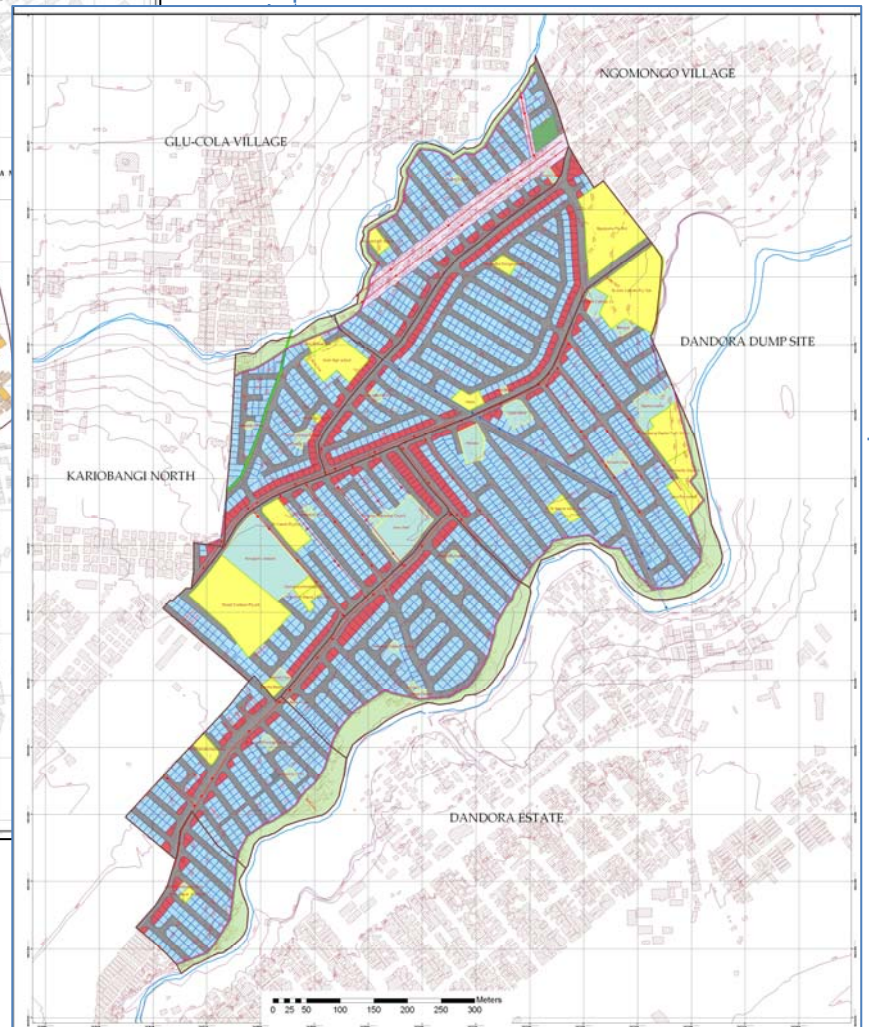


KOROGOCHO SLUM UPGRADING PROGRAMME

INTEGRATED PHYSICAL DEVELOPMENT PLAN



CERTIFICATION AND APPROVAL

The Physical Development Plan for Korogocho has been prepared in accordance with the provisions of the Physical Planning Act Cap 286 of the Laws of Kenya in conjunction with other relevant statutes on matters of relevant guidelines and standards.

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FORWARD

The Korogocho Slum Upgrading Programme (KSUP) is a joint initiative of the Kenya Government and the Italian Government through the Kenya-Italy Debt for Development Programme. The main components of the programme consist of Improvement of Infrastructure, Sustainable development, Security of Land Tenure and Community Mobilization.

Preparation of the Physical Development Plan, as per Physical Planning Act provision, is one of the major outputs of the programme.

The programme is one of the many initiatives implemented by the Ministry of Local Government for slum upgrading and eradication in the long run.

Slums and informal settlements are common in urban areas in Kenya. Today, there are over 200 slums and informal settlements in Kenya's capital Nairobi alone. Korogocho is considered to be the fourth largest slum in the City. The Physical Development Plan for Korogocho provides planning layout and development strategies that if implemented will lead to the improvement of living conditions in Korogocho and will serve as a basis for their upgrading hence constituting an important contribution to eradicate slum developments

The Physical Development Plan for Korogocho has been prepared to meet the existing challenges in terms of need for secure land tenure, poor housing structures and poor provision for infrastructure facilities among others.

Korogocho like many other slums in the country has for a long time been on the periphery of mainstream policy making and development. Issues like insecurity occasioned by high crime levels have also been a deterrent for any formal intervention in the slums. The plan and the overall programme create an entry point for service providers and donors to intervene in the development of the settlement through the implementation of physical and social infrastructure including roads, health facilities and schools, among others.

Indeed, improvements on major roads in the settlement are already completed funded by the Kenya-Italy Debt for Development Programme and the positive repercussions are visible and covering different socio economic dimensions in the life of the residents.

The plan has been prepared in a participatory manner involving various stakeholders including the residents and government and non-governmental agencies. I am especially grateful to the Department of Urban Development and the UN Habitat for facilitating and spearheading the process. The residents of Korogocho through their Residents' Committee have also been central at every step of the process.

It is hoped that the implementation of the plan will provide the residents of the settlement with secure tenure and will lead to a livable environment complete with requisite infrastructure, which will be competitive in terms of attractiveness and investment opportunities coming both from the same residents and external actors including the public.

Signed.....Date.....

Karega Mutahi, CBS

The Permanent Secretary,

Ministry of Local Government

EXECUTIVE SUMMARY

Korogocho, one of the settlements identified under the Kenya Slum Upgrading Programme (KENSUP) is located about 11 Km from the Central Business District of Nairobi. The settlement lies strategically just off the Outering Road-Juja Road roundabout a distance of about 3Km from the new Thika Super Highway. The settlement comprises 8 Villages spread over about 0.53Km².

The settlement started as a shanty town on the then outskirts of the City founded by rural-urban migrants in the 1960s. The land on which it rests was originally owned by the Government of Kenya. According to the 2009 Socio-economic survey, the history of Korogocho shows that the current residents migrated into the settlement from other areas of Nairobi.

Fast growth of Korogocho has been brought about by a set of urban problems including lack of housing, particularly for industrial employees, and other infrastructure facilities and amenities.

The Physical Development Plan for Korogocho has been prepared to meet the existing challenges in terms of fast growth and gaps in infrastructure and basic services on one hand, and aspirations of various stakeholders and Villagers to secure tenure provision.

The report is the culmination of the Physical Development Plan preparation process and includes overall and thematic strategic indications for a comprehensive and integrated development of the area.

The Plan addresses the spatial planning and sustainable development of the settlement and will operate for a period approved by the City Council of Nairobi. The plan has been drawn up after a comprehensive review of the current conditions of the settlement and a widespread exercise of stakeholders' consultation. This has included public meetings, and surveys of statutory and non-statutory bodies including schools, religious institutions among others.

It is hoped that the lessons learnt in the plan preparation process will be replicated in other informal settlements in the country.

Signed.....Date.....

E. M. Onyango
Director
Department of Urban Development
Ministry of Local Government

The present Plan was prepared by a Team of Private Planning Consultants, supervised by an Interagency Technical Working Group created within the framework of the Korogocho Slum Upgrading Programme – A joint initiative of the Government of Kenya, Government of Italy and UN-Habitat. The exercise involved a wide range of stakeholders within and external to the Korogocho settlement.

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LIST OF ACRONYMS

CBD	Central Business District
CBS	Central Bureau of Statistics

CBOs	Community Based Organization
CCN	City Council of Nairobi
GoK	Government of Kenya
ITWG	Interagency Technical Working group
KENWA	Kenya Network of Women with AIDS
KIDDP	Kenya-Italy Debt for Development Programme
KSUP	Korogocho Slum Upgrading Programme
KWS	Kenya Wildlife Services
MoLG	Ministry of Local Government
ODPM	Office of the Deputy Prime Minister
RC	Resident's Committee
UNICEF	United Nations International Children's Emergency Fund
VCT	Voluntary Counseling and Testing Centre
DEO	District Environment Officer
NEMA	National Environment Management Authority
USD	United States Dollars

PART 1: BACKGROUND

Chapter 1 BACKGROUND

1.1. INTRODUCTION

The Korogocho Slum Upgrading Programme was started in the year 2008. It is a joint initiative of the Government of Kenya with funding support through a debt for

development swap entered into by the Government of Italy and the Government of Kenya.

The objective of the programme is to improve the living conditions of the Korogocho residents

The Programme's objective, it is expected to be achieved through the delivery of the following outputs:

1. Detailed appreciation of the Korogocho area and its residents
2. An Advisory Physical Plan for Korogocho prepared
3. Capacity of various actors/Institutions built
4. A sustainable integrated development plan for upgrading Korogocho prepared and approved
5. An appropriate security of tenure option to the residents of Korogocho provided
6. Concrete improvements to assure tangible impacts implemented

The Korogocho slum is the fourth largest in Kenya's Capital City Nairobi after Kibera, Mathare and Mukuru Kwa Njenga. The features generally accepted in defining such areas include, unregulated and informal forms of urbanization amid poverty and urban poor health and environmental conditions. Korogocho has poor quality dwelling structures made of temporary and semi-permanent materials, congestion, lack of a conventional sewer system and poor access roads.

