicable ESMP mitigation measures; preparation and implementation of supporting plans including OHS, Waste Management, Traffic Management and |

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| | Emergency Response Plans; provision of competent personnel; worker induction and training; implementation of environmental and social controls; daily/weekly monitoring; incident reporting; community liaison; and immediate corrective action where non-compliance is identified. |
| Contractor's Environmental and Social Officer (ESO) | Coordinate implementation of environmental and social safeguards at site level; undertake routine inspections; monitor dust, noise, waste, drainage, occupational and community health and safety controls; maintain environmental and social records; support stakeholder engagement; manage environmental/social incident reporting; and assist with implementation of the GRM. |
| Community Liaison Officer (CLO) | Maintain day-to-day communication with PAPs, neighbouring residents, businesses and institutions; facilitate community meetings; communicate construction schedules and potentially disruptive activities; receive and document community concerns; support GRM implementation; and maintain records of stakeholder engagement and commitments. |
| Safety Officer / OHS Team | Implement the project's occupational health and safety requirements; conduct workplace inspections and toolbox talks; ensure appropriate PPE is provided and used; monitor high-risk activities; maintain accident and near-miss records; coordinate emergency preparedness; and ensure compliance with applicable occupational safety requirements. |
| Estate Management Entity / Management Committee – Operational Phase | Implement operational ESMP measures; maintain buildings, drainage, water systems, roads, green spaces, waste facilities, lighting and security systems; enforce estate rules; manage operational complaints and the estate-level GRM; coordinate service providers; and report significant environmental and social issues to the Proponent. |
| Local Administration – Chief / Assistant Chief / relevant County Administration | Support community mobilisation and liaison; facilitate dissemination of project information; support identification and engagement of affected persons; assist with local employment communication where applicable; provide first-line support for grievances; and facilitate coordination between the project and the surrounding community. |
| NEMA | Provide regulatory oversight; review and approve the ESIA and subsequent environmental compliance submissions as applicable; undertake inspections and compliance monitoring; review environmental monitoring reports; issue directions where necessary; and enforce applicable environmental requirements. |
| Lead Agencies and Utilities – KeNHA, WRA, NCWSC, Kenya Power, Nairobi City County and others | Provide technical review and approvals within their respective mandates; monitor compliance with relevant permit and infrastructure conditions; provide technical guidance on roads, water resources, drainage, water/sewerage, electricity and other specialised matters; |

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| | and coordinate with the Proponent where project activities affect their infrastructure or statutory functions. |
| Affordable Housing Board / Relevant Housing Institutions | Provide oversight relating to housing allocation and implementation of applicable affordable/social housing policies; support resolution of higher-level housing-related grievances; and provide guidance on allocation, affordability and other housing-programme matters within its mandate. |
| PAPs, Residents and Community Representatives | Participate in consultations and monitoring where appropriate; raise concerns through established GRM channels; provide feedback on project impacts; support community-level communication; and participate in agreed measures intended to improve environmental and social performance. |
| Independent/External Specialists, where engaged | Undertake specialised assessments, audits, surveys or technical investigations where required, including environmental monitoring, structural assessments, occupational safety audits, social assessments or other specialist studies. |

The Proponent shall remain ultimately accountable for ensuring that the institutional arrangements are functional and that the various parties fulfil their assigned responsibilities. Effective implementation shall require regular coordination between the Proponent, Supervising Consultant, Contractor, local administration, community representatives, NEMA and relevant lead agencies.

# CHAPTER TWELVE: ENVIRONMENTAL AND SOCIAL MONITORING PLAN

## 12.1 Monitoring Objectives

The Environmental and Social Monitoring Plan for **Kibra Lot 1** provides a systematic framework for assessing whether the environmental and social mitigation measures identified in this ESIA and incorporated into the ESMP are being implemented effectively throughout the project lifecycle.

Monitoring will focus on the environmental and social receptors that may be affected by the proposed development, including neighbouring residential areas, educational and religious institutions, businesses and PAPs, as well as soil, drainage, water resources, air quality, noise, waste and occupational and community health and safety.

