



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)
STUDY REPORT FOR THE PROPOSED CONSTRUCTION OF
SOCIAL HOUSING AND ASSOCIATED INFRASTRUCTURE IN
SOUTHLANDS LANGATA CONSTITUENCY
(KIBRA LOT 5)**



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Report Version	Final ESIA Study Report
Date	August 2026



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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 5), 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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Date	19/8/2026

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 5), 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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ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)

Contents

CERTIFICATION	ii
LIST OF ABBREVIATIONS AND ACRONYMS.....	iv
EXECUTIVE SUMMARY	v
CHAPTER ONE: INTRODUCTION.....	6
1.1 Background	6
1.2 Project Objectives.....	6
1.3 Project Justification	7
1.4 Project Scope.....	7
1.5 Need for the Fresh ESIA Process	7
1.6 Purpose of the ESIA Study.....	8
1.7 ESIA Study Approach	8
1.8 Structure of the ESIA Report	9
CHAPTER TWO: PROJECT DESCRIPTION	10
2.1 Introduction.....	10
2.2 Project Location and Site Coordinates	10
Map 2-1: Google Earth Map showing boundary of Lot 5.....	10
Map 2-2: Location of Langata Constituency in Nairobi County.....	12
Map 2-3: Location of Mugumo-ini Ward in Langata Constituency	13
Map 2-4: Location of Lot 5 in Mugumo-ini Ward.....	13
2.3 Land Size.....	14
2.4 Zoning and Development Control.....	14
2.5 Existing Site Conditions.....	14
Plate 2-1: Edward Rice Disability School.....	15
Plate 2-2: Langata View Corner Apartments	15
Plate 2-3: BMW Garage.....	15
Plate 2-4: Other neighboring residential apartments	15
Plate 2-5: Access Road to the site	16
2.6 Proposed Development	16
2.7 Housing Components	16
Plate 2-5: Social Housing 1 Room.....	18
Plate 2-6: Social Housing 2 Room.....	18
Plate 2-7: Social Housing 3 room	18
Plate 2-8: Affordable Housing Studio.....	18
Plate 2-9: Affordable Housing 2 bedroom	18
Plate 2-10: Affordable Housing 3 bedroom	18
2.8 Construction Activities.....	19

ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)

2.9 Construction Materials and Resources	19
2.10 Labor Requirements.....	20
2.11 Total Project Cost.....	20
2.12 Project Implementation Schedule	20
2.13 Operation and Maintenance	20
2.14 Project Decommissioning	21
CHAPTER THREE: POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK	22
3.1 Introduction.....	22
3.2 National Policy Framework.....	22
3.3 Legal Framework	23
3.4 Institutional Framework	25
CHAPTER FOUR: DESCRIPTION OF THE BASELINE ENVIRONMENT	27
4.1 Introduction	27
4.2 Physical Environment	27
4.2.1 Topography.....	27
Map 4-1: Elevation level of Mugumo-ini Ward	28
Plate 4-1: Red Soils	29
4.2.3 Hydrology.....	29
Map 4-2: Hydrology of Mugumo-ini Ward.....	31
Map 4-3: Hydrology features in Lot 5 Area	31
4.2.4 Climate	32
Figure 4-1: Annual Rainfall Ranges.....	32
Figure 4-2: Annual Temperature Ranges.....	33
Figure 4-3: Annual Humidity Ranges	33
Figure 4-4: Annual Wind Ranges	34
Plate 4-2: Thorn Apple.....	34
Plate 4-3: Glade Mallow	34
4.3.2 Fauna	35
4.4 Socio-Economic Environment	35
4.4.1 Population.....	35
Table 4-1: Population Distribution in Langata Constituency Wards (KNBS 2019).....	35
4.4.2 Land Use	35
4.4.3 Infrastructure.....	35
4.5 Sensitive Receptors.....	36
4.6 Existing Environmental and Social Challenges	36
4.7 SOCIO-ECONOMIC STUDY FINDINGS.....	37

ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)

4.7.1 Sub-County	37
Figure 4-5: Sub-County	38
4.7.2 Village Distribution	38
Figure 4-7: Village Distribution	38
4.7.3 Relationship to Head of Household	38
Figure 4-8: Relationship to Head of Household	39
4.7.4 Gender of Respondent	39
Figure 4-9: Gender of Respondent.....	40
4.7.5 Age of Respondent.....	40
Figure 4-10: Age of Respondent	41
4.7.6 Marital Status.....	41
Figure 4-11: Marital Status	42
4.7.7 Highest Education Level Completed	42
Figure 4-12: Highest Education Level Completed	43
4.7.8 Main Occupation/Source of Income.....	43
Figure 4-13: Main Occupation/Source of Income.....	44
4.7.9 Monthly Household Income Bracket.....	44
Figure 4-14: Monthly Household Income Bracket	45
4.7.10 Total Household Members	45
Figure 4-15: Monthly Household Income Bracket.....	46
4.7.11 Number of Adults (18+ years)	46
Figure 4-16: Number of Adults (18+ years)	47
4.7.12 Children (Under 18 years)	47
Figure 4-17: Children (Under 18 years)	48
4.7.13 Household Head's Gender	48
Figure 4-18: Household Head's Gender	48
4.7.14 Vulnerable Members in the Household	48
Figure 4-19: Vulnerable Members in the Household	49
4.7.15 Support for Vulnerable Members	49
Figure 4-20: Support for Vulnerable Members	50
4.7.16 Length of Residence in Area	50
Figure 4-21: Length of Residence in Area.....	51
4.7.17 Type of Dwelling Unit	51
Figure 4-22: Type of Dwelling Unit	52
4.7.18 Main Source of Water Supply	52
Figure 4-24: Main Source of Water Supply.....	53

ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)

4.7.19 Regularity of Water Supply	53
Figure 4-25: Regularity of Water Supply.....	53
4.7.20 Energy for Cooking.....	53
Figure 4-26: Energy for Cooking	54
4.7.21 Main Source of Energy for Lighting.....	54
Figure 4-27: Main Source of Energy for Lighting	55
4.7.22 Type of Sanitation Facility.....	55
Figure 4-28: Type of Sanitation Facility.....	55
4.7.23 Solid Waste Disposal Method	55
Figure 4-29: Solid Waste Disposal Method	56
4.7.24 House Location Near Environmental Hazards.....	56
Figure 4-30: House Location Near Environmental Hazards.....	57
4.7.25 Distance to Primary School in Kilometres.....	57
Figure 4-35: Distance to Primary School in Kilometres	58
4.7.26 Distance to Secondary School in Kilometres.....	58
Figure 4-36: Distance to Secondary School in Kilometres	59
4.7.27 Distance to Health in Kilometres	59
Figure 4-37: Distance to Health in Kilometres.....	59
4.7.28 Distance to Market/Shopping Centre in Kilometres.....	59
Figure 4-38: Distance to Market/Shopping Centre in Kilometres.....	60
4.7.29 Distance to Police Post/Station in Kilometres.....	60
Figure 4-39: Distance to Police Post/Station in Kilometres	61
4.7.30 Distance to Water Point (if not piped) in Kilometres	61
Figure 4-40: Distance to Water Point (if not piped) in Kilometres	61
4.7.31 Distance to Public Transport Stop/Stage in Kilometres	61
Figure 4-41: Distance to Public Transport Stop/Stage in Kilometres	62
4.7.32 Distance to Place of Worship in Kilometres.....	62
Figure 4-42: Distance to Place of Worship in Kilometres.....	63
4.7.33 Mode of Transport to Work.....	63
Figure 4-43: Mode of Transport to Work	63
4.7.34 Challenges Experienced While Accessing Services	63
Figure 4-44: Challenges Experienced While Accessing Services.....	64
4.7.35 Services Lacking in the Area.....	64
Figure 4-48: Services Lacking in the Area	65
4.7.36 Specific Lacking Services	65
Figure 4-49: Specific Lacking Services	65

ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)

4.7.37 Awareness of Proposed Social Housing Project.....	65
Figure 4-50: Awareness of Proposed Social Housing Project.....	66
4.7.38 Mode of Spreading Awareness of the Project.....	66
Figure 4-51: Mode of Spreading Awareness of the Project.....	67
4.7.39 Benefits Expected from the Project.....	67
Figure 4-52: Benefits Expected from the Project.....	67
4.7.40 Concerns or Risks About the Project	67
Figure 4-53: Concerns or Risks About the Project	68
4.7.41 Environmental Improvements That Should be Supported by the Housing Project	68
Figure 4-54: Environmental Improvements That Should be Supported by the Housing	69
4.7.42 Environmental Problems Anticipated from the Construction of the Housing Project	69
Figure 4-55: Environmental Problems Anticipated from the Construction of the Housing Project...	70
CHAPTER FIVE: STAKEHOLDER ENGAGEMENT AND PUBLIC PARTICIPATION	71
5.1 Introduction.....	71
5.2 Objectives of Public Participation	71
5.3 Stakeholder Identification and Analysis	72
5.4 Stakeholder Engagement Methodology	73
5.5 Public Participation Program	73
5.6 Notices and Publicity	74
5.7 Meetings Conducted.....	74
Plate 5-1: Site Engineer and the ministry presentation to the PWDs	75
Plate 5-2: ESIA Consultant talking to the PWDs.....	76
5.7.2 Residential Associations Officials Meeting – 1 August 2026.....	76
5.7.3 Youth Meeting – 3 August 2026.....	76
Plate 5-3: Youths meeting.....	76
5.7.4 Women Meeting – 3 August 2026	76
Plate 5-4: Women meeting	77
Plate 5-5: ESIA consultant conducting a meeting with the business representatives.....	78
Plate 5-6: Area Chief talking to the community	79
Plate 5-7: Community Baraza meeting	80
5.7.7 Project Affected Persons (PAPs) Meeting – 6 August 2026.....	80
Plate 5-8: One of the Garage representative raising a concern	80
5.7.8 Institutions Meeting – 7 August 2026	80
Plate 5-9: KENHA representative making a contribution	81
5.8 Issues and Concerns Raised.....	81
5.9 Lot 5-Specific Concerns.....	82

ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)

5.10 Responses from the Proponent/Consultant	83
5.11 Issues Not Accepted and Reasons.....	84
CHAPTER SIX: ANALYSIS OF PROJECT ALTERNATIVES	87
CHAPTER SEVEN: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT	93
7.1 Introduction	93
7.2 Pre-Construction Impacts.....	93
7.3 Construction Phase Impacts.....	93
7.3.1 Positive Impacts.....	94
7.3.2 Negative Impacts and their Respective Mitigation Measures	94
7.4 Operational Phase Impacts	98
7.4.1 Positive Impacts	98
7.4.2 Negative Impacts and their Respective Mitigation Measures	99
7.5 Decommissioning Impacts.....	102
7.5.1 Positive Impacts.....	102
7.5.2 Negative Impacts and their Respective Mitigation Measures	103
7.6 Cumulative Impacts.....	104
7.7 Residual Impacts.....	105
CHAPTER EIGHT: SOCIAL IMPACTS AND RESETTLEMENT / PAP ISSUES	107
8.1 Introduction	107
8.2 Identification of Project Affected Persons.....	107
8.3 Existing Livelihoods.....	108
8.4 Informal Businesses / Garage Operators.....	108
8.5 Interface with Edward Rice Disability School.....	108
8.6 Farmers / Urban Agriculture	109
8.7 Vulnerable Groups	109
8.8 Impacts on Neighbouring Residents	110
8.9 Facilitation / Resettlement Considerations	110
8.10 Livelihood Restoration	111
8.11 PAP Engagement.....	111
8.12 Recommendations.....	111
CHAPTER NINE: TRAFFIC IMPACT ASSESSMENT	113
CHAPTER TEN: CLIMATE CHANGE AND DISASTER RISK ASSESSMENT	119
CHAPTER ELEVEN: ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING PLAN — ESMP	125
11.1 Introduction	125
11.2 Construction Phase ESMP	125
11.3 Operational Phase ESMP	132

ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)

11.4 Decommissioning Phase ESMP	137
11.5 Emergency Preparedness and Response	145
11.6 Stakeholder Engagement / Communication Plan	145
11.7 Institutional Responsibilities	146
CHAPTER TWELVE: ENVIRONMENTAL AND SOCIAL MONITORING PLAN	147
CHAPTER THIRTEEN: CONCLUSION AND RECOMMENDATIONS	153
13.1 Conclusion	153
13.2 Recommendations	154
REFERENCES	156
ANNEXES	158

LIST OF ABBREVIATIONS AND ACRONYMS

Abbreviation / Acronym	Full Meaning
C-ESMP	Construction Environmental and Social Management Plan
CLO	Community Liaison Officer
CTMP	Construction Traffic Management Plan
DOSHS	Directorate of Occupational Safety and Health Services
EPRP	Emergency Preparedness and Response Plan
ESO	Environmental and Social Officer
GBV	Gender-Based Violence
GHG	Greenhouse Gas
GRM	Grievance Redress Mechanism
LAeq	Equivalent Continuous Sound Level
Lmax	Maximum Sound Level
NCCAP	National Climate Change Action Plan
OLS	Obstacle Limitation Surfaces
PAP	Project Affected Person / Project Affected Persons
PLUPA	Physical and Land Use Planning Act
PM₁₀	Particulate Matter with diameter ≤ 10 micrometres
PPE	Personal Protective Equipment
PWD	Person(s) with Disabilities
TSP	Total Suspended Particulates

EXECUTIVE SUMMARY

1. Introduction

This Environmental and Social Impact Assessment (ESIA) Study Report has been prepared for the proposed construction of social and affordable housing and associated infrastructure on **Kibra Lot 5**, located in Southlands, Mugumo-ini Ward, Lang'ata Constituency, Nairobi County.

2. Project Description

The proposed development forms part of the Government of Kenya's Affordable Housing Programme under the broader Southlands (Kibra Lots 1–5) initiative, which aims to deliver approximately 7,000 housing units across five parcels.

Kibra Lot 5 specifically comprises: Fourteen (14) multi-storey residential blocks configured as Ground + eight floors (G+8); A total of **1,386 housing units** (mix of social housing: one-roomed, two-roomed and three-roomed units; and affordable housing: studio, two-bedroom and three-bedroom units); Supporting infrastructure including cabro-paved access roads and parking areas, storm-water and foul-drainage systems, water supply (boreholes, underground and overhead storage tanks and reticulation), power supply with back-up generator and street lighting, solid-waste management facilities, green spaces, children's play areas, commercial stalls, and perimeter fencing with gates and gate houses.

The site measures approximately **6 acres** and is located along the Southern Bypass at approximate coordinates -1.318678, 36.784418. Building height is limited to a maximum of 29 metres following formal clearance by the Kenya Civil Aviation Authority (KCAA) due to the site's position within the Obstacle Limitation Surfaces of Wilson Airport.

The construction period is estimated at **24 months**. Total project cost is KSh2,867,760,000.

3. Project Justification and Objectives

Nairobi faces a severe housing deficit, with annual demand of approximately 250,000 units against production of only about 50,000 units, predominantly in the higher-income segment. The project responds directly to Article 43(1)(b) of the Constitution of Kenya, 2010 (right to accessible and adequate housing) and contributes to Kenya Vision 2030 and the National Housing Policy.

Key objectives include: Delivery of 1,386 decent social and affordable housing units; Provision of complete supporting infrastructure and amenities; Environmental sustainability, social inclusivity and climate resilience; Generation of local employment and business opportunities (target of approximately 90% local labour); and Orderly urban development consistent with planning and aviation-safety requirements.

4. Need for the Fresh ESIA

An earlier EIA process for the wider Southlands development was invalidated by the Environment and Land Court. The Court directed that a fresh, fully compliant Environmental and Social Impact Assessment be undertaken. New Terms of Reference were prepared and approved by NEMA subject to conditions requiring comprehensive public participation, KCAA

clearance, a Traffic Impact Assessment, detailed baseline studies, greenhouse-gas emission identification, and a Climate Change Risk and Vulnerability Assessment. This ESIA Study Report has been prepared in full compliance with those conditions, the Environmental Management and Coordination Act (EMCA), Cap 387, and the Environmental (Impact Assessment and Audit) Regulations, 2003 (as amended).

Because the development exceeds 100 housing units, it is classified as a **high-risk project** under the Second Schedule of EMCA and requires a full ESIA Study.

5. ESIA Approach and Methodology

The study followed the approved Terms of Reference and standard ESIA practice, including:

Desk review of project documentation, legislation, previous studies and the court judgment; Detailed project description and analysis of alternatives; Collection and analysis of biophysical and socio-economic baseline data; Structured and inclusive stakeholder identification and public participation; Impact identification and significance assessment using standard criteria (magnitude, extent, duration, reversibility and probability); Formulation of mitigation measures and preparation of a comprehensive Environmental and Social Management and Monitoring Plan (ESMP); and Integration of specialised assessments (Traffic Impact Assessment, Climate Change Risk and Vulnerability Assessment, and greenhouse-gas considerations).

6. Baseline Environment

The site lies in a gently sloping area (elevations approximately 1,510–1,790 m a.s.l.) with predominantly red lateritic soils. Vegetation is light (immature trees, Napier grass and weeds). The nearest significant water body is River Motoine (≈300 m away), which drains into Nairobi Dam (≈1.2 km).

Immediate receptors include Edward Rice Disability School (directly in front of the site), Langata View Corner Apartments, a BMW Garage (to be demolished), and other residential apartments. The site is accessible through a cabro-surfaced road branching from Langata Link Road and lies adjacent to the Southern Bypass (KeNHA jurisdiction). Existing utilities include electricity lines, limited water and sewerage infrastructure.

7. Key Environmental and Social Impacts

Positive impacts include: Significant contribution to reduction of the national housing deficit; Temporary and permanent employment and business opportunities for the local community; Improved living conditions and urban infrastructure; and Support for orderly high-density residential development consistent with zoning.

Potential negative impacts (primarily during construction) include: Noise, dust, vibration and traffic disruption, with heightened sensitivity due to proximity of the disability school and residential apartments; Temporary displacement/loss of assets for Project Affected Persons (notably the BMW Garage); Risk of sedimentation and pollution of River Motoine and Nairobi Dam; Increased demand on water, energy and waste-management systems; Visual and privacy effects of the multi-storey blocks; Occupational health and safety risks; and Climate-related risks (flooding, extreme heat, water stress) and greenhouse-gas emissions. With the full

implementation of the proposed mitigation measures, residual impacts are assessed as **moderate to low** and manageable.

8. Public Participation and Stakeholder Engagement

Comprehensive and inclusive public participation was undertaken involving Project Affected Persons, neighbouring residential associations, youth, women, persons with disabilities, business-community representatives, institutions (including Edward Rice Disability School) and local administration. Concerns raised (traffic, dust/noise near sensitive receptors, local employment, PAP facilitation, drainage, security and transparency) have been systematically addressed through design refinements, the ESMP and the Grievance Redress Mechanism (GRM).

9. Analysis of Alternatives

Alternatives examined included the “no-project” option, alternative sites, lower-density or lower-height configurations, and different technology/material choices. The preferred alternative — the proposed G+8 high-density development on the designated site — was selected as the most balanced option considering housing delivery targets, land-use zoning, aviation constraints, cost-effectiveness and residual environmental and social risks.

10. Environmental and Social Management and Monitoring Plan

A detailed ESMP (Chapter Eleven) sets out specific management measures, responsibilities, timing, monitoring indicators and performance criteria for the construction, operational and decommissioning phases. Key plans cover noise, air quality, water resources and drainage, waste, traffic and road safety, community health and safety, occupational health and safety, biodiversity and site restoration, socio-economic issues and grievance management.

An Environmental and Social Monitoring Plan (Chapter Twelve) provides the framework for tracking implementation effectiveness, detecting unforeseen impacts, and supporting adaptive management and transparent reporting to NEMA and other stakeholders.

CHAPTER ONE: INTRODUCTION

1.1 Background

The Government of Kenya, acting through the State Department for Housing and Urban Development within the Ministry of Lands, Public Works, Housing and Urban Development, is advancing the Affordable Housing Program as a central component of the country's development priorities. The program aims to reduce the urban housing shortfall and to supply decent, affordable and adequate housing consistent with Article 43(1)(b) of the Constitution of Kenya, 2010, which affirms every person's right to accessible and adequate housing and to reasonable standards of sanitation.

Under this program the State Department is developing social and affordable housing together with supporting infrastructure on five parcels of land in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County. These parcels are collectively known as the Southlands (Kibra) Lots 1–5. The combined development is designed to deliver approximately 7,000 housing units across the five sites, accompanied by the necessary amenities and infrastructure.

The present Environmental and Social Impact Assessment (ESIA) Study Report addresses Kibra Lot 5 only. The proposed works on Lot 5 consist of fourteen (14) multi-storey residential blocks configured as Ground plus eight floors (G+8), providing a total of 1,386 housing units. The mix comprises social-housing units (one-roomed, two-roomed and three-roomed) and affordable-housing units (studio, two-bedroom and three-bedroom), together with the required infrastructure, utilities and ancillary facilities.

Because the development exceeds 100 housing units it is classified as a high-risk project under the Second Schedule of the Environmental Management and Coordination Act (EMCA), Cap 387 (as amended by Legal Notice No. 31 of 2019). A full Environmental and Social Impact Assessment Study is therefore mandatory before implementation may proceed.

1.2 Project Objectives

The principal objectives of the proposed Southlands Kibra Lot 5 development are to:

- a) Deliver 1,386 social and affordable housing units that will help reduce the national housing deficit and improve living conditions for low- and middle-income households.
- b) Provide the associated infrastructure and amenities, comprising access roads, parking areas, storm-water and foul-drainage systems, water supply (including boreholes and storage), power supply with back-up generation, solid-waste management facilities, green spaces, children's play areas, commercial stalls and security infrastructure.
- c) Ensure that the development is environmentally sustainable, socially inclusive and resilient to climate risks.
- d) Generate temporary and permanent employment and business opportunities for the local community during both construction and operation.
- e) Support orderly urban development within Lang'ata Constituency while meeting applicable planning, environmental and aviation-safety requirements.

1.3 Project Justification

Nairobi County continues to face rapid urbanisation and a persistent shortage of decent housing, especially for low- and middle-income residents. National estimates indicate an annual demand of approximately 250,000 housing units, while only about 50,000 units are currently produced each year, predominantly in the higher-end market. This leaves an annual deficit of roughly 200,000 units, concentrated in the lower-income segment. The Affordable Housing Programme responds to this gap by offering Social Housing for households earning up to KSh 20,000 per month, Affordable Housing for those earning between KSh 20,000 and KSh 149,000 per month, and Affordable Market Housing for those earning above KSh 150,000 per month. Lot 5 forms an integral part of the broader Southlands housing initiative and is intended to supply a substantial number of units in a location of high demand for affordable accommodation.

1.4 Project Scope

The scope of the proposed Southlands Kibra Lot 5 project comprises:

- Construction of 14 residential blocks of G+8 configuration, yielding 1,386 housing units (a mixture of social and affordable units).
- Provision of supporting civil works, including cabro-paved access roads and parking areas, storm-water drainage and foul-sewerage systems.
- Development of water-supply infrastructure, including boreholes, underground and overhead storage tanks, and associated reticulation.
- Installation of power-supply infrastructure, including a power house with back-up generator and street lighting.
- Provision of solid-waste management facilities (garbage receptacles).
- Development of green spaces, landscaping, outdoor children's play areas and commercial/shopping stalls.
- Construction of perimeter fencing, gates and gate houses for security.
- Associated site clearance, earthworks and ancillary facilities required for a complete and functional housing estate.

The construction period is planned for approximately 24 months from the date of commencement of works after all statutory approvals have been obtained.

1.5 Need for the Fresh ESIA Process

An earlier Environmental Impact Assessment process was conducted for the wider Southlands (Kibra Lots) development. Following judicial review, the Environment and Land Court held that the previous EIA licence was invalid and directed that a fresh, fully compliant Environmental and Social Impact Assessment be undertaken before any further works could proceed.

In response, new Terms of Reference for Lot 5 were prepared and submitted. NEMA approved the Terms of Reference subject to specific conditions. These conditions require, among other things, comprehensive and inclusive public participation, clearance from the Kenya Civil

Aviation Authority, a Traffic Impact Assessment, detailed baseline environmental assessments, identification of greenhouse-gas emission sources, and a Climate Change Risk and Vulnerability Assessment.

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

1.6 Purpose of the ESIA Study

The purpose of this ESIA Study is to:

- i. Identify, predict and evaluate the potential positive and negative environmental and social impacts of the proposed Kibra Lot 5 development throughout its life cycle (pre-construction, construction, operation and decommissioning).
- ii. Assess the significance of those impacts in the context of the existing baseline environment and the sensitivity of neighbouring receptors.
- iii. Propose practical and effective mitigation measures to avoid, minimise or offset adverse impacts and to enhance beneficial ones.
- iv. Develop a comprehensive Environmental and Social Management and Monitoring Plan (ESMP) to guide implementation and monitoring.
- v. Demonstrate compliance with the approved Terms of Reference, the Environmental Management and Coordination Act, the EIA/EA Regulations, and related legislation and policies.
- vi. Provide NEMA and other decision-makers with sufficient information to determine whether the project should be approved and under what conditions.

1.7 ESIA Study Approach

The ESIA study was carried out 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 principal steps:

Desk review of project documentation, previous studies, the court judgment, relevant legislation, policies and guidelines. Description of the proposed development and analysis of project alternatives. Collection and analysis of baseline environmental and social data, covering the physical, biological and socio-economic characteristics of the project area and its surroundings. Stakeholder identification, analysis and structured public participation involving Project Affected Persons, neighboring residential associations, youth, women, persons with disabilities, business-community representatives, institutions and the wider community. Identification and assessment of potential impacts using standard significance criteria (magnitude, extent, duration, reversibility and probability). Formulation of mitigation measures and preparation of the Environmental and Social Management and Monitoring Plan. Integration of the specialised assessments required by the TOR approval, including traffic, climate-change risk and vulnerability, and greenhouse-gas considerations. Preparation of this comprehensive ESIA Study Report for submission to NEMA.

1.8 Structure of the ESIA Report

This ESIA Study Report is organised as follows:

- ✓ **Executive summary:** presents a concise overview of the entire report.
- ✓ **Chapter One:** introduces the project background, objectives, justification, scope, the need for a fresh ESIA process, the implications of the court ruling, the purpose of the study, the approach adopted, and the structure of the report.
- ✓ **Chapter Two:** describes the proposed Lot 5 development, including location, existing site conditions, housing components, supporting infrastructure, construction activities and project phases.
- ✓ **Chapter Three:** outlines the applicable policy, legal and institutional framework.
- ✓ **Chapter Four:** describes the baseline environmental and social conditions of the project area.
- ✓ **Chapter Five:** documents the stakeholder-engagement and public-participation process, the issues raised, and how they have been addressed.
- ✓ **Chapter Six:** analyses project alternatives.
- ✓ **Chapter Seven:** presents the assessment of environmental and social impacts.
- ✓ **Chapter Eight:** addresses social impacts and issues relating to Project Affected Persons.
- ✓ **Chapter Nine:** presents the Traffic Impact Assessment.
- ✓ **Chapter Ten:** addresses climate-change and disaster-risk considerations.
- ✓ **Chapter Eleven:** sets out the Environmental and Social Management and Monitoring Plan (ESMP).
- ✓ **Chapter Twelve:** details the environmental and social monitoring programme.
- ✓ **Chapter Thirteen:** presents the conclusions and recommendations.

The report is supported by a list of references and a comprehensive set of annexes containing technical studies, public-participation records and other supporting documentation.

CHAPTER TWO: PROJECT DESCRIPTION

2.1 Introduction

This chapter describes the location of the proposed development, land particulars, current site conditions, the housing and infrastructure components, construction activities, resource and labour requirements, and the principal phases of the project life cycle for Kibra Lot 5.

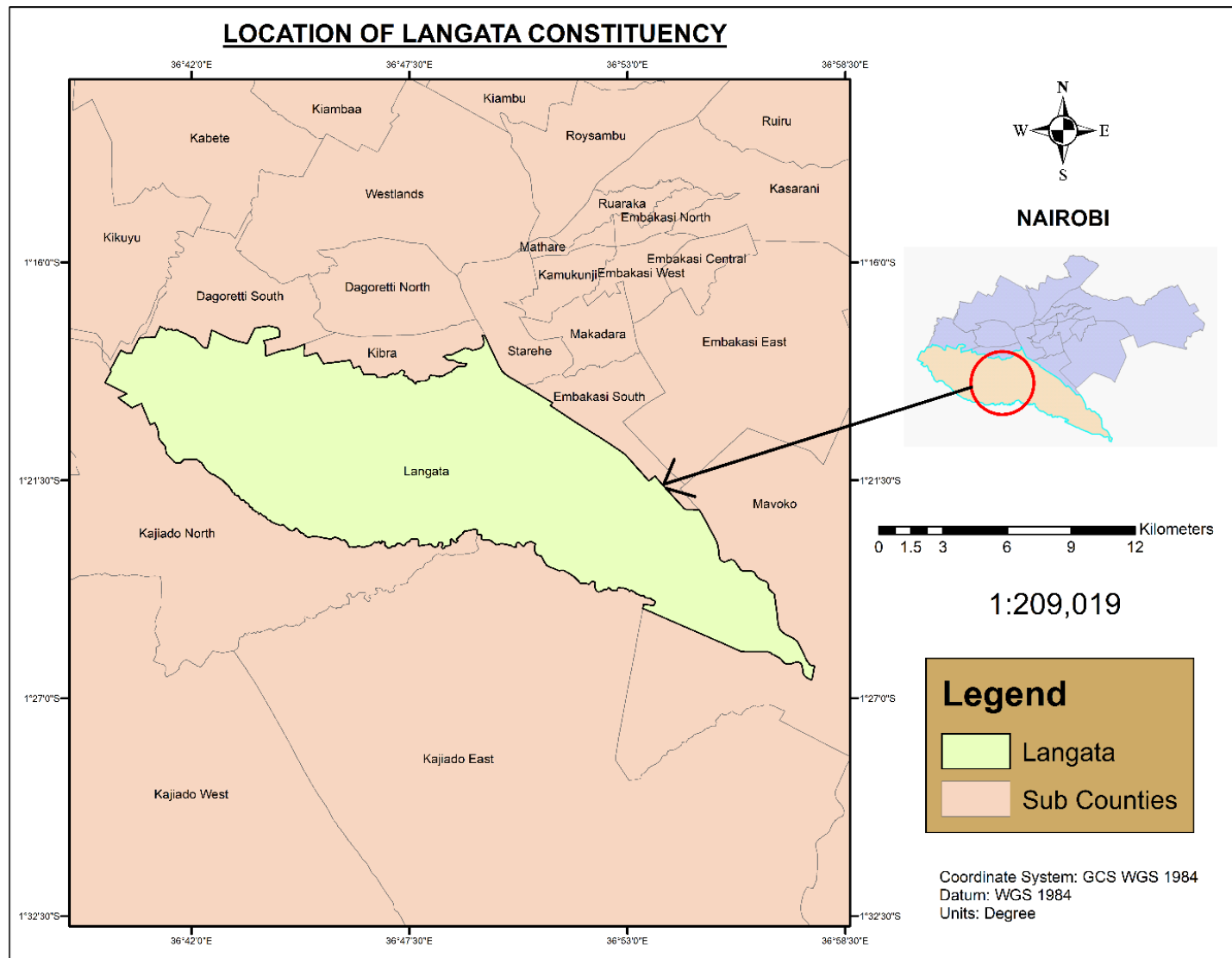
2.2 Project Location and Site Coordinates

Kibra Lot 5 is situated in Mugumo-ini Ward, Lang'ata Constituency, Nairobi County, along the Southern Bypass. The approximate geographic coordinates of the site are -1.318678, 36.784418. Lang'ata Constituency is bordered by several constituencies. To the north it adjoins Kibra and Dagoretti North; to the north-west it shares boundaries with Dagoretti South and Kikuyu; on the western side it is adjacent to Kajiado North; to the south it borders Kajiado East; the north-eastern 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.