1.2. NEED FOR THE PHYSICAL AND INTEGRATED DEVELOPMENT PLAN

One of the outputs of the Korogocho Slum Upgrading Programme is to prepare a Physical and Integrated Development Plan for Korogocho; others include community mobilization and improvements at the physical and socio economic level.

The plan is to act as the basis for the formulation of a secure tenure system while guiding the overall development of the area. Among other issues, the plan allows for the provision of suitable infrastructure and orderly location of land uses for the area. The plan will give guidance to various authorities, organizations and the residents to identify, achieve and sustain the future development of the settlement.

The Plan will be a blue print for the attraction of direct investments both internally and externally generated, bringing about higher standards of living and working environment.

The Plan addresses the proper planning and sustainable development of the settlement and will operate for a period as mandated by the city Council of Nairobi under the advice of the Ministry of Local Government. The plan has been drawn up after a comprehensive review of the current condition of the settlement and a widespread exercise of public consultation and participatory planning workshops. This has included

public meetings, reviews of statutory and non-statutory documents and various institutional consultations.

1.3. SCOPE OF THE PLANNING EXERCISE

Various tasks were necessary in order to formulate an informed Physical and Integrated Development Plan. These included:

- Scoping of the area and studying the existing situation, through field visits;
- Stakeholders consultations and reviewing of base map(s), socio-economic survey and enumeration reports available upon request submitted to the KSUP management body;
- Studying the committed plans and projects in the area;
- Reviewing of existing planning standards and proposing new ones for implementation;
- Review of existing settlement and identification of future housing requirements;
- Review of the land tenure regime and propose a viable and secure tenure acceptable by all;
- Review of existing settlements and corresponding land uses;
- Review of existing transport network, primary roads, major arterial roads, access roads including alternative alignments and connections;
- Utility infrastructure, particularly water supply, sewage, drainage and power supply;
- Regional and local environmental linkages including protection of the existing rivers and streams;
- Secure of Recreational facilities, urban open spaces and public utilities;
- Preparation of an Advisory physical plan for Korogocho and its approval;
- Preparation of a Sustainable Integrated Development Plan for Korogocho complete of strategic thematic areas and budgeted action plans
- Preparation of all stakeholder workshops reports.

1.4. THE PLANNING OBJECTIVES

The main objective the plan preparation process is to prepare a Physical and Integrated Development Plan for Korogocho. Specific objectives are as follows:

1.4.1. TO PROVIDE AN APPROPRIATE LAND TENURE OPTION

The consultants explored various land tenure options that would cater to the unique needs of the Korogocho area. It is the consultants hope that the approach should, if successful, act as a blue print for other areas with similar conditions. Active consultations and inputs were carried out together with the established Interagency Technical Working group (ITWG) mandated to supervise and guide the work of the consultancy team. The ITWG comprises of representatives from: ODPM/MoLG/UDD,

Commissioner of Lands, Department of Lands, Physical Planning Dept., NEMA, Nairobi City Planning Department, Italian Cooperation and UN-Habitat.

The Tenure option will take into consideration ownership of land by individuals and groups as well. A review of the relevant Land Statutes was also undertaken to ensure that whatever land tenure option is proposed, it complies with existing legislation and regulations.

1.4.2. TO MAKE THE AREA ECONOMICALLY ATTRACTIVE

One of the aims of the plan is to make Korogocho conducive to internal and external private and public investments. This will be achieved as a result of the provision of security of tenure as well as through the spatial planning, associated to higher quality infrastructure which are envisaged to promote economic, environmental and social well being of the area.

This plan provides for upgrading of streets and other infrastructures as well as plot infilling and intensification. It also allows for proposed land use changes to permit compatibility of land uses, the most efficient use of land and existing infrastructure.

The project involved a detailed investigation and analysis of the available economic resources and indicated how they can be harnessed to promote development within Korogocho. This was required for the formulation of a framework for the efficient use of resources, preservation of the environment in order to achieve a healthy, safe and economically sustainable settlement.

The Capital Investment Plan section also contains an analysis of all the costs that will have to be met in the implementation of the proposed actions.

1.4.3. TO TRANSLATE THE STAKEHOLDERS VISION

The consultants undertook to translate the vision of the stakeholders into a set of principles, and planning criteria, both at the spatial and strategic development level.

The planning team in consultation with all the interested parties identified the planning issues, opportunities and constraints. Based on information collected in the Socio-economic Survey and enumeration report, the whole team developed a set of principles and objectives shared with the community, while technical planning assumptions were devised from the existing and amended regulations in consideration of the local situation. This served to attain not only the short-term spatial reorganization objective but also focus towards achieving future long term development of the area.

1.5. PLAN DELIVERABLES

- 1) Inception Report

- 2) ITWG workshop 1 (Naivasha)
- 3) ITWG workshop 2 (Thika)
- 4) Community Planning workshop 1 report
- 5) Draft Plans
- 6) Community Planning workshop 2 report
- 7) Draft Final Plan
- 8) Final Physical Development Plan
- 9) Final Physical and Integrated Development Plan report
- 10) Approved Physical Development Plan

1.6. THE PLANNING PROBLEM

Korogocho has a number of planning and development challenges, which the slum upgrading programme seeks to address. The key problems are outlined below.

1.6.1. CONGESTION

The settlement is one of the most congested estates in the City. The average household occupies an area of 9m² usually a single room. The existing structures in all the villages have been constructed too close to each other. This hinders accessibility and leads to overcrowding of structures. This is hazardous to the residents as it presents health complications related to lack of proper ventilation and difficulties in accessing the structures during fire emergencies.

1.6.2. LACK OF PHYSICAL DEVELOPMENT PLAN

During the years various projects have been undertaken by local or international agencies focusing on various socio-economic dimensions of the residents life. Some of them improving or providing new facilities within the existing set-up without any effort to reorganize the overall settlement layout. There is, therefore, lack of physical development plan that should provide a coordinated framework for such interventions. Without such a plan, the various programmes undertaken, especially those incorporating infrastructure and basic service provision components may not, in the long term, adequately address the development challenges for Korogocho.

1.6.3. INSECURITY

Korogocho slum is considered the most insecure settlement in Nairobi. This is attributed,, among others, to the presence of many unemployed youth who have grouped themselves into gangs that operate within the estate and all parts of Nairobi. These gangs engage in petty crime like pick pocketing to more serious crimes like armed robberies and murder. The numerous narrow, unlit, crisscrossing paths make the settlement ideal for criminal activities and hideouts. Lack of roads makes policing the estate nearly impossible. Over 58% of the existing structures have no access to a motorable route, which is also a problem in case of fire.

As far as the spatial implications to insecurity are concerned, a better-designed layout plan should enhance the accessibility and together with the associated streetlights contribute to security improvements.

1.6.4. UNEMPLOYMENT

There is high unemployment rate in the settlement standing at 58% as found from the results of the Socio-economic survey. Unemployment, particularly rampant among the young generations leads to the incapacity to meet even the basic needs and at times leads to crime and indignity.. This is a problem that plagues the Korogocho area hence the dilapidated environment and the poor living conditions. There is therefore need to prepare a plan that should form the basis for long term public and private investments that can help to generate employment in the area and connecting the high job demand with a new offer.

1.6.5 POOR PROVISION FOR INFRASTRUCTURE AND BASIC SERVICES

The area has poor provision for infrastructure and basic services; facilities such as roads, educational facilities, health facilities, water supply points, sanitary facilities, recreational areas, are scarce or non-existent. Given the high density of the structures, it is quite challenging to provide spaces for public facilities without affecting the residential spaces.

PUBLIC FACILITIES

Data from the Korogocho socio-economic survey reveals that the following facilities will need to be enhanced, as they are currently either unavailable or inadequate. These are public health and education facilities, GoK/NCC offices, police/security, sanitation / drainage facilities, electricity in home, social halls and technical training facilities, roads and water points.

SEWER

The Nairobi City sewer system covers most of the formal housing areas in the neighborhood including Huruma, Kariobangi North and South and Dandora. However this network does not cover the settlement of Korogocho being informal. Residents use pit latrines as the means of liquid waste disposal in application. The waste also runs adjacent to the existing open drains and pedestrian pathways and finds its way to the river with contamination consequences. Considering the large population and rapid growth of the town there is need to provide sewer system to this area which can only be provided on the basis of a Physical development plan.

SCHOOLS

In Korogocho there are about 34,152 people living there. According to planning standards, a nursery school should serve a population of 2,500 residents meaning Korogocho requires about 14 nursery schools. A primary school should serve a population of 3,500 residents hence the settlement would require about 10 schools. A secondary school should serve 8,000 residents meaning there is need for 4 secondary schools for the settlement..

ROADS OF ACCESS

The slum lacks adequate provision for roads. Prior to the interventions of the KSUP, the area had only few earth roads and numerous paths connecting the housing structures. According to the Socio-economic survey, 70% of the residents identified poor roads and insufficient access as major concerns in the villages.

A significant investment within the KSUP involves the improvement of the roads and as a result 3.5 kilometers were opened and tarmacked. These include Bun yore Road and Community Lane. Market Road, which runs through '*Soko Mjinga*' was once tarmac but is now in a state of disrepair. To safeguard the already improved road as well as to create more, there is need for the development plan that should eventually form the basis for survey. This will help protect the investments already incurred in the road infrastructure.