The specific objectives of monitoring are to:

a) Verify that the environmental, social, health and safety commitments contained in this ESIA, the approved ESMP and applicable regulatory approvals are implemented as required;

b) Establish whether mitigation measures are effectively controlling identified impacts and risks associated with the Lot 1 development;

c) Detect emerging impacts, non-conformances or negative trends at an early stage to facilitate timely corrective action;

d) Compare actual environmental and social conditions against the established baseline conditions and predicted impacts;

e) Monitor sensitive receptors around Lot 1, particularly **Langata View Corner Apartments, neighbouring residential areas, nearby schools and churches, local businesses and the surrounding community**;

f) Track the implementation of PAP facilitation, livelihood measures, stakeholder commitments and the Grievance Redress Mechanism;

g) Provide reliable and verifiable information for reporting to the Proponent, NEMA, lead agencies, the Supervising Consultant and other relevant stakeholders;

h) Support adaptive management and continuous improvement during construction, operation and eventual decommissioning;

i) Demonstrate compliance with EMCA, applicable EIA/EA requirements, permit conditions and other relevant environmental, social, health and safety obligations; and

j) Strengthen accountability by ensuring that monitoring findings are translated into corrective actions and improvements in project implementation.

### 12.2 Environmental Monitoring

| Aspect | Key Parameters / Focus Areas | Methods | Frequency | Responsibility | Action on Exceedance / Negative Trend |
|---|---|---|---|---|---|
| **Vegetation and Trees** | Number and condition of retained trees; compensatory planting; survival rates; landscaping condition; green-space establishment | Vegetation inventory, visual inspection, photographs and survival counts | Pre-clearance; monthly during planting/establishment; quarterly thereafter | Contractor / Supervising Consultant | Replace failed plants; strengthen tree-protection measures; undertake additional planting where required |
| **Soil Erosion and Sediment Control** | Exposed soil surfaces; erosion channels; sediment accumulation; condition of silt fences, sediment traps and other controls | Visual inspection and photographic records | Daily during active earthworks; weekly formal inspection | Contractor / Supervising Consultant | Install or repair erosion and sediment controls immediately; stabilise exposed areas |
| **Stormwater Drainage** | Drainage functionality; blockages; sediment accumulation; off-site runoff; discharge quality where applicable | Visual inspection and water sampling where discharge occurs | Weekly during construction and before/after significant rainfall events | Contractor / Supervising Consultant | Clear blocked drains; improve sediment controls; investigate polluted discharge and implement corrective measures |
| **Water-logged Areas / Standing Water** | Presence of stagnant water; drainage efficiency; mosquito breeding potential; areas | Visual inspection and photographic records | Weekly and after heavy rainfall | Contractor / ESO | Remove standing water where practicable; improve temporary/permanent drainage; investigate recurring ponding |

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| | susceptible to ponding | | | | |
| **Waste Generation and Management** | Waste quantities by category; segregation; storage; reuse/recycling; disposal records | Visual inspections, waste registers and waste-transfer manifests | Daily visual inspection; weekly register review; monthly summary | Contractor / Supervising Consultant | Correct segregation/storage deficiencies immediately; strengthen waste recovery and disposal controls |
| **Energy and Fuel Use** | Fuel consumption; generator operating hours; major energy-consuming equipment | Review of fuel and equipment records | Monthly | Contractor / Supervising Consultant | Investigate abnormal consumption; optimise plant utilisation and maintenance |
| **Housekeeping and Pollution Prevention** | General site cleanliness; litter; spills; condition of storage areas; availability of spill kits | Visual inspection and photographic records | Daily | Contractor / ESO | Immediate clean-up and corrective action; investigate source of recurring pollution |
| **Site Boundary / Neighbouring Receptors** | Dust, noise, safety conditions and effectiveness of boundary controls | Site inspection, monitoring records and GRM review | Daily/weekly depending on activity; immediate following complaints | Contractor / ESO / CLO | Strengthen controls and investigate complaints; implement corrective measures |