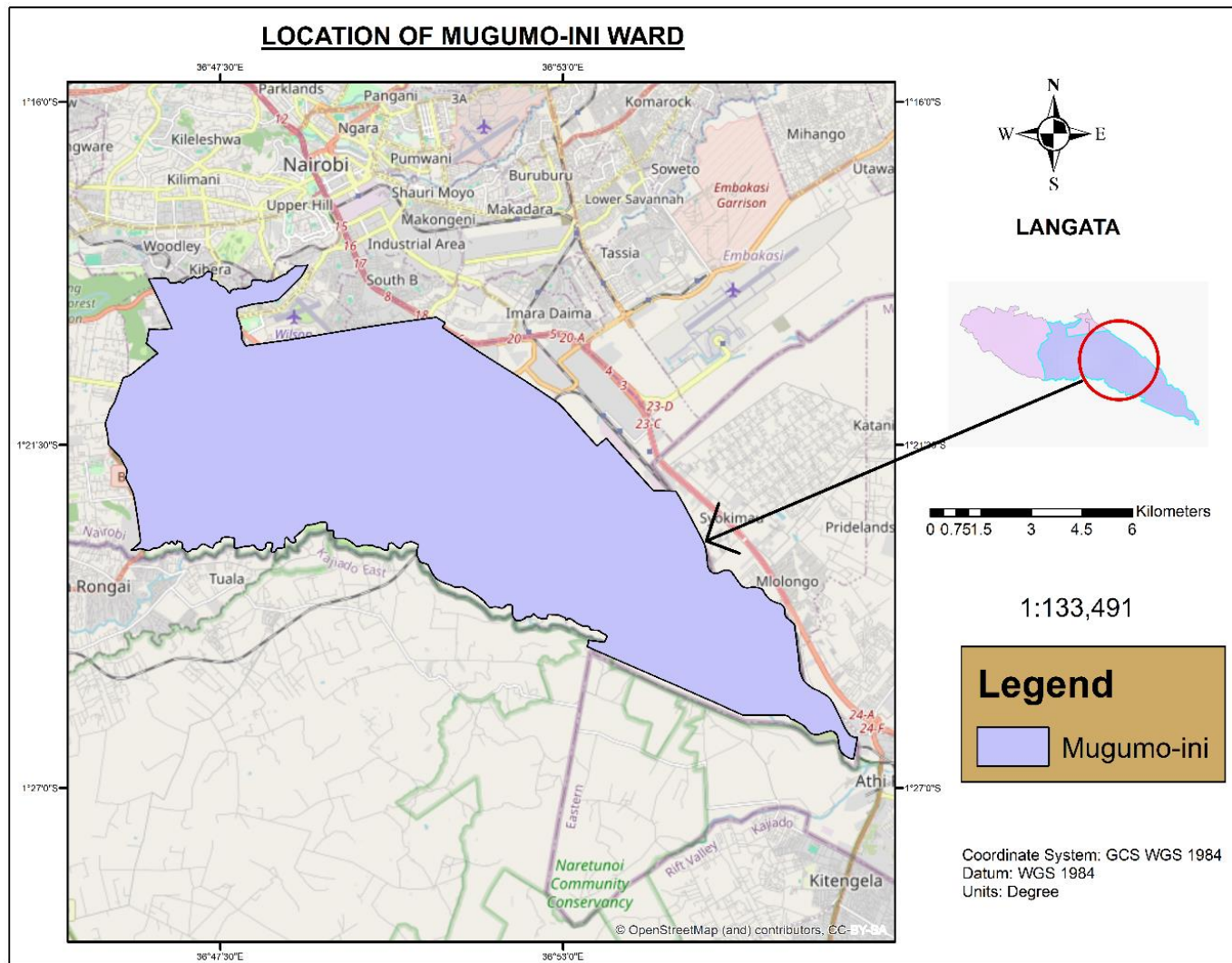


Map 2-1: Google Earth Map showing boundary of Lot 5

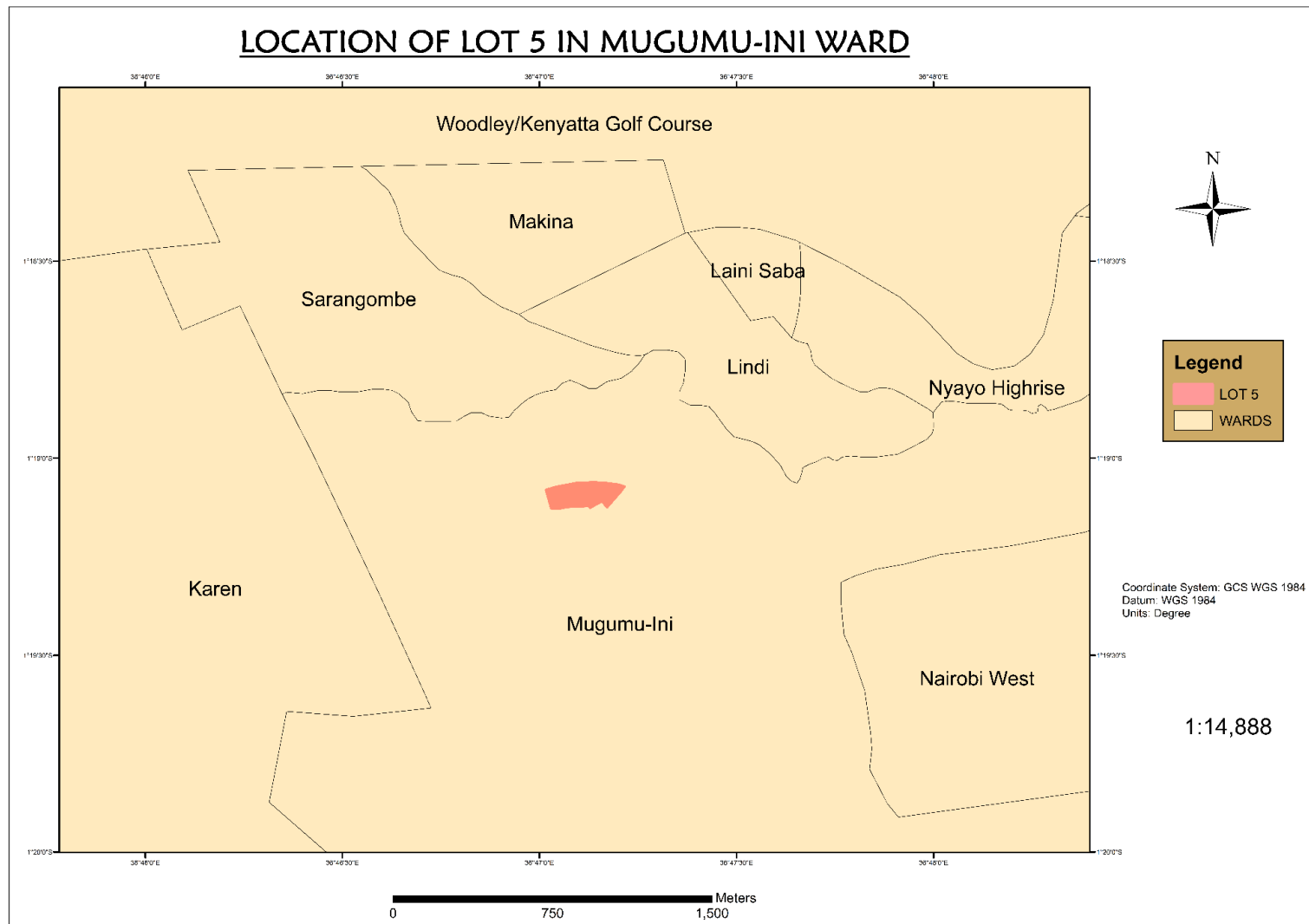
ESIA Study Report for the Proposed Construction of Social Housing and Associated Infrastructure in southlands, Langata Constituency, (Kibra Lot 5)



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



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



Map 2-4: Location of Lot 5 in Mugumu-ini Ward

2.3 Land Size

The project site for Lot 5 measures approximately 6 acres.

2.4 Zoning and Development Control

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

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

Owing 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

Vegetation

Vegetation cover on the site is light and consists mainly of immature trees, Napier grass and common weeds.

Existing Neighboring Developments and Receptors

Key receptors and immediate neighbours include:

- Edward Rice Disability School (directly in front of the site);
- Langata View Corner Apartments (on one side);
- BMW Garage (to be demolished);
- Other residential apartments in the vicinity.

The proximity of established residential apartments and the disability school is a key sensitivity consideration, particularly with respect to privacy, visual impact, noise, dust, traffic, overshadowing and accessibility for persons with disabilities.

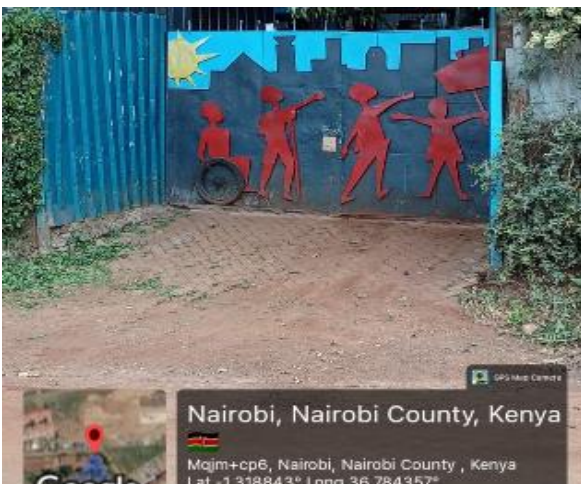


Plate 2-1: Edward Rice Disability School



Plate 2-2: Langata View Corner Apartments



Plate 2-3: BMW Garage



Plate 2-4: Other neighboring residential apartments

Existing Access

The Kibra Lot 5 project site is accessible through a cabro-surfaced road branching off from Langata Link Road. The Southern Bypass is a controlled-access highway under the jurisdiction of the Kenya National Highways Authority (KeNHA).



Plate 2-5: Access Road to the site

Utilities

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

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 6 acres of land, equating to a density of approximately 231 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, foul and storm-water drainage, power supply with back-up generation, solid-waste management facilities, green spaces, children's play areas, commercial stalls, and perimeter security infrastructure.

2.7 Housing Components

The 1,386 housing units will comprise a mix of social housing and affordable housing units. Social housing units (one-roomed, two-roomed and three-roomed categories) are intended 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

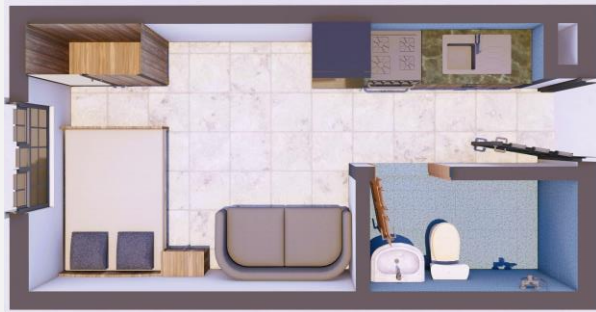


Plate 2-5: Social Housing 1 Room



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:

- a) Site mobilisation and establishment of temporary site facilities (site offices, material storage yards, worker welfare facilities and security installations).
- b) Demolition and clearance of existing structures (including the BMW Garage and any other structures identified as Project Affected Persons assets) and removal of vegetation, following completion of Project Affected Persons documentation, valuation and any required facilitation processes.
- c) Site preparation works, including stripping of topsoil, excavation, levelling and any necessary treatment of drainage constraints.
- d) Earthworks and foundation construction for the 14 residential blocks and associated infrastructure.
- e) Structural works comprising reinforced concrete frames, floor slabs, staircases, lift shafts and roof structures for the G+8 blocks.
- f) Building envelope works, including external and internal walls, windows, doors and roofing.
- g) Installation of building services (electrical, plumbing, drainage and lift systems).
- h) Construction of supporting civil infrastructure: internal roads and parking areas, storm-water drainage, foul sewerage, water reticulation, power infrastructure and solid-waste facilities.
- i) Landscaping, establishment of green spaces and children's play areas, and construction of commercial stalls, perimeter fencing, gates and gate houses.
- j) External works, street lighting and final site finishing.
- k) Testing, commissioning and handover of the completed development.

2.9 Construction Materials and Resources

The construction materials and resources required for the development will include:

- a) Aggregates (sand, ballast and crushed stone) for concrete and road works;
- b) Cement;
- c) Reinforcement steel and structural steel;
- d) Concrete;
- e) Building blocks, bricks or alternative walling materials;
- f) Timber and formwork materials (with preference for sustainably sourced options where feasible);
- g) Roofing materials, windows, doors and finishes;

- h) Plumbing, electrical and mechanical fittings and fixtures;
- i) Cabro paving blocks or equivalent for roads and parking areas;
- j) Water for construction purposes (sourced in accordance with Water Resources Authority requirements and project water-management measures);
- k) Fuel and energy for plant, equipment and temporary site power; and
- l) 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 Labor 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 5 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 5 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, storm-water drainage, internal roads, parking, solid-waste facilities, power

infrastructure (including the back-up 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 5 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 sets out the policy, legal and institutional framework relevant to the proposed Kibra Lot 5 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 5 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 5.
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 5 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 5 (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 5 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 5 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 5. 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 5,

	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 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 5.
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 5 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 5.
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).
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 the land.

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 5, 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 and the Edward Rice Disability School.
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 5.
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 5.
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 5 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 5.

3.4 Institutional Framework

The key institutions with roles and responsibilities relevant to the Lot 5 project include:

- a) **National Environment Management Authority (NEMA)** – Lead agency responsible for review and approval of the ESIA Study Report, issuance of the EIA licence, and ongoing environmental oversight and compliance monitoring.
- b) **State Department for Housing and Urban Development** – Project proponent, responsible for overall project delivery, coordination of the Affordable Housing Program, and compliance with all statutory requirements.
- c) **Affordable Housing Board** – Responsible for allocation, registration, and management of social and affordable housing units under the Affordable Housing Act.
- d) **Kenya Civil Aviation Authority (KCAA)** – Responsible for height clearance, Obstacle Limitation Surfaces compliance, and aviation safety requirements given the site's location within the Wilson Airport flight path.
- e) **Water Resources Authority (WRA)** – Regulates water resources, borehole permits, and protection of surface and groundwater resources.
- f) **Nairobi City Water and Sewerage Company (NCWSC) / Athi Water Works Development Agency** – Responsible for water supply and sewerage services, and coordination on reticulation and capacity.
- g) **Kenya National Highways Authority (KeNHA)** – Responsible for the Southern Bypass (controlled-access corridor), access arrangements, and protection of road reserves.
- h) **Kenya Power and Lighting Company (KPLC) / relevant transmission entities** – Responsible for electricity supply, wayleaves, and any required relocation or protection of power lines.
- i) **Nairobi City County Government** – Responsible for certain development-control functions, waste management, and local planning coordination (noting that development permission for this strategic national project is vested in the Cabinet Secretary under PLUPA s.69).
- j) **National Land Commission** – Relevant to public land administration and any land-related authorisations.
- k) **County and National Government Administration (Chiefs, Assistant County Commissioners, etc.)** – Support public participation, local coordination, and community liaison.

CHAPTER FOUR: DESCRIPTION OF THE BASELINE ENVIRONMENT

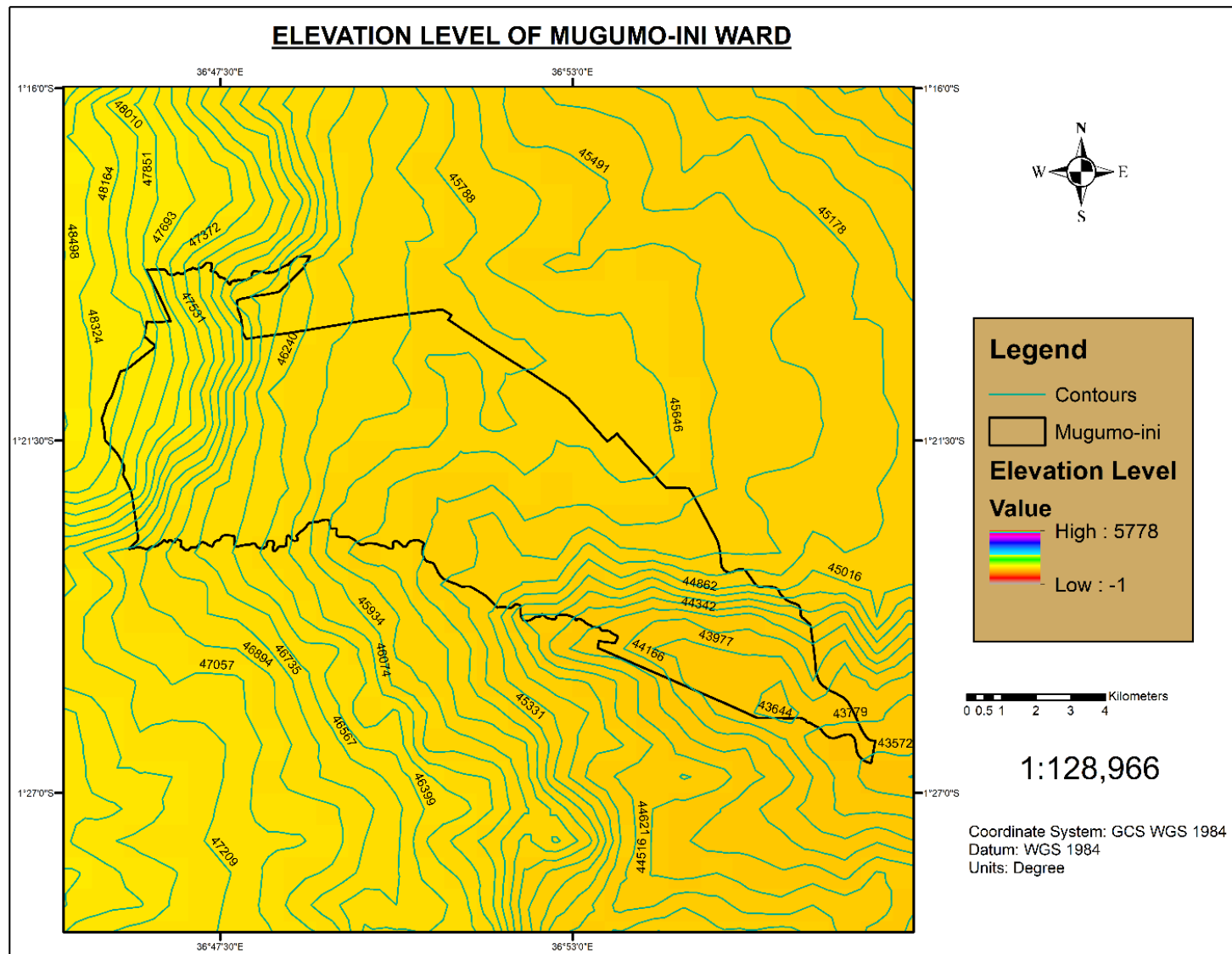
4.1 Introduction

This chapter describes the existing biophysical and socio-economic baseline conditions of the proposed Kibra Lot 5 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, facilitating the proposed construction of housing units. 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 4-1: 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 foundation for the proposed 14-floor structures.

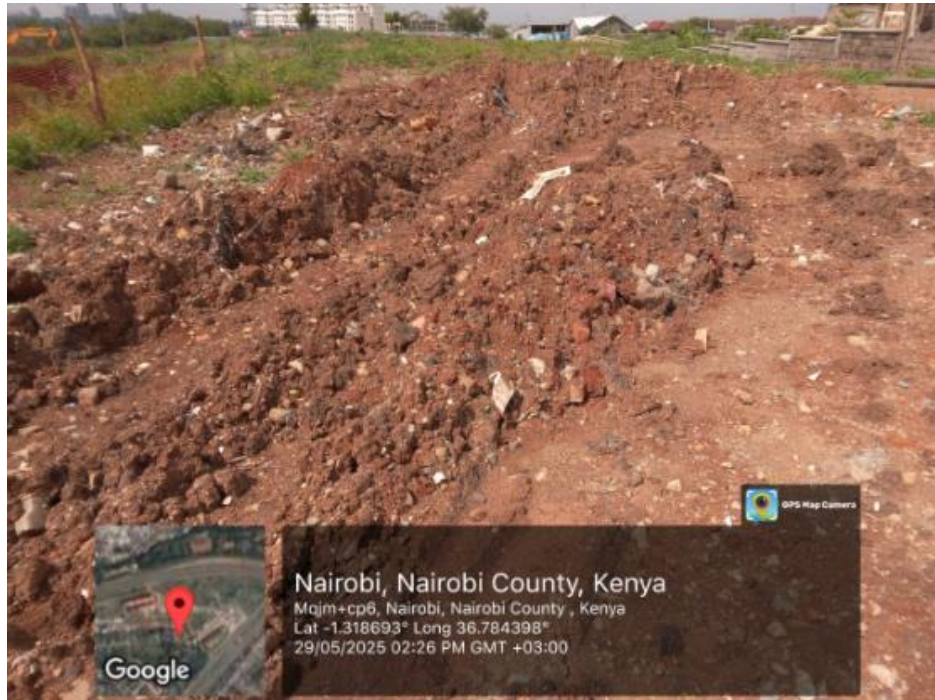
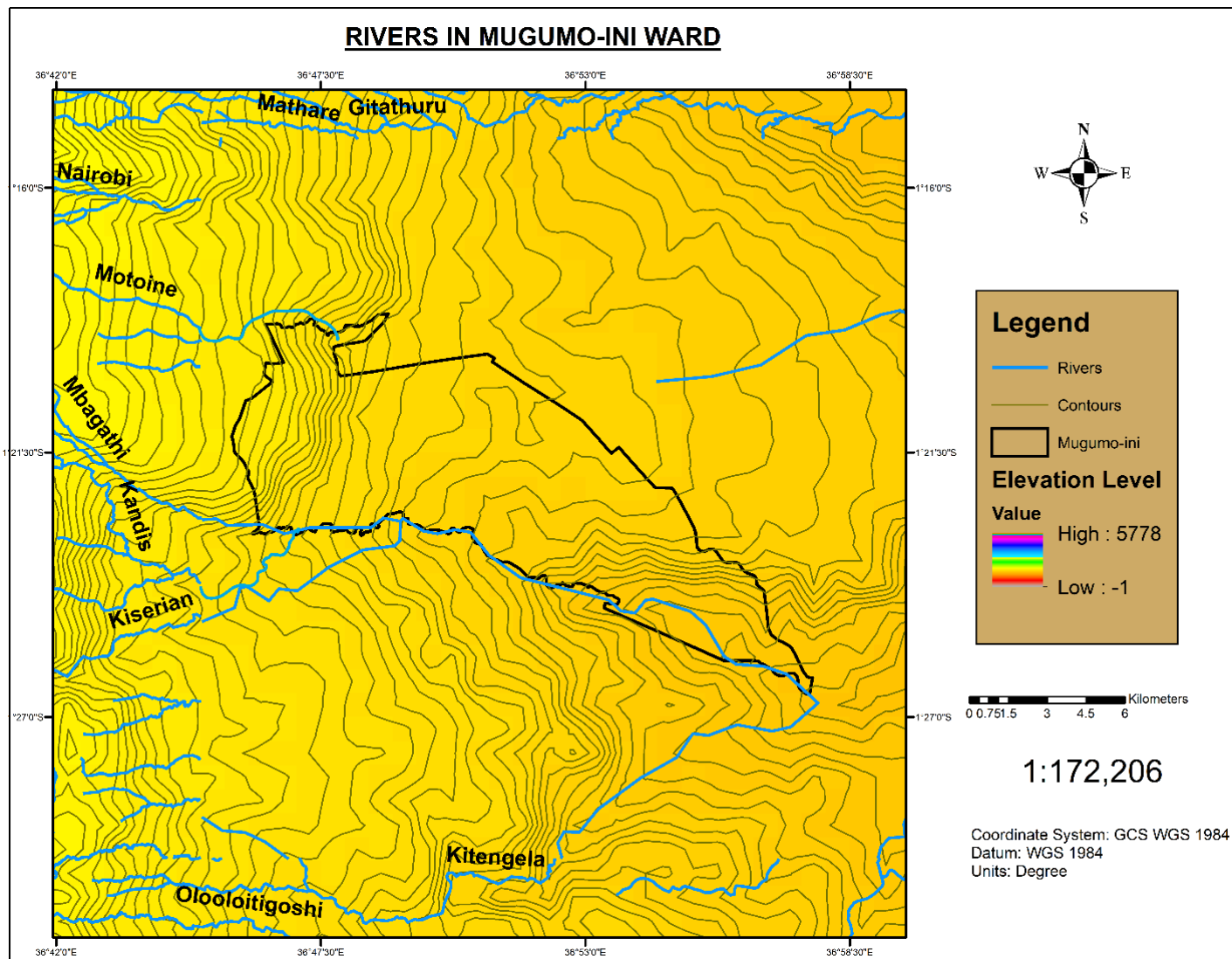


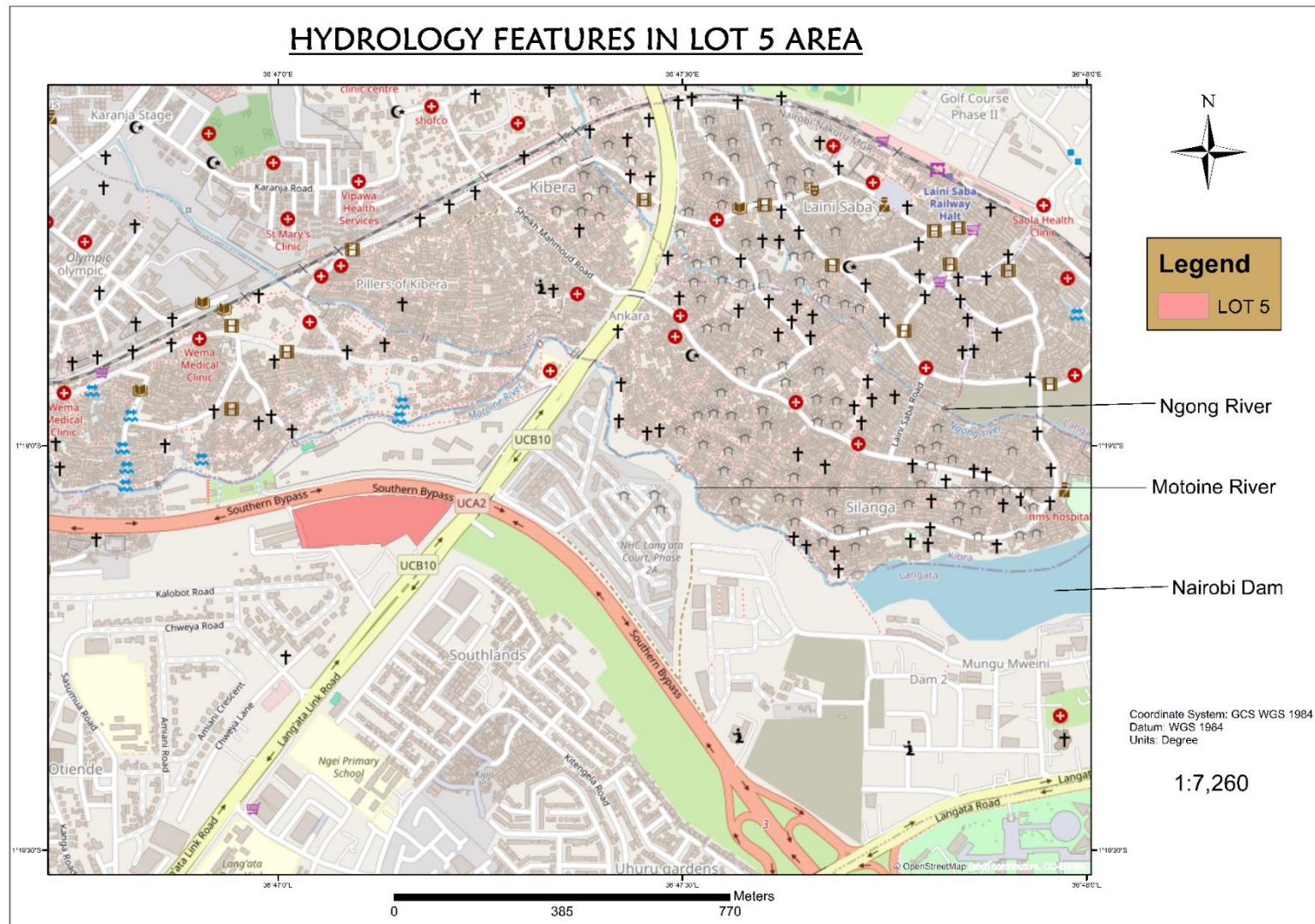
Plate 4-1: Red Soils

4.2.3 Hydrology

Mugumo-ini Ward is drained by several rivers, including the Motoine, Ngong, Mbagathi, Kiserian and others that ultimately feed into the Nairobi River system and Nairobi Dam. The nearest major drainage feature to Lot 5 is River Motoine, located approximately 300 metres from the site. The river drains into Nairobi Dam (approximately 1.2 km away). Construction activities have the potential to generate sediment-laden runoff or other pollutants that could affect these water bodies if not properly managed. Careful storm-water control, erosion prevention and waste management will therefore be essential.



Map 4-2: Hydrology of Mugumo-ini Ward



Map 4-3: Hydrology features in Lot 5 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.

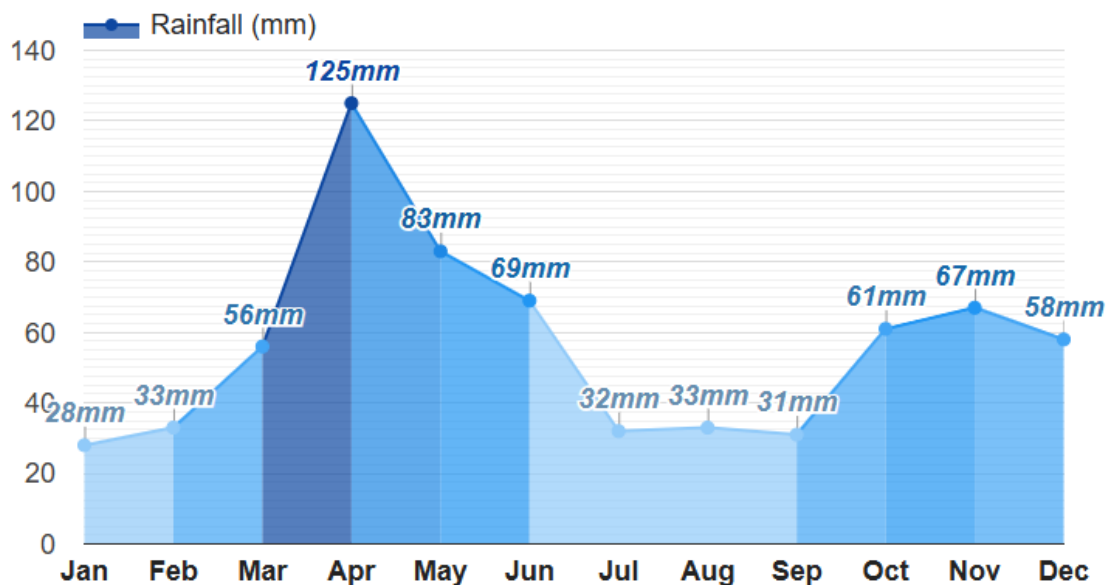


Figure 4-1: Annual Rainfall Ranges

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.

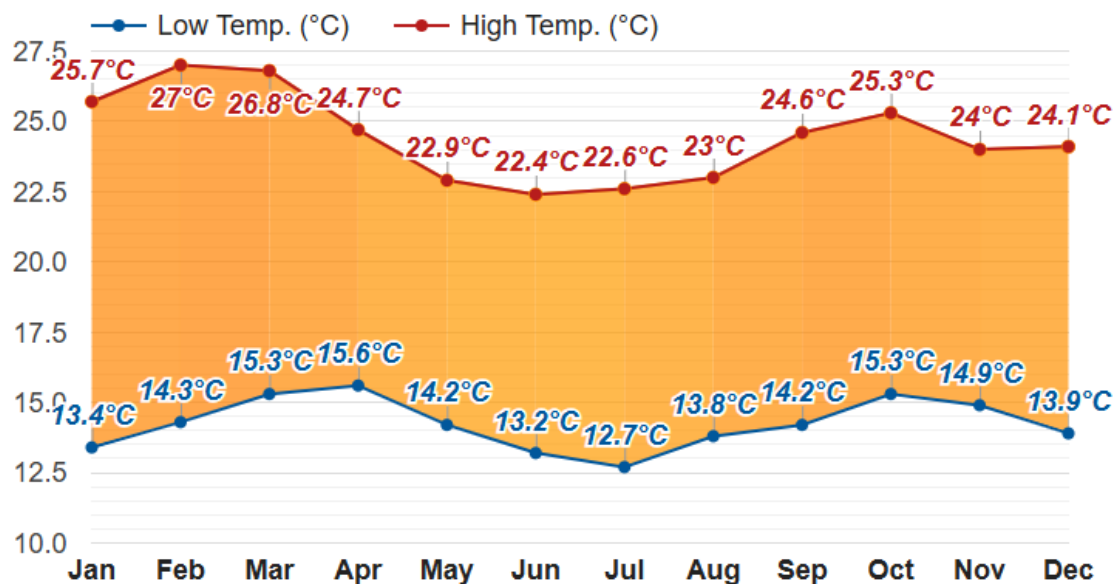


Figure 4-2: Annual Temperature Ranges

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).