PLATE 1.1: ALLEYS WITHIN THE SETTLEMENT



1.6.4. LACK OF SECURE LAND TENURE

The land where the Korogocho settlement lays is un-alienated government land. The structure owners claiming the land, lack ownership documents. The only alienated land is that owned by Legio Maria and Vision Institutions. These were allocated by the Commissioner of Lands but encroached on housing structures creating acrimony among the various parties. The major aim of the planning process is to accord the residents a secure land tenure system.

1.6.5. INADEQUATE DEVELOPMENT CONTROL

Development control in the area vests with the City Council of Nairobi. The settlement developed on the then low priority and peripheral land owned by the government. Like many other similar slum settlements in the city, such developments arose from inadequate development control by the Nairobi city council. To date, the settlements are expansive and house such large populations that application of stringent development control interventions could be inappropriate from social and political points of view. It is hoped that, the preparation of the plan should offer opportunity to review and develop more realistic development control regulations for this and other similar settlements.

1.6.6. LACK OF EFFECTIVE PLANNING REGULATIONS

The planning area falls under zone 7 earmarked for informal settlements according to the Nairobi City Council planning Zones. The zone lacked detailed layout that should have formed a basis for implementation of the set standards. The current regulations require development of housing with plot ratios of 75%, ground coverage of 50% and minimum plot size of 0.05ha. Such regulations are unattainable given the existing developments. Land use is highly mixed and land holdings are quite small with some as small as 0.004ha. It is expected that the preparation of the plan will grant opportunity for the formulation of more appropriate and innovative regulations applicable to area and other such similar settlements.

1.6.7. POOR STRUCTURES

The structures within the settlement are made of poor materials including iron sheets and plastic paper, which are poor shelter in the face of extreme weather conditions. The landlords and/or structure owners are unable and/or not encouraged to put up more permanent structures as they are unsure of their future due to lack of security of land tenure. Most of the structures were built several decades back and have continued to deteriorate. With lack of security of tenure, significant improvements including renewals cannot be achieved hence the need for a plan that can guide more permanent developments once security of tenure is provided.

PLATE 1.2: STRUCTURES WITHIN THE SETTLEMENT**1.6.8. ENVIRONMENTAL DEGRADATION**

The settlement in its current state manifests evidence of environmental degradation. Poor waste disposal facilities and encroachment onto riparian areas are common. Pollution has also affected the water supply. The rivers bordering the estate are polluted with waste from industries and from the villages along the river. NEMA in recent years has issued the prohibition to dump any kind of untreated solid or liquid waste to the Nairobi rivers, with scarce results, since this communities don't have a viable and affordable alternative. Appropriate environmental conservation strategies worked out with the community involvement are required as apart of the plan formulation and implementation.

PLATE 1.3 HAPHAZARD DUMPING**1.6.9. ENCROACHMENT ON RIPARIAN AREAS**

The settlement is located along two rivers namely Gitathuru and Nairobi. Existing laws require that a riparian reserve ranging from 6m to 30 m should be observed. In collaboration with NEMA it was decided to establish a riparian reserve up to the highest watermark.

Field survey of the settlement reveals that the above riparian area has been encroached by structures in Grogan A and B, Highridge, Korogocho A, Kisumu Ndogo, and Nyayo villages. Over 137 structures have encroached into the riparian area. Relocating these structures poses a big challenge.

1.6.10. ENCROACHMENT ON WAY LEAVES

The planning area has structures that have been built on the power and sewer way leaves/ reserves.

The main water line passes through the boundaries of Grogan 'A' and 'B', Gitathuru and Highridge Villages. It crosses into the village from Kariobangi Estate across Gitathuru River and exits at Nairobi River onto Dandora Estate. A total of 46 structures have encroached onto the reserve. Most of these structures have been built over the reserve.

The sewer line passes through a section of Grogan 'A' where about 34 structures have encroached onto the 3 meter wide sewer line way leave. This represents about 1% of the total number of structures within the Village.

The power way leave is thirty metres wide and carries about 66Kw of power. This is a high voltage power line passing through Grogan 'B' Village affecting about 133 structures. This represents about 7.8 % of the total number of structures in the Village. The low voltage power lines will be re-routed to run along the main road.

Chapter 2 GUIDING LEGISLATION AND PRINCIPLES

The Korogocho Slum Upgrading Programme has been implemented as a response to and guided by various global and National concerns and related policies.

The KSUP is one of the interventions that seek to address Global Agenda issues such as rapid urbanization, Millennium Development Goals and Climate Change.

2.1. GLOBAL AGENDA

2.1.1. RAPID URBANIZATION

Rapid urbanization is universally accepted as one of the greatest socio-economic changes in the recent decades. It has caused the burgeoning of new kinds of slums, the growth of squatter and informal settlements all around the rapidly expanding cities of the developing world. Urban populations have increased explosively in the past 50 years, and will continue to do so for at least the next 30 years as the number of people born in cities increase and as people continue to be displaced from rural areas that are almost at capacity. In 1950 only 18 per cent of people in developing countries lived in cities. In the year 2000 the proportion was 40 per cent, and by 2030 the developing world is predicted to be 56 per cent urban. Future urban growth in developing countries will be absorbed by urban centres, which currently have a high average annual urban population growth rate of 2.3 per cent, in contrast to the developed world's rate of 0.4 per cent.

2.1.2. FORMAL SECTOR UNEMPLOYMENT

The rate of creation of formal sector urban jobs is well below the expected growth rate of the urban labour force, so in all probability, if actions are not taken, the majority of these new residents will eke out an informal living and will live in slums.

With these challenges, programmes have been started globally to address the slum settlement. Korogocho Slum Upgrading Programme is one such programme.

2.1.3. MILLENNIUM DEVELOPMENT GOALS

The Millennium Development Goals (MDGs) are eight internationally accepted development goals that all 193 United Nations member states and at least 23 international organizations have agreed to achieve by the year 2015. The aim of the Millennium Development Goals (MDGs) is to universally encourage development by improving social and economic conditions in the world's poorest countries. They were officially established following the Millennium Summit in 2000, involving all United Nations member states.

The Korogocho Slum Upgrading Project seeks to contribute to the achievement of Goal 1 to eradicate or reduce extreme poverty and hunger, the proportion of people whose income is less than one dollar a day.

Goal 7 of the Millennium Development Goals is to ensure environmental sustainability, which is one of the addressed targets of the Korogocho Slum Upgrading Programme. One of the targets under this goal (Target No. 11) is to have achieved by the year 2020 a significant improvement in the lives of at least 100 million slum dwellers, the key target group of the KSUP.

2.1.4. CLIMATE CHANGE

Climate Change is one of the universally mainstreamed development challenges. It is a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. It may be a change in average weather conditions or the distribution of events around that average (e.g., more or fewer extreme weather events). Climate change is attributed to extreme weather patterns that may result in floods, a key concern to Korogocho.

Climate change affects local and regional weather patterns that can impact upon agricultural outputs and may result in food shortages in cities. People living in slums, without adequate urban infrastructure, are particularly vulnerable and will be amongst those that suffer the most from the adverse effects of climate change.

2.2. NATIONAL AGENDA

The Korogocho Slum Upgrading Programme was conceived in response to various nationally accepted challenges such as rapid urbanization and the growth of slums and informal settlements.

The implementation of the programme also draws mandate from the Vision 2030. The new Constitution and various statutes as outlined below

2.2.1. RURAL-URBAN MIGRATION

Rural-urban migration has resulted in rural inhabitants moving to urban areas. This is in addition to high natural growth rates. As a result, the country has been urbanizing rapidly. An estimated 20.4 per cent of Kenya's population resided in urban areas by 2005. It is projected that by 2030 the proportion of the Kenyan population living in urban areas is estimated to reach 60 per cent (GoK)

Rural-urban migration results in search of better economic and educational opportunities and standards of living. However, the rate of migration has often been higher than can be absorbed by the formal job sector. High costs of living evidenced by high rents in planned areas have often forced the urban poor and unemployed to move into unplanned and informal settlements.

2.2.2. SLUMS AND INFORMAL SETTLEMENTS

Slums and informal settlements are common in all urban areas in Kenya.

Today, there are over 100 slums and informal settlements in Kenya's capital Nairobi alone. Making the situation grimmer is the fact that the City houses Kibera, which is widely considered the biggest slum in Africa.

According to the United Nations Centre for Human Settlement (Habitat), Nairobi's slums are overcrowded, with four to six people living in one room. The dwellings are very close to each other; services are basic, while morbidity and mortality rates are high. City authorities say more than 1.6 million (out of Nairobi's estimated population of 3.5 million) live in the slums or 'informal settlements'.

The Physical and Integrated Development Plan for Korogocho provides an appropriate planning layout and development strategies that if implemented will lead to the improvement of living conditions in Korogocho and will serve as a basis for their upgrading hence constituting an important contribution to eradicate slum developments.

Papers and legislations of National importance and/or holding relevance to the Korogocho area have also guided the preparation of the plan; they can be summarized as follows:

2.2.3. VISION 2030

Kenya's Vision 2030 aims to provide the country's population with adequate and decent housing in a sustainable environment. The vision recognizes that overcrowding, lack of adequate sanitation and pollution in urban slums pose serious health risks to urban residents. The overall goal therefore of the vision is to provide the country's population with adequate and decent housing in a sustainable environment. The vision also aims to expand access across different social and political structures. The objectives of the KSUP should be seen as part of the fulfillment of the Kenya Vision 2030.