### 12.3 Social Monitoring

| Aspect | Key Parameters | Methods | Frequency | Responsibility | Action on Issues |
|---|---|---|---|---|---|
| **PAP Register and Facilitation** | Completeness and accuracy of PAP register; facilitation status; livelihood status; outstanding commitments | File review, facilitation/payment records and follow-up interviews | Monthly during displacement/facilitation period; quarterly thereafter | Proponent / Social Specialist | Follow up and accelerate outstanding facilitation or livelihood measures |
| **Affected Livelihoods** | Changes in business activities, income sources and access to | Interviews, follow-up consultations and livelihood records | Monthly during transition; quarterly thereafter | Proponent / Social Specialist | Strengthen livelihood-restoration |

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| | livelihood opportunities among affected persons | | | | measures where adverse trends are identified |
| **Vulnerable Households** | Identification of vulnerable households; assistance received; unresolved needs | Targeted follow-up and consultation | Monthly / quarterly | Proponent / Social Specialist | Provide or facilitate additional support as appropriate |
| **Local Employment** | Percentage of local workers; youth and women participation; employment opportunities provided to the surrounding community | Payroll records cross-checked with local administration | Monthly during construction | Contractor / Proponent | Review recruitment practices and improve local participation where targets are not being achieved |
| **Grievance Redress Mechanism** | Number received; category; response time; number resolved; pending cases; recurrence and escalation | GRM database analysis | Continuous logging; weekly review; monthly trend report | Proponent / CLO / Social Specialist | Escalate overdue cases and undertake root-cause analysis of recurring grievances |
| **Community Perceptions** | Stakeholder satisfaction; concerns regarding construction activities; perceptions of environmental/social performance | Community meetings, interviews, FGDs and spot checks | At key milestones and quarterly | Proponent / Social Specialist / CLO | Modify communication and mitigation approaches where recurring concerns are identified |
| **Stakeholder Engagement** | Meetings conducted; attendance; issues raised; commitments made; commitments implemented | Meeting minutes, attendance records and commitment registers | Ongoing | Proponent / CLO | Address outstanding commitments and fill gaps in engagement |
| **Social Conflict** | Protests, disputes, tensions or conflicts associated with the project | Incident records and local-administration feedback | Continuous | Proponent / CLO / Local Administration | Immediate engagement, de-escalation and corrective action |

### 12.4 OHS Monitoring

| Indicator | Method | Frequency | Responsibility | Action |
|---|---|---|---|---|
| **Induction and Toolbox Talk Coverage** | Review training and toolbox-talk registers | Weekly | Contractor OHS/Safety Officer | Conduct catch-up training for workers who have not received required training |
| **PPE Availability and Usage** | Daily visual inspection | Daily | Contractor OHS/Safety Officer | Enforce PPE requirements immediately; replace defective or unavailable PPE |
| **Incidents, Accidents and Near-Misses** | Incident register and investigation records | Continuous recording; weekly review | Contractor / OHS Team | Investigate incidents and implement corrective/preventive measures; report serious incidents to relevant authorities |
| **Lost-Time Injury Frequency** | Calculation from accident and workforce records | Monthly | Contractor / Supervising Consultant | Undertake root-cause analysis and implement corrective measures where the trend increases |
| **First-Aid and Fire-Fighting Equipment** | Equipment inspection and drill records | Weekly inspection; drills as scheduled | Contractor / Safety Officer | Replenish equipment and undertake refresher training |
| **Emergency Preparedness** | Review emergency equipment, evacuation routes and drill records | Monthly / as scheduled | Contractor / Safety Officer | Correct deficiencies and conduct additional drills where required |
| **Worker Welfare Facilities** | Visual inspection of sanitation, water, washing and welfare facilities | Weekly | Contractor / Supervising Consultant | Rectify deficiencies immediately |
| **Non-Conformance Closure Rate** | Audit and inspection tracking register | Weekly / monthly | Supervising Consultant | Escalate outstanding corrective actions and require closure within agreed timelines |

### 12.5 Water Quality Monitoring

| Parameter | Location / Source | Frequency | Method | Standard / Trigger |
|---|---|---|---|---|
| **pH, turbidity, EC, TDS, key ions, E. coli / coliforms** | Lot 1 borehole | Baseline before use; quarterly during construction and first 2 years of operation, or as required by WRA permit | Accredited laboratory | Applicable WRA permit requirements / relevant water-quality standards |