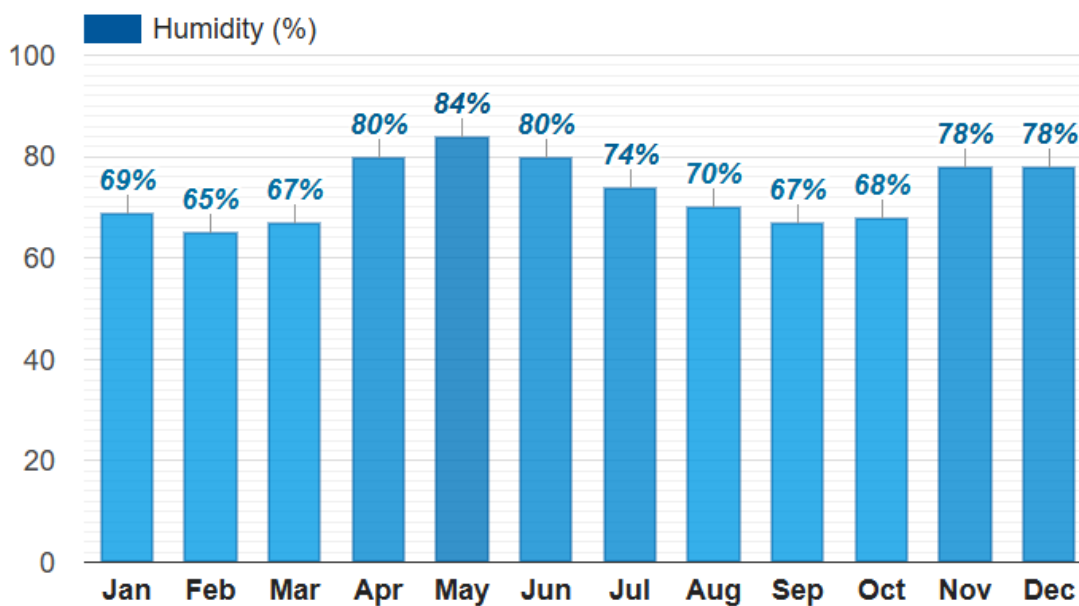


Figure 4-3: Annual Humidity Ranges

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 buildings.

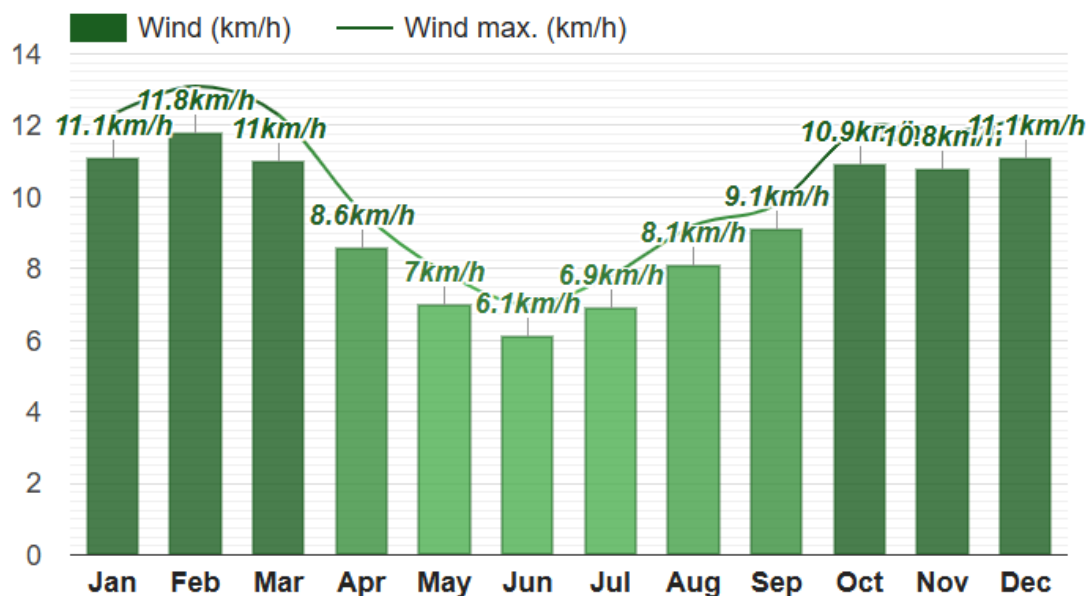


Figure 4-4: Annual Wind Ranges

4.3 Biological Environment

4.3.1 Flora

The vegetation on the project site is limited and indicative of an urbanized landscape. The floral composition includes: Immature Trees: Seven immature trees are present on the site, Common Grass, Glade Mallow (*Napaea dioica*), Thorn Apple (*Datura stramonium*) and Napier Grass.

Plate 4-2: Thorn Apple

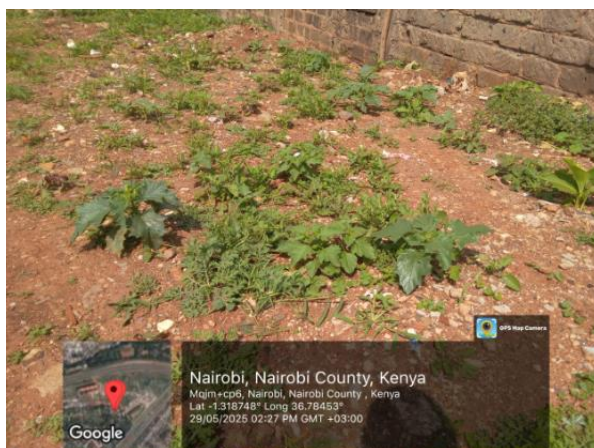
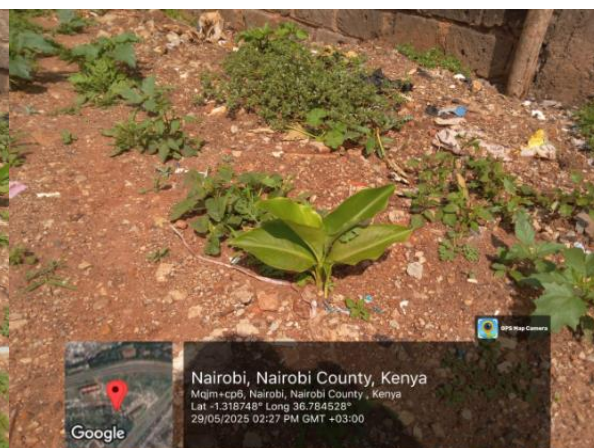


Plate 4-3: Glade Mallow



No nationally or internationally protected tree species have been identified on the site. A full tree/vegetation inventory (species, size class, condition and location) will form part of the biodiversity assessment and will inform any necessary translocation, compensation planting or landscape design.

4.3.2 Fauna

Given the urbanised residential setting of the site and its immediate surroundings, no significant fauna populations were observed during baseline fieldwork. The area is dominated by built-up residential and institutional uses rather than natural habitats.

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.

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 and immediately around Lot 5 is mixed and includes residual open/under-utilised ground with light vegetation, proximity to formal residential apartments (including Langata View Corner Apartments), institutional uses (Edward Rice Disability School), and commercial/livelihood uses (BMW Garage, which is scheduled for demolition). Surrounding land use is dominated by residential estates, the Southern Bypass road reserve, and institutional facilities.

4.4.3 Infrastructure

Existing infrastructure serving the area is under pressure. Key components are 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 boreholes (with associated storage) as a supplementary source, subject to hydrogeological confirmation and WRA permitting.

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

Electricity The site and surroundings are served by the Kenya Power network. Existing electricity lines in the wider corridor may require protection or relocation (coordination with KPLC). The project design includes a power house with back-up generator and street lighting.

Education and social facilities Nearby facilities include Edward Rice Disability School (directly in front of the site) and other educational institutions in the wider Lang'ata area. Increased residential population will place additional demand on education, health and related services. CSR commitments linked to the wider project include support to selected local schools and facilities.

4.5 Sensitive Receptors

Sensitive receptors in the immediate vicinity of Lot 5 include:

- Edward Rice Disability School (directly in front of the site) – noise, dust, vibration, access, safety and inclusive design considerations;
- Langata View Corner Apartments and other neighbouring residential apartments – privacy, sunlight, visual intrusion, noise, dust, traffic and property-value concerns;
- BMW Garage and associated operators (to be demolished) – displacement and livelihood restoration;
- Users of the Southern Bypass and connecting local roads – traffic safety and congestion;
- Downstream water users and ecological systems linked to River Motoine and Nairobi Dam;
- Remaining informal or livelihood operators on or adjacent to the site;
- 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.

4.6 Existing Environmental and Social Challenges

The baseline environment of Lot 5 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 and local connecting roads; safety concerns for pedestrians, residents and school users. d) Loss of open / green space – progressive conversion of open land to built form; residual light vegetation provides limited amenity. e) Displacement of existing structures and livelihoods – presence of the BMW Garage and any associated operators that will be affected. f) Pressure on social services – education (including specialised facilities such as Edward Rice Disability School), 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, 31 July – 7 August 2026) and will be carried forward into the impact assessment, alternatives analysis and Environmental and Social Management Plan.

4.7 SOCIO-ECONOMIC STUDY FINDINGS

4.7.1 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.

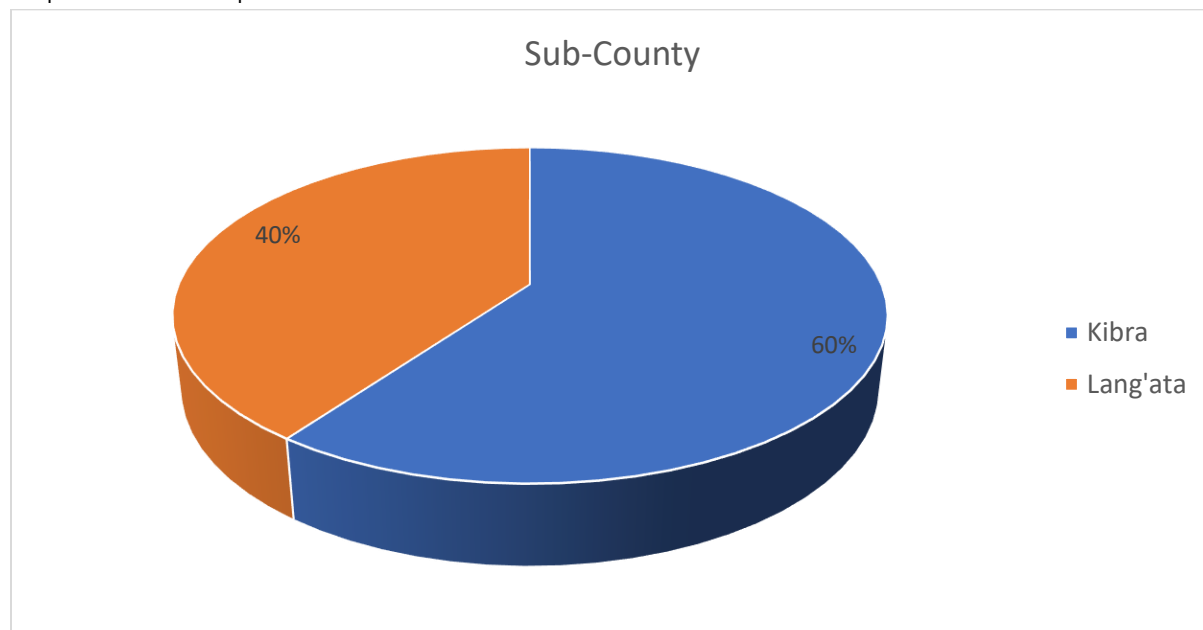


Figure 4-5: Sub-County

4.7.2 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.

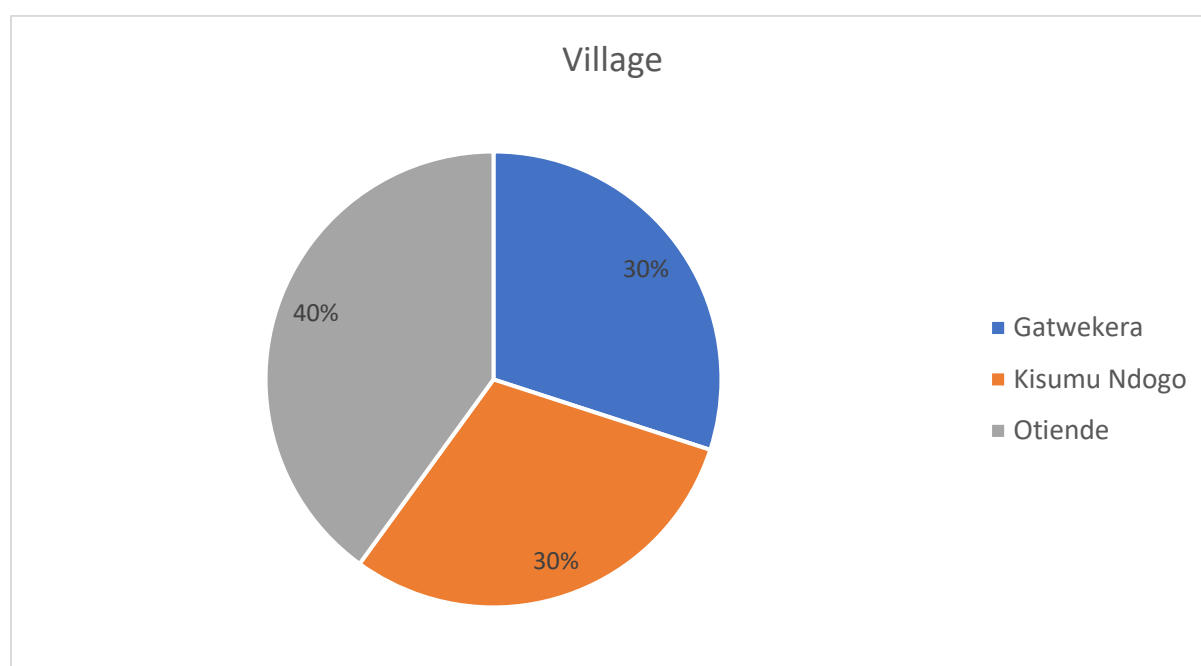


Figure 4-7: Village Distribution

4.7.3 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.

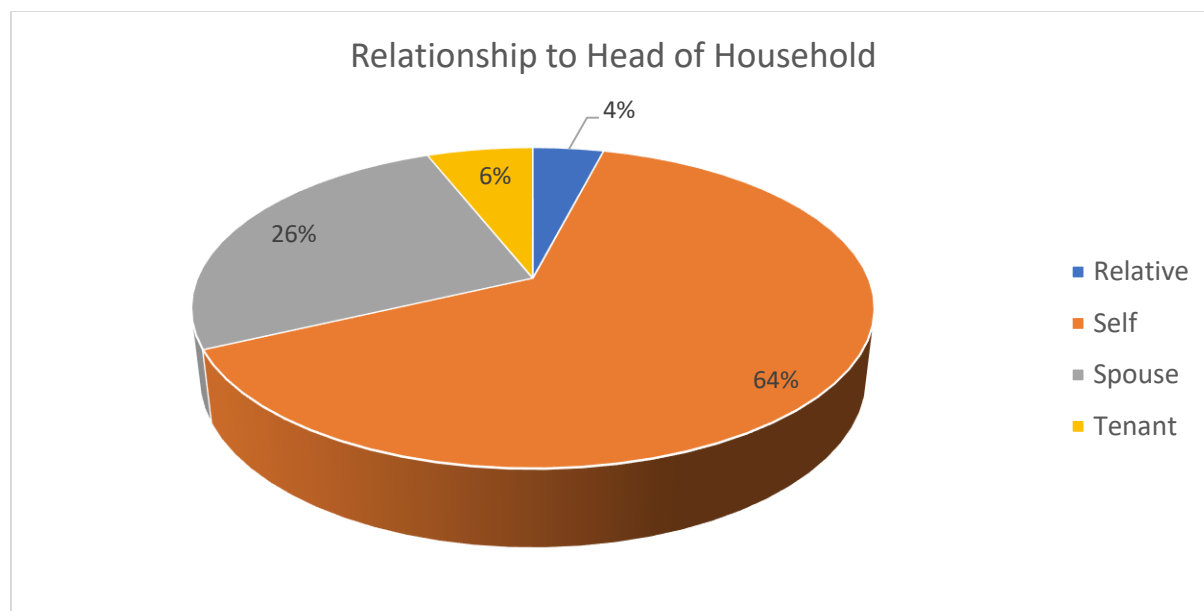


Figure 4-8: Relationship to Head of Household

4.7.4 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.

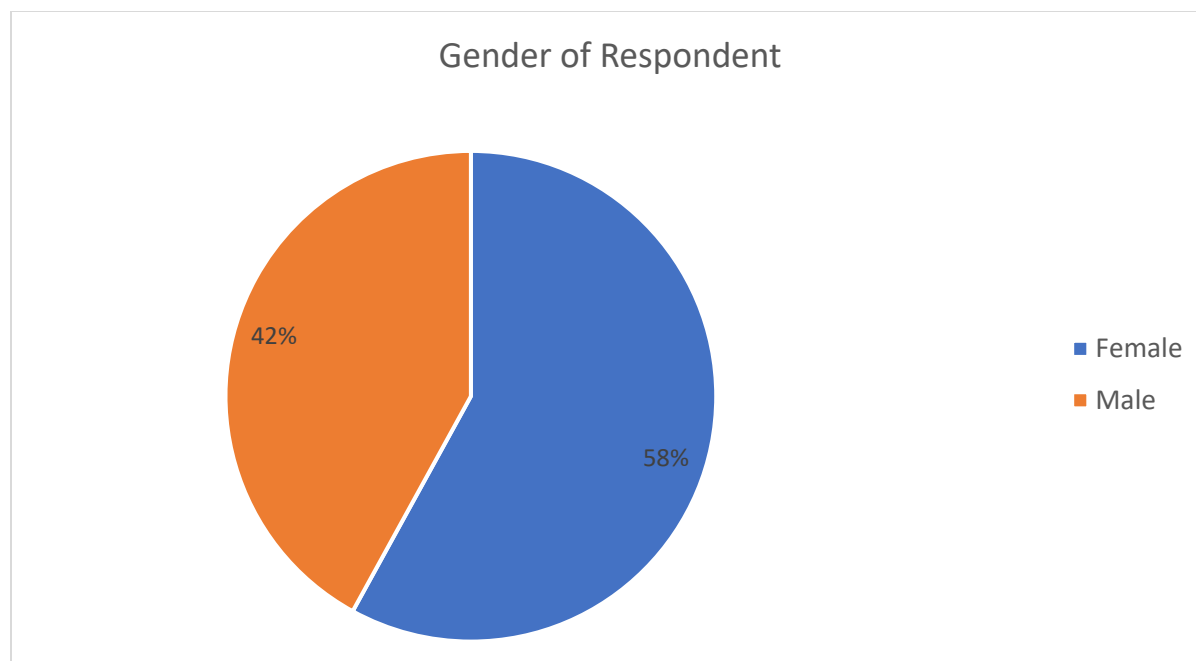


Figure 4-9: Gender of Respondent

4.7.5 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.

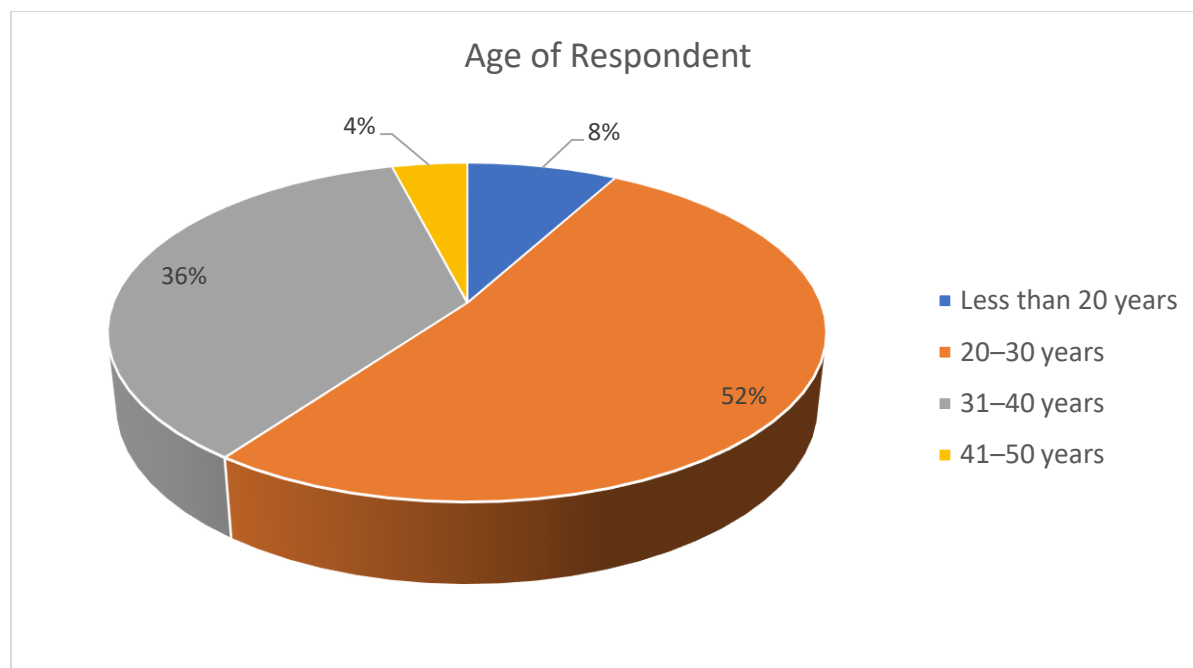


Figure 4-10: Age of Respondent

4.7.6 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.

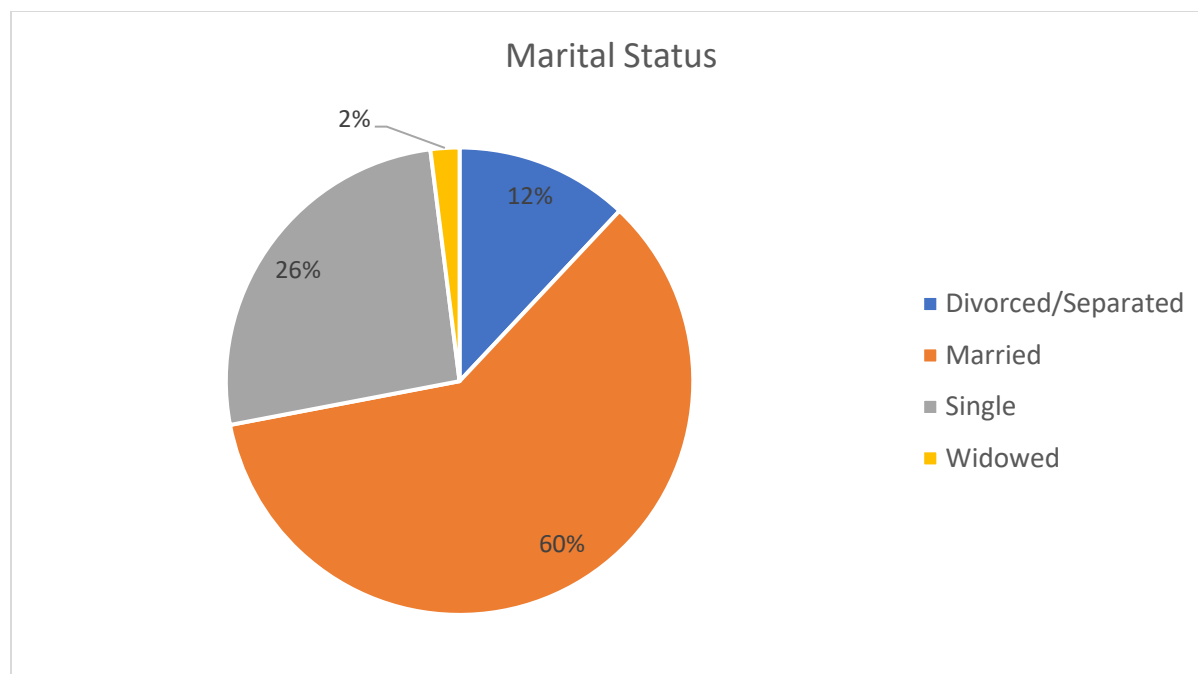


Figure 4-11: Marital Status

4.7.7 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.

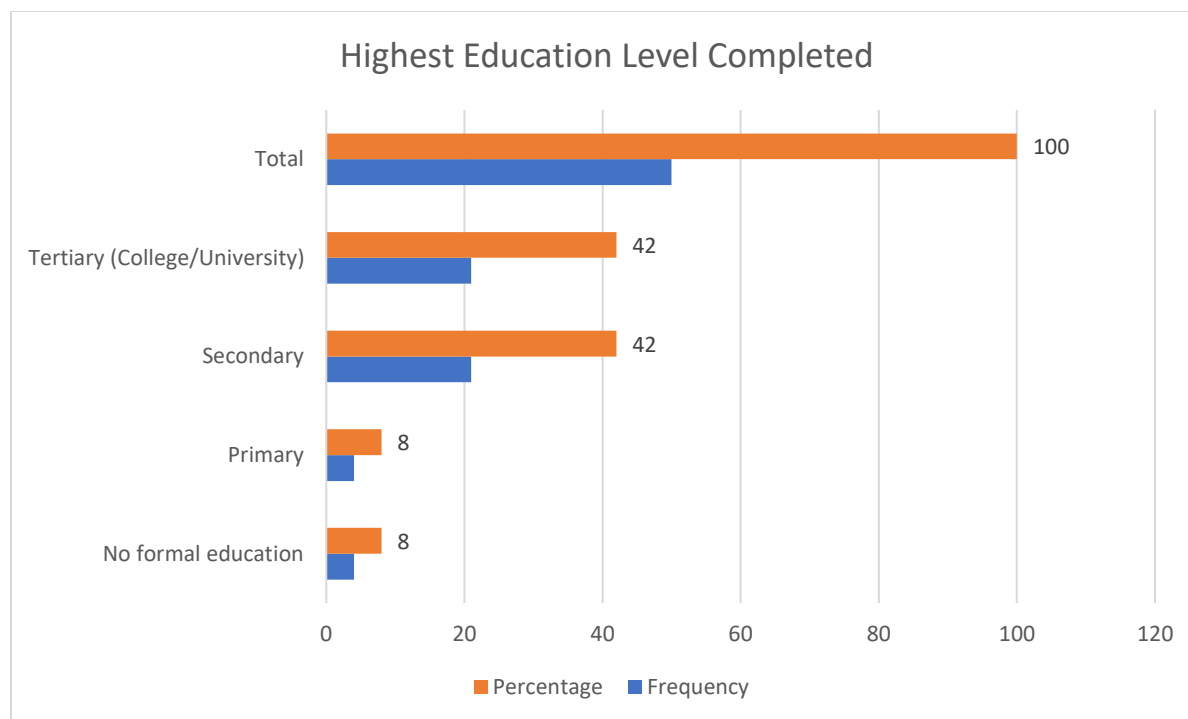


Figure 4-12: Highest Education Level Completed

4.7.8 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.

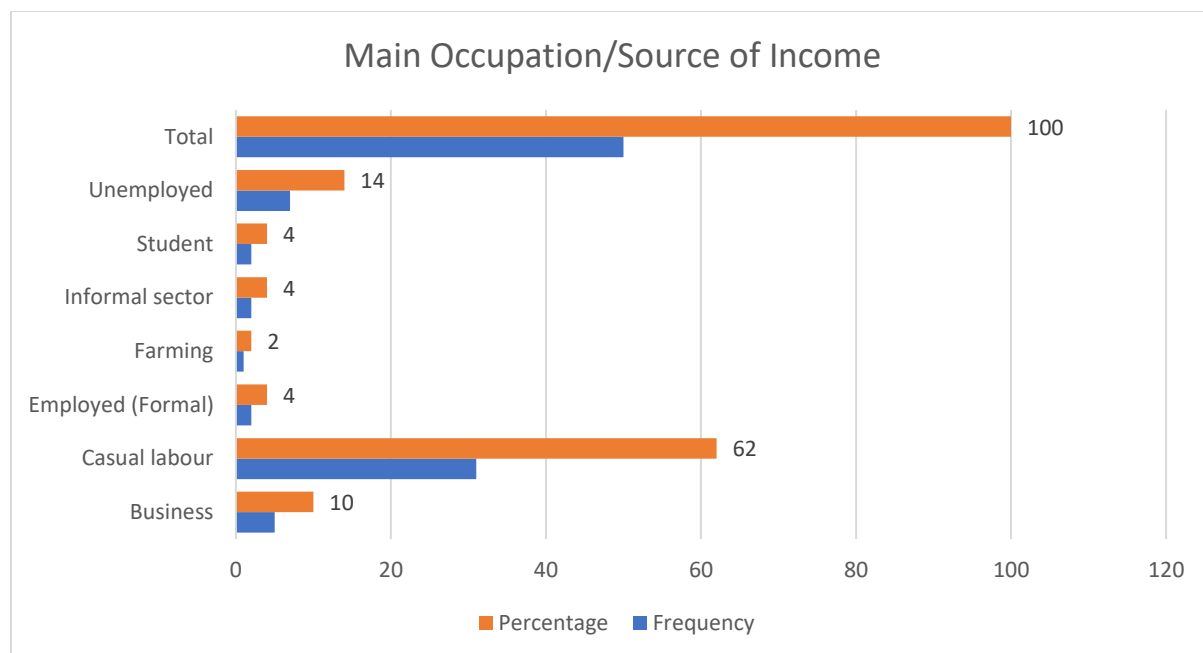


Figure 4-13: Main Occupation/Source of Income

4.7.9 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.

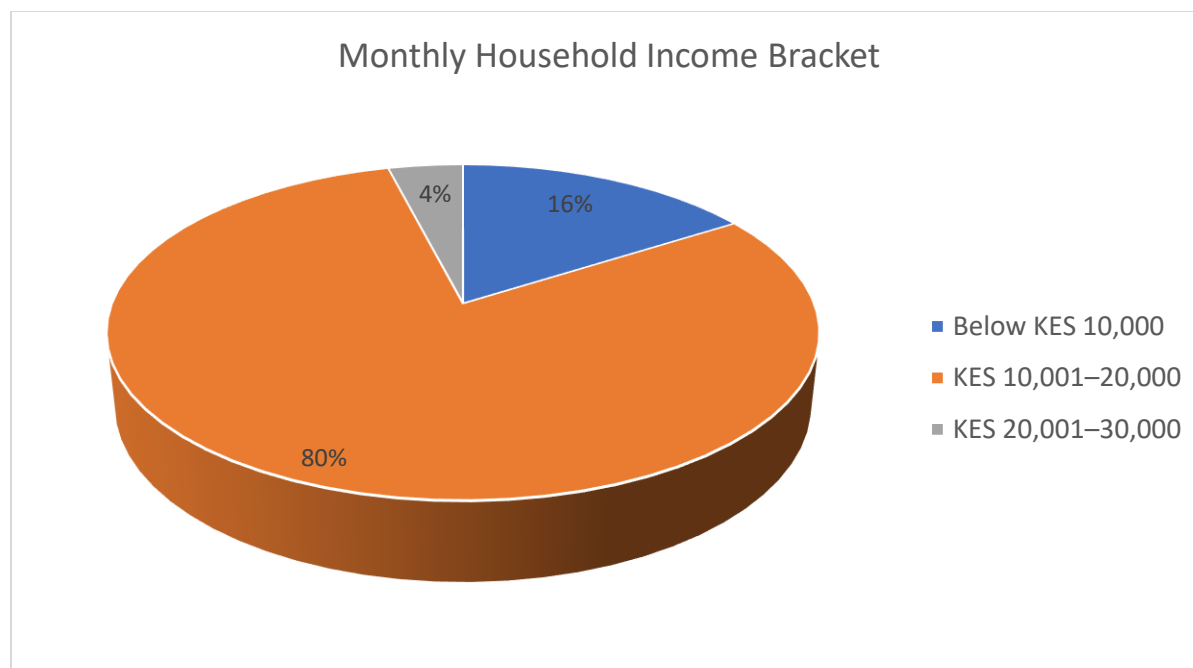


Figure 4-14: Monthly Household Income Bracket

4.7.10 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.