2.2.4. NEW CONSTITUTION

The preparation of the plan will take cognizance of the provisions of the new constitution and any relevant statutes that may be prepared enacted. The Constitution enshrines within it the right to clean and healthy environment. It also promotes sound conservation and protection of ecologically fragile areas. The Constitution classifies land as public, community and private land. Further, promotes all forms of national, cultural expression and other cultural heritage

2.2.5. GOVERNMENT LANDS ACT, CAP 280

The Land under question in Korogocho is Government land and therefore falls under the stipulations of the Act. The Commissioner of Lands acts on behalf of the President and is in charge of all Government lands and as such is the Chief Officer in the Land

alienation process. The land allocations expected to be the culmination of the Planning exercise will be pursuant to the Act. The government will be the lessor of the land while the beneficiaries in Korogocho will be the lessees. The roads and public amenities will also revert to the government. The on-going review of the land laws is likely to significantly alter the procedures during the approval and implementation of the plan.

2.2.6. PHYSICAL PLANNING ACT, CAP 286

The planning of Korogocho is within the framework of the Physical Planning Act and the Physical Planners Registration Act. Preparation of the Action Area Plans is provided for in the third schedule of the Physical Planning Act under short term plans.

The Act stipulates the process and key institutions that are involved in Planning. It gives power to local authorities to regulate development within their areas of Jurisdiction. Further, it empowers the Director of Physical Planning to prepare various types of Physical Development plans.

2.2.7. THE LOCAL GOVERNMENT ACT, CAP 265

The preparation of the Physical Development Plan will take cognizance of the provision of the Local Government Act.

It provides for the establishment of Local Authorities and empowers them to make by-laws, carry out development control, and approve land subdivision plans among other functions of Local Authorities. It requires that the Plan will need to be approved by the Town Planning Committee and the Full Council of the City Council of Nairobi. The Council will also facilitate the implementation of the plan as well as setting Planning Regulations. In addition, The Council may consider and adopt the proposals of the Plan.

2.2.8. BUILDING CODE

Reference is made to the Building Code, which gives guidelines on Development of Buildings for various uses including Industrial, Commercial, and Residential. It controls the accesses, building height, provision of open areas and other issues pertinent to development of sustainable living environments.

2.2.9. THE PHYSICAL PLANNING HANDBOOK, 2005

The Planning Handbook gives guidance in the design of various infrastructure and facilities. These include minimum road sizes, plot frontages and minimum plot sizes, which are relevant to the implementation of the plan as part of the slum upgrading programme.

2.2.10. ENVIRONMENTAL MANAGEMENT AND CO-ORDINATION ACT (EMCA)

As the Act requires, once approved the Plan will be subjected to a Strategic Environmental Impact Assessment. It will require the report prepared and considered by different agencies including the National Environmental Management Authority.

2.2.11.NATIONAL LAND POLICY

One of the key components of the Korogocho Slum upgrading programme is provision of secure land tenure. This complies to one of the key guiding principles of the recently formulated National Land Policy is equitable access to land for subsistence, commercial productivity, settlement, and the need to achieve a sustainable balance between these uses.

2.2.12.URBAN CENTERS AND CITIES ACT

The preparation of the Physical Integrated Development plan for the settlement will take into consideration the provisions of the recently enacted Urban Centres and Cities Act, 2011.

One of the key thrusts of the Act is to promote participation by residents in the governance of urban areas and cities. This is an important requirement, which the consultants adopted in the planning of Korogocho. This makes the residents of Korogocho and any urban area feel ownership of their urban environment and therefore be inclined to make efforts to better it.

However the Act is still not in force.

2.2.13.THE NATIONAL LAND COMMISSION BILL

The completion of the establishment of the National land Commission could impact on the Korogocho plan preparation and implementation process. Efforts are already underway to formulate the bill, which once enacted could impact on the KSUP process.

2.3. PLANNING APPROACH AND PRINCIPLES

The following approaches will guide the plan formulation:

2.3.1. STRATEGIC PLANNING

Strategic planning involves among others the process of envisioning, defining strategy or direction, and making decisions on allocating resources to pursue this strategy, including capital and people.

According to the Project's Terms of Reference, the plan preparation exercise has gone through an envisioning process and brought in the needs and priorities of the Korogocho residents. Two visioning workshops to jumpstart the planning process have been held involving the 48 Community representatives and a further visioning exercise was implemented at the village level as a major output of the socio-economic survey. The above exercises were aimed at contributing to the development of a comprehensive plan that sets forth the best vision of the community.

The Plan, being flexible, adaptable and consultative has brought into play stakeholders from various sectors including the Korogocho residents through their Residents Committee, the governments of Kenya and Italy, International Organizations including the UN-Habitat who exerted a technical advisory role along the process.

2.3.2. MULTI-DISCIPLINARY

The Plan preparation exercise through a multi-disciplinary and inter-sectoral approach analyzed and formulated development options, touching on the various dimensions of urban development. In support of the multidisciplinary approach, various sectors representatives were included in the consultative processes. This included government agencies comprised of Commissioner of Lands, Physical Planning Department, the department of Urban Design and Development in the Office of the Deputy Prime Minister and Ministry for Local Government, the City Council of Nairobi, NEMA and UN-Habitat with the support of its different thematic branches.

2.3.3. LONG-TERM/SHORT TERM

The plan seeks to provide a framework for a long-term spatial and strategic integrated development of the Korogocho area stretching up to the year 2030, - a time frame that fits into the Vision 2030 plan period.

The Plan will also form the basis for long-term leases, possibly for lease periods of 99 years.

However the plan is also short term in the sense that it will seek to provide immediate answers to pertinent problems like lack of secure tenure, infrastructure and basic service needs.

According to the Physical Planning Act, Cap 286, short-term plan means a local physical development plan which elaborates in detail policies and proposals in relation to precise areas of land, and which provides the basis for both positive and regulatory planning to be realized within a specified period of time

2.3.4. MOBILIZE LOCAL RESOURCES

The Plan preparation process strived to obtain knowledge of locally available opportunities and resources. It was therefore important to identify all the stakeholders within the project area, and the institutions that would ensure the successful implementation of the emergent plan projects or programmes.

Though further community mobilization efforts will be needed, the Plan already provides a basis for guiding private investment leading to development of permanent structures as opposed to the existing temporary and poor quality structures, as well as promoting community's contribution to the set up and maintenance of additional infrastructures and services.

It will also improve donor confidence as they put in financial contribution towards the improvement of infrastructure, when the land issue is regularized.

2.3.5. FLEXIBLE

The planning process should be adaptable to allow for modifications and revisions whenever necessary so as to avoid rigidity associated with traditional planning

approaches. This is necessary given the dynamic nature of developments. The planning process has been subjected to constant review and fine-tuning due to the need for adaptability in response to the uncertainty in anticipating the impacts. The Plan should be responsive to changing needs and circumstances during the planning process and in the future when amendments could be needed. With regard to this it should be pointed out that such flexibility exists to adjust planning and public involvement procedures to suit specific situations and the requirements of various planning participants.

Since the Plan involves planning of a slum, this calls for going beyond traditional approaches that have tended to concentrate on improvement of housing, infrastructure and physical environmental conditions, often without addressing in an integrated way the root causes, mainly related to land issues.

The plan should be innovative and thus deviate from standard procedures possibly to the extent of setting new standards on how planning of informal settlements should be done. The current standards as defined in existing regulations cannot be applied in the Korogocho area. There's need for the plan to give innovative proposals on standard regulations, on plot sizes, setbacks, plot ratio and coverage, etc, against existing order.

2.3.6. PARTICIPATORY

The planning process has been consultative as provided in the physical planning act and advocated by the UN-Habitat and the governmental leading agency. This required the involvement of a series of consultative meetings with key agencies such as local leaders, established local institutions such as the Korogocho Residents Committee and the location Chief. The Consultants conducted intensive stakeholder work sessions and public outreach at each stage of the plan review process to build consensus and to resolve key issues and concerns as the plan is developed. Apart from the Korogocho residents represented by the Resident's Committee (RC), other stakeholders include relevant CBOs and FBOs, various national and local administration departments.

To realize a plan that is successful, well coordinated and is prepared in an efficient way, the Consultants adopted an approach that duly includes the efforts and interests of all relevant stakeholders, right from the beginning to the end of the project. Emphasis was given to ensure the participation of decision-makers in order to secure a firm link to adopted policies and resulting action.

Effective stakeholder participation provides the residents a sense of belonging, and the freedom to articulate their views in an amicable environment. The Consultant sought to integrate its studies and consultations with public meetings, as well as with the areas' development committees and by so doing get consensus and prioritization from the community as it desires.

Members of the general public were involved through the publishing of a Notice of intention to plan in the Local Daily Newspapers. The consultants sought to uphold the continued involvement and support from the residents committee, which represents diverse interests of the local people.

2.3.7. TRANSPARENCY

The preparation of the plan was transparent and all necessary stakeholders were consulted. The Consultants undertook open consultations and used appropriate communication tools such as use of effective public notices, public gatherings and public institutions. This, as already mentioned, created a sense of ownership of the plan. The process of negotiation needs to be open to all stakeholders to enable them understand the process.