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| **Suspended solids, pH, oils and grease** | Construction runoff/discharges leaving the site | When discharge occurs and following significant rainfall | Accredited laboratory or appropriate field kit | No pollution of receiving environment |
| **Visual pollution indicators** | Site drainage outlets and runoff pathways | Weekly during construction and following rainfall | Visual inspection | No visible oil sheen, excessive sediment or contaminated discharge |
| **Municipal water quality** | Point of receipt/reference where applicable | As required | Laboratory analysis | For comparison/reference purposes |
| **Downstream drainage condition** | Drainage pathway toward River Motoine | Routine inspection; following major rainfall | Visual inspection and photographic records | No project-related blockage, excessive sedimentation or visible contamination |

### 12.6 Air Quality Monitoring

| Parameter | Locations | Frequency | Method | Action on Exceedance / Negative Trend |
|---|---|---|---|---|
| **Dust / Particulate Matter ($PM_{10}$, $PM_{2.5}$ or TSP as applicable)** | Site boundaries; particularly boundary adjacent to Langata View Corner Apartments; nearby sensitive receptors; downwind points | Daily visual inspection during dry/high-dust activities; quantitative monitoring at commencement of high-dust phases, monthly during high-risk periods and immediately following substantiated complaints | Visual inspection and calibrated monitoring equipment | Increase water spraying; install/strengthen dust screens; cover stockpiles; modify work methods; reduce vehicle speeds; temporarily suspend high-dust activities where necessary |
| **Visible emissions from plant and vehicles** | Site-wide | Continuous observation | Visual inspection | Service or remove poorly maintained equipment from operation |
| **Dust on access roads** | Site entrance and adjoining access routes | Daily during dry periods | Visual inspection | Increase road dampening/cleaning; improve wheel-cleaning and material-covering measures |

### 12.7 Noise Monitoring

| Parameter | Locations | Frequency | Method | Action on Exceedance |
|---|---|---|---|---|
| **Ambient noise (LAeq, Lmax)** | Site boundary closest to residential buildings; representative points near Langata View Corner Apartments and other sensitive receptors | Baseline before commencement of major noisy works; weekly during high-noise phases; monthly during lower-intensity phases; immediately following substantiated complaints | Calibrated sound-level meter | Investigate source; strengthen acoustic barriers; maintain equipment; reschedule noisy activities; communicate findings through GRM |
| **Working-hour compliance** | Site-wide | Continuous | Observation and work records | Enforce approved working hours |
| **Impulsive / tonal noise** | Relevant work areas and nearest sensitive receptors | During activities capable of producing impulsive/tonal noise | Observation and measurement | Implement additional mitigation or modify work method |
| **Noise complaints** | GRM records | Continuous | Complaint register and verification monitoring | Investigate source and implement corrective measures |

### 12.8 Waste Monitoring

| Indicator | Method | Frequency | Responsibility | Action on Non-Conformance |
|---|---|---|---|---|
| **Waste quantities by category** | Waste register | Daily recording; monthly summary | Contractor | Investigate abnormal generation and improve source reduction |
| **Waste segregation rate** | Visual inspection and waste register | Daily visual check; weekly review | Contractor / Supervising Consultant | Re-train workers and enforce segregation requirements |
| **Reuse/recycling versus disposal** | Waste manifests and register | Monthly | Contractor | Maximise recovery, reuse and recycling |
| **Waste-storage area condition** | Visual inspection | Daily / weekly | Contractor | Correct deficiencies immediately |
| **Waste carrier and disposal-site licences** | Documentary verification | Before engagement and periodic spot checks | Supervising Consultant | Use only appropriately licensed waste operators |

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| **Illegal dumping, burning or improper storage** | Observation and incident records | Continuous | Contractor | Stop activity immediately; clean up and implement corrective action |
| **Waste manifests** | Document review | Weekly / monthly | Supervising Consultant | Complete missing documentation and verify disposal destinations |