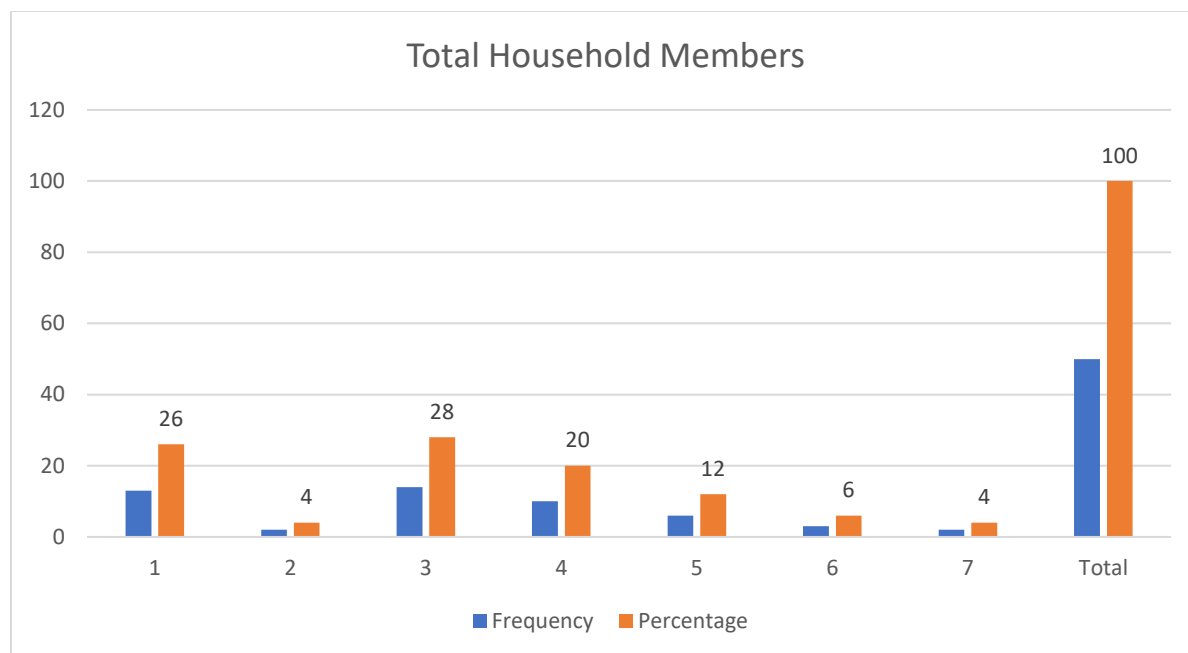


Figure 4-15: Monthly Household Income Bracket

4.7.11 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.

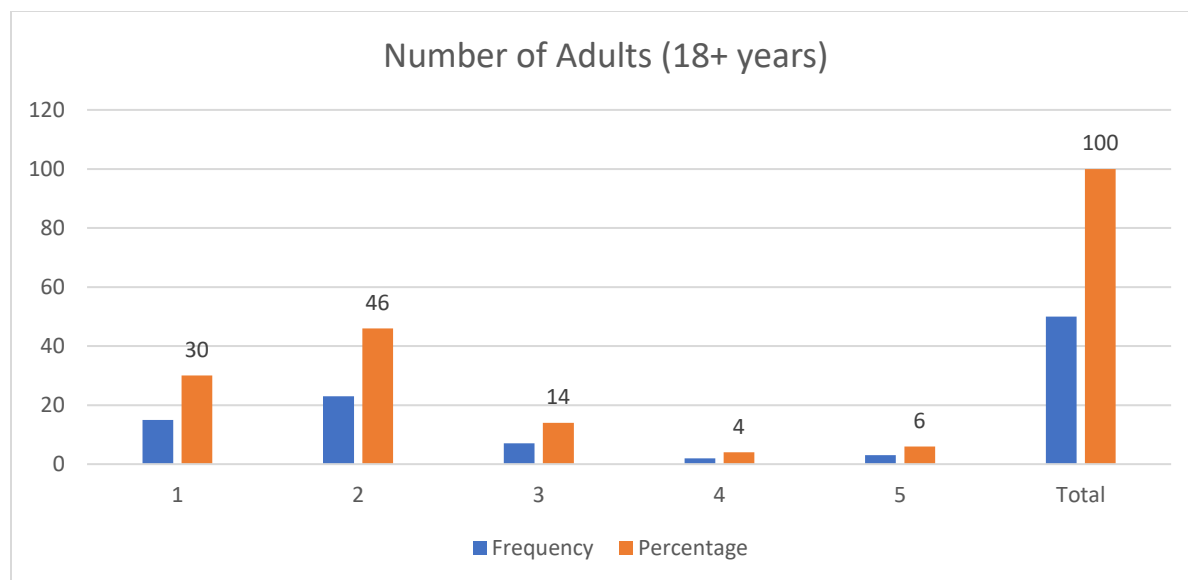


Figure 4-16: Number of Adults (18+ years)

4.7.12 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.

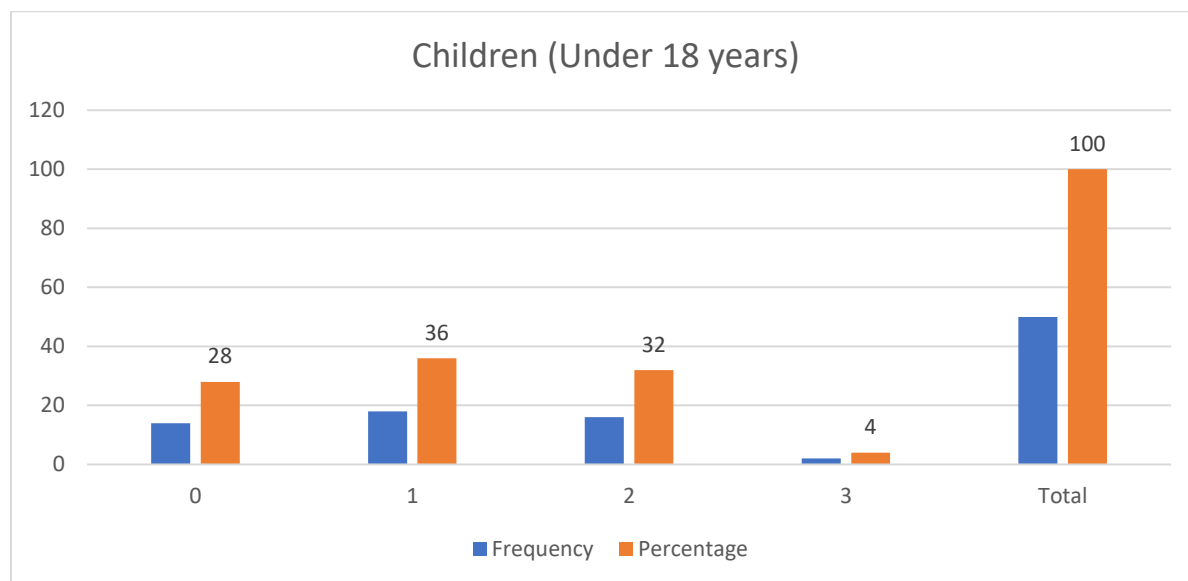


Figure 4-17: Children (Under 18 years)

4.7.13 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.

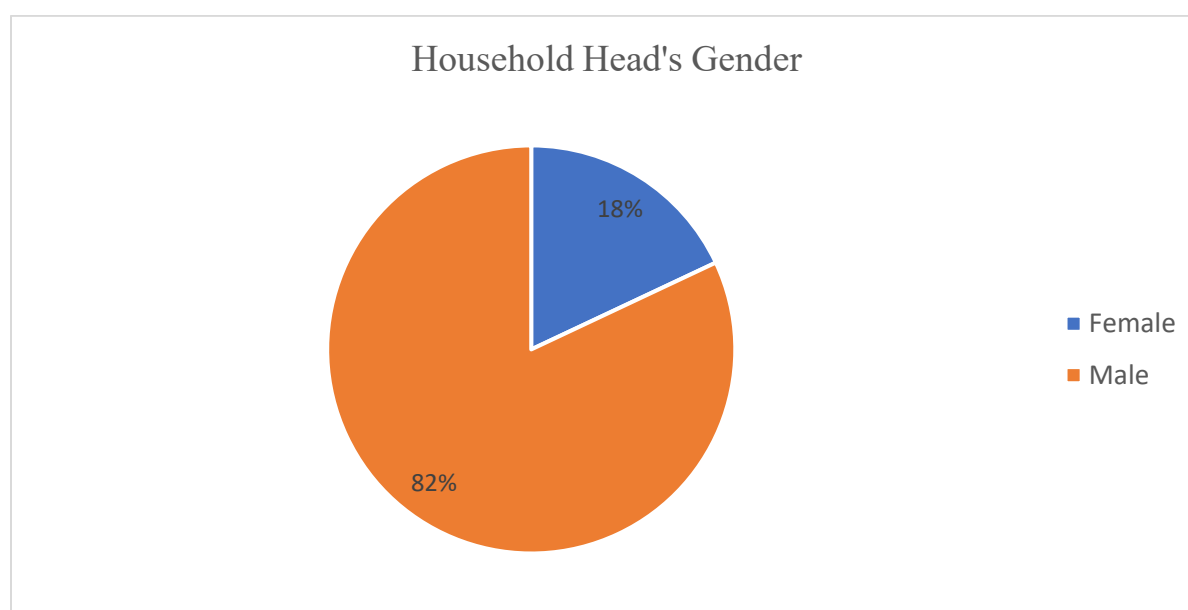


Figure 4-18: Household Head's Gender

4.7.14 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.

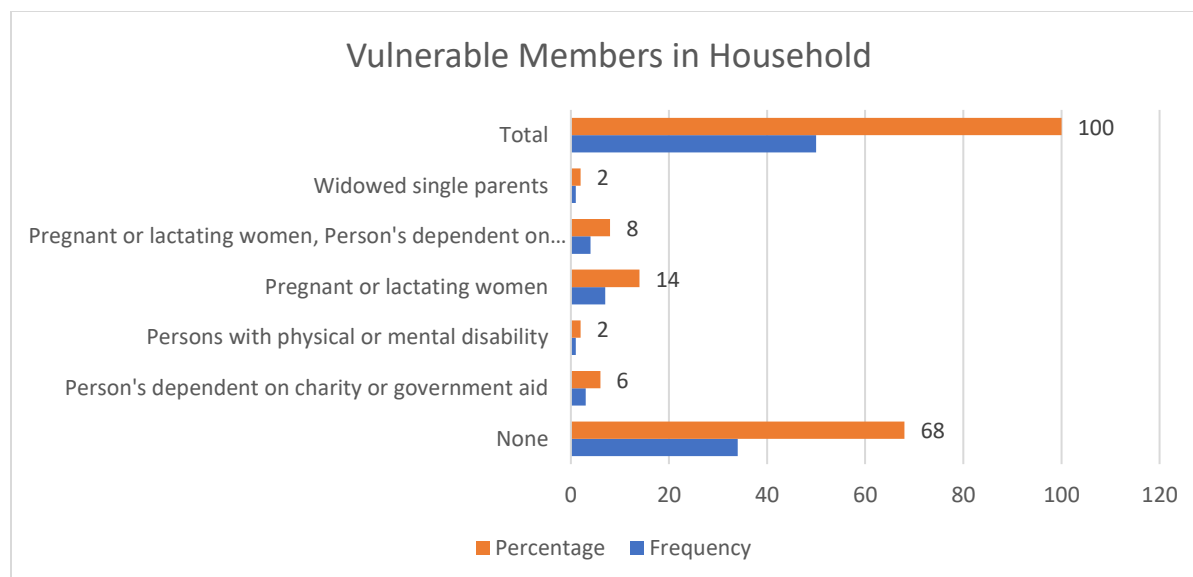


Figure 4-19: Vulnerable Members in the Household

4.7.15 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.

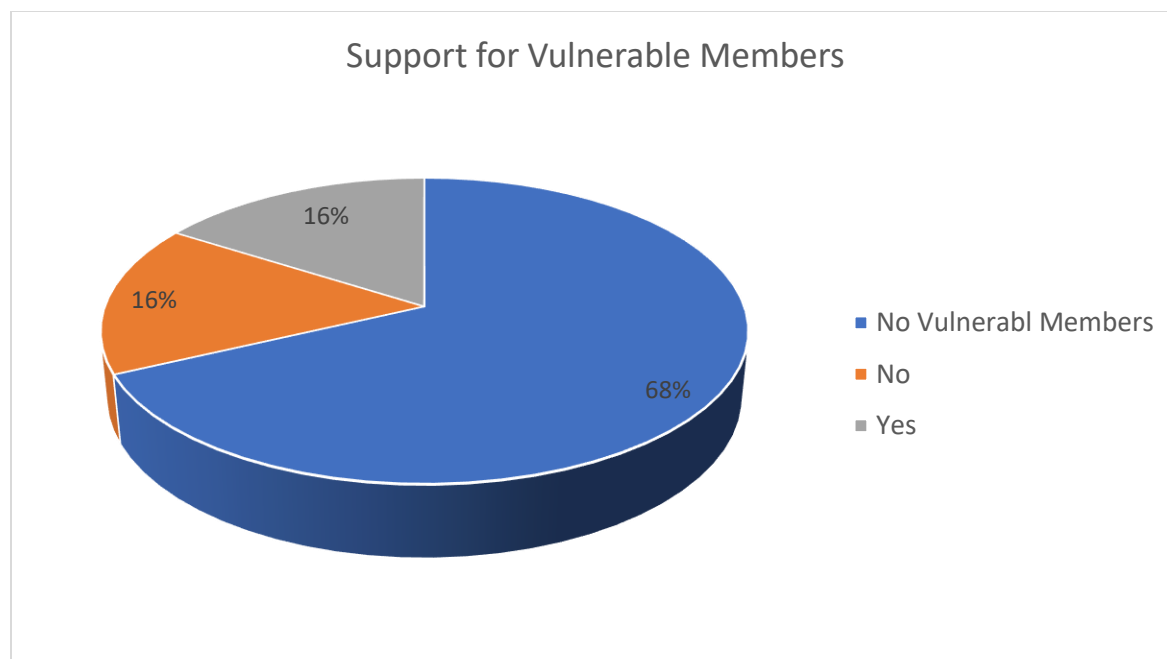


Figure 4-20: Support for Vulnerable Members

4.7.16 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.

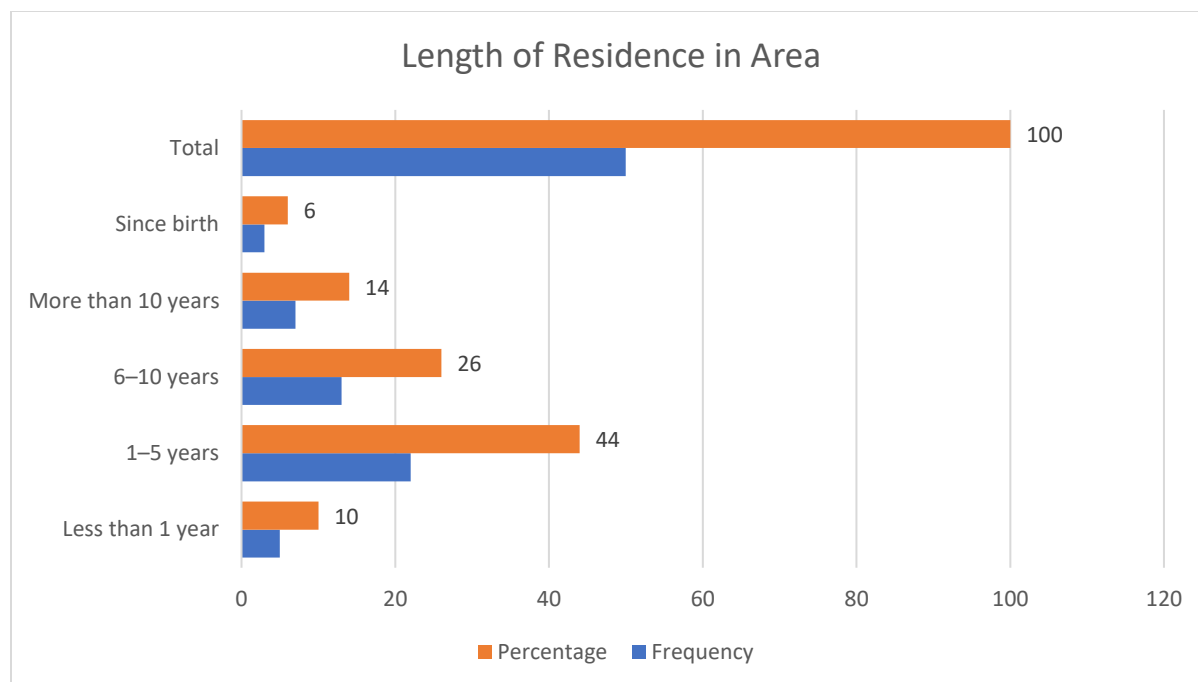


Figure 4-21: Length of Residence in Area

4.7.17 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.

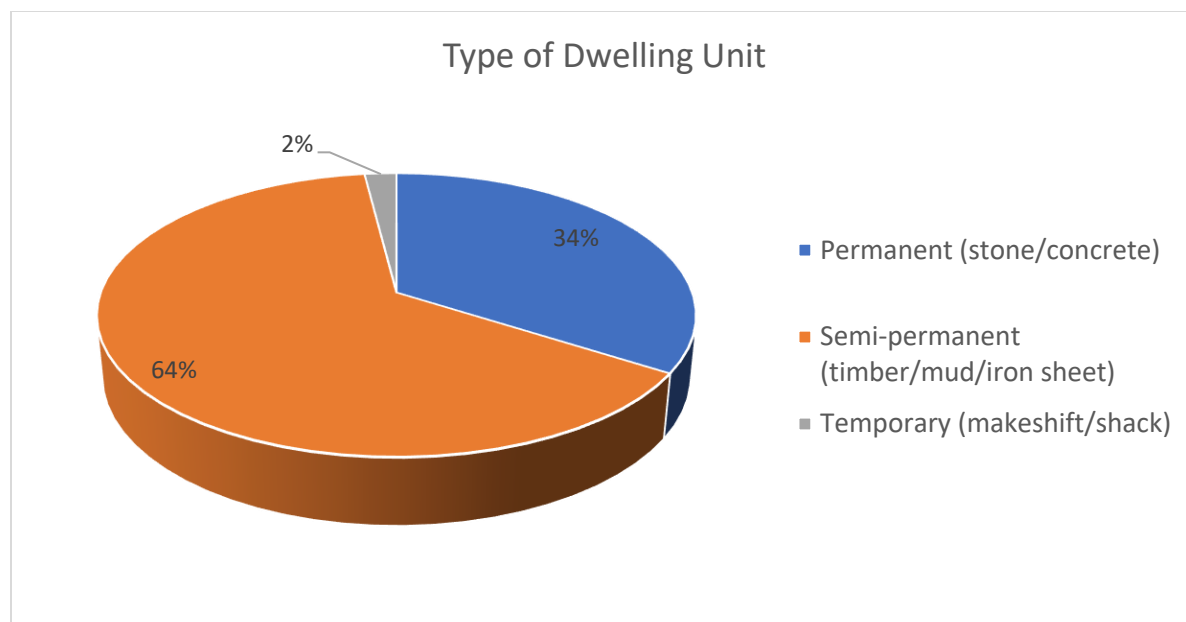


Figure 4-22: Type of Dwelling Unit

4.7.18 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.

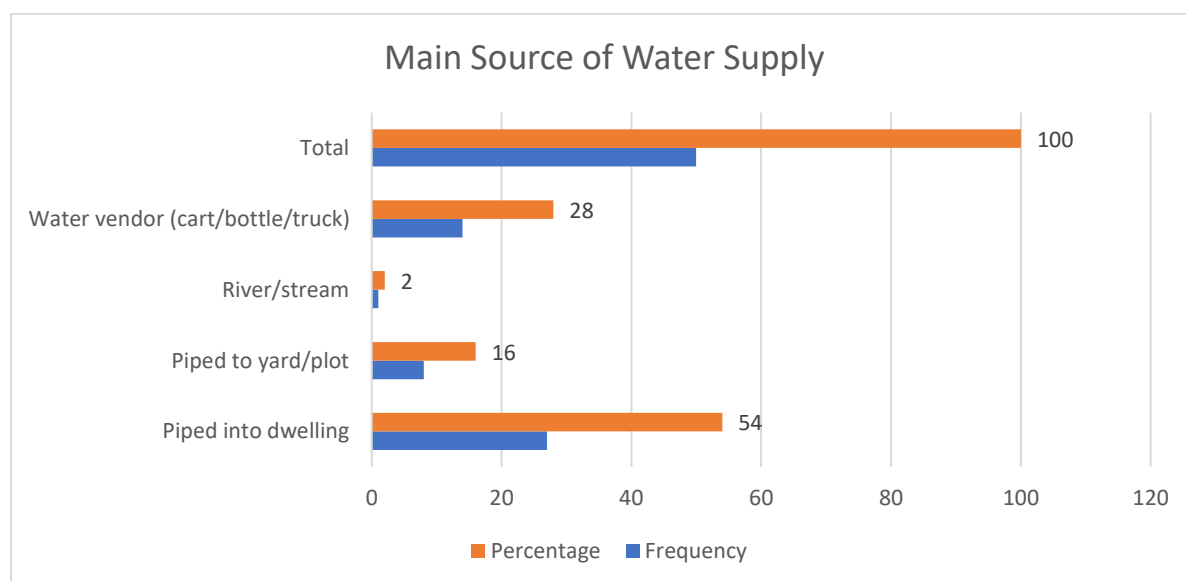


Figure 4-24: Main Source of Water Supply

4.7.19 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.

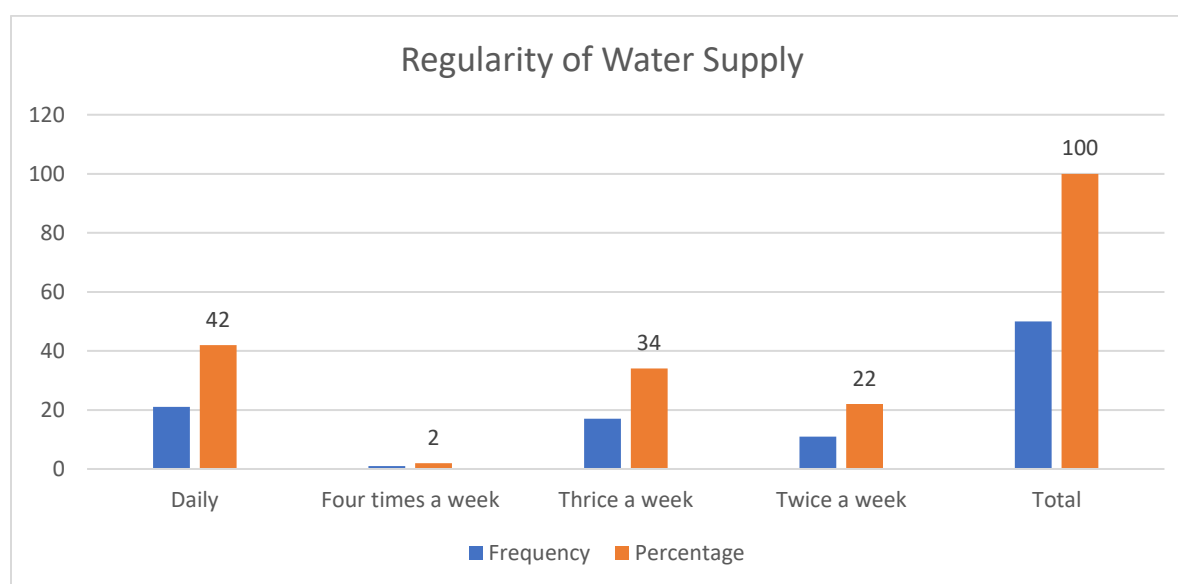


Figure 4-25: Regularity of Water Supply

4.7.20 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.

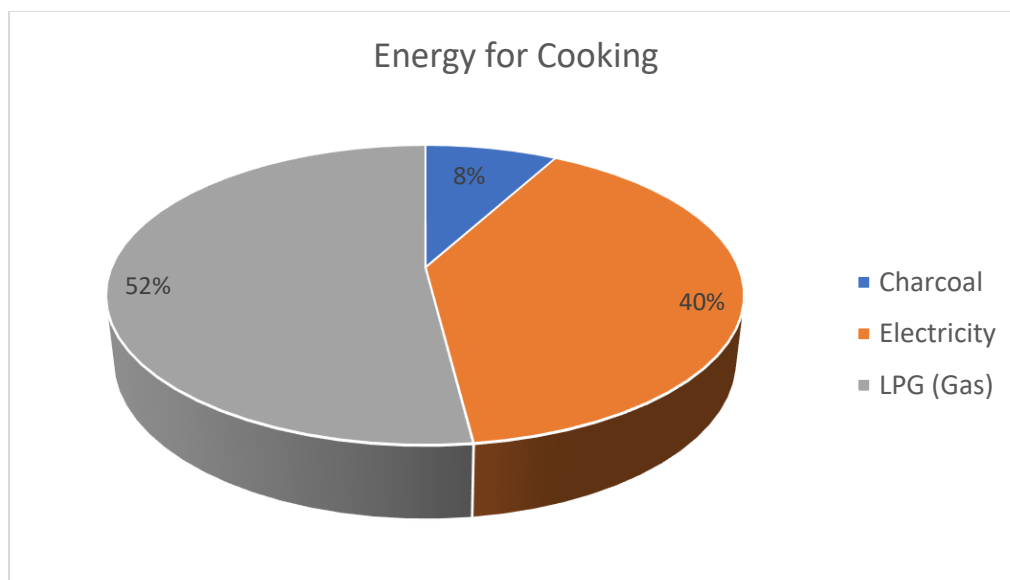


Figure 4-26: Energy for Cooking

4.7.21 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.

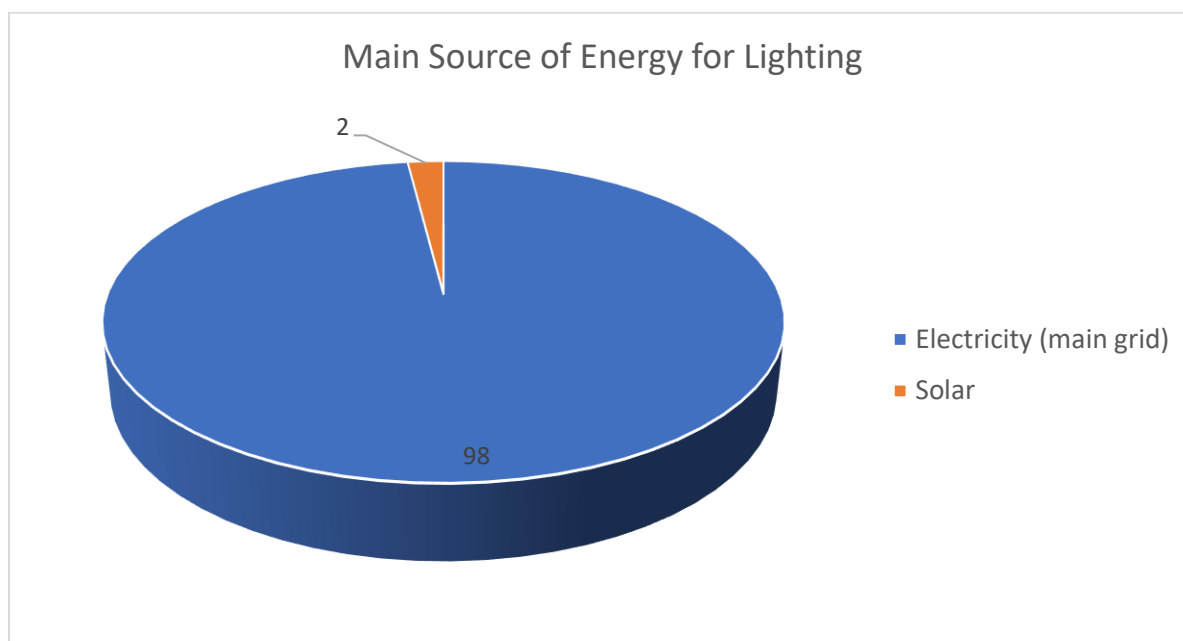


Figure 4-27: Main Source of Energy for Lighting

4.7.22 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.

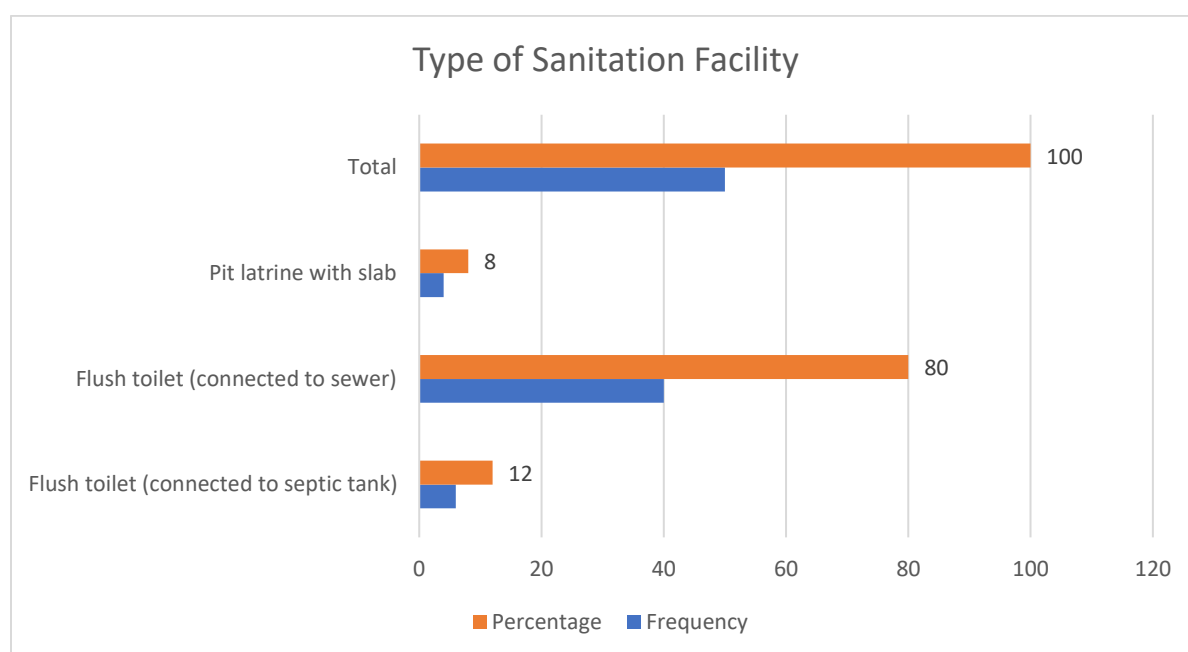


Figure 4-28: Type of Sanitation Facility

4.7.23 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.