2.3.8. LEGAL AND FAIR PROCEDURES

The plan was prepared in accordance to established law. In particular, the plan content and procedure abide by the provisions of the Physical Planning Act, Cap 286, the Local Government Act, Cap 265, The Physical planners Registration Act of 1996, The Survey act, the Environmental Management and Coordination Act and the Government Lands Act Cap 280.

2.3.9. INTEGRATED LAND USE PLANNING

These were deployed to ensure that sectorial studies, development programmes, plans and proposals linked and coordinated with environmental (land and resources) management strategies. Due to the fact that development depends on relations between various sectors, it is of utmost importance to integrate them in order to optimize land and resource use opportunities, while minimizing conflicts, as well as resources degradation and depletion within the planning area.

2.3.10. SUSTAINABLE DEVELOPMENT

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The plan will take cognizance of the existing resources and needs and formulate strategies in a manner that ensures optimal use. The plan will seek to meet the immediate needs while preserving the environment so that these needs can be met not only in the present, but also for generations to come. The plan will therefore seek to remain sustainable in the long run rather than just attaining immediate needs.

Chapter 3 THE PLANNING AREA

3.1. LOCATION OF THE PLANNING AREA

Korogocho is located about 11.1 Kilometres North East of the Central Business District (CBD) of Nairobi, the capital City of Kenya. The study area is accessed via Kamunde Road which branches off Outering Road in the Kariobangi North area and passes through a section of the settlement. The Project area lies at $1^{\circ} 13' 0''$ S, $36^{\circ} 55' 0''$ E at an elevation of ranging from 1514m (4968ft) to 1,603 m (5,262 ft).

The settlement borders Ngomongo Village and the Dandora dump site to the East and the Kariobangi Estate and Gitathuru River to the West. The Nairobi River flows along its western border while the Soko Mjinga Market and a sewer treatment plant mark its southern edge.

MAP 3.1 LOCATION OF THE SETTLEMENT



3.2. ADMINISTRATIVE CONTEXT

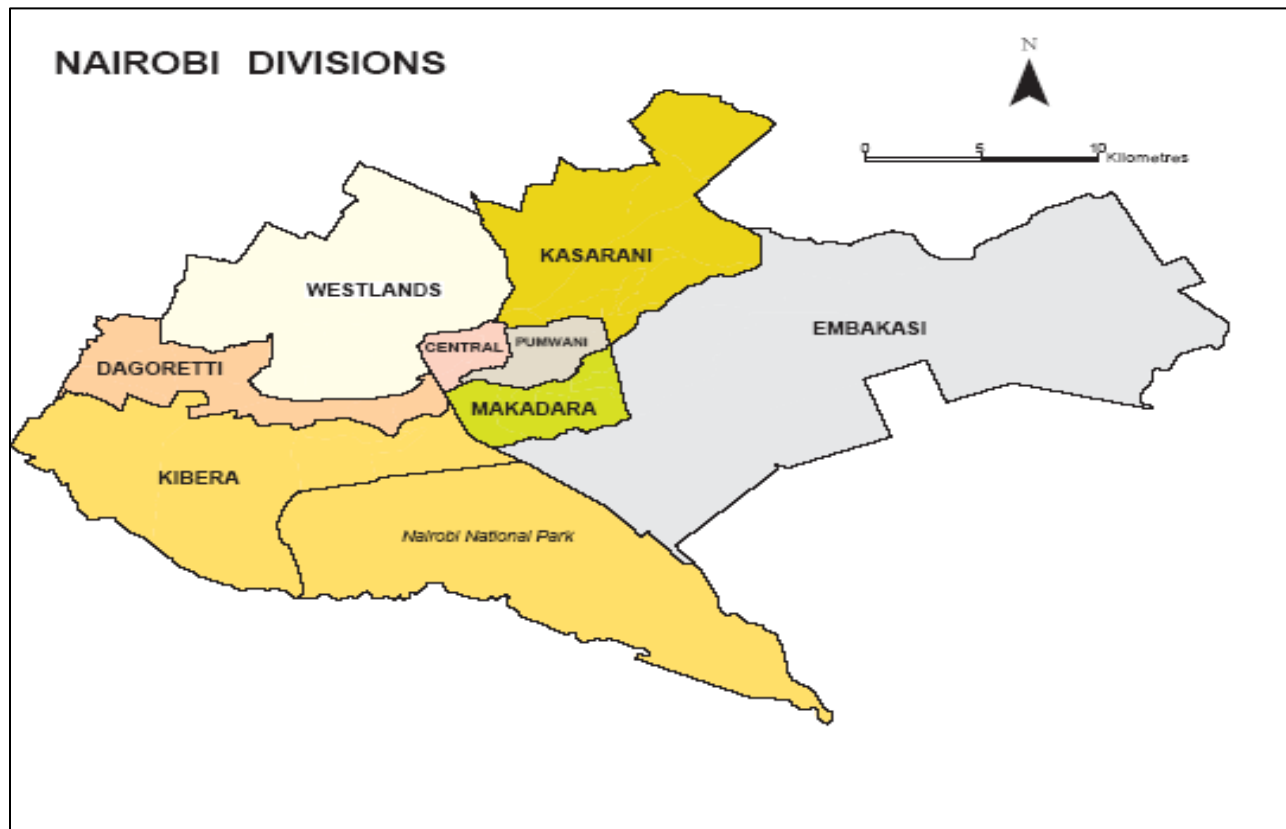
The Korogocho Slum is located in an area that is an administrative unit classified as a Location. This is within Kasarani Division. The Location covers the Planning area, Ngomongo and Ngunyumu areas. The Chief's office is located within the settlement, precisely in Korogocho B village.

The focus of the study is however on the following 3 Sub-Locations:

- Gitathuru Sub-location (covering Gitathuru, Grogan A and Grogan B villages)
- Korogocho Sub-location (covering Highridge and Korogocho B villages)
- Nyayo Sub-location (covering Korogocho A, Kisumu Ndogo and Nyayo villages)

Korogocho is also located within Kasarani Division, which is the northern most Division of Nairobi. It borders Westlands to the West, Pumwani to the South West and Embakasi. The greater neighbourhood has diverse types of developments: it has middle and low-income housing and community facilities. However there has been some level of gentrification with higher income groups moving into the area. This is occasioned by higher rents that push them out of higher rental areas.

MAP 3.2 LOCATION OF KASARANI DIVISION WITHIN NAIROBI



3.3. PHYSICAL SETTING

Korogocho is located on un-alienated government land and it occupies land area of approximately 0.53km². It is divided into eight villages namely Nyayo, Kisumu Ndogo, Korogocho A and B, Grogan A and B, Gitathuru and Highridge. It borders City Council of Nairobi housing estates like Kariobangi North and the Dandora Site and Service Scheme.

Like some other slums in the City the settlement was established on government land of hitherto low economic value. It characteristically lies in an environmentally fragile area near river flood plains between Gitathuru and Nairobi Rivers. These are also prone to flooding during the rainy season.

Secondly, some of its areas are located on derelict quarries forming steep cliffs, posing a danger to the inhabitants and on which nothing of economic value can be done. The Planning area also falls adjacent to an active dump-site which is an eye sore and a health hazard especially in terms of smoke pollution.

These factors form the unique locational characteristics of Korogocho.

The total population of Korogocho is estimated at 34,152 people with a total of 10,581 households. This gives an average household size of about 3 people.

An enumeration report was also prepared for the Village which used data collected door to door and was therefore considered more accurate. The enumerated population per village is as follows:

TABLE 4.1: POPULATION PER VILLAGE

Village	Population size	Total households
Kisumu Ndogo	4,841	1459
Grogan A	2,752	856
Grogan B	2,456	832
Korogocho A	4,472	2357
Korogocho B	3,411	1175
Highridge	8,638	1536
Nyayo	2,593	853
Gitathuru	4,989	1513
Total	34,152	10,581

MAP 3.3 GOOGLE IMAGE SHOWING LOCATION OF THE SITE



3.4. DELINEATION OF PLANNING AREA

The Planning area measures about 0.5Km² and consists of eight (8) villages. These include Grogan 'A' and 'B', Korogocho 'A' and 'B', Highridge, Gitathuru, Nyayo and Kisumu Ndogo Villages. Since origin, the settlement was differentiated along Villages. Every Village has distinct characteristics. As a result, the design of the layout was influenced by existing village boundaries. This focus on the Villages has helped the consultants achieve clarity in plan presentations and has improved the implementability of the plan.

3.5. VILLAGES WITHIN THE SETTLEMENT

The following are the eight villages falling within the project area with a summarized description:

3.5.1. NYAYO VILLAGE

Nyayo is the smallest village and occupies an area of approximately 14.36% of Korogocho. It is also one of the villages with relatively more spatial order. The structures are quite small and with many under multiple ownership. There is mix of residential and commercial structures but predominantly residential.

Most of the structures within this Village are separated by 2.5m lanes/walkways. The Village has 222 structures accommodating 7.59% of the total settlement population.

3.5.2. KISUMU NDOGO VILLAGE

The Village is located between Nyayo and Korogocho 'B'. The Village has 4,841 people representing about 14% of the total population. The Village has the lowest crime order and greater social order.