### 12.9 Traffic Monitoring

| Phase | Indicators | Method | Frequency | Action |
|---|---|---|---|---|
| **Construction** | Compliance with CTMP; access arrangements; delivery timing; holding areas; traffic marshals; warning signs; queue lengths; incidents/near-misses; mud/debris on roads; traffic complaints | Daily observation and weekly formal inspection | Daily by Contractor; weekly by Supervising Consultant | Adjust CTMP; strengthen traffic controls; increase marshal deployment; liaise with KeNHA/County where necessary |
| **Construction** | Heavy vehicle operating hours | Delivery records and site observation | Daily | Enforce preferred heavy-delivery window of **9:00 AM–3:00 PM** |
| **Construction** | Vehicle speed and pedestrian safety | Speed observation; inspection of signage and pedestrian routes | Daily/weekly | Enforce **20 km/h** site/access speed control and improve pedestrian protection |
| **Operation** | Access junction performance; parking occupancy; parking overspill; delays; pedestrian-safety conditions; traffic complaints | Structured observation and traffic records | Monthly/quarterly during first 12–24 months; continuous GRM monitoring | Enforce parking controls; improve facilities; consult KeNHA/County where required |
| **Operation** | Road safety incidents | Incident records and GRM | Continuous | Investigate and implement corrective measures |

### 12.10 Community Grievance Monitoring

| Indicator | Method | Frequency | Responsibility | Action |
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| **Number of grievances received by category** | GRM database | Continuous logging; weekly review | CLO / Social Specialist | Identify emerging issues and ensure timely registration |
| **Percentage resolved within agreed timeframe** | GRM database analysis | Weekly / monthly | Proponent | Prioritise overdue grievances |
| **Number of pending grievances and average resolution time** | GRM database | Monthly | Proponent / Social Specialist | Escalate systemic delays |
| **Repeat and escalated grievances** | GRM database and trend analysis | Monthly | Proponent | Undertake root-cause analysis and strengthen mitigation |
| **Distribution by stakeholder group** | GRM database | Monthly | Proponent / CLO | Tailor engagement and response measures to affected groups |
| **Root causes and systemic issues** | Qualitative review of complaints | Monthly / quarterly | Proponent / Social Specialist | Modify ESMP measures, project practices or engagement approach |
| **PAP-related grievances** | GRM and PAP follow-up records | Continuous | Proponent / CLO | Escalate unresolved PAP issues through the appropriate GRM level |
| **Community health, safety and nuisance complaints** | GRM records and verification monitoring | Continuous | CLO / ESO | Undertake site investigation and implement corrective action |

### 12.11 Reporting Requirements

Clear and timely reporting shall ensure that monitoring information from Kibra Lot 1 is documented, reviewed and communicated to the relevant decision-makers and regulatory authorities. Monitoring results shall not only be recorded but shall be used to identify corrective actions, track their implementation and support adaptive environmental and social management.

#### 12.11.1 Reporting Hierarchy and Frequency

| Report Type | Prepared By | Submitted To | Frequency | Content Focus |
|---|---|---|---|---|
| **Daily / Weekly Site Report** | Contractor | Supervising Consultant | Daily for key issues / Weekly | Activities undertaken; environmental observations; OHS issues; incidents; non-conformances; GRM matters; monitoring highlights |

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| **Monthly Progress / ESMP Report** | Supervising Consultant with Contractor inputs | Proponent | Monthly | ESMP compliance status; environmental and social monitoring results; OHS performance; grievances; corrective actions; employment information; PAP and livelihood updates |
| **Environmental and Social Monitoring Report** | Proponent with Supervising Consultant support | NEMA and relevant lead agencies | Semi-annually during construction; annually during early operation | Monitoring data; trends; compliance assessment; corrective measures; adaptive-management actions; stakeholder engagement and GRM performance |
| **Incident Report** | Contractor / Proponent | Proponent, NEMA, DOSHS and other relevant authorities, as applicable | Within applicable statutory/project reporting period; serious incidents targeted within **24–72 hours** | Incident description; location; persons affected; immediate response; investigation findings; root cause; corrective and preventive measures |
| **Stakeholder Engagement / GRM Report** | CLO / Social Specialist / Proponent | Proponent and relevant management | Monthly / quarterly as appropriate | Meetings undertaken; stakeholders consulted; issues raised; grievances received/resolved/pending; commitments and follow-up actions |
| **Completion / Handover Report** | Supervising Consultant / Proponent | Proponent and NEMA, as applicable | At completion of construction | Final ESMP compliance status; outstanding environmental/social issues; rehabilitation; monitoring results; incidents; stakeholder commitments; handover arrangements |
| **Decommissioning Monitoring Report** | Contractor / Proponent / Supervising Consultant | Proponent, NEMA and relevant authorities | During future decommissioning, as required | Demolition impacts; waste management; environmental restoration; OHS; stakeholder issues; GRM; final site condition |