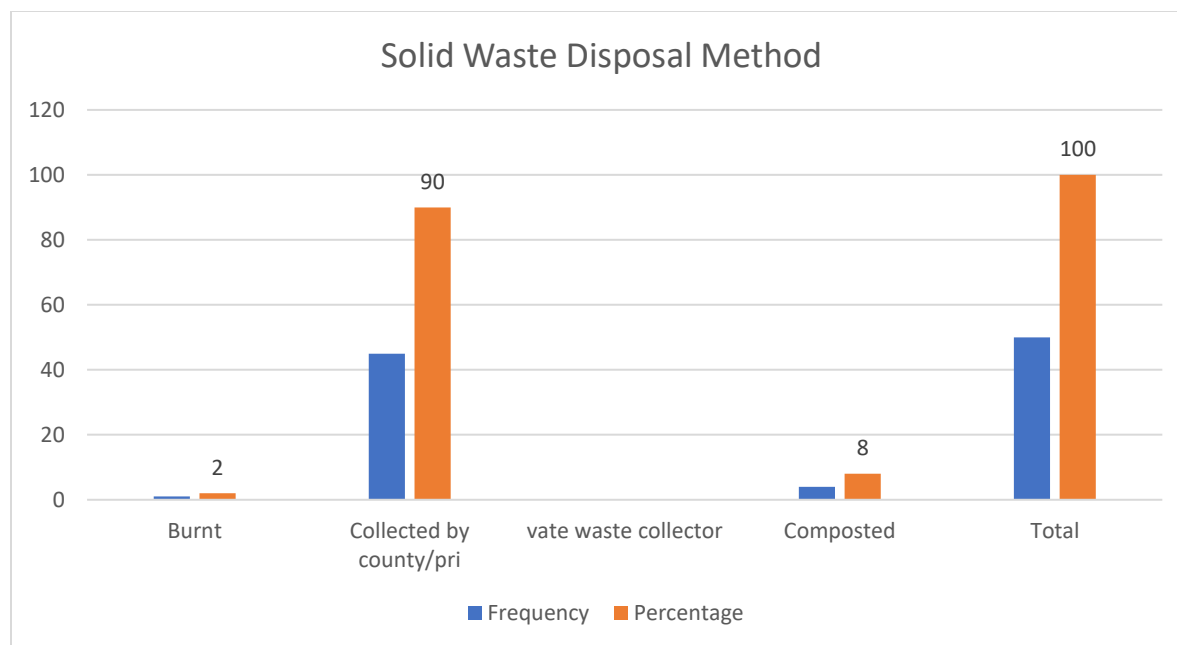


Figure 4-29: Solid Waste Disposal Method

4.7.24 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.

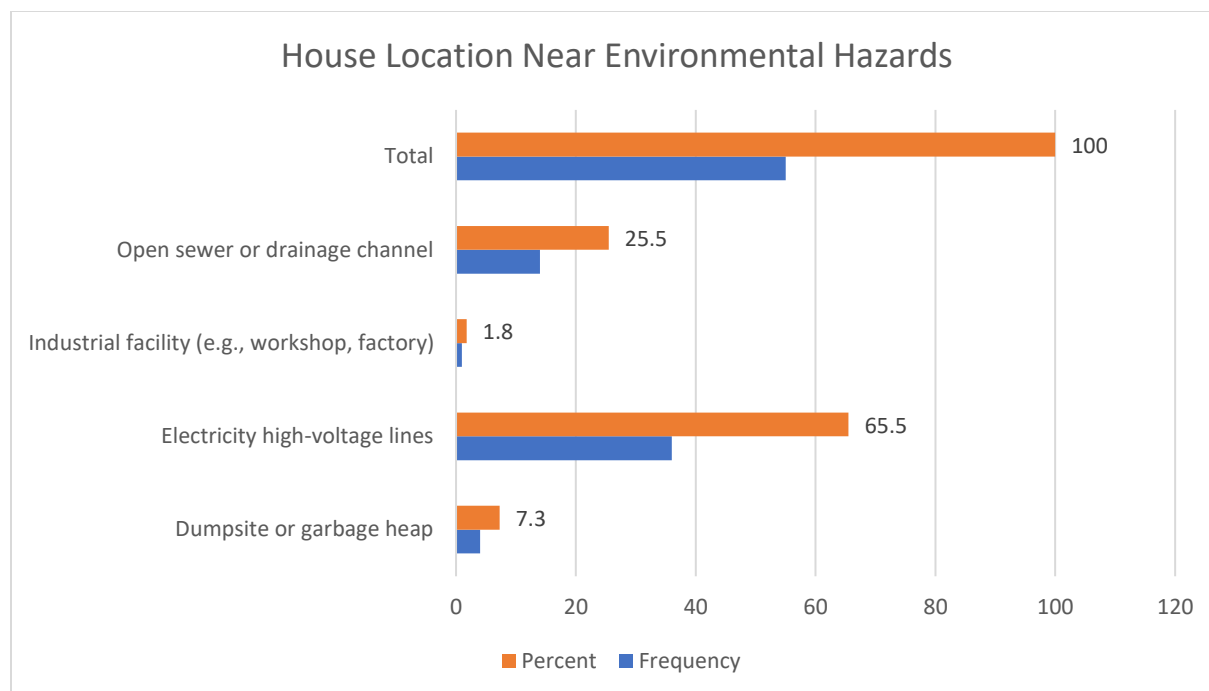


Figure 4-30: House Location Near Environmental Hazards

4.7.25 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.

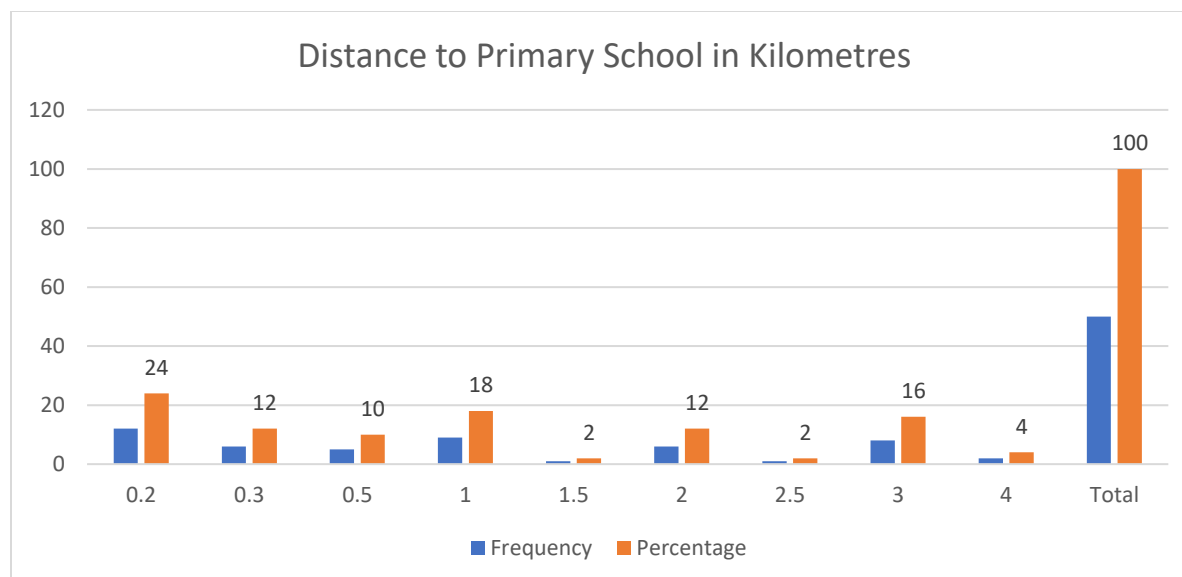


Figure 4-35: Distance to Primary School in Kilometres

4.7.26 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.

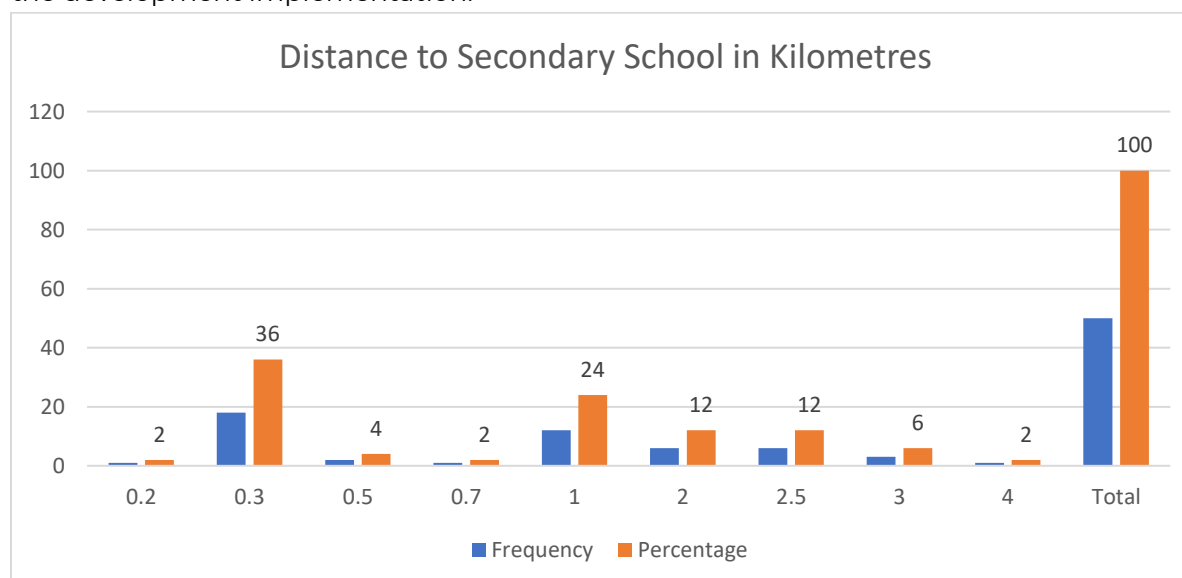


Figure 4-36: Distance to Secondary School in Kilometres

4.7.27 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.

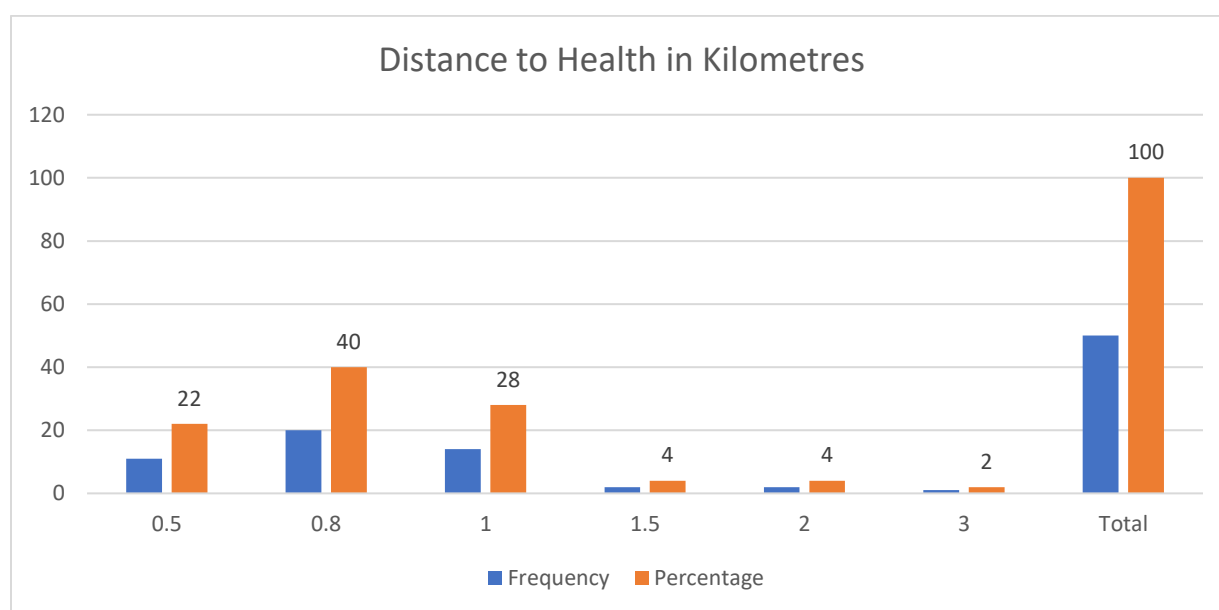


Figure 4-37: Distance to Health in Kilometres

4.7.28 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.

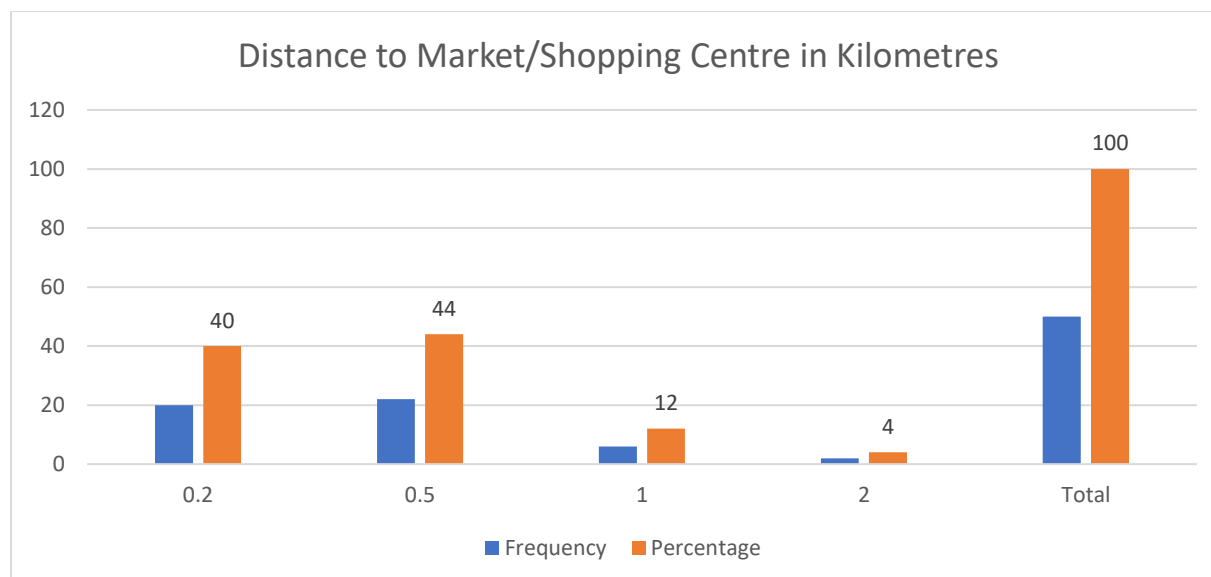


Figure 4-38: Distance to Market/Shopping Centre in Kilometres

4.7.29 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.

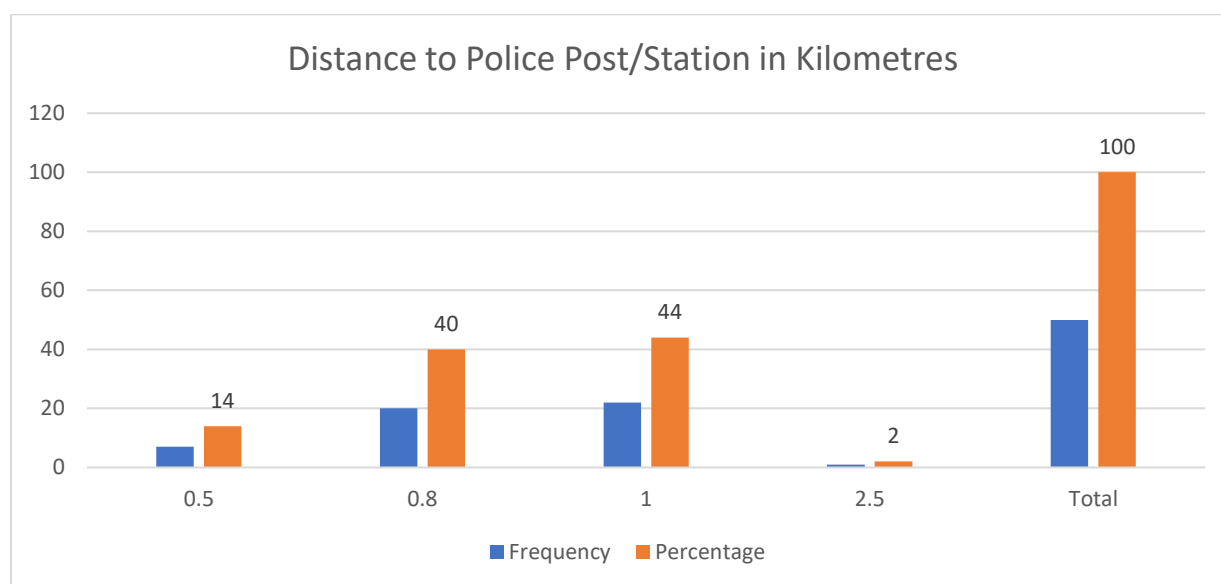


Figure 4-39: Distance to Police Post/Station in Kilometres

4.7.30 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.

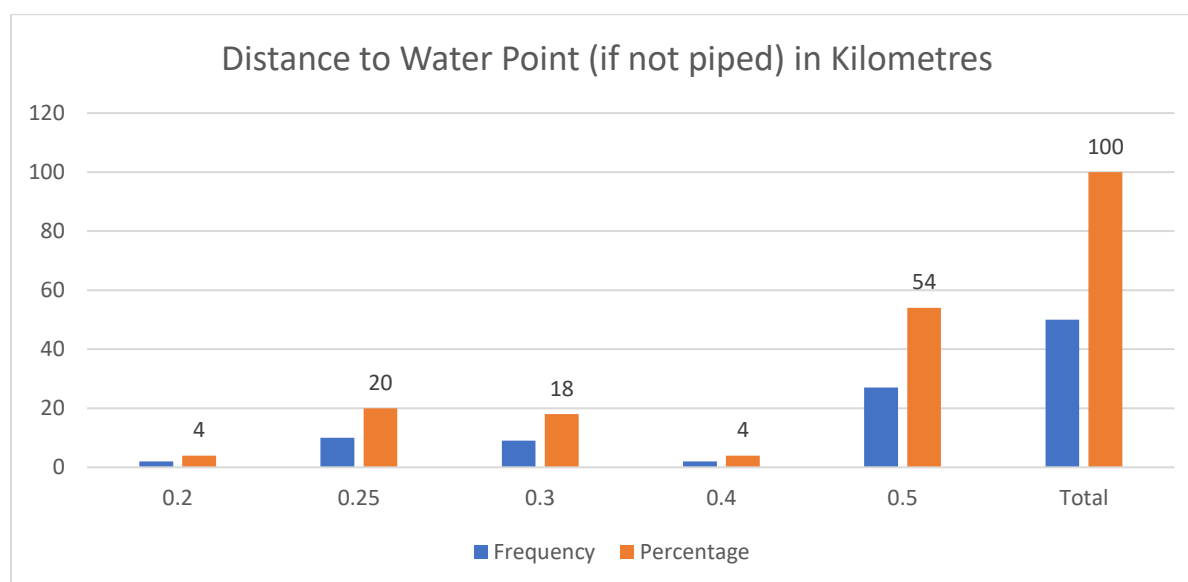


Figure 4-40: Distance to Water Point (if not piped) in Kilometres

4.7.31 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.

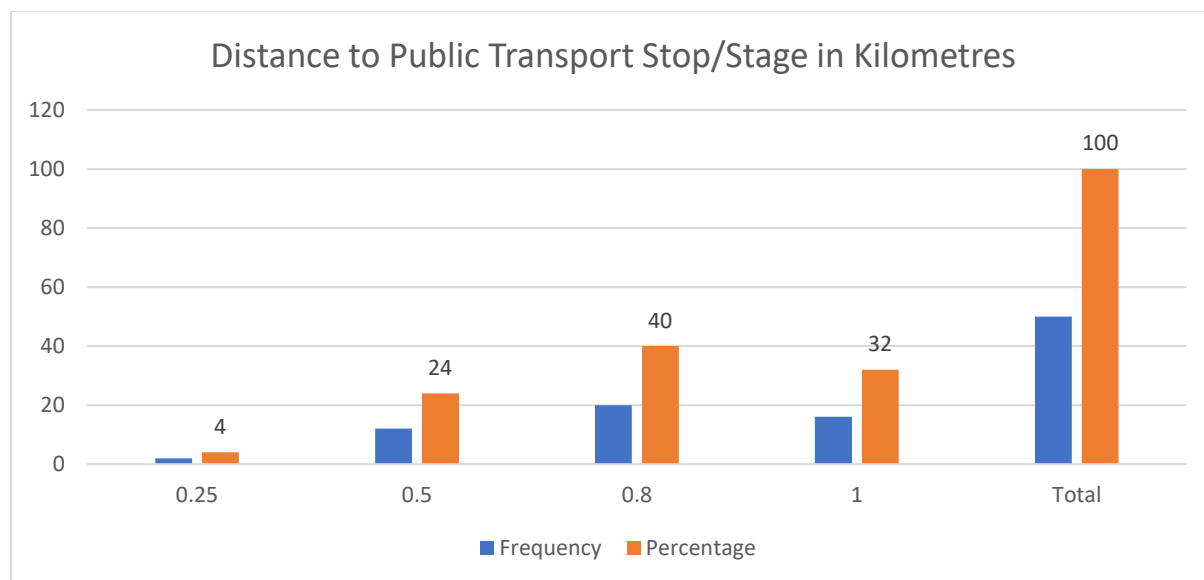


Figure 4-41: Distance to Public Transport Stop/Stage in Kilometres

4.7.32 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.

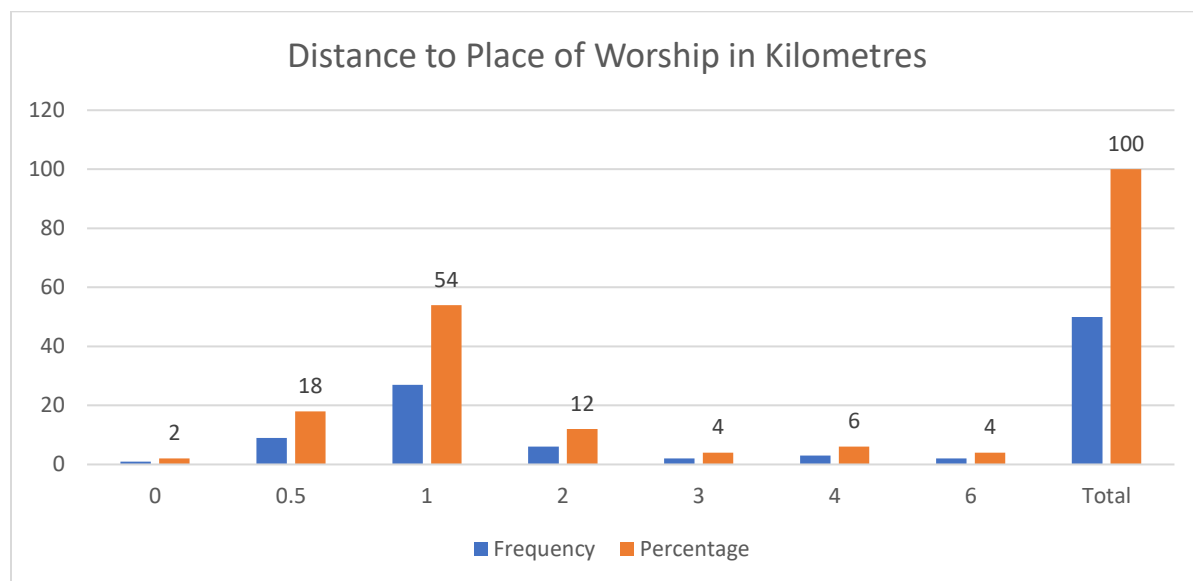


Figure 4-42: Distance to Place of Worship in Kilometres

4.7.33 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.

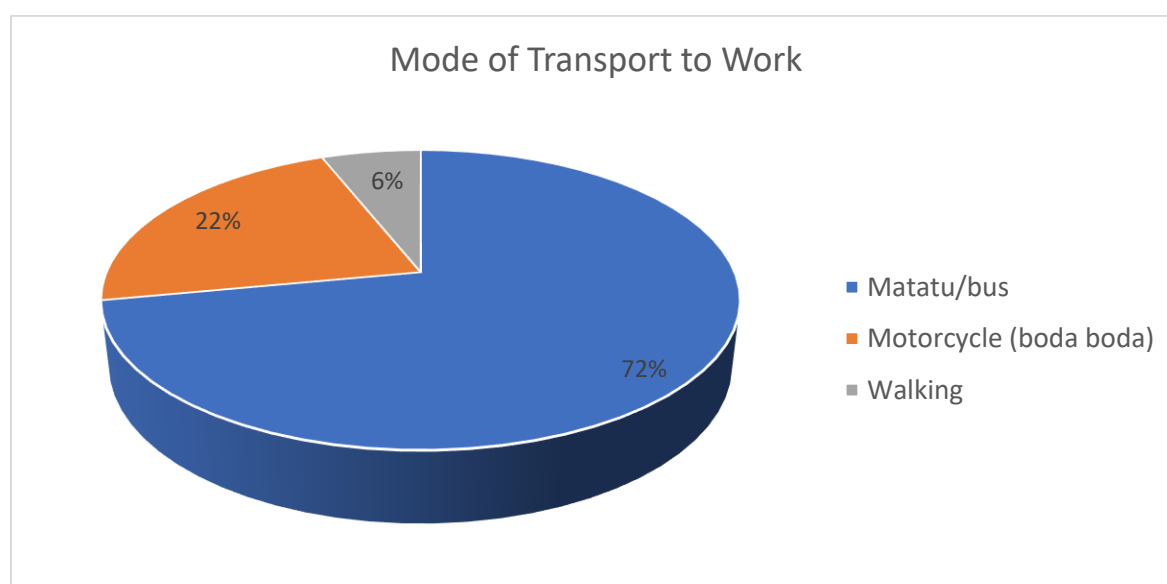


Figure 4-43: Mode of Transport to Work

4.7.34 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.

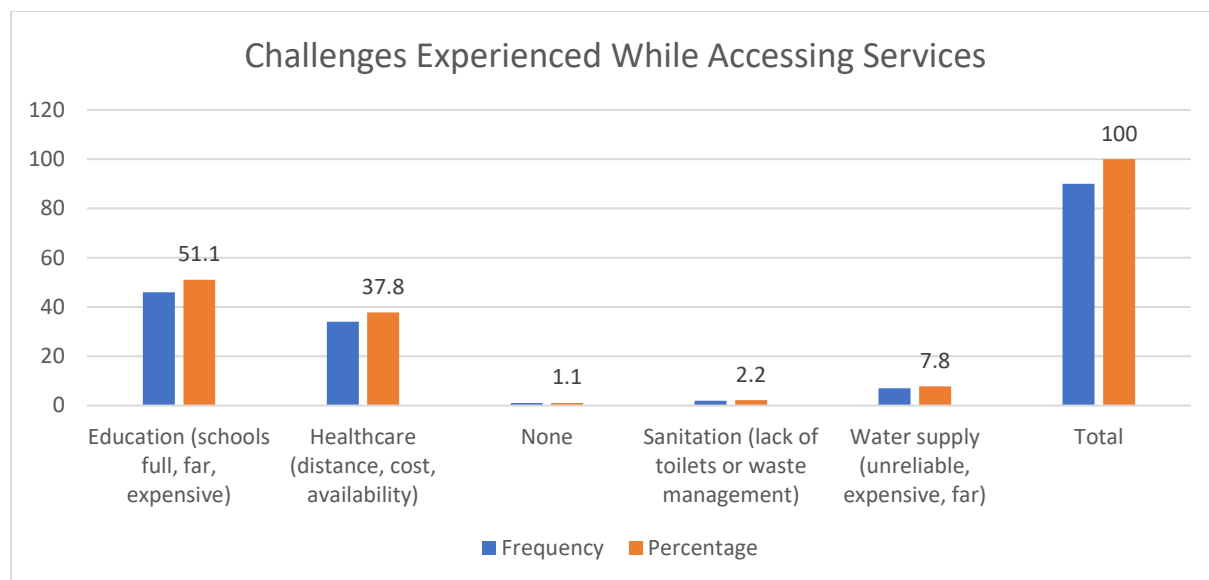


Figure 4-44: Challenges Experienced While Accessing Services

4.7.35 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.

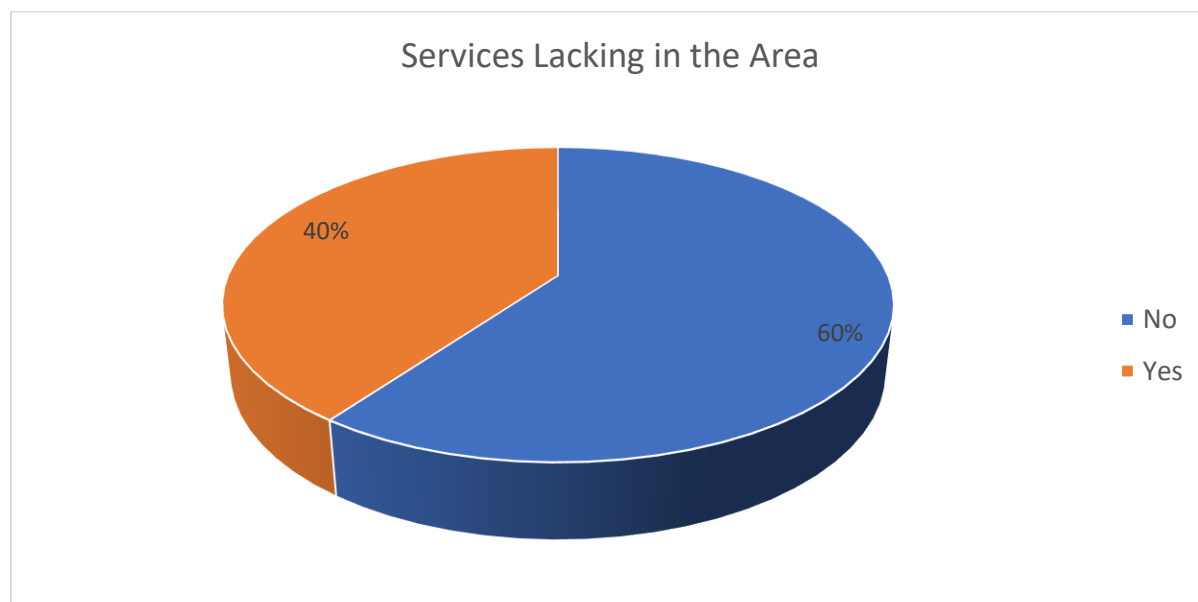


Figure 4-48: Services Lacking in the Area

4.7.36 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.

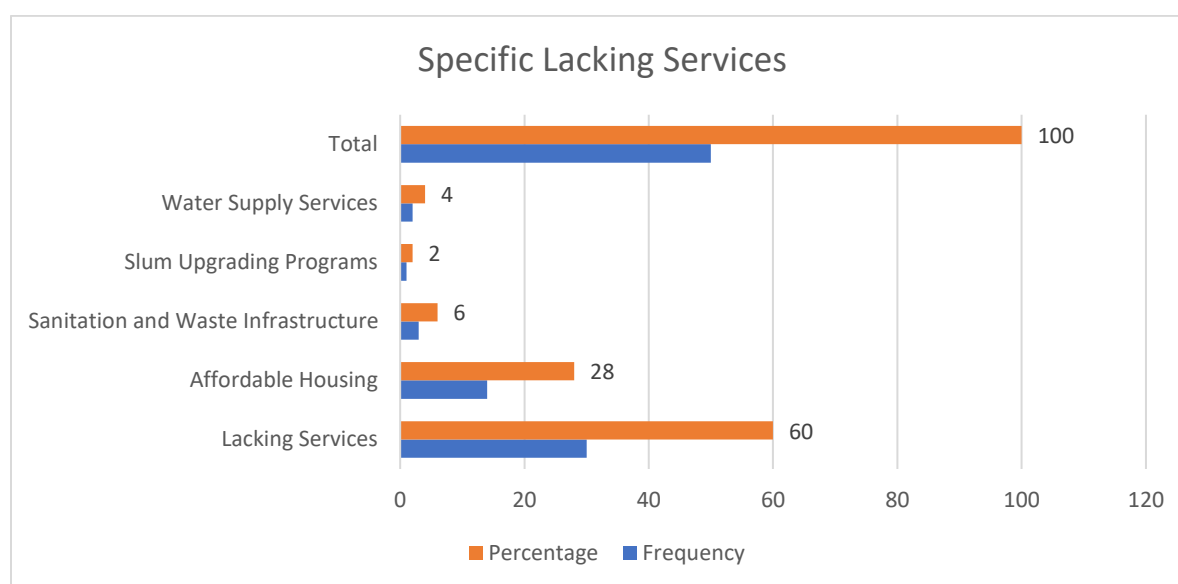


Figure 4-49: Specific Lacking Services

4.7.37 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.