3.5.3. KOROGOCHO A

This is the fourth largest Village occupying 12.64% of the land. It has 446 structures and represents 13% of the people population in Korogocho. There is mix of residential and commercial structures but are mainly of residential character. Most houses have mud walls with corrugated iron sheet roofs. There are open drains that also act as liquid waste drainages.

3.5.4. KOROGOCHO 'B'

The village measuring 0.076Km² was established in February of 1978. It is the third largest Village with 259 structures. It is currently occupied by 3,411 people, about 9.98% of the total population. It is together with Highridge more orderly laid out.

3.5.5. GITATHURU

Gitathuru Village is named after the nearby Gitathuru river. Currently the village has about 4,989 residents. It is the second most populous/largest Village. It has a

predominance of small structures in a disordered pattern. Gitathuru has the most serious security problems.

3.5.6. GROGAN A

Grogan A was established by residents who earlier settled along the banks of river Nairobi City where people used to dwell but in 1975 they were moved to Huruma kwa chief and later they were taken to Korogocho.

3.5.7. GROGAN B

Grogan B has the smallest structures in the entire village. a key feature is the high voltage power lines running across the village which pose a major planning challenge. Its area is approximately 5.73 Ha. The Village has also high crime rate most similar to Gitathuru.

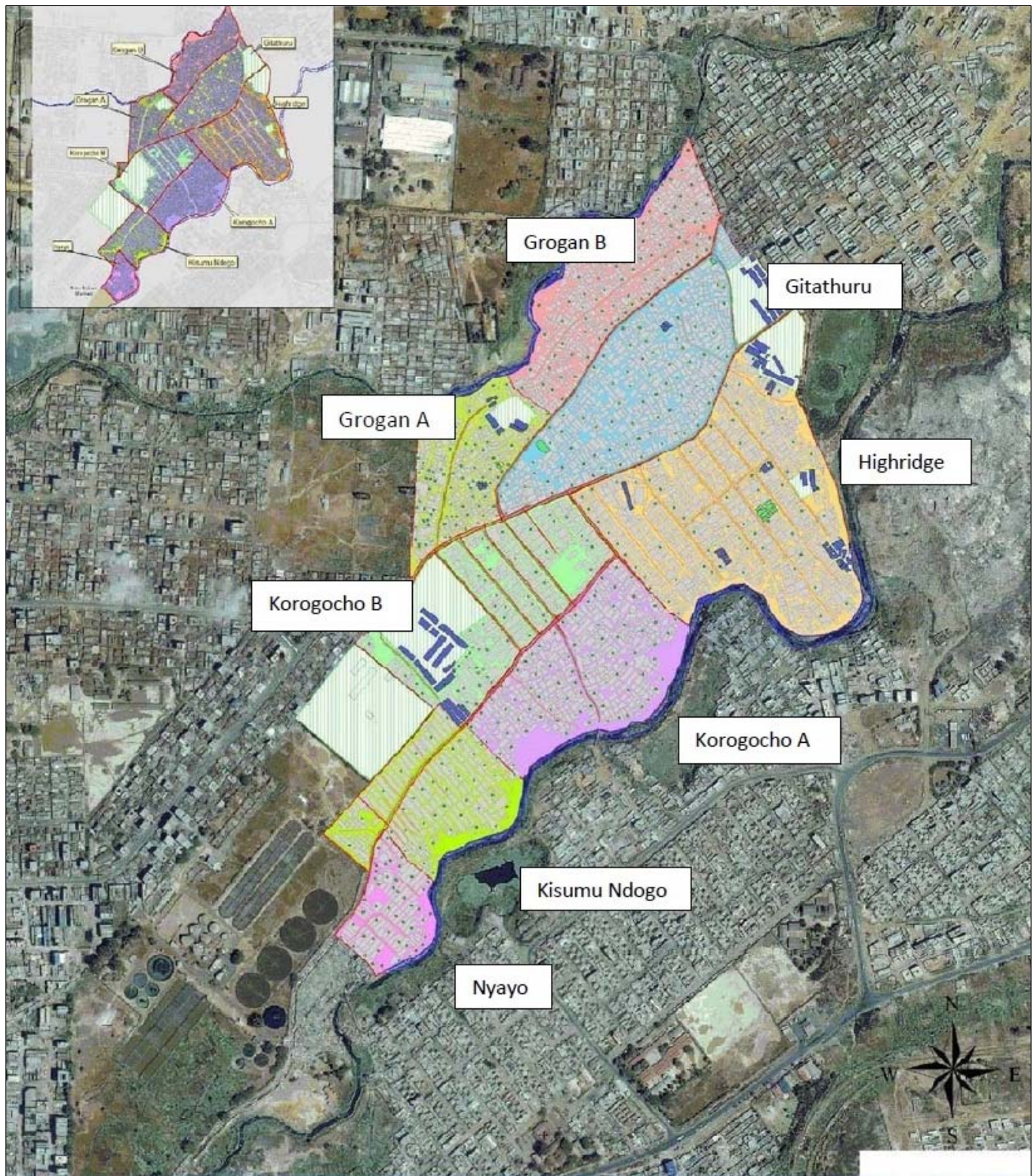
3.5.8. HIGHRIDGE

Established in 1977 the Village name was borrowed from the current day Highridge, an estate in Muthaiga Suburb. The first inhabitants came from Highridge.

The Village is the largest and occupies 24% of the land. It has a population of 8,638 people representing 25% of the population. Highridge is the most well planned village with its layout said to have been guided by City Council of Nairobi officers.

The location of the various villages within the settlement is shown below.

MAP 3.4: VILLAGES WITHIN THE SETTLEMENT



Chapter 4 METHODOLOGY

4.1. INTRODUCTION

Since the inception of the Korogocho Slum Upgrading Programme, many milestones have been achieved. These include the Community Mobilization Strategy, which gave rise to the election of a Residents' Committee.

Infrastructure improvement is also at an advanced stage as the construction of a footbridge was completed, works on the roads have begun as well as the construction of a Health facility. Four major roads were proposed and earmarked for improvement during the first phase of the Slum Upgrading Programme by the Department of Urban Development in the Office of the Deputy Prime Minister and Ministry of Local Government.

A third component of the Korogocho Slum Upgrading Programme is the preparation of a Physical Integrated Development Plan which will guide the provision of secure land tenure. The process of preparation of the plan was directed by guidelines stipulated by the Physical Planning Act, Cap 286 and the Local Government Act, Cap 265.

Various institutions already established were brought on board the planning process as follows:

i. Residents' Committee

Community Mobilization Strategy has achieved major milestones including the election of a 50-members committee of representative from all the Villages within Korogocho with the area Chief and Councillor being Ex-Officials. Six people represent each of the 8 villages as follows:

1. 1 village elder
2. 2 structure owners
3. 1 youth representative
4. 1 women's representative
5. 1 tenant representative

The full list of the community representatives is as follows:

TABLE 4.1: LIST OF RESIDENTS' COMMITTEE

No.	Name	Village represented
1	Hussein Adan	Highridge
2	Joseph Gatha	Korogocho A
3	Faith Wambui	Grogan B
4	Ali Okelo	Highridge
5	Eunice Wanjiku	Highridge
6	Peter Kinyanjui	Chairman, RC

7	Isa K. Adan	Grogan A
8	Joshua Matheka	Grogan B
9	Khadija Juma	Highridge
10	Peris Anyango	Nyayo
11	Bernard Odera	Nyayo
12	Eunice Njoki	Korogocho B
13	Sophia A. Mmbasu	Nyayo
14	Maxmilla Waithera	Grogan A
15	Isaac Njoroge	Gitathuru
16	Halima Dima	High Ridge
17	Mohammed Hassan	Korogocho A
18	Hassan Ibrahim	Korogocho A
19	Martin N. Okumi	Gitathuru
20	John Gikuru	Nyayo
21	Samuel Njoroge	Korogocho B
22	Ahmed Mohamed	Gitathuru
23	Paul Ochieng	Kisumu Ndogo
24	Odhiambo Achieng	Grogan B
25	Pastor Idaki Peter	Korogocho B
26	Opio Odinga	Nyayo
27	Issa Kabren	Grogan A
28	Paul Mutugi Kiria	Korogocho B
29	Nancy Wangari	Korogocho B
30	Tom Ouma	Kisumu Ndogo
31	Beatrice Njeri	Kisumu Ndogo
32	Susan Wairimu	Gitathuru
33	Anastasia Njambi	Gitathuru
34	James Maina	Grogan A
35	Alice Wambui Maina	Grogan A
36	Harrison Kutai	Kisumu Ndogo
37	Harrison Gichiri	Nyayo
38	Francis Muchina	Korogocho A
39	Josphat Mwangi	Grogan B
40	John Kamande	Grogan B
41	Lucy Muthoni	Korogocho A
42	Mary Nyambura	Korogocho A
43	Peter Mburu	Highridge
44	Hussein Racho	Gitathuru
45	Nyagah Kamau	Gitathuru
46	Nyabuto Omashe	Chief
47	John Githua	Kisumu Ndogo

48	John Odera	Nyayo
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The group was broad enough and was formally designated together with the **Interagency Technical Working Group** as the main representative of stakeholders in the process.

ii. Interagency Technical Working Group (ITWG)

The process was guided at every step by the ITWG, which met regularly to ensure the project stayed on course and milestones were achieved in time. The ITWG was made up of the UN Habitat Technical Advisor, Representatives from the Nairobi City Planning Department, ODPM/MoLG/UDD, National Environment Management Authority (NEMA) and the Ministry of Land with Departments of Physical Planning and Commissioner of lands.