# CHAPTER THIRTEEN: CONCLUSIONS AND RECOMMENDATIONS

## 13.1 Conclusions

The proposed construction of social and affordable housing and associated infrastructure on Kibra Lot 1 (Southlands, Mugumo-ini Ward, Lang'ata Constituency, Nairobi County) entails fourteen (14) multi-storey residential blocks of Ground plus eight floors (G+8), delivering 1,386 housing units on approximately 8.4 acres, together with supporting civil works, water supply (including borehole(s) and storage), power infrastructure with backup generation, solid-waste facilities, green spaces, children's play areas, commercial stalls, and perimeter security. The project forms part of the national Affordable Housing Programme implemented by the State Department for Housing and Urban Development and is designed to contribute directly to the constitutional right to accessible and adequate housing (Article 43(1)(b) of the Constitution of Kenya, 2010), Kenya Vision 2030, and the National Housing Policy.

This Environmental and Social Impact Assessment (ESIA) Study Report has been prepared afresh in full compliance with the judgment of the Environment and Land Court in *Okiya Omtatah Okoiti v Ministry of Lands, Public Works, Housing and Urban Development & Others* (ELC LC Petition E052 of 2025) delivered on 29 May 2026, the approved Terms of Reference, the Environmental Management and Coordination Act (EMCA), Cap 387, the Environmental (Impact Assessment and Audit) Regulations, 2003 (as amended), and related legislation and policies. The assessment has incorporated the specialised studies required by the TOR approval, including comprehensive and inclusive public participation with Project Affected Persons (PAPs), Kenya Civil Aviation Authority (KCAA) height clearance (maximum 29 m), Traffic Impact Assessment, baseline environmental assessments (water quality, soils/geotechnical, hydrogeology, ambient air quality, noise, and biodiversity), greenhouse-gas considerations, and a Climate Change Risk and Vulnerability Assessment consistent with the Climate Change Act, 2016.

The baseline environment is typical of an urbanising peri-central Nairobi location: red lateritic soils on gently sloping terrain, proximity to River Motoine (approximately 300–450 m) and the Nairobi Dam system, presence of temporary informal settlements (residential structures, schools, churches, and micro-enterprises), an existing electricity distribution line requiring rerouting, and immediate adjacency to Langata View Corner Apartments and other residential receptors. The site lies within the Langata Estates zoning (High Density / Mixed Residential) and within the Wilson Airport Obstacle Limitation Surfaces; formal KCAA clearance for the G+8 configuration has been obtained.

Analysis of alternatives (site, technology/layout, design density and height, drainage, and the "no-project" option) confirms that the proposed development on the allocated land, with the preferred layout incorporating landscaped buffers/setbacks (particularly along the eastern boundary with Langata View Corner Apartments), sustainable drainage elements, hybrid water supply, and climate-resilient features, is the most balanced option when environmental, social, technical, economic, and aviation-safety considerations are weighed together.

Potential impacts have been systematically identified, predicted, and evaluated across the project lifecycle (pre-construction/clearance, construction, operation, and eventual decommissioning). Positive impacts are substantial and long-term: delivery of 1,386 social and

affordable units that improve living conditions and reduce the national housing deficit; temporary and permanent employment (with a target of approximately 90 % local labour where skills permit); local business opportunities; enhanced security and orderly urban development; green and recreational amenities; and modest climate-resilience co-benefits. Negative impacts of higher significance—particularly the displacement of PAPs occupying the temporary informal settlements, schools, churches, and micro-enterprises; construction-phase dust, noise, vibration, and traffic affecting neighbouring receptors; increased operational demand on water, sewerage, and the road network; and residual visual/privacy effects—are manageable. With the rigorous application of the mitigation measures set out in Chapters 7–10 and formalised in the Environmental and Social Management and Monitoring Plan (ESMP) of Chapters 11 and 12, residual impacts can be reduced to acceptable levels.