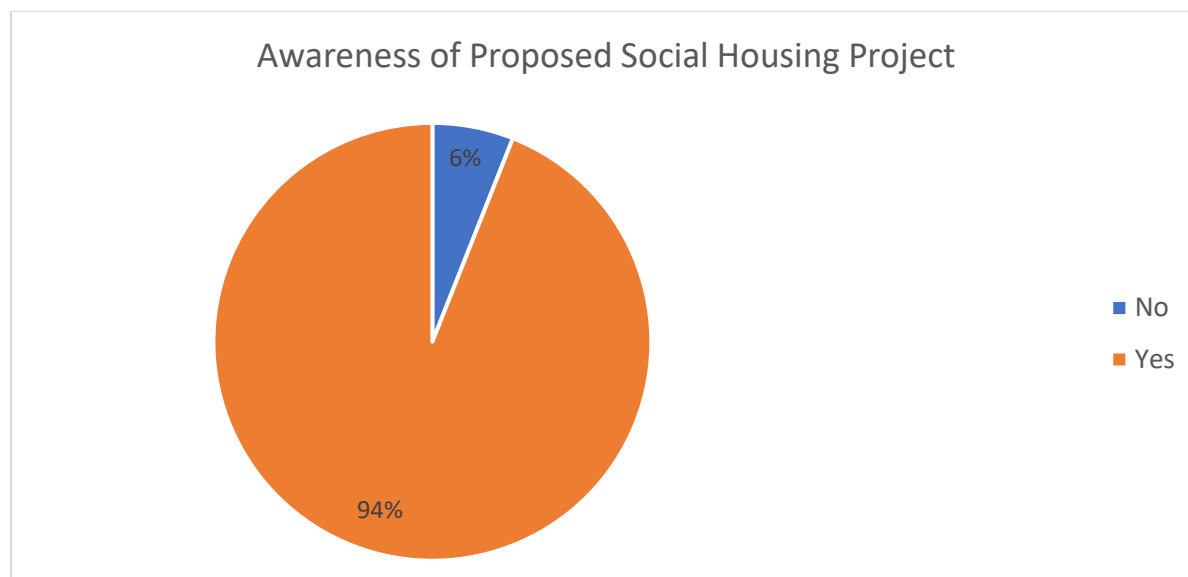


Figure 4-50: Awareness of Proposed Social Housing Project

4.7.38 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.

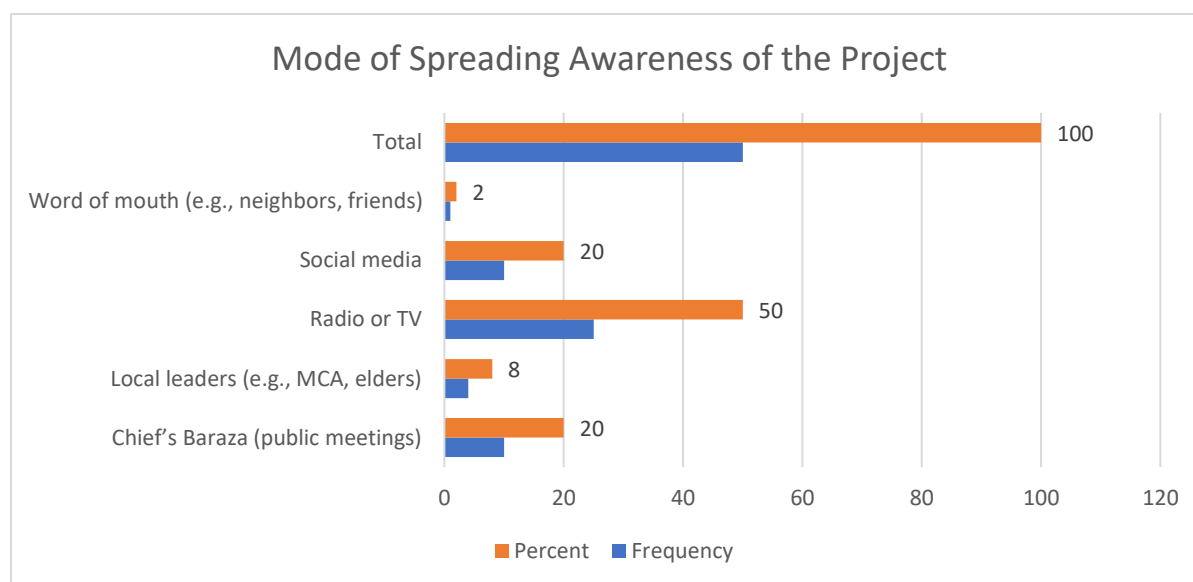


Figure 4-51: Mode of Spreading Awareness of the Project

4.7.39 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.

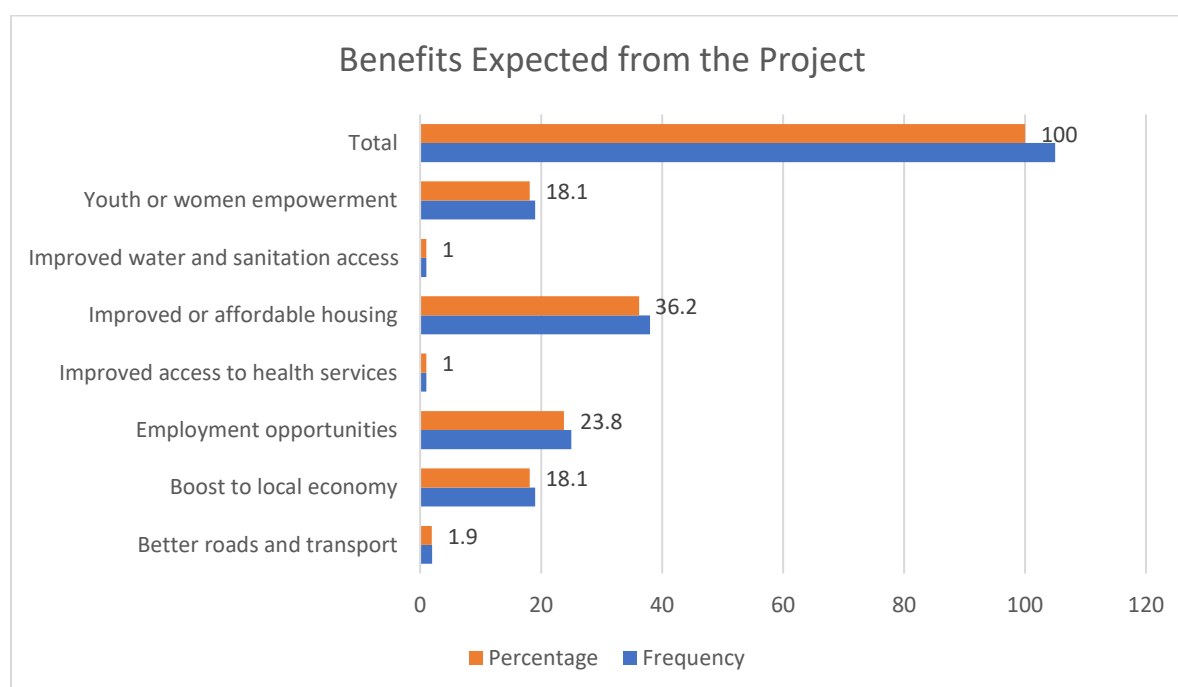


Figure 4-52: Benefits Expected from the Project

4.7.40 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.

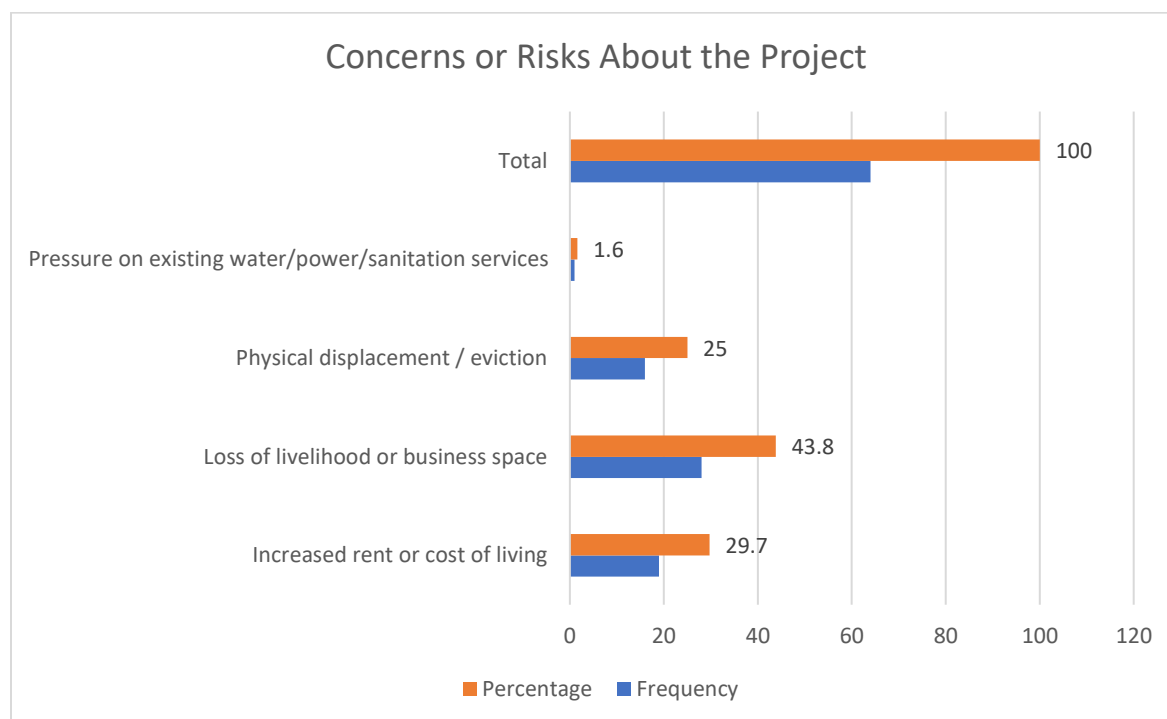


Figure 4-53: Concerns or Risks About the Project

4.7.41 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.

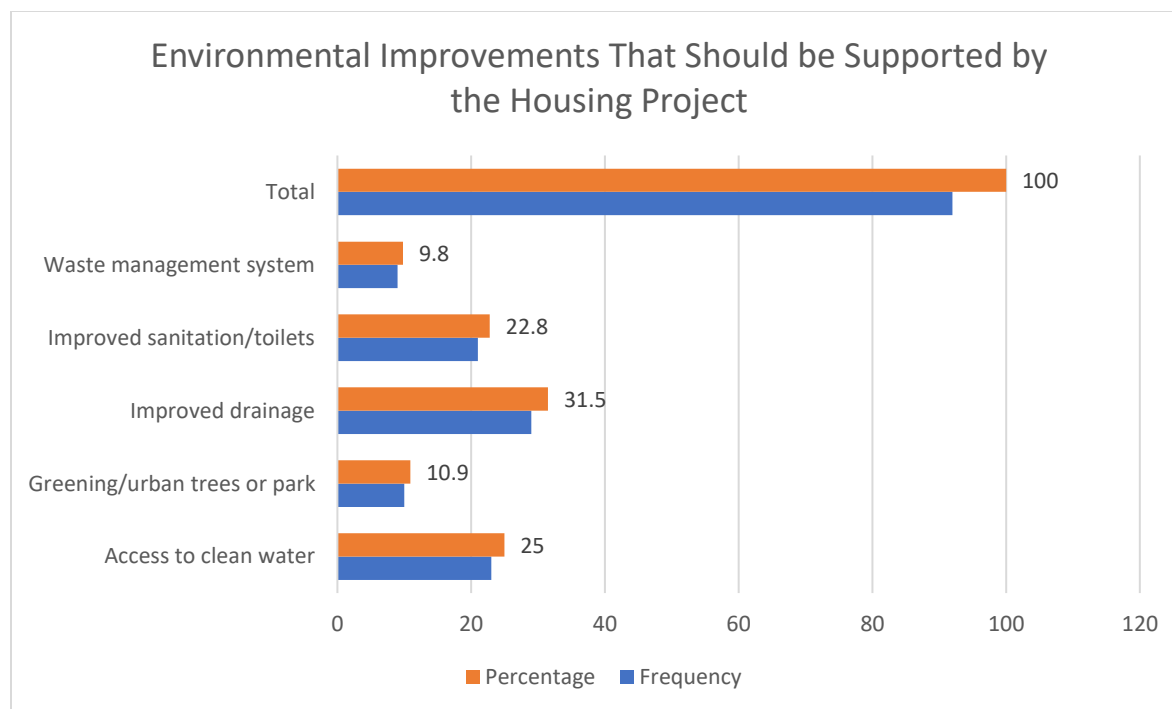


Figure 4-54: Environmental Improvements That Should be Supported by the Housing Project

4.7.42 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.

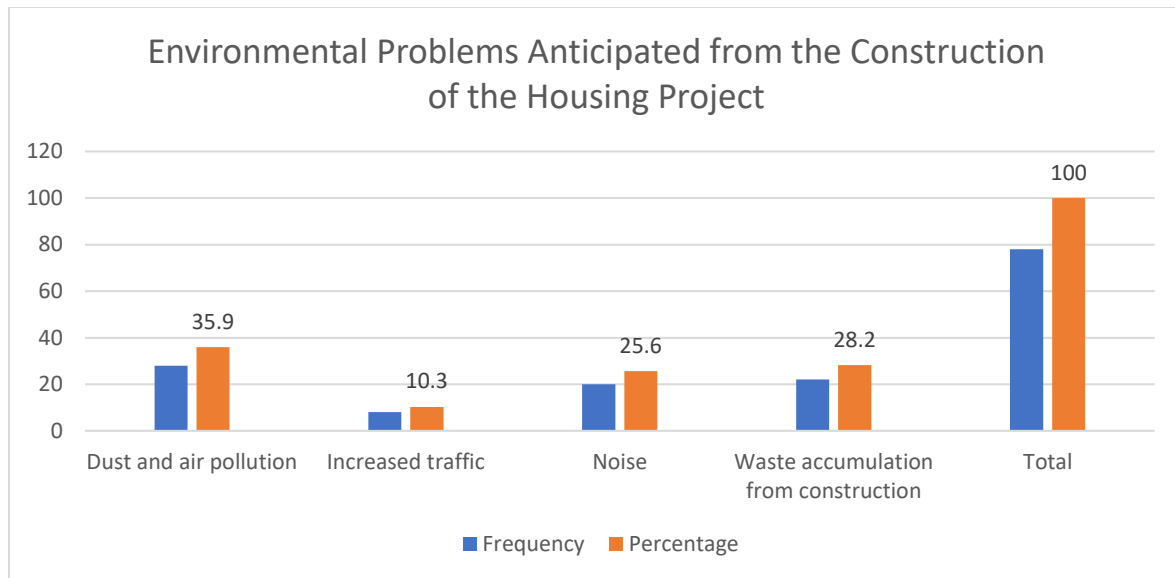


Figure 4-55: Environmental Problems Anticipated from the Construction of the Housing Project

CHAPTER FIVE: STAKEHOLDER ENGAGEMENT AND PUBLIC PARTICIPATION

5.1 Introduction

This chapter documents the inclusive, structured and transparent public participation process undertaken for the Proposed Construction of Social Housing and Associated Infrastructure in Southlands (Kibra Lot 5). The process was designed and implemented in full response to the findings and orders of the Environment and Land Court (ELC LC Petition E052 of 2025), delivered on 29 May 2026, which quashed the previous EIA licence and required a fresh, lawful EIA process with genuine, broad and verifiable public participation. It also responds directly to the conditions attached to the NEMA Terms of Reference Approval, which require inclusive engagement with Project Affected Persons (PAPs); evidence of analysis and incorporation of public comments; at least three public consultation meetings with endorsed minutes, signed and stamped attendance lists, photographs, written comments and questionnaires; and appointment of a suitably qualified coordinator (in consultation with the Authority) to receive and record oral and written comments.

The engagement process for Lot 5 (and the wider Southlands/Kibra Lots 1 to 5) was conducted between 31 July and 7 August 2026. Part of the public participation adopted an integrated approach for the five lots, including the high-level public barazas and the targeted focused-group meetings. Household interviews and physical observations/assessments were conducted exclusively for each site.

The consultation targeted differentiated stakeholder groups to ensure that the views of persons with disabilities, residential associations, youth, women, business-community representatives, the wider community, Project Affected Persons and relevant institutions were systematically captured, analysed and incorporated into the design of mitigation measures and the Environmental and Social Management Plan (ESMP).

5.2 Objectives of Public Participation

The specific objectives of the stakeholder engagement and public participation process were to:

- a) Inform stakeholders about the proposed Lot 5 development (14 multi-storey residential blocks of G+8 floors providing 1,386 housing units, together with supporting infrastructure and amenities) in a clear, accessible and appropriate manner.
- b) Provide early and continuous opportunities for Project Affected Persons and other stakeholders to raise concerns, comments and suggestions regarding potential environmental, social, health, safety, economic and cultural impacts.
- c) Ensure that the participation process is inclusive of vulnerable and marginalised groups, including persons with disabilities, women, youth, elderly persons and informal livelihood groups.
- d) Collect and document differentiated, verifiable records of notices issued, attendance, issues raised, responses given, and the reasons for accepting or rejecting particular views.

- 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, and analysis of the receptors identified in the project description for Lot 5.

The main stakeholder categories relevant to Lot 5 are:

Primary Stakeholders (directly affected)

- Project Affected Persons (PAPs) – including operators of the BMW Garage (to be demolished) and any associated livelihood users, as well as persons whose livelihoods or access may be affected by the development;
- Neighbouring residential communities – particularly Langata View Corner Apartments and other residential apartments in close proximity to Lot 5;
- Edward Rice Disability School (directly in front of the site) and its users;
- 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, Chief, Assistant Chief, Assistant County Commissioner);
- Nairobi City County Government departments (Planning, Water and Sewerage, Environment);
- Lead agencies and utilities – Kenya Civil Aviation Authority (KCAA), Kenya Airports Authority (Wilson Airport), Kenya National Highways Authority (KeNHA), Water Resources Authority (WRA), Nairobi City Water and Sewerage Company (NCWSC), Kenya Power (KPLC);
- Business-community representatives operating in the vicinity;
- Faith-based organisations and institutions;

- Educational institutions (including Edward Rice Disability School and 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, neighbouring residents and the disability school, who raised concerns about proximity, privacy, infrastructure capacity, height, access, safety 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 (request for consent to take minutes, photographs and attendance list 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 project engagement) 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
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31 July 2026	Persons with Disabilities (PWDs)	Lot 3	31	11:50 am – 2:00 pm
1 August 2026	Residential Associations Officials	Lot 3	18	11:35 am – 2:00 pm
3 August 2026	Youth	Lot 3	45	11:30 am – 1:30 pm
3 August 2026	Women	Lot 3	32	4:30 pm – 6:00 pm
4 August 2026	Business Community	Lot 3	33	11:50 am – 1:50 pm
5 August 2026	Public Baraza (Community Members)	Lot 3	107	11:16 am – 1:50 pm
6 August 2026	Project Affected Persons (PAPs)	Lot 3	32	12:20 pm – 2:20 pm
7 August 2026	Institutions	Lot 3	30	11:05 am – 1:50 pm

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

5.6 Notices and Publicity

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

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



Plate 5-1: Site Engineer and the ministry presentation to the PWDs



Plate 5-2: ESIA Consultant talking to the PWDs

5.7.2 Residential Associations Officials Meeting – 1 August 2026

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

5.7.3 Youth Meeting – 3 August 2026

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



Plate 5-3: Youths meeting

5.7.4 Women Meeting – 3 August 2026

Held at Lot 3 from 4:30 pm to 6:00 pm with 32 participants. Discussions focused on payment affordability (especially for widows and vulnerable women), employment without discrimination, health and safety, project timelines, and accessibility for persons with

disabilities. Support mechanisms such as merry-go-rounds/chamas for deposit mobilisation and different payment modes were explained.



Plate 5-4: Women meeting

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), prioritisation of displaced or nearby traders, registration and management of commercial spaces, and avoidance of congestion outside the site. The project team indicated that commercial spaces would be managed through a committee and that further registration meetings would be organised.



Plate 5-5: ESIA consultant conducting a meeting with the business representatives

5.7.6 Public Baraza (Community Members) – 5 August 2026

Held at Lot 3 from 11:16 am to 1:50 pm with 107 participants. This open meeting allowed broader community input. Key concerns included employment processes and local prioritisation, formation of a community committee/representatives, facilitation for demolition for affected businesses and structures (including the BMW Garage on Lot 5), transparency and accountability, clarification of social versus affordable housing, deposit requirements, and the need for continuous communication. Representatives of PAPs (garage operators, churches, farmers, informal settlements) were identified for follow-up.



Plate 5-6: Area Chief talking to the community



Plate 5-7: Community Baraza meeting

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

Held at Lot 3 from 12:20 pm to 2:20 pm with 32 participants. This meeting focused on directly affected persons, including garage members associated with Lot 5 (a list of affected garage members was presented), farmers/urban cultivators, church operators and neighbouring residents. Dominant issues were infrastructure (water, sewer, storm-water drainage, roads, power lines) before construction, buffer zones and height, facilitation for demolition processes, formation of a representative committee, privacy, CSR prioritisation for Lang'ata institutions, and the need for clear, early communication. The Grievance Redress Mechanism was presented and explained in detail.



Plate 5-8: One of the Garage representative raising a concern

5.7.8 Institutions Meeting – 7 August 2026

Held at Lot 3 from 11:05 am to 1:50 pm with 30 participants, including representatives from Nairobi City County (Planning and Engineering), KCAA, Kenya Airports Authority (Wilson), KeNHA, KPLC, WRA, Nairobi City Water and Sewerage Company, Kenya Prisons, and local administration. The meeting addressed issues escalated from earlier community meetings, including height restrictions (KCAA confirmation of the 29 m limit based on aeronautical study), access and road-reserve matters (KeNHA), water and sewerage capacity and ongoing projects (NCWSC/Athi Water), borehole regulation and riparian protection (WRA), power-line relocation (KPLC), zoning and planning approvals (Nairobi City County), and the multi-agency nature of approvals. Residents present emphasised concerns about buffer, naming, infrastructure sequencing and process integrity.



Plate 5-9: KENHA representative making a contribution

5.8 Issues and Concerns Raised

The public participation meetings generated a wide range of environmental, social, economic, procedural and design-related concerns. These have been systematically recorded from the minutes of the eight meetings held between 31 July and 7 August 2026. The issues are presented below under thematic categories for clarity. Many concerns were raised across multiple stakeholder groups and are therefore treated as project-wide issues with specific relevance to Lot 5.

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

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

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

D. Project Affected Persons and Livelihoods a) Demolition of structures including the BMW Garage and any associated informal businesses without clear prior communication or facilitation arrangements. b) Impacts on any remaining livelihood users or cultivators. c) Need for a verified PAP register, fair valuation, facilitation support for demolition and livelihood restoration. d) Prioritisation of affected persons for housing units or employment. e) Request for CSR interventions to benefit Lang'ata institutions rather than distant locations.

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

F. Naming and Identity · Strong objection to referring to the project as “Kibra”; preference for “Southlands” or “Lang'ata” to reflect the actual location and community identity.

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

5.9 Lot 5-Specific Concerns

While many issues are common across the five lots, the following concerns have particular relevance to Lot 5:

a) Proximity to Langata View Corner Apartments and other neighbouring residential apartments, raising heightened concerns about privacy, overlooking, shadowing, noise, dust and property values. b) Presence of Edward Rice Disability School directly in front of the site, requiring careful attention to noise, dust, vibration, access, safety and inclusive design during construction and operation. c) Presence of the BMW Garage (to be demolished) and associated operators, requiring clear facilitation, valuation and livelihood-support arrangements. d) Proximity to River Motoine (approximately 300 m away), which drains into Nairobi Dam, increasing sensitivity to storm-water management, drainage design and potential contamination risks. e) Location along the Southern Bypass (KeNHA controlled-access corridor), necessitating careful design of access, exit, road-reserve compliance and traffic safety. f) Potential cumulative pressure on local water, sewer and drainage infrastructure

serving the immediate neighbourhood, including the disability school and residential apartments.

These Lot 5-specific sensitivities have been given particular weight in the impact assessment, alternatives analysis and ESMP.

5.10 Responses from the Proponent/Consultant

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

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

n) Drawings, layout alternatives (including buffer considerations) and specialised studies (Traffic Impact Assessment, hydrogeology, geotechnical, etc.) form part of the current ESIA process.

5.11 Issues Not Accepted and Reasons

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

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

5.12 Stakeholder Engagement Matrix

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

5.14 Grievance Redress Mechanism

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

Official channels for reporting a grievance:

- i. Visit the Area Chief's Office and record the complaint in the official Register.
- ii. Raise the concern during public participation meetings or community barazas.
- iii. Write an email, call or visit the State Department for Housing and Urban Development:
 - Telephone: +254 (0) 20 2718050
 - Email: slumupgrading@housingandurban.go.ke
 - Address: Ardhi House, 1st Ngong Avenue, P.O. Box 30119-00100, Nairobi

Key features of the GRM

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

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

CHAPTER SIX: ANALYSIS OF PROJECT ALTERNATIVES

6.1 Introduction

This chapter examines alternatives for the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 5. The analysis considers the No-Project Alternative, alternative sites, alternative project designs, building height, site layout, access arrangements, water supply, wastewater management, storm-water management and energy sources. The preferred alternative is identified at the end of the chapter.

6.2 No-Project Alternative

Under the No-Project Alternative, the proposed development on Lot 5 would not proceed. The site would remain in its current state, characterised by light vegetation (immature trees, Napier grass and common weeds), residual open ground, proximity to Langata View Corner Apartments, Edward Rice Disability School, the BMW Garage (and associated operators), and the Southern Bypass.

Advantages

- Avoidance of all construction-phase impacts (dust, noise, vibration, traffic, vegetation clearance, temporary disruption).
- No increase in local population density or associated pressure on water, sewerage, drainage and traffic infrastructure.
- Retention of existing open land and any informal recreational or livelihood uses of the land.
- No privacy, overlooking or visual impacts on neighbouring residential apartments.
- No disruption to Edward Rice Disability School or the BMW Garage operators.

Disadvantages

- Failure to contribute 1,386 housing units toward Kenya's affordable and social housing deficit, contrary to Article 43 of the Constitution and the objectives of the Affordable Housing Act and Kenya Vision 2030.
- Continued under-utilisation of public land designated for housing development.
- Lost employment and local economic opportunities during construction and operation.
- No contribution to planned infrastructure upgrades or CSR initiatives in Lang'ata.
- The wider housing and urban-development objectives of the State Department would remain unmet on this parcel.

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

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

6.3 Alternative Site

Alternative sites within Lang'ata or elsewhere in Nairobi County were considered at the programme level. Lot 5 forms part of a strategically selected cluster of public-land parcels along the Southern Bypass that have been identified for the Southlands (Kibra Lots) housing programme.

Key considerations a) Availability of alternative public land of comparable size (approximately 6 acres) with secure tenure and suitability for multi-storey housing is limited within the immediate area. b) Any new site would still require a full ESIA, lead-agency clearances (including KCAA if within the flight path), and public participation, without guaranteeing lower environmental or social impacts.

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

6.4 Alternative Project Designs

Alternative design approaches examined include:

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

Lower-density designs would significantly reduce the number of units achievable on 6 acres, undermining the project's contribution to housing targets. A substantially higher commercial component would shift the primary purpose away from housing. Phased construction remains possible within the preferred design and can be used to sequence infrastructure delivery. The current mix of social and affordable units (studios, one-room, two-room, two-bedroom and three-room configurations) is retained as it aligns with the Affordable Housing Program 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.

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 and the disability school, it is not compatible with the strategic housing objectives or the efficient use of scarce urban public land.

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

6.6 Alternative Site Layout

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

Options considered

- Uniform distribution of 14 blocks across the site (baseline concept);
- Concentrated layout with blocks clustered toward the Bypass side and a landscaped buffer zone of varying width along the residential and school boundary; and
- 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 and Edward Rice Disability School;
- Creation of a green/open-space amenity that can serve both new residents and, potentially, the wider community;
- Improved opportunities for compensatory planting; and
- Better interface with the Southern Bypass while maintaining required road-reserve setbacks (KeNHA).

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

Conclusion The preferred layout incorporates a landscaped buffer/setback zone along the boundary with neighbouring residential apartments and the disability school, with the majority of blocks oriented toward the Southern Bypass side where feasible. Architectural drawings will optimise this arrangement while meeting unit targets, fire safety, accessibility

and amenity standards. This directly responds to a key public concern raised during the engagement process.

6.7 Alternative Access Arrangements

Lot 5 lies along the Southern Bypass, a controlled-access corridor under KeNHA. Alternative access options include:

- Direct access from the Southern Bypass (subject to KeNHA approval and safety design);
- Access through existing local roads;
- Combined primary and secondary access points; and
- Restricted construction-phase access routes to minimise disruption to neighbours and the disability school.

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

6.8 Alternative Water Supply

Options evaluated:

- Reliance on Nairobi City Water and Sewerage Company (NCWSC) supply;
- On-site boreholes (proposed: two per lot) with storage;
- Combination of municipal supply, boreholes and rainwater harvesting; and
- Dual plumbing for non-potable uses.

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

6.9 Alternative Wastewater Management

Options:

- On-site treatment (package plants or septic systems);
- Connection to the existing municipal sewer network; and
- 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 away) and the need to protect downstream systems including Nairobi Dam, 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; and
- Combination of engineered drainage and SUDS with quality treatment.

The preferred approach is an integrated storm-water 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. 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); and
- Hybrid system incorporating solar photovoltaic (rooftop or selected areas) for common areas and lighting, with battery storage where feasible.

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

6.12 Preferred Alternative

The preferred alternative for Lot 5 is the proposed G+8 development of 14 blocks delivering 1,386 social and affordable housing units, refined as follows:

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

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

- c) **Access:** KeNHA-compliant access arrangements with pedestrian facilities and a construction traffic-management plan that protects school and residential access routes.
- d) **Water:** Hybrid municipal + borehole + storage + rainwater-harvesting system, subject to WRA and NCWSC approvals.
- e) **Wastewater:** Connection to municipal / trunk sewer infrastructure coordinated with city-wide upgrading programmes.
- f) **Stormwater:** Integrated engineered + SUDS system designed to protect River Motoine and downstream systems.
- g) **Energy:** Grid supply with backup generation and incorporation of solar PV for appropriate loads.
- h) **Social measures:** Verified PAP register and facilitation for affected garage operators and other PAPs; prioritisation of local employment; accessible design features for persons with disabilities; and continued operation of the Grievance Redress Mechanism.

CHAPTER SEVEN: ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

7.1 Introduction

This chapter presents an assessment of the potential environmental and social impacts associated with the Proposed Construction of Social Housing and Associated Infrastructure on Kibra Lot 5. The assessment covers the pre-construction, construction, operational and decommissioning phases. It draws on the project description (Chapter 2), baseline environmental and social conditions (Chapter 4), outcomes of the stakeholder engagement process (Chapter 5), and the analysis of alternatives (Chapter 6). Particular attention is given to Lot 5-specific receptors, including Langata View Corner Apartments and other neighbouring residential apartments, Edward Rice Disability School (directly in front of the site), the BMW Garage (to be demolished), the Southern Bypass corridor, and River Motoine (approximately 300 m away).

7.2 Pre-Construction Impacts

Pre-construction activities include final surveys, the design, site investigations (geotechnical, hydrogeological), land-clearance preparation, contractor mobilisation planning, and completion of outstanding statutory approvals (including KCAA height clearance, KeNHA access, WRA borehole permits, and Traffic Impact Assessment).

Positive impacts

a) Creation of limited short-term professional and semi-skilled employment (surveyors, technicians, community liaison officers). b) Opportunity for early engagement and finalisation of the verified PAP register and facilitation arrangements for affected garage operators and other PAPs. c) Generation of baseline data that strengthens the overall ESIA and design.