4.2. THE PLANNING PROCESS

The major highlights in the planning process constituted the following;

4.2.1. ISSUE OF NOTICE OF INTENTION TO PLAN

In accordance with The Physical Planning Act, the Notice of intention to plan was published in February 2009. The aim was to inform the public about the Planning exercise. The notice measuring 13 x 8.2 cm was sizeable and very conspicuous sufficient enough for the intended purpose. A copy of the notice of intention to plan is attached in the annex.

The notice of intention to plan was also placed on the public notice board at the Residents Committee Office located at the Korogocho chief camp.

A copy of the Notice is shown as **Annex 1**.

4.2.2. PROJECT COMMENCEMENT

The commencement of the Planning exercise was marked by the signing of the contract by the consultants on 15th August, 2011 at the UN Habitat Offices in Gigiri. Present during the signing were the consultants, Professor J. M Kiamba, Mr. Henry M. Mwau and Mrs. Asiepet O. Maina, while Mr. Roi Chiti, the Project's Technical Advisor witnessed the signing.

Further, an ITWG Meeting was held at the offices of the Director of Urban Development Department to formally flag off the process. The meeting was attended by all project's partners.

4.2.3. INITIAL KEY STAKEHOLDER CONSULTATIVE MEETING

This involved a visit on 2nd August, 2011 by the consultants to the project area for a meeting with key governmental and community stakeholders including, UN Habitat. Attendants included the area Chief, the UNHabitat Technical Advisor Mr. Roi Chiti, the Project Manager Mr. Kenneth Nyaseda, Mr. Ambwere planner from the Ministry of Local

Government, Mr. Kaburu from Commissioner of Lands, Ms. Mugo, from the Department of Physical Planning and the entire Residents' Committee (RC). The main aim of the meeting was to familiarize the consultants with the RC and to inform them of the commencement of the planning exercise.

The key stakeholders agreed on a memorandum that would outline the agreeable time frames and the various actions to be undertaken by all stakeholders. The purpose of the understanding was to ensure the planning process would be undertaken within the agreed timeframe. The meeting was held at the Residents Committee Office in Korogocho and it was chaired by Mr. Peter Kinyanjui, the Chairman of RC. The Consultants were then taken on a guided tour of the settlement.

Overall aims of the meeting:

- Bring all stakeholders together;
- Introduce the consultant's planning team to the stakeholders;
- Sensitize stakeholders on the aims and objectives of the project;
- Establish stakeholder networks for preparation of the plan;
- Reconfirm acceptance of the project;
- Fulfill the requirements of the Physical planning Act in addressing the need for participatory planning;
- Sensitize the stakeholders on the expected project outputs;
- Seek the stakeholders' views on the project and its objectives.

4.2.4. RECONNAISSANCE VISIT

The Consultants took a reconnaissance visit to the study area to acquire familiarity with the area and its residents. This was undertaken on 15th August, 2011 and the observations collected were used to inform the preparation of the inception report which was to follow.

The main consultants' team composed of Mr. Henry M. Mwau as the team leader, Professor J. M. Kiamba and Mrs. Asiepet O. Maina, then established a broader planning team consisting of the following:

- 1) Maina M. Onguso
- 2) Willy G. Gitau
- 3) Munira Ally Jadeed
- 4) Viola Akoth
- 5) Wambui R. Gichuru
- 6) John Mwendwa
- 7) Anthony T. Muraguri

The planning team took a transect walk survey of the settlement visiting the main thoroughfares.

4.2.5. STUDY OF SURVEY REPORTS

Since the Korogocho Slum Upgrading Korogocho had been underway for more than two years, extensive work had already been done. The outputs from this work included the prepared base maps, the socio-economic survey and the enumeration report. These sources were reviewed and enabled the Planning team to get sound understanding of the existing situation.

4.2.6. THE DRAFT INCEPTION REPORT

The preparation of the inception report marked one of the initial processes and the consultants' first input into the preparation of the plan. It helped develop a common understanding regarding the aim and expected deliverables of the Planning exercise at an early stage. Summarily, the report was a representation of the Consultant's interpretation of the project brief and approach to the assignment in line with the project Terms of Reference. After consultations with various interest groups, desk studies and a preliminary site visit, the consultants prepared and delivered the inception report.

4.2.7. EVALUATION OF THE INCEPTION REPORT

The draft report was released to the ITWG on Monday, 5th September after which it was subject to a validation process. The validation meeting was held on 16th September at 10:00 am at Cianda House.

Present for the validations were the following:

15. Mr. Roi Chiti	Technical Advisor, UN Habitat (Chairing)
16. Mr. Isaac K. Mungania	Surveyor, MOLG, UDD
17. Mr. Jackson Kago	KIDDP Representative
18. Mr. Kenneth Nyaseda	Planner, MOLG, UDD
19. Mr. Daniel K. Sakwa	Surveyor, MOLG, UDD
20. Ms. Eunice Ipamba	Programme Assistant, MOLG
21. Mr. Ngwala Tom	Representative, Director of City Planning, City Council of Nairobi
22. Professor Johnstone Kiamba	Consultant
23. Mr. Henry M. Mwau	Consultant
24. Ms. Viola Okoth	Planning Team
25. Mrs. Asiepet O. Maina	Consultant (Taking minutes)

The final version of the inception report, incorporating ITWG comments was submitted on 10th October, 2011.

4.2.8. VALIDATION OF SURVEYS

Validation of Surveys involved the validation of the baseline data prior to the commencement of the plan drafting process. The data validated included the Socio-Economic Survey, earlier prepared by a team of consultants hired by the Government of Kenya and UN HABITAT, the findings of the Enumeration survey conducted in the area and the primary data collected by the consultants including the land use surveys. The validation of the socio-economic survey gave it credence as the source document for information on the Korogocho Project area and hence formed a sound basis for preparation of the draft proposals.

4.2.9. VISIT TO DIRECTOR OF CITY PLANNING, CITY COUNCIL OF NAIROBI

The consultants and the ITWG members met the Director of City Planning, City Council of Nairobi. The meeting took place on Wednesday 12th October, 2011. The aim of the meeting was to brief the Director on the Korogocho Slum Upgrading Project and specifically the Physical Planning exercise going on. Present during the meeting were the Director of City Planning Mr. Tom Odongo, Mr. Roi Chiti, the Technical Advisor, Ruth Waruguru, the Assistant Director, Forward Planning Department, the Consultants Mr. H. M. Mwau, Prof. J. M. Kiamba and Mrs. Asiepet O. Maina, Mrs. Anne Mugo (MoL/PPD), Mr. Jackson Kago for KIDDP, Mr. Kenneth Nyaseda (MOLG/UDD), Mr. Ngwala and Planning Team member Mr. Malitinus Onguso.

At the meeting, the planning team gave a brief on the project's goals and objectives as well as the projects achievements at the time. The Director was agreeable to the process and said that interventions to tackle slum formation are highly necessitated and the only effective way is to create synergies at the government and local authority level with partners like UN-Habitat, in order to address the issue in an integrated manner. He praised it as a timely initiative that would also serve as the pilot for other such initiatives. The Director was given informative material on the project including the Korogocho Planning inception report.

4.2.10. PREPARATION OF DRAFT PLAN

The draft proposals were completed on 30th October, 2011 and forwarded to the client. A workshop was then organized and held on 24th -27th October, 2011 at the KWS Training Institute in Naivasha to discuss the proposals with the ITWG.

The proposals formulated covered various aspects of the project including the tenure system of the area. Issues that came up and were addressed during the plan preparation process included Road Sizes, Road frontages, Plot sizes, Sizes of dwelling units, Building set backs/Building Lines, Development Density, Zoning Regulations, Riparian areas, Way leaves, Implementation (settlement re-organization strategy), Environmental Concerns and Sanitation Facilities among others.

The consultants had proposed layouts that retained the existing structures with minimal shifting. This option focused on provision for roads with alternatives of 12m roads and 9m roads while retaining the status quo. The consultants were advised to prepare a second alternative planning option for the settlement considering an equal minimum plot size of 10x10m.

The second option was presented to the ITWG at a workshop held on 18th November, 2011 at the Blue-post hotel facility at Thika.

4.2.11.DRAFT PLAN STAKEHOLDERS' WORKSHOP

Having been recommended by the ITWG, the improved drafts were then presented in a stakeholder sensitization workshop, held on the 14th and 15th December, 2011 in Naivasha at the KWS Training Institute.

The objective of the workshop was to present the planning proposals to the Residents Committee. This was in order to obtain their validation and additional views so as to have the prior to formulation of the final plan. Alternative planning options were presented.