Stakeholder engagement and public participation were conducted in a structured, inclusive, and documented manner (31 July–7 August 2026 and related sessions), covering PAPs, residential associations (including Langata View Corner Apartments), youth, women, persons with disabilities, business community representatives, schools, churches, local administration, and institutions. Issues raised—employment, facilitation, design buffers, traffic, drainage, water supply, noise/dust, transparency, and livelihood restoration—have been addressed through design adjustments, ESMP measures, a functional Grievance Redress Mechanism (GRM), and ongoing commitment to transparent communication.

Overall, the proposed Kibra Lot 1 development is environmentally and socially acceptable provided that the ESMP is fully implemented, monitored, and adaptively managed; all statutory clearances and permits are obtained and complied with; and PAP facilitation and livelihood measures are completed prior to physical clearance. The project advances national housing and sustainable urban-development objectives while giving effect to the right to a clean and healthy environment.

### 13.2 Recommendations

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

1. **The Proponent (State Department for Housing and Urban Development)** shall:

    - Ensure that no physical clearance or construction works commence until a valid EIA licence is issued and all other requisite statutory approvals (including development permission under the Physical and Land Use Planning Act, WRA abstraction permits, KCAA height conditions, KeNHA access arrangements, and utility clearances) are in place.

    - Complete a verified PAP census/register, valuation, and facilitation/livelihood-restoration processes, with particular attention to vulnerable groups, prior to any displacement or demolition of informal structures, schools, churches, or micro-enterprises.

    - Allocate adequate resources for full implementation of the ESMP, Contractor's Environmental and Social Management Plan (C-ESMP), Stakeholder Engagement and Communication Plan, Emergency Preparedness and

Response Plan, and the Grievance Redress Mechanism throughout the project lifecycle.

- Prioritise local employment (target approximately 90 % local labour where skills and availability permit), coordinated transparently through local administration, and maximise local procurement opportunities.
- Maintain continuous, inclusive stakeholder engagement and an accessible, responsive GRM, with particular focus on PAPs, Langata View Corner Apartments residents, and other neighbouring receptors.
- Coordinate programme-level planning with the other Southlands/Kibra Lots (2–5) to address cumulative impacts on water, sewerage, traffic, stormwater, and social services.
- Ensure climate-resilient design features (hybrid water supply with storage, sustainable drainage, green spaces, energy-efficiency measures, and GHG considerations) are retained and operationalised.
- Submit the required environmental and social monitoring reports to NEMA and relevant lead agencies at the frequencies stipulated in the Monitoring Plan.

2. **The Main Contractor** shall prepare and implement a detailed C-ESMP consistent with this ESIA and the ESMP before works commence; appoint qualified Environmental and Social Officer(s), Safety Officer(s), and Community Liaison Officer(s); enforce occupational health and safety, dust/noise/vibration controls, traffic management, waste hierarchy, and erosion/sediment controls; and report incidents and non-conformances promptly.
3. **The Supervising Consultant** shall provide day-to-day independent verification of ESMP/C-ESMP compliance, review method statements, conduct regular inspections, and report to the Proponent.
4. **Lead agencies and utilities** (KCAA, KeNHA, WRA, Nairobi City Water and Sewerage Company / Athi Water, Kenya Power, Nairobi City County, Directorate of Occupational Safety and Health Services, and others) shall continue to provide the necessary technical clearances, permits, and oversight within their respective mandates, particularly regarding aviation safety, road access, water resources, and service connections.
5. **Estate management** (once operational) shall implement the operational-phase ESMP measures, maintain infrastructure and green spaces to high standards, enforce house rules and quiet hours, operate the estate-level GRM, and coordinate with the Proponent on residual issues.
6. **Adaptive management** shall be applied throughout: monitoring results, GRM trends, and stakeholder feedback shall trigger timely corrective actions, and the ESMP shall be updated as necessary.

7. **Any future decommissioning** shall be subject to a separate environmental and social assessment and approval process under the prevailing legal framework at that time.

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