Negative impacts and mitigation

a) Minor vegetation disturbance and soil compaction from survey and investigation activities. *Mitigation:* Restrict investigation footprints; reinstate disturbed areas immediately; avoid unnecessary tree or vegetation removal.

b) Temporary increase in local expectations and potential anxiety among neighbouring residents, Edward Rice Disability School users, and PAPs. *Mitigation:* Maintain transparent communication through the established Grievance Redress Mechanism (GRM) and local administration; provide clear timelines.

c) Risk of speculative or unauthorised activities on site. *Mitigation:* Secure the site perimeter; maintain presence of local administration and security.

Overall pre-construction impacts are of low significance and short duration when properly managed.

7.3 Construction Phase Impacts

The construction phase is expected to last approximately 24 months from commencement of works following receipt of all statutory approvals. Key activities include site clearance,

excavation, foundation works, structural construction of 14 G+8 blocks, installation of services, external works, landscaping and finishing.

7.3.1 Positive Impacts

- a) **Employment creation:** Direct and indirect employment opportunities during the 24-month construction period. The project commits to prioritising local residents (target of approximately 90 % of unskilled and semi-skilled labour) through the office of the Chief. Women and youth will be encouraged to participate in suitable roles (e.g., site support, water sprinkling for dust control, catering).
- b) **Local economic benefits:** Increased demand for goods and services (food, transport, construction materials, accommodation) benefiting local businesses and vendors, subject to health, safety and site-access controls.
- c) **Skills transfer:** On-the-job training and exposure to modern construction methods for local workers.
- d) **Infrastructure improvements:** Installation of on-site roads, drainage, water storage, power infrastructure and landscaping that will remain as long-term assets.
- e) **CSR contributions:** Planned improvements to selected local schools and facilities in Lang'ata (including support relevant to Edward Rice Disability School where appropriate) as part of contractor and proponent social-responsibility commitments.
- f) **Advancement of housing objectives:** Progress toward delivery of 1,386 social and affordable housing units, contributing to national and constitutional housing goals.

7.3.2 Negative Impacts and their Respective Mitigation Measures

7.3.2.1 Vegetation Clearance and Loss of Trees

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

Mitigation: a) Conduct a pre-clearance vegetation inventory and retain trees of higher value 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 and buffer zones. c) Protect retained vegetation during construction with fencing and root-zone protection. d) Integrate green spaces, landscaping and outdoor children's play areas into the final design as committed in the project description.

7.3.2.2 Soil Disturbance, Excavation and Erosion

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

Mitigation: a) Minimise excavation footprint and duration. b) Implement progressive erosion and sediment control (silt fences, sediment traps, temporary drainage). c) Stockpile topsoil separately for reuse in landscaping. d) Avoid works in heavy rainfall where practicable; stabilise exposed surfaces promptly. e) Conduct geotechnical investigations to inform foundation design and reduce over-excavation.

7.3.2.3 Dust (Air Quality)

Earthworks, vehicle movements, material handling and concrete works will generate dust, potentially affecting Langata View Corner Apartments, Edward Rice Disability School, neighbouring residential apartments and 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 boundaries adjacent to residential properties, the disability school 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: **PM₁₀ ≤ 50 µg/m³ (24-hour average)** at sensitive receptors.

7.3.2.4 Noise

Construction equipment, vehicles, piling (if required), concrete mixing and general site activity will elevate noise levels, particularly affecting immediate neighbours and Edward Rice Disability School.

Mitigation: a) Restrict noisy works to daytime hours (07:00–18:00 on weekdays; limited Saturday working; no noisy works at night, on Sundays and public holidays unless under exceptional approved circumstances). b) Use well-maintained equipment fitted with silencers/mufflers. c) Locate static noisy equipment away from residential boundaries and the disability school. d) Install temporary noise barriers/screens along sensitive boundaries. e) Inform neighbours and the school administration 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 boundary should preferably not exceed **60 dB(A)**.

7.3.2.5 Vibration

Heavy machinery, compaction and any piling may generate vibration that could affect nearby structures (including residential apartments and the disability school) 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, Edward Rice Disability School and other adjacent buildings) 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 and the school of works that generate significant vibrations 14 days prior 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, particularly near the disability school and residential apartments.

Mitigation: a) Implement a Construction Traffic Management Plan in consultation with KeNHA and the county. b) Schedule deliveries outside peak hours and school drop-off/pick-up times 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 and school access routes. f) Require contractors to maintain vehicles in roadworthy condition.

7.3.2.7 Occupational Health and Safety (OHS)

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

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

7.3.2.8 Community Health and Safety

Risks to the public include unauthorised site access, traffic accidents, dust/noise nuisance, and potential social tensions, with heightened sensitivity around Edward Rice Disability School.

Mitigation: a) Secure the site with appropriate fencing, controlled access points and security personnel. b) Maintain clear separation between construction zones and public areas (including school access). c) Implement the dust, noise and traffic measures listed above. d) Operate an accessible and responsive GRM. e) Conduct community and school awareness on site safety and emergency contacts. f) Prohibit or strictly control night-time works near residential boundaries and the disability school.

7.3.2.9 Waste Generation

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

Mitigation: a) Implement a site Waste Management Plan following the waste hierarchy (reduce, reuse, recycle, dispose). b) Provide segregated bins and secure storage for hazardous wastes. c) Engage licensed waste contractors for disposal at approved facilities. d) Prohibit burning of waste on site. e) Maintain records of waste quantities and disposal destinations. f) Reuse suitable excavated material on site for fill or landscaping where possible.

7.3.2.10 Water Demand

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

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

7.3.2.11 Wastewater

Worker sanitation and process wastewater (if any) require proper management to avoid pollution of River Motoine or local drainage systems.

Mitigation: a) Provide adequate, well-maintained mobile or fixed sanitation facilities for the workforce. b) Prohibit discharge of untreated wastewater into the environment or drainage systems. c) Manage any process wastewater according to a site environmental management procedure.

7.3.2.12 Stormwater and Drainage

Exposed surfaces and altered topography can increase runoff volume and sediment load, potentially affecting River Motoine (approximately 300 m away) and downstream systems including Nairobi Dam.

Mitigation: a) Install temporary and progressive drainage controls from the outset. b) Protect existing drainage channels and prevent blockage by construction materials. c) Design and construct permanent storm-water systems (including SUDS elements) in parallel with building works. d) Avoid directing concentrated untreated runoff toward neighbouring properties, the disability school or the river.

7.3.2.13 Employment

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

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

7.3.2.14 Local Businesses

Temporary disruption to nearby businesses (including operators associated with the BMW Garage and other local traders) may occur, alongside opportunities for supply of goods and services.

Mitigation: a) Maintain access where possible. b) Prioritise local suppliers for suitable contracts. c) Communicate works schedules. d) Provide GRM access for business operators.

7.3.2.15 Project Affected Persons (PAPs)

Construction will require clearance of the BMW Garage and termination of any residual informal uses, directly affecting garage operators and other verified PAPs.

Mitigation: a) Complete verified PAP register and facilitation support prior to displacement. b) Provide adequate notice. c) Maintain dedicated engagement and GRM access for PAPs. d) Coordinate timing of clearance with support measures.

7.3.2.16 Community Conflict

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

Mitigation: a) Transparent communication. b) Operationalise a fully functional GRM system. c) Visible local benefits (employment, CSR). d) Continuous engagement through local administration and project liaison officers.

7.3.2.17 Security

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

Mitigation: a) Deploy site security personnel. b) Controlled access. c) Coordination with local police and administration. d) Worker Code of Conduct. e) Lighting of key areas.

7.3.2.18 Privacy and Visual Impacts

Multi-storey construction and the eventual buildings will alter views and reduce privacy for adjacent residents (Langata View Corner Apartments and other neighbouring apartments) and may affect the setting of Edward Rice Disability School.

Mitigation: a) Implement the preferred layout with landscaped buffer/setback along residential and school boundaries (Chapter 6). b) Use temporary screening during construction. c) Orient buildings and design façades to minimise direct overlooking where practicable. d) Establish rapid-growing screen planting as early as possible. e) Maintain dialogue with affected residents and the school through the GRM.

7.4 Operational Phase Impacts

The operational phase begins upon completion and occupation of the 14 G+8 residential blocks (1,386 units) and associated infrastructure. It is expected to be long-term (decades). During this phase the primary activities will be residential occupation, operation and maintenance of buildings and services, management of common areas, and ongoing interaction with the surrounding community and infrastructure networks. Particular attention is given to the interface with Langata View Corner Apartments, Edward Rice Disability School, and the proximity of River Motoine (approximately 300 m away).

7.4.1 Positive Impacts

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

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

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

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

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

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

g) **CSR and community facilities:** Ongoing or completed CSR interventions (including support relevant to local schools and facilities such as Edward Rice Disability School where appropriate) will leave lasting social benefits in Lang'ata.

h) **Climate and resilience co-benefits:** Incorporation of water storage, potential rainwater harvesting, solar elements for common areas, and 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.

Mitigation: a) Design and operate the development with adequate internal open space, circulation and service capacity. b) Coordinate with Nairobi City County and relevant agencies on broader infrastructure and service planning. c) Implement the preferred layout with buffer zones to reduce pressure on immediately adjacent apartments and Edward Rice Disability School. d) Maintain continuous engagement with neighbouring communities through the estate management structure and GRM. e) Monitor actual occupancy and service performance and adapt management measures as needed.

Water Demand

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

Mitigation: a) Implement the hybrid water-supply system (municipal connection + WRA-permitted boreholes + adequate overhead and underground storage). b) Incorporate water-efficient fixtures and fittings in all units and common areas. c) Promote rainwater harvesting for landscaping and selected non-potable uses. d) Establish clear water-management rules for residents and monitor consumption. e) Maintain close coordination with Nairobi City Water and Sewerage Company (NCWSC) and Athi Water on supply reliability and any required network reinforcements. f) Conduct regular water-quality monitoring of borehole and municipal sources (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, financial or technical contribution proportional to the development's impact.

Solid Waste

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

Mitigation: a) Provide adequate, well-designed garbage receptacles and collection points within the development. b) Implement source segregation (at minimum organic, recyclable and residual streams). c) Engage licensed waste-service providers under formal contracts aligned with Nairobi City County systems. d) Educate residents on proper waste handling through induction and ongoing awareness. e) Prohibit open burning or illegal dumping. f) Include waste-management performance in routine estate monitoring and the GRM.

Traffic

Operational traffic (residents' vehicles, visitors, service vehicles, public-transport interfaces) will increase movements on the Southern Bypass and local access roads, with potential effects near Edward Rice Disability School and neighbouring apartments.

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, with particular attention

to school access. 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 River Motoine (approximately 300 m away) and Nairobi Dam.

Mitigation: a) Operate and maintain the integrated storm-water drainage system (engineered drains + SUDS elements) designed during construction. b) Keep drains, swales, retention facilities and outlets clear of debris. c) Maintain landscaped and permeable areas to maximise infiltration where soil conditions allow. d) Prohibit obstruction of drainage routes by residents or management. e) Coordinate with county drainage authorities on downstream system performance. f) Include drainage inspection in routine maintenance schedules (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 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, Edward Rice Disability School 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, with particular sensitivity around Edward Rice Disability School.

Mitigation: a) Design includes children's play areas and green spaces to meet basic recreational needs on site. b) Support selected local schools and facilities through CSR commitments (including consideration of the disability school where appropriate). 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 includes dedicated green spaces and landscaping, intensive residential use can lead to degradation if not properly managed. Neighbouring residents also expressed concern about overall loss of open space.

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 and the disability school.

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 apartments and Edward Rice Disability School 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 landscaped buffer and screen planting along residential and school boundaries. 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.

7.5 Decommissioning Impacts

Decommissioning refers to the eventual end-of-life phase of the development, which may involve major renovation, partial demolition, or complete removal of structures and 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 nature of residential housing, decommissioning is considered a distant and currently hypothetical phase.

7.5.1 Positive Impacts

a) Opportunity to remediate any residual contamination or degraded areas and restore the site to a higher environmental standard. b) Potential for recycling and reuse of building materials (steel, concrete aggregates, fixtures), 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. e) Removal of structures that may have become outdated, unsafe or incompatible with evolving neighbourhood character.

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 residential apartments (including Langata View Corner Apartments), Edward Rice Disability School, 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 and the disability school (minimum 48 hours for noisy activities; 14 days for major demolition phases). d) Conduct pre-demolition condition surveys of adjacent properties and the school. 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:** $PM_{10} \leq 50$ $\mu\text{g}/\text{m}^3$ (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, 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 neighbouring apartments and Edward Rice Disability School.

Mitigation: a) Implement a Traffic Management Plan coordinated with KeNHA and the county. b) Schedule movements to avoid peak hours and school times 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.

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 5 project when added to other past, present and reasonably foreseeable future actions in the same geographic and social area.

Key cumulative pathways identified for Lot 5 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, with heightened sensitivity near Edward Rice Disability School.

e) **Stormwater and drainage:** Increased impermeable area across the cluster of lots will elevate cumulative runoff volumes entering the River Motoine–Nairobi Dam system, 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 apartments and the disability school.

g) **Aviation safety and noise:** Although individual lots comply with the 29 m height limit, 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 (including the disability school and residential apartments) 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 storm-water 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 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 and Edward Rice Disability School. b) Loss of individual trees/vegetation. c) PAP displacement and livelihood disruption (particularly BMW Garage operators). d) Construction traffic disruption.

Operational Phase Residual Impacts a) Increased demand on municipal water and sewer systems. b) Additional traffic generation. c) Permanent change in visual character and partial reduction in privacy for the closest neighbouring properties and the setting of the disability school. d) Increased population density and associated social-service pressure. e) Residual security and social-cohesion risks.

Decommissioning Phase Residual Impacts a) Temporary demolition nuisances and waste. b) Social displacement (if occupied at the time).

Cumulative Residual Impacts a) Combined infrastructure demand (water, sewer, traffic) across Lots 1–5. b) Collective effects on privacy, amenity and services for neighbouring communities and Edward Rice Disability School.

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 5, with particular focus on Project Affected Persons (PAPs), livelihood disruption, displacement of structures and activities, and the measures required to avoid, minimise and mitigate these impacts. Although Lot 5 is located on public land, the site and its immediate surroundings host or interface with structures, livelihoods and community uses that will be affected by clearance and construction. These include the BMW Garage (to be demolished), residual informal uses, the amenity of neighbouring residential apartments (particularly Langata View Corner Apartments), and the interface with Edward Rice Disability School.

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

8.2 Identification of Project Affected Persons

Project Affected Persons for Lot 5 have been identified through:

a) Field observations and project description data; b) Stakeholder engagement meetings (particularly the PAPs meeting of 6 August 2026, Residential Associations meeting, community baraza and institutions meeting); c) Information provided by local administration (DCC, ACC, Chief and Assistant Chief); and d) Identification of garage operators and other representatives presented during the meetings.

Categories of PAPs relevant to Lot 5 and its immediate interface include:

a) Operators of the BMW Garage and any associated informal or semi-formal business operators whose structures or livelihoods will be directly affected by demolition. b) Any residual informal business operators or traders operating on or immediately adjacent to the site. c) Any urban farmers / cultivators (if present) who have used portions of the land. d) Neighbouring residents of Langata View Corner Apartments and other residential apartments whose privacy, amenity, access or property values may be affected by the proximity of the multi-storey development. e) Users and administrators of Edward Rice Disability School, who, while not subject to physical displacement, face amenity, access, noise, dust and safety impacts during construction and operation.

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

8.3 Existing Livelihoods

Prior to project commencement, portions of Lot 5 and its immediate surroundings supported a mix of livelihood activities:

- Operation of the BMW Garage and associated vehicle-related services;
- Residual informal trading and service activities;
- Any small-scale urban agriculture or open-space uses that may have existed; and
- Indirect livelihood support derived from the open space (recreation, social gathering or material collection in some cases).

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

8.4 Informal Businesses / Garage Operators

The primary business-related impact on Lot 5 is the demolition of the BMW Garage and any associated informal or semi-formal commercial activities. During public participation, business operators and community members raised concerns about:

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

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

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

8.5 Interface with Edward Rice Disability School

Although the school itself is not subject to physical displacement, it constitutes a highly sensitive social receptor. During consultations, concerns were raised about noise, dust, vibration, traffic, access, safety and the overall impact of multi-storey construction and occupation on a facility serving persons with disabilities.

Impacts a) Temporary construction-phase nuisances (noise, dust, vibration, traffic) that may disrupt learning and therapy activities. b) Potential long-term changes in amenity, privacy and access routes. c) Heightened safety and accessibility considerations for school users.

Proposed measures a) Early and continuous engagement with school administration. b) Strict enforcement of construction controls (noise limits of 50 dB(A) daytime at the receptor, dust suppression, vibration limits of PPV ≤ 0.5 cm/s, restricted working hours). c) Protection of school access routes during construction. d) Consideration of CSR support relevant to the school's needs where appropriate. e) Ongoing dialogue and GRM access for school management and parents/guardians.

8.6 Farmers / Urban Agriculture

Any residual small-scale urban agriculture on or adjacent to Lot 5 will be addressed through the same principles applied across the programme.

Proposed measures (where cultivators are verified) a) Identification and verification through the PAP census. b) Recording of crop types, areas and estimated values. c) Provision of notice and opportunity to harvest standing crops before clearance. d) Facilitation support that may include cash assistance for lost produce or linkage to alternative opportunities. e) Priority consideration for affected farming households in relevant project benefits. f) Documentation of all support provided.

8.7 Vulnerable Groups

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

Categories of vulnerability relevant to Lot 5 include:

- Persons with disabilities (PWDs), including users of Edward Rice Disability School and any PWD garage operators or household members;
- Women-headed households, widows and single mothers;
- Elderly persons with limited alternative income sources or physical capacity;
- Extremely poor households with no formal safety net;
- Persons living with chronic illness; and
- Members of business groups who may lose critical social or economic support networks.

Specific measures for vulnerable PAPs a) Priority identification and registration during the PAP census, with appropriate support persons or translators where needed. b) Tailored communication (simplified language, home visits if necessary, involvement of trusted local leaders or PWD representatives). c) Preferential access to livelihood-restoration options that match their capacity (e.g., lighter employment roles, support for chama contributions toward housing deposits, or linkage to existing social-protection programmes). d) Physical accessibility considerations in any transitional arrangements and in the design of the new housing (ramps, lifts, ground-floor priority as already committed). e) Close monitoring of vulnerable households

through the GRM and dedicated social specialists to ensure they do not fall through support gaps.

8.8 Impacts on Neighbouring Residents

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

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

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

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

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

8.9 Facilitation / Resettlement Considerations

Lot 5 is public land. Consequently, the legal framework for addressing affected persons differs from private-land acquisition under the Land Act. The primary approach is facilitation and livelihood support rather than full market-value compulsory-acquisition compensation for land itself. However, principles of fairness, adequacy and timely support remain obligatory under the Constitution, EMCA, and good practice.

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

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

8.10 Livelihood Restoration

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

Proposed livelihood-restoration measures i. For BMW Garage operators and other business operators: Information on alternative trading sites, priority consideration for commercial stalls in the new development, and access to short-term employment on the project. ii. For any urban farmers/cultivators: Opportunity to harvest crops, facilitation for lost produce, and linkage to alternative urban-agriculture or related income opportunities where available. iii. For vulnerable households: Tailored support packages that may include linkage to social-protection programmes, chama support, or priority employment in suitable roles.

8.11 PAP Engagement

Engagement approach

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

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

8.12 Recommendations

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

1. Complete a full, verified PAP census and register for Lot 5 before any clearance or demolition of occupied or used areas (particularly the BMW Garage).
2. Prepare and disclose a concise Facilitation and Livelihood Restoration Plan (or equivalent) detailing entitlements, processes, timelines and responsibilities.
3. Prioritise early engagement and agreement with BMW Garage operators and any other verified business PAPs so that livelihood continuity is maximised.

4. Maintain continuous liaison with Edward Rice Disability School administration regarding construction controls and any appropriate CSR support.
5. Recognise and work with the legitimate PAP representatives identified during the August 2026 meetings.
6. Ensure that no verified PAP is displaced before agreed facilitation support or adequate transitional arrangements are in place.
7. Integrate livelihood-restoration measures with project employment opportunities and commercial-space allocation.
8. Provide targeted support and monitoring for vulnerable households.
9. Maintain a fully functional, PAP-sensitive Grievance Redress Mechanism from the pre-construction phase onward.
10. Coordinate PAP management across Lots 1–5 to ensure consistency and fairness.
11. Document all processes thoroughly so that compliance with the court orders, NEMA conditions and constitutional requirements can be demonstrated.

CHAPTER NINE: TRAFFIC IMPACT ASSESSMENT

9.1 Introduction

This chapter presents the Traffic Impact Assessment (TIA) which assesses the anticipated traffic impacts of the proposed development on Kibra Lot 5 and proposes appropriate mitigation measures. It also addresses concerns repeatedly raised during public participation regarding existing congestion, limited access points, road safety, and the cumulative effect of the wider Southlands (Kibra Lots) housing programme.

The assessment covers:

- The existing road network and traffic conditions in the vicinity of Lot 5;
- Projected traffic generation during construction and operational phases;
- Access and exit arrangements;
- Pedestrian and non-motorised transport considerations (with particular attention to Edward Rice Disability School);
- Potential impacts on the Southern Bypass and local access 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 5 is located 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). Local access is provided through secondary roads serving the surrounding residential area.

Key features of the network relevant to Lot 5 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 access roads:** Secondary roads providing connectivity to Langata View Corner Apartments, Edward Rice Disability School and neighbouring residential developments. These roads currently serve as important access routes for the surrounding community.
- c) **Local estate roads and internal collectors** serving the adjacent residential apartments. These roads are generally narrower, with mixed pedestrian and vehicular use.

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

9.3 Existing Traffic Conditions

Qualitative observations and stakeholder feedback indicate the following existing conditions:

- i. The Southern Bypass carries high volumes of through traffic, including private vehicles, public-service vehicles, trucks and occasional heavy-goods vehicles. Peak-period congestion occurs, particularly at interchanges and merges.
- ii. Local access roads experience moderate to heavy local traffic, especially during morning and evening peaks, school hours (relevant to Edward Rice Disability School) and weekends.
- iii. Pedestrian activity is significant along local roads and at informal crossing points, with limited formal pedestrian facilities in some sections. This is of particular concern given the presence of the disability school.
- 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 5; 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;
- Key junctions serving local access roads; and
- Pedestrian desire lines near Edward Rice Disability School and Langata View Corner Apartments.

9.4 Construction Traffic

During the approximately 24-month construction period, traffic will comprise:

- Delivery of materials (cement, steel, aggregates, precast elements, timber, finishes);
- Movement of construction plant and equipment;
- Workforce transport (buses, matatus, private vehicles);

- Removal of excavated material and construction waste; and
- Occasional abnormal loads (e.g., tower cranes, large plant).

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

Key characteristics and risks a) Heavy vehicles will interact with high-speed traffic on the Southern Bypass. b) Potential queuing on the Bypass or local roads if site access and holding areas are inadequate. c) Dust, tracking of mud, and noise along haul routes. d) Safety risks to pedestrians (including school users) and local traffic on access roads serving Edward Rice Disability School and residential apartments. 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 and school drop-off/pick-up times 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 access roads for shorter local journeys.
- b) Peak-hour flows will coincide with the existing network peaks, adding incremental volume to already busy sections.
- c) Internal circulation, parking demand and pick-up/drop-off activity will occur within the site; inadequate design could spill queues onto external roads.
- d) Pedestrian movements between the development, neighbouring apartments, Edward Rice Disability School, 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, with heightened risk near the disability school. d) Parking overspill onto neighbouring streets if on-site provision is insufficient or poorly managed. e) Cumulative operational traffic from Lots 1–5 producing more significant network effects than any single lot in isolation.

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

9.6 Access and Egress

Proposed access strategy Primary access will be taken from the Southern Bypass or local access 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 (including school users); 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 access roads is inherently hazardous because of high vehicle speeds and limited formal crossing facilities;
- Local roads serving residential apartments and Edward Rice Disability School have mixed traffic and incomplete sidewalks in places; and
- Construction-phase pedestrian-vehicle conflict risk is elevated along haul routes and site access points, with particular sensitivity for school users.

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 roads serving the disability school. 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, with special attention to school access times. f) Inclusion of pedestrian safety in the Construction Traffic Management Plan and the operational estate management plan.

9.8 Parking

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

Management a) Estate rules will regulate resident and visitor parking to prevent obstruction of internal roads, emergency access and neighbouring streets. b) Enforcement will be the responsibility of the estate management body. c) Monitoring of on-street parking conditions in adjacent residential 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 access 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. e) Elevated risk to pedestrians, particularly near Edward Rice Disability School. f) 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, with heightened sensitivity around the disability school. e) Risk of parking overspill onto neighbouring estate roads. f) Cumulative operational traffic from the full Southlands (Lots 1–5) programme producing more pronounced network effects than Lot 5 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, with particular attention to safe routes near Edward Rice Disability School. 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 and school times 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, local administration and Edward Rice Disability School. 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 5 is located in a rapidly urbanising area characterised by existing water stress, proximity to River Motoine (approximately 300 m away, which drains into Nairobi Dam), and high population density. The development of 1,386 multi-storey housing units will both contribute to greenhouse-gas (GHG) emissions and be exposed to climate-related hazards over its multi-decade lifespan. This chapter therefore assesses the project's GHG profile and its vulnerability to climate hazards, and identifies measures to enhance resilience and reduce emissions.

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 light vegetation (immature trees, Napier grass and common weeds) that previously provided limited carbon sequestration; and
- Waste transport and disposal.

Operational phase

- Electricity consumption in residential units and common areas (lighting, appliances, lifts, water pumping, street lighting);
- Backup diesel-generator use during power outages;
- Resident and visitor vehicle trips (Scope 3 emissions);
- Wastewater treatment and solid-waste management (indirect emissions); 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 (red residual soils with sandstone and shale, proximity to River Motoine approximately 300 m away) and with the cumulative development of the wider Southlands housing cluster.

10.4 Flooding and Stormwater Risks

Flooding and storm-water management constitute the most immediate and significant climate-related risk for Lot 5.

Current vulnerability

- The surrounding Lang'ata area experiences regular drainage problems, blocked drains and periodic flooding.
- Stakeholders repeatedly raised concerns about storm-water overflow, erosion and the capacity of existing drainage systems.
- Downstream receptors (River Motoine and Nairobi Dam) 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 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. Storm-water 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 5

- 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 disabilities including users of Edward Rice Disability School, 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 buffer green spaces 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 boreholes could lower local groundwater tables, affect neighbouring abstractors, or reduce base-flow to 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 5 is exposed to intensifying rainfall extremes, rising temperatures, and water-stress conditions. Its location near River Motoine (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 including users of Edward Rice Disability School, 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.

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 storm-water 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 buffer and green spaces as part of the storm-water management system. d) Ensure overland flow paths remain clear and do not direct floodwater toward neighbouring properties or Edward Rice Disability School.

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 boreholes + 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, with particular attention to vulnerable groups including users of Edward Rice Disability School.

10.9 Mitigation Measures

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

a) Specify lower-carbon concrete mixes and maximise use of recycled or locally sourced aggregates where technically feasible. b) Optimise structural design to reduce material quantities without compromising safety. c) Incorporate energy-efficient building design (orientation, insulation, natural lighting and ventilation). d) Install solar photovoltaic systems for street lighting, common areas and selected facilities. e) Promote water efficiency to reduce energy demand for pumping. f) Encourage non-motorised transport and public-transport use through pedestrian-friendly design and connectivity. g) Minimise construction waste and maximise recycling of materials. h) Limit diesel-generator use to essential backup only and house it in an acoustically treated enclosure. i) Include progressive incorporation of low-carbon technologies in the estate-management plan over the operational life of the development.

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 5. It translates the impact assessment and climate resilience findings into actionable commitments with clear responsibilities, timelines, monitoring indicators and indicative costs.

11.2 Construction Phase ESMP

1. NOISE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Noise from construction equipment, excavation, piling and concreting	- Use low-noise equipment fitted with mufflers and silencers. - Restrict high-noise activities (piling, excavation, demolition, concrete pouring) to daytime hours only (7:00 AM – 6:00 PM). - Erect temporary acoustic barriers / sound screens facing Edward Rice Disability School, Langata View Corner Apartments and other neighbouring residential apartments. - Maintain all machinery regularly. - Comply with EMCA Noise and Excessive Vibration Pollution (Control) Regulations, 2009: Residential areas –	Throughout construction (24 months)	- Weekly noise measurements at site boundaries and key receptors (Edward Rice Disability School, Langata View Corner Apartments, residential blocks). - Log all noise complaints in the GRM. - Bi-weekly inspection of acoustic barriers.	Main Contractor, Environmental & Social Officer (ESO), Community Liaison Officer (CLO)	- Noise levels within EMCA limits (≤ 55 dB day / ≤ 35 dB night). - No unresolved noise complaints. - Barriers installed and maintained (100%).

	Daytime ≤ 55 dB(A), Night-time ≤ 35 dB(A).				
Noise from construction traffic and material delivery	- Schedule deliveries during off-peak hours (9:00 AM – 3:00 PM). - Ensure all vehicles have functional mufflers. - Deploy traffic marshals to minimise idling and unnecessary honking. - Notify neighbouring receptors 48 hours in advance of major delivery periods.	Throughout construction	- Daily monitoring of delivery schedules. - Weekly vehicle maintenance logs. - Record traffic-related noise complaints in GRM.	Main Contractor, Transport Supervisor, CLO	- No unresolved traffic noise complaints. - 100% of vehicles compliant with muffler requirements.
Disturbance to Edward Rice Disability School and neighbouring residential apartments	- Provide advance written notice (minimum 48 hours) of high-noise activities. - Install dedicated acoustic screens facing the Disability School and Langata View Corner Apartments. - Avoid high-noise works during school hours where possible.	Throughout construction	- Review notification records. - Weekly noise monitoring specifically at Disability School and apartment boundaries.	Main Contractor, ESO, CLO	- No unresolved complaints from the Disability School or neighbouring 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, stockpiles and vehicle movement	- Water spraying of exposed surfaces, access roads and stockpiles at least twice daily (more frequently in dry/windy conditions). - Cover stockpiles with tarpaulins when not in use. - Enforce 20 km/h speed limit	Throughout construction	- Daily verification of water spraying. - Weekly inspection of stockpile covers and dust screens. - Bi-weekly ambient air quality	Main Contractor, ESO	- Dust levels within NEMA Ambient Air Quality Standards. - No unresolved dust complaints. - 100% compliance with watering and covering.

	on unpaved internal roads. - Install dust screens / netting facing sensitive receptors (Edward Rice Disability School, Langata View Corner Apartments, residential blocks). - Provide dust masks to workers.		monitoring (PM ₁₀ & PM _{2.5}) at receptors.		
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 and heavy machinery	- Conduct pre-construction structural condition survey of nearby buildings (Langata View Corner Apartments, Edward Rice Disability School and other residential apartments). - Prefer low-vibration methods (bored piles / hydraulic hammers) over driven piles where feasible. - Monitor vibration levels during critical activities. - Stop works immediately if vibration exceeds safe thresholds and investigate.	During foundation and piling works	- Pre-construction structural survey reports. - Continuous or daily vibration monitoring during piling. - Log any vibration complaints in GRM.	Main Contractor, Structural Engineer, ESO	- No structural damage to neighbouring properties. - Vibration levels within safe limits (as per NEMA/BS standards). - 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 (immature trees, Napier grass, common weeds)	- Limit clearance strictly to the project footprint. - Identify and mark any viable immature trees for possible transplanting. - Transplant viable trees where feasible. - Develop and implement a post-construction landscaping and replanting plan using native species.	Site clearance and early construction	- Pre-clearance biodiversity walkover survey. - Record number of trees transplanted and survival rate. - Monthly inspection of remaining vegetation.	Main Contractor, ESO, Environmental Consultant	- No unnecessary vegetation loss outside footprint. - $\geq 70\%$ survival rate of transplanted trees (where applicable). - Replanting plan approved and ready for implementation.
Disturbance to local fauna	- Minimise night-time works. - Maintain temporary buffer zones around any remaining vegetation until clearance is complete.	Throughout construction	- Monitor working hours. - Inspect buffer zones bi-weekly.	Main Contractor, ESO	- No significant fauna mortality or disturbance reported.

5. WASTE MANAGEMENT PLAN

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

chemical containers)	floors. - Engage licensed hazardous waste contractors for disposal. - Train workers on hazardous waste handling.		storage areas. - Quarterly training records and disposal certificates.		tracked and disposed correctly.
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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. - Re-vegetate disturbed areas progressively.	Throughout construction (especially rainy seasons)	- Weekly inspection of silt traps and drains. - Bi-weekly monitoring of runoff quality if discharging off-site.	Main Contractor, ESO	- No significant sedimentation of neighbouring areas or drainage channels. - Silt traps functional at all times.
Water pollution from spills and wastewater	- Store fuels and oils in bunded areas (110% capacity). - Provide spill kits at strategic locations and train workers on spill response. - Direct wastewater from washing and curing to settlement tanks before disposal.	Throughout construction	- Daily visual checks of storage areas. - Immediate reporting and clean-up of any spills.	Main Contractor, ESO	- Zero significant spill incidents reaching soil or water. - Spill kits always available and complete.
Water demand for construction	- Source construction water preferentially from bowzers or approved sources to avoid straining local supply. - Promote water-efficient construction methods.	Throughout construction	- Monthly water consumption records. - Log any community water complaints.	Main Contractor, ESO, CLO	- No unresolved complaints of water shortage linked to the project.

7. TRAFFIC AND ROAD SAFETY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Construction vehicle movements and congestion	- Prepare and implement a Traffic Management Plan (TMP). - Schedule heavy deliveries during off-peak hours (9:00 AM – 3:00 PM). - Deploy trained traffic marshals at access points. - Improve and maintain the access road surface.	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.	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	- Implement all dust and noise controls listed above. - Maintain secure fencing and controlled access to the site. - Provide clear GRM channels for community complaints.	Throughout construction	- Weekly site security and fencing inspections. - Monthly review of GRM records.	Main Contractor, ESO, CLO, Security	- No unresolved health or safety complaints from neighbours. - Site fully secured at all times.
Security and social risks from worker influx	- Register and issue identification to all workers. - Prefer local labour (target ≥70–90% unskilled from the community through the Chief). - Collaborate with local administration and police. - Enforce a strict code of conduct for workers.	Throughout construction	- Weekly review of worker register. - Monthly meetings with local administration.	Main Contractor, CLO, ESO	- ≥70% local unskilled labour achieved. - No major security or social incidents linked to workers.

Public health (HIV/AIDS, COVID-19, sanitation)	- Provide adequate toilet and washing facilities for workers. - Conduct awareness sessions on HIV/AIDS and other communicable diseases. - Ensure proper sanitation and waste management.	Throughout construction	- Monthly inspection of worker facilities. - Records of awareness sessions.	Main Contractor, ESO, CLO	- Adequate facilities always available. - Awareness sessions conducted at least quarterly.
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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)	- Enforce OSHA 2007 requirements fully. - Provide and enforce use of appropriate PPE (helmets, safety boots, high-visibility vests, gloves, harnesses, etc.). - Install guardrails, safety nets and proper scaffolding. - Conduct daily toolbox talks and regular safety training. - Establish on-site first-aid station and emergency response procedures.	Throughout construction	- Daily PPE compliance checks. - Weekly safety inspections. - Monthly review of incident and near-miss reports.	Main Contractor, Safety Officer	- Zero fatalities. - Lost Time Injury Frequency Rate (LTIFR) kept as low as reasonably practicable. - 100% PPE compliance observed.
Working at height (G+8 structures)	- Use certified scaffolding and mobile elevated work platforms. - Mandatory use of safety harnesses above 2 metres. - Restrict work at height during strong winds or bad weather.	During superstructure works	- Daily inspection of scaffolding and harnesses. - Toolbox talks specific to work at height.	Main Contractor, Safety Officer	- No falls from height. - All height work equipment certified and inspected.

10. GENDER AND SOCIAL INCLUSION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
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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 (with special consideration for proximity to Edward Rice Disability School). - Provide separate sanitary facilities for women.	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.
Prevention of gender-based violence and harassment	- Enforce a clear zero-tolerance policy on sexual harassment and GBV. - Conduct mandatory induction on the code of conduct. - Provide confidential reporting channels through the GRM.	Throughout construction	- Quarterly review of any GBV/harassment cases. - Training attendance records.	Main Contractor, CLO, ESO	- Zero unresolved GBV/harassment cases. - All workers inducted on the code of conduct.

11.3 Operational Phase ESMP

1. NOISE MANAGEMENT PLAN

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

	Pollution (Control) Regulations, 2009: Residential areas – Daytime ≤ 55 dB(A), Night-time ≤ 35 dB(A).		Review generator operation logs monthly.		
Noise from commercial stalls and community activities	- Restrict commercial activities (music, loading) to 7:00 AM – 8:00 PM. - Prohibit use of loudspeakers after 8:00 PM. - Sensitize stall operators and residents on noise regulations.	Throughout operation	- Monthly inspections of commercial areas. - Record complaints in GRM.	Estate Manager, CLO	- No unresolved complaints from Disability School or neighbouring apartments. - Evidence of sensitization meetings.

2. AIR QUALITY MANAGEMENT PLAN

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

3. SOLID WASTE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
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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 demand water and potential strain on supply	- Maintain borehole(s) and storage tanks in good working condition. - Implement water metering for each block/household where feasible. - Promote water-saving fixtures and resident awareness. - Monitor borehole yields and water quality quarterly.	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.
Wastewater and sewer management	- Ensure proper connection and maintenance of foul sewer system. - Prevent blockages through resident education. - Monitor for overflows, especially during rains.	Throughout operation	- Weekly inspection of drainage and sewer manholes. - Immediate response to any overflow reported through the GRM.	Facility Management, ESO	- No sewer overflows. - 100% of wastewater directed to approved system. - No unresolved sewer complaints.

Stormwater drainage	- Maintain stormwater drains free of debris. - Ensure no blockage of natural drainage paths.	Throughout operation (especially rainy seasons)	- Pre-rainy season and monthly inspections of drains.	Facility Management	- No flooding of internal roads or neighbouring properties. - Drains clear.
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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 parking. - Enforce one-way systems and speed limits (20 km/h) inside the estate. - Coordinate with KeNHA on access from Southern Bypass / Langata Link Road.	Throughout operation	- Quarterly traffic observations at access points. - Log congestion/accident complaints in GRM.	Facility Management, Security	- No unresolved congestion complaints. - Internal roads free-flowing. - Zero serious accidents inside the estate.
Pedestrian and cyclist safety	- Maintain pedestrian walkways and lighting. - Ensure clear signage at entrances and exits.	Throughout operation	- Monthly inspection of walkways and lighting.	Facility Management	- Walkways and lighting functional (100%).

6. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Security risks due to high population density	- Maintain 24-hour security personnel and CCTV (as designed). - Control access through gate houses. - Collaborate with local police and Nyumba Kumi.	Throughout operation	- Daily security reports. - Monthly review of incident log.	Facility Management, Security Contractor	- No major security incidents. - Access control fully operational.
Fire and emergency preparedness	- Maintain fire-fighting equipment, hose reels and emergency exits. - Conduct annual fire drills involving residents. - Keep emergency contact numbers displayed.	Throughout operation	- Quarterly inspection of fire equipment. - Annual drill records.	Facility Management, Safety Officer	- All fire equipment functional. - Annual drills conducted and documented.

Public health (vector control, sanitation)	- Regular cleaning of drains and common areas to prevent mosquito breeding. - Coordinate with County Public Health on vector control.	Throughout operation	- Monthly inspection of drains and common areas.	Facility Management, ESO	- No significant vector-borne disease outbreaks linked to the estate.
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7. BIODIVERSITY AND LANDSCAPING MANAGEMENT PLAN

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

8. SOCIO-ECONOMIC AND GRIEVANCE MANAGEMENT PLAN

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

11.4 Decommissioning Phase ESMP

1. NOISE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Noise from demolition, dismantling and heavy machinery	- Use low-noise demolition techniques and equipment fitted with mufflers where feasible. - Restrict high-noise demolition activities to daytime hours only (7:00 AM – 6:00 PM). - Erect temporary acoustic barriers facing Edward Rice Disability School, Langata View Corner Apartments and other neighbouring residential apartments. - Notify neighbouring receptors at least 7 days in advance of major demolition works. - Comply with EMCA Noise and Excessive Vibration Pollution (Control) Regulations, 2009: Residential areas – Daytime ≤ 55 dB(A), Night-time ≤ 35 dB(A).	Throughout decommissioning	- Weekly noise measurements at site boundaries and key receptors. - Log all noise complaints in the GRM. - Bi-weekly inspection of acoustic barriers.	Main Contractor, ESO, CLO	- Noise levels within EMCA limits (≤ 55 dB day / ≤ 35 dB night). - No unresolved noise complaints. - Barriers installed and maintained (100%).
Noise from debris transportation	- Schedule debris removal trucks during off-peak hours (9:00 AM – 3:00 PM). - Ensure all trucks have functional mufflers. - Deploy traffic	Throughout decommissioning	- Daily monitoring of haulage schedules. - Record traffic-related noise complaints in GRM.	Main Contractor, Transport Supervisor, CLO	- No unresolved traffic noise complaints. - 100% of haulage vehicles compliant.

	marshals to reduce unnecessary idling and honking.				
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2. AIR QUALITY AND DUST MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Dust from demolition, breaking of structures and debris handling	- Apply continuous water spraying / misting during demolition and debris handling. - Use dust screens and netting around active demolition zones, especially facing sensitive receptors (Edward Rice Disability School, Langata View Corner Apartments and residential apartments). - Cover debris stockpiles and loaded trucks with tarpaulins. - Prohibit dry sweeping; use wet methods only. - Provide appropriate dust masks (N95 or equivalent) to all workers.	Throughout decommissioning	- Daily verification of water spraying and dust suppression. - Weekly inspection of dust screens and stockpile covers. - Bi-weekly ambient air quality monitoring (PM ₁₀ & PM _{2.5}) at receptors.	Main Contractor, ESO	- Dust levels within NEMA Ambient Air Quality Standards. - No unresolved dust complaints from Disability School or residential apartments. - 100% compliance with dust suppression measures.
Emissions from machinery and trucks	- Use well-maintained equipment and vehicles. - Limit idling time. - Conduct regular servicing of all plant.	Throughout decommissioning	- Weekly maintenance logs. - Daily observation of idling practices.	Main Contractor, Transport Supervisor, ESO	- No visible excessive emissions. - Maintenance records fully up to date.

3. VIBRATION MANAGEMENT PLAN

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

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Demolition debris (concrete, steel, timber, masonry, etc.)	- Develop a detailed Demolition Waste Management Plan before works begin. - Maximise recovery and recycling of materials (steel, concrete aggregate, timber). - Segregate waste at source. - Store debris in designated areas pending removal. - Dispose of residual waste only through NEMA-licensed facilities.	Throughout decommissioning	- Weekly inspection of waste segregation and storage areas. - Review of recycling and disposal manifests monthly. - Log waste-related complaints in GRM.	Main Contractor, ESO, Waste Contractor	- $\geq 70\%$ of demolition waste recycled or reused. - 100% of residual waste disposed through licensed handlers. - No illegal dumping.
Hazardous materials (asbestos if present, residual)	- Conduct a pre-demolition hazardous materials survey. - Remove and handle	Before and during decommissioning	- Pre-demolition hazardous materials survey report. - Weekly	Main Contractor, ESO, Licensed Hazardous	- Zero uncontrolled release of hazardous

oils, chemicals, e-waste, fluorescent tubes)	hazardous materials only by licensed specialists under controlled conditions. - Store hazardous waste in secure, bunded, labelled areas. - Dispose through licensed hazardous waste contractors.		inspection of hazardous storage. - Disposal certificates retained.	Waste Contractor	materials. - All hazardous waste fully tracked and disposed correctly.
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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 silt fences, sediment traps and temporary drainage throughout the works. - Protect exposed surfaces and stockpiles from rainfall. - Progressively stabilise and re-vegetate disturbed areas.	Throughout decommissioning (especially rainy seasons)	- Weekly inspection of silt traps and drainage. - Monitoring of runoff if discharging off-site.	Main Contractor, ESO	- No significant sedimentation of neighbouring properties or drainage systems. - Silt controls functional at all times.
Potential contamination from spills or residual materials	- Store any remaining fuels, oils and chemicals in bunded areas. - Provide spill kits and train workers on spill response. - Clean all residual contamination before site handover.	Throughout decommissioning	- Daily visual checks of storage areas. - Soil and water quality testing if contamination is suspected.	Main Contractor, ESO	- Zero significant contamination incidents. - Site left free of residual pollution.
Management of existing boreholes and water infrastructure	- Protect or properly decommission boreholes in accordance with WRA requirements. -	During utility removal	- Records of borehole decommissioning (if applicable). - Coordination records	Main Contractor, ESO	- Boreholes properly decommissioned or protected. - No disruption to

	Avoid damage to any remaining water supply or drainage infrastructure serving neighbouring areas.		with water authorities.		neighbouring water systems.
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6. TRAFFIC AND ROAD SAFETY MANAGEMENT PLAN

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

7. COMMUNITY HEALTH, SAFETY AND SECURITY MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Risks to neighbouring communities	- Maintain secure fencing and controlled access at all times. - Implement all dust, noise and vibration controls	Throughout decommissioning	- Weekly security and fencing inspections. - Monthly review	Main Contractor, ESO, CLO, Security	- No unresolved health, safety or nuisance complaints from

from demolition activities	listed above. - Provide clear and accessible GRM channels. - Give advance notice of major demolition stages to Edward Rice Disability School, Langata View Corner Apartments and other residential apartments.		of GRM records and community notifications.		neighbours. - Site remains fully secured.
Security and social risks	- Register all workers and issue identification. - Enforce a strict code of conduct. - Collaborate with local administration and police.	Throughout decommissioning	- Weekly review of worker register. - Records of coordination with local authorities.	Main Contractor, CLO, ESO	- No major security or social incidents linked to the works.

8. OCCUPATIONAL HEALTH AND SAFETY (OHS) MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Hazards associated with demolition of multi-storey buildings	- Enforce full compliance with OSHA 2007 and all applicable demolition safety standards. - Provide and enforce appropriate PPE (including respiratory protection, harnesses, helmets, safety boots, etc.). - Use only certified scaffolding, platforms and lifting equipment. - Conduct daily toolbox talks focused on demolition risks. - Maintain on-site first-aid and emergency response capability.	Throughout decommissioning	- Daily PPE and equipment compliance checks. - Weekly safety inspections. - Monthly review of incident and near-miss reports.	Main Contractor, Safety Officer	- Zero fatalities. - Lost Time Injury Frequency Rate kept as low as reasonably practicable. - 100% PPE compliance.

Working at height and structural collapse risks	- Implement a detailed Method Statement for sequential and controlled demolition. - Restrict access to active demolition zones. - Use safety nets, catch platforms and exclusion zones.	During structural demolition	- Daily inspection of exclusion zones and safety systems. - Method statements approved before works.	Main Contractor, Safety Officer, Structural Engineer	- No uncontrolled collapses or falls from height.
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9. BIODIVERSITY AND SITE RESTORATION MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Final site restoration and landscaping	- Remove all debris, temporary structures and contamination. - Regrade the site to stable contours. - Implement a comprehensive landscaping and re-vegetation plan using appropriate native species. - Restore or improve green spaces where feasible.	Final stage of decommissioning	- Post-demolition site inspection. - Verification of landscaping implementation and survival rates (3–6 months after planting).	Main Contractor, ESO	- Site left clean, stable and free of debris. - Landscaping successfully established (≥80% survival).
Protection of any remaining trees	- Protect any trees designated for retention during the entire decommissioning process.	Throughout decommissioning	- Regular inspection of tree protection measures.	Main Contractor, ESO	- No damage to trees marked for retention.

10. SOCIO-ECONOMIC AND GRIEVANCE MANAGEMENT PLAN

Aspect/Activity	Management Measures	Timing	Monitoring Measure	Responsibility	Performance Indicator
Grievance Redress	- Maintain a fully functional and accessible GRM throughout the decommissioning period. - Acknowledge complaints within 7 days and aim to resolve within 30 days.	Throughout decommissioning	- Monthly GRM performance reports. - Community feedback meetings as needed.	Main Contractor, CLO, ESO	- ≥90% of grievances resolved within 30 days. - GRM remains accessible and known to the community.

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11.5 Emergency Preparedness and Response

An Emergency Preparedness and Response Plan (EPRP) shall be prepared by the Contractor (construction phase) and by the Estate Management (operational phase) and kept up to date.

Core elements

- a) Identification of potential emergencies (fire, medical, structural, flooding, hazardous material spill, security incident, extreme weather).
- b) Clear roles, responsibilities and communication protocols.
- c) Emergency contact list (site management, Proponent, local administration, police, fire service, ambulance, nearest hospitals).
- d) Evacuation routes, assembly points and procedures.
- e) Location and maintenance of first-aid equipment, fire-fighting equipment and spill kits.
- f) Training and drills for workers (construction) and for estate staff and resident representatives (operation).
- g) Coordination arrangements with external emergency services.
- h) Special provisions for vulnerable persons (PWDs, elderly, children), with particular attention to the proximity of Edward Rice Disability School.
- i) Post-incident reporting, investigation and corrective action.

The EPRP will be communicated to all workers during induction and to residents during move-in orientation. Drills will be conducted at defined intervals. Any significant incident will be reported to the Proponent, NEMA and relevant authorities within the required timeframes.

11.6 Stakeholder Engagement / Communication Plan

Stakeholder engagement does not end with the ESIA public participation process. A structured Stakeholder Engagement and Communication Plan will be maintained throughout construction and the early operational years.

Objectives

- a) Keep PAPs, neighbouring residents (including Langata View Corner Apartments and other residential apartments), Edward Rice Disability School, local administration and other stakeholders informed of project progress, schedules and opportunities.
- b) Provide regular feedback on how concerns are being addressed.
- c) Maintain trust and reduce the risk of conflict or misinformation.
- d) Facilitate continued input into adaptive management.

Key activities

- a) Regular progress updates through the Chief's office, notice boards, and periodic community meetings.

- b) Dedicated follow-up meetings with PAP representatives, Residential Associations and representatives of Edward Rice Disability School at key milestones (pre-clearance, start of construction, during major phases, at handover).
- c) Timely notification of particularly disruptive activities (heavy lifts, extended working hours, utility interruptions).
- d) Disclosure of monitoring summaries and GRM performance in accessible formats.
- e) Maintenance of open communication channels through the GRM and designated community liaison officers.
- f) Coordination of messaging across Lots 1–5 to ensure consistency.

All engagement activities will be recorded (attendance, issues raised, responses given) and used to improve project performance.

11.7 Institutional Responsibilities

Clear allocation of responsibilities is essential for effective ESMP implementation.

Entity	Main Responsibilities
Proponent (State Department for Housing and Urban Development)	Overall accountability for ESMP implementation; provision of resources; PAP facilitation and livelihood restoration; maintenance of the GRM at project level; reporting to NEMA and lead agencies; coordination across Lots 1–5; appointment of environmental and social specialists.
Supervising Consultant	Day-to-day supervision of Contractor compliance with the ESMP and C-ESMP; review and approval of method statements; regular inspections and reporting; verification of monitoring data; recommendation of corrective actions.
Contractor	Full implementation of the C-ESMP and all construction-phase mitigation measures; preparation of supporting plans (OHS, Waste, Traffic, Emergency); training of workers; daily/weekly monitoring and reporting; immediate corrective action on non-conformances.
Estate Management Body (Operational Phase)	Implementation of operational ESMP measures; maintenance of buildings, infrastructure, green spaces and security; enforcement of resident rules; operation of the GRM at estate level; coordination with service providers (water, waste, security).
Local Administration (Chief / ACC)	Support for community liaison, local employment recruitment, dissemination of information, and first-line grievance uptake.
NEMA	Regulatory oversight, review of monitoring reports, inspections, and enforcement as required.
Lead Agencies (KCAA, KeNHA, WRA, NCWSC, KPLC, Nairobi City County, etc.)	Issuance and monitoring of their respective permits and conditions; technical input on specialized issues.
Affordable Housing Board	Oversight of housing allocation processes and higher-level grievance escalation where relevant.

CHAPTER TWELVE: ENVIRONMENTAL AND SOCIAL MONITORING PLAN

12.1 Monitoring Objectives

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

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

12.2 Environmental Monitoring

Aspect	Key Parameters / Focus Areas	Methods	Frequency	Responsibility	Action on Exceedance / Negative Trend
Vegetation & Trees	Tree retention, compensatory planting, survival rates, buffer & landscape condition	Inventory, visual inspection, photo records, survival counts	Pre-clearance; monthly during planting/establishment; quarterly thereafter	Contractor / Supervising Consultant	Replace failed plants; increase protection measures
Soil Erosion & Sediment	Presence of controls, sediment in runoff, exposed surface area	Visual inspection, photo records	Daily/weekly during earthworks	Contractor	Install/repair controls immediately
Stormwater Drainage	Drainage performance, off-site discharge quality, blockages	Visual inspection, water sampling if discharging	Weekly during construction; before/after rains	Contractor / Supervising Consultant	Clear drains; enhance treatment
Waste	Generation, segregation, storage, disposal	Visual checks, waste register, manifests	Daily visual; weekly register review	Contractor	Correct non-compliance immediately
Energy & Fuel Use	Fuel consumption, generator hours (GHG tracking)	Records review	Monthly	Contractor	Optimise plant use
Housekeeping & Pollution Prevention	General site condition, spills, litter	Visual inspection	Daily	Contractor	Immediate clean-up

12.3 Social Monitoring

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

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

12.4 OHS Monitoring

Indicator	Method	Frequency	Responsibility	Action
Induction & Toolbox Talks coverage	Training register review	Weekly	Contractor OHS	Conduct catch-up training
PPE availability & usage	Visual observation	Daily	Contractor OHS	Enforce immediately
Incidents, accidents, near-misses	Incident log	Continuous recording; weekly review	Contractor	Investigate & report serious cases to Proponent / DOSHS / NEMA
Lost-time injury frequency	Calculated from records	Monthly	Contractor / Supervising Consultant	Root-cause analysis & corrective action
First-aid, fire equipment & drills	Inspection & drill records	Weekly inspection; drills as scheduled	Contractor	Replenish / retrain
Welfare facilities	Visual inspection	Weekly	Supervising Consultant	Rectify deficiencies
Non-conformance closure rate	Audit / inspection tracking	Weekly / monthly	Supervising Consultant	Escalate open items

12.5 Water Quality Monitoring

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

12.6 Air Quality Monitoring

Parameter	Locations	Frequency	Method	Action on Exceedance
Dust / Particulate matter (visual + quantitative PM₁₀ or TSP)	Boundaries next to Langata View Corner Apartments, Edward Rice Disability School and other neighbouring residential apartments; downwind points	Daily visual during dry earthworks; quantitative at start of high-dust phases, monthly in high-risk periods, and on complaint	Visual + calibrated equipment	Enhance water spraying, install additional screens, adjust methods, or temporarily suspend high-dust works
Visible emissions from plant/vehicles	Site-wide	Continuous observation	Visual	Maintain/repair equipment

12.7 Noise Monitoring

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

12.8 Waste Monitoring

Indicator	Method	Frequency	Responsibility	Action on Non-conformance
Quantities by category	Waste register	Daily recording; monthly summary	Contractor	—

Segregation rate	Visual + register	Daily visual; weekly review	Contractor Supervising Consultant /	Re-train & enforce
Reuse / recycle vs disposal	Manifests & register	Monthly	Contractor	Maximise recovery
Storage areas condition	Visual inspection	Daily / weekly	Contractor	Correct immediately
Carrier & disposal site licences	Document check	Before engagement & spot checks	Supervising Consultant	Use only licensed operators
Incidents (burning, dumping, improper storage)	Observation & records	Continuous	Contractor	Immediate stop + corrective action + possible sanctions
Completeness of manifests	Document review	Weekly / monthly	Supervising Consultant	Complete missing records

12.9 Traffic Monitoring

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

12.10 Community Grievance Monitoring

Indicator	Method	Frequency	Responsibility	Action
Number received (by category)	GRM database	Continuous logging; weekly review	Community Liaison / Social Specialist	—
% resolved within timeframe	Database analysis	Weekly / monthly	Proponent	Prioritise overdue cases
Number pending & average resolution time	Database	Monthly	Proponent	Escalate systemic delays
Repeat / escalated grievances	Database + analysis	Monthly	Proponent	Root-cause analysis

Distribution by stakeholder group	Database	Monthly	Proponent	Tailor responses
Root causes & systemic issues	Qualitative review	Monthly / quarterly	Proponent	Adjust mitigation or engagement

12.11 Reporting Requirements

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

Reporting hierarchy and frequency

Report Type	Prepared by	Submitted to	Frequency	Content Focus
Daily / Weekly Site Report	Contractor	Supervising Consultant	Daily (key issues) / Weekly	Activities, incidents, non-conformances, GRM summary, monitoring highlights
Monthly Progress Report	Supervising Consultant	Proponent	Monthly	ESMP compliance status, monitoring results, grievances, corrective actions, employment & PAP updates
Semi-annual / Annual Environmental & Social Monitoring Report	Proponent (with Consultant support)	NEMA & relevant lead agencies	Semi-annual during construction; Annual during early operation	Full monitoring data, trend analysis, compliance assessment, adaptive management actions, stakeholder engagement summary
Incident Reports	Contractor / Proponent	Proponent, NEMA, DOSHS (as applicable)	Within 24–72 hours for serious incidents	Description, immediate response, investigation findings, corrective & preventive actions
Completion / Handover Report	Supervising Consultant / Proponent	NEMA & Proponent	At end of construction	Final compliance status, outstanding actions, operational ESMP readiness

CHAPTER THIRTEEN: CONCLUSION AND RECOMMENDATIONS

13.1 Conclusion

The proposed construction of social and affordable housing and associated infrastructure on Kibra Lot 5 (Southlands, Mugumo-ini Ward, Lang'ata Constituency, Nairobi County) has been subjected to a comprehensive Environmental and Social Impact Assessment (ESIA) in accordance with the Environmental Management and Coordination Act (EMCA), Cap 387, the Environmental (Impact Assessment and Audit) Regulations, 2003 (as amended), the approved Terms of Reference, and the directives of the Environment and Land Court that necessitated a fresh assessment.

The project entails the development of fourteen (14) multi-storey residential blocks configured as Ground plus eight floors (G+8), delivering a total of 1,386 housing units (a mix of social-housing units — one-roomed, two-roomed and three-roomed — and affordable-housing units — studio, two-bedroom and three-bedroom) on approximately 6 acres of land. Supporting infrastructure includes cabro-paved access roads and parking, storm-water and foul-drainage systems, water supply (boreholes, storage and reticulation), power supply with back-up generation, solid-waste management facilities, green spaces, children's play areas, commercial stalls, and perimeter security installations. The maximum building height of 29 metres has been cleared by the Kenya Civil Aviation Authority (KCAA) in view of the site's location within the Obstacle Limitation Surfaces of Wilson Airport.

The assessment has established that the project is consistent with national policy priorities, including Article 43(1)(b) of the Constitution of Kenya 2010 (right to accessible and adequate housing), the Affordable Housing Programme, Kenya Vision 2030, the National Housing Policy, and the National Climate Change Action Plan. It will make a meaningful contribution to reducing Nairobi's severe housing deficit while generating temporary and permanent employment and business opportunities, with a commitment to prioritise approximately 90 % local labour where skills permit.

Potential adverse impacts identified across the project life cycle (pre-construction, construction, operation and eventual decommissioning) include: Construction-phase noise, dust, vibration and traffic disruption, with heightened sensitivity owing to the proximity of Edward Rice Disability School and neighbouring residential apartments (Langata View Corner Apartments and others); Temporary loss of assets and livelihoods associated with Project Affected Persons (notably the BMW Garage and any other structures on site); Potential sedimentation and pollution risks to River Motoine (≈300 m away) and Nairobi Dam; Increased demand on local water, energy and solid-waste systems; Visual and privacy effects of the G+8 blocks; and Climate-related risks (flooding, extreme heat, water stress) and greenhouse-gas emissions associated with construction and operation.

These impacts have been evaluated using standard significance criteria (magnitude, extent, duration, reversibility and probability). With the full suite of mitigation measures set out in the Environmental and Social Management and Monitoring Plan (ESMP — Chapter Eleven) and the detailed monitoring programme (Chapter Twelve), the residual impacts are assessed as **moderate to low** and manageable. Positive impacts — particularly the delivery of 1,386 decent

housing units, local employment, improved infrastructure and orderly urban development — are significant and long-term.

Public participation was conducted in an inclusive manner, involving Project Affected Persons, neighbouring residents, youth, women, persons with disabilities, business representatives, institutions and local administration. Concerns raised (traffic, dust/noise near the disability school, employment opportunities, PAP facilitation, drainage and security) have been systematically addressed through design refinements, the ESMP and the Grievance Redress Mechanism.

Project alternatives (including the “no-project” option, alternative sites, lower density/height configurations, and different technology/material choices) were examined. The preferred alternative — the proposed G+8 high-density development on the designated site — emerges as the most balanced option when housing delivery objectives, land-use zoning, aviation constraints, cost-effectiveness and residual environmental/social risks are considered together.

Overall, the ESIA concludes that the proposed Kibra Lot 5 development is environmentally and socially acceptable, provided that all mitigation, management and monitoring measures contained in this report are fully implemented and that the conditions of any NEMA licence and other statutory approvals are strictly observed.

13.2 Recommendations

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

1. Pre-Construction Requirements

1. Complete a full, verified Project Affected Persons (PAP) census, valuation and facilitation process (including livelihood restoration where applicable) before any site clearance or demolition.
2. Secure all outstanding statutory clearances (KCAA height clearance already obtained; Water Resources Authority borehole permits; KeNHA access arrangements; development permission under the Physical and Land Use Planning Act, etc.).
3. Finalise and disclose the detailed Construction Environmental and Social Management Plan (C-ESMP) prepared by the Contractor.

2. Construction Phase

1. Strictly implement all measures in the Construction Phase ESMP, with particular emphasis on noise, dust and vibration controls near Edward Rice Disability School and neighbouring apartments; traffic management (including the Traffic Impact Assessment recommendations); erosion and sediment control to protect River Motoine; and occupational health and safety.
2. Prioritise local employment (target ≈90 % where skills allow) through transparent recruitment coordinated with the area Chief.

3. Maintain a fully functional, accessible Grievance Redress Mechanism and continue structured stakeholder engagement throughout construction.

3. Operational Phase

1. Establish an effective estate management entity responsible for infrastructure maintenance, waste management, security, green-space upkeep and the operational GRM.
2. Implement water-conservation, energy-efficiency and climate-resilience measures (including those identified in the Climate Change Risk and Vulnerability Assessment).
3. Ensure ongoing compliance with housing allocation rules under the Affordable Housing Act and Board processes.

4. Monitoring, Reporting and Adaptive Management

1. Implement the Environmental and Social Monitoring Plan (Chapter Twelve) in full, with regular reporting to the Proponent, Supervising Consultant, NEMA and relevant lead agencies.
2. Use monitoring data for adaptive management; any unforeseen impacts must trigger prompt corrective action.

5. Decommissioning

1. At the end of the project's useful life (or in the event of unforeseen permanent cessation), prepare and implement a Decommissioning Plan in accordance with then-prevailing NEMA requirements, including safe demolition, material recovery, site rehabilitation and stakeholder consultation.

6. Cross-Lot Coordination

1. Maintain consistency of environmental and social management approaches across the wider Southlands (Kibra Lots 1–5) programme to maximise cumulative benefits and minimise cumulative impacts.

7. Capacity and Resources

1. The Proponent shall ensure adequate financial, human and institutional resources are allocated for ESMP implementation, PAP facilitation, monitoring and grievance handling throughout the project life cycle.

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ANNEXES

Annex 1; Approved NEMA TOR

Annex 2; Expert License

Annex 3; Architectural Drawings

Annex 4; BOQ

Annex 5; KCAA Clearance

Annex 6; Notice

Annex 7; Public Participation Attendance Lists

Annex 8; Public Participation Minutes

Annex 9; Questionnaires

Annex 10; Written Memoranda/Comments

Annex 11; Grievance Redress Mechanism

Annex 12; Title deed

Annex 13; Baseline Environmental Laboratory Reports