The overall resolutions of the workshop were as follows:

- Plan designs are to adopt villages as the basic design unit;
- Minimum plot size to be 100m² across all villages;
- Both Individual and grouped titles acceptable;
- Minimum road of access to be 9 meters (suggested by the City Planning Department);
- Plots along the major 18m road to allow shops;
- Majority of the plots to be residential in order to accommodate the highest number of residents. Existing consolidated institutions to be maintained (schools, churches, clinics administrative etc);
- Riparian area to be up to the highest watermark (considered acceptable by NEMA, represented by DEO Ms. Catherine Thaithi);
- Structures on the way leaves and riparian will be relocated;
- On the issue of alternative land, the plan will be a basis to advocate for extra land;
- Korogocho stakeholders also agreed to take initiative of sourcing funds to provide extra land for the foreseen spill over;
- The plan should consider maximum accommodation of tenants across all villages as alternative land is sought for the village deficits;
- Chief's office to be maintained;
- A site plan to be prepared for Korogocho Chief's camp, to provide for the chiefs office and other existent or planned public facilities;
- Daniel Comboni field is to remain and become the Korogocho Stadium;

4.2.12. PREPARATION OF THE FINAL PLAN

The final plan proposals took into consideration the previous draft proposals, the stakeholder views and the resolutions of the draft plan stakeholders' workshop. This included the re-planning of the settlement by dividing it into plots of equal size.

4.2.13. FINAL STAKEHOLDERS' WORKSHOP

The final stakeholders' workshop was held from 20th and 21st February 2012 at the KWS Training Institute in Naivasha. The workshop was the final stakeholder consultation workshop before drafting of the final plans and subsequent presentation to the community and the relevant government agencies for recommendations or approval. The workshop was attended by a total of 61 stakeholders consisting of the community representatives, government agencies and the UN Habitat.

PLATE 4.1 STAKEHOLDERS FOLLOW PROCEEDINGS AT THE FINAL STAKEHOLDERS' WORKSHOP



4.2.14.FINALIZATION OF THE PLAN

The finalization of the plan entailed incorporating final planning proposals recommended by the stakeholders. This also entailed finalizing the layout plans and planning report to meet prescribed planning requirements.

It is expected that on completion of the final plan, the plan preparation process will generally come to an end and pave way to the approval process. The consultants will, at this stage, hand over the remaining processes to the relevant government agencies.

4.2.15.PRESENTATION OF PLAN TO TOWN PLANNING COMMITTEE, CITY COUNCIL OF NAIROBI

On completion, the plan is presented to the Director of City Planning of the City Council of Nairobi for recommendation.

4.2.16.PRESENTATION OF PLAN TO FULL COUNCIL, CITY COUNCIL OF NAIROBI

On recommendation of the Town Planning Committee, the plan is presented to a Full Council Meeting for resolution and adoption.

4.2.17.PRESENTATION OF PLAN TO OFFICE OF THE DEPUTY PRIME MINISTER AND MINISTRY OF LOCAL GOVERNMENT

The plan will then be forwarded to the Ministry of Local Government for certification.

4.2.18.PRESENTATION OF PLAN TO DIRECTOR OF PHYSICAL PLANNING

The plan will then forwarded for certification to ensure that the plan has undergone through all the prescribed processes and publishing.

4.2.19.PRESENTATION OF PLAN TO DIRECTOR OF PHYSICAL PLANNING

The Director of Physical Planning by the authority of the Physical Planning Act approves all Physical Development Plans in the country. It is imperative that the plan be presented to him for approval.

4.2.20.PRESENTATION OF PLAN TO MINISTER OF LANDS FOR APPROVAL

After the plan gets the endorsement of the Director of Physical Planning it will be presented to the Minister of Lands for final approval and gazetment.

4.2.21.PLAN IMPLEMENTATION

Once all necessary approvals have been obtained the plan will be handed back to the client for implementation. The operationalization of the plan will be the responsibility various actors as listed in the implementation strategy.

4.2.22.PLOT ALLOCATIONS

Once approved, the City Council in liaison with the Office of the Deputy Prime Minister and Ministry of Local Government, Director of Physical Planning and the Commissioner of Lands will establish a **land allocation committee (LAC)**. The **LAC** will formally allocate the land to the various beneficiaries after further negotiations involving the community and all stakeholders.

4.2.23.FORWARDING OF PLAN TO THE MINISTER FOR LOCAL GOVERNMENT

Once complete, the list of beneficiaries will then be forwarded to the Minister for Local Government.

4.2.24.FORWARDING TO COMMISSIONER OF LANDS

The Minister for Local Government will then advise the Commissioner of Lands who in line with existing statutes start the preparation of allotment letters. The allotments will specify development conditions and payments that will be required from each allottee for formal acceptance and payment. Upon payment of the necessary dues, the conditions specified on the allotment letters will form the basis for drawing a lease agreement for the plots.

4.2.25.SURVEY

Surveys will be then completed and new Land Reference numbers for each plot forwarded by the director of surveys to the commissioner of lands.

4.2.26.REGISTRATION

The Commissioner of Lands will then prepare leases to the allottees based on the conditions agreed.

PART II: SITUATIONAL ANALYSIS

Chapter 5 HOUSING AND SETTLEMENT DYNAMICS

5.1. INTRODUCTION

Residential is the principle land use in Korogocho. The estate provides low-income housing for residents of the settlement. They work mostly as casual labourers in neighboring areas like Lunga Lunga, Kariobangi Light Industries, Ruaraka and Baba Dogo, where industries and other formal establishments are located. Others are running petty businesses in the area, while some are also engaged in illegal activities.

5.2. ORGANIZATION OF THE STRUCTURES

Some linear spatial arrangement of structures is discernible in several Villages including Nyayo, Kisumu Ndogo, Korogocho 'B' and Highridge. Some areas display a complete lack of spatial order such as Gitathuru, Grogan 'A' and 'B'.

In the other villages, the individual housing units are closely packed together with no discernible pattern. Some of the units are separated by as little as 60cm wide space just enough for people to pass through stooping to avoid the iron sheet roofs. These are separated in some areas by open drainage channels, which are used as rubbish dumps. These minimal spaces between structures made it difficult to create accesses. The table below shows the average spacing between structures in the different Villages.

TABLE 5.1. CURRENT STRUCTURE SPACING PER VILLAGE

VILLAGE	STRUCTURE SPACING (in metres)
Nyayo	Between 0.5 and 1.0
Kisumu Ndogo	Between 1.5 and 2.0
Korogocho A	Between 1.0 and 2.2
Korogocho B	Between 0.5 and 1.5
Highridge	Between 0.5 and 1.0
Gitathuru	Between 0.2 and 3.0
Grogan A	Between 0.2 and 2.0
Grogan B	Between 0.1 and 2.0

The spacing between the structures is very poor and does not meet the building code requirements. The minimum recommended spacing between buildings is given at 1.2m. Villages like Grogan 'B' have as little as 0.1m in between structures. Spacing in Kisumu Ndogo is about 1.5m and the most 2m. Most of the other Villages including Gitathuru, Grogan 'A', Highridge, Korogocho 'B' and Nyayo have minimum spacing ranging from 0.2m to 0.5m. Gitathuru however has a maximum spacing of up to 3m, a great feat given that it's one of the Villages with the least order.

5.3. STRUCTURE SIZE

There are 3,268 structures within the Korogocho settlement. The majority of these structures are own constructed. The structures vary in size ranging from less than 30m² to sizes greater than 400m². The structure sizes are indicated in the table below:

TABLE 5.2: EXISTING STRUCTURE SIZES PER VILLAGE

STRUCTURE SIZES	Highridge	KA	KB	Grogan A	Grogan B	Nyayo	Kisumu Ndogo	Gitathuru	TOTAL	%
> 400 m ²	5	0	3	1	0	1	0	2	12	0.3%
= 300 m ²	9	0	4	0	0	4	1	3	21	0.6%
100-200 m ²	241	93	139	1	8	17	124	57	680	20%
80-100 m ²	75	66	19	22	19	9	40	72	322	10%
50-80m ²	116	166	54	77	81	55	43	226	818	22%
30-50m ²	30	97	33	165	224	129	35	197	910	26.8%
< 30m ²	14	52	59	113	226	7	6	124	602	19.8%
Others	41	38	76	-	-	-	2	-	163	4.9%
TOTAL	532	446	259	393	558	222	250	608	3268	

The existent structures are shared by more than one household. Only 0.3% of the structures meet the minimum City Council plot size of 450m² indicated by the zoning plan, while 0.9% of the structures are above 200m². Structures that fall within the proposed minimum plot size of 100m² are about 25.2% of all the structures. Most of the smaller structures are under residential use while the bigger structures are mainly institutional such as schools.

Most of the smaller structures are in Grogan 'B' Village, Gitathuru and Grogan 'A'. The largest structure sizes are found in Highridge, which is relatively better spatially organized.

5.4. OWNERSHIP OF STRUCTURES

The housing development consists of a total of 3,268 structures. About 1,582, 48% of the structures within Korogocho are owner constructed and occupied. Non-residing owners are 2,278 owning about 1806 structures representing about 52% of all the structures. Some of these landlords live in the nearby estates of Dandora and Kariobangi.

The settlement has a total of 8606 tenant households, representing about 81.33% of the entire Korogocho population.

Many of the structures in Nyayo Village have multiple ownership. Some structures are owned by up to four people. The dwellings are constructed back-to-back contravening the Physical Planning Act, which specifically restricts erection of back-to-back dwellings.

The following table shows the number of tenants, and the type of ownership of the structures.

TABLE 5.3: OWNERSHIP OF STRUCTURES PER VILLAGE

Village	Total No. of Structures.	Total No. of Owners	Total No. of Res. Owners	Total No. Of Structures owned by Res. Owners	Total No. of Non-Res. Owners	Total No. of Structures owned by Non-Res. Owners	Total Tenant households
Kisumu Ndogo	250	377	102	81	272	200	1352
Grogan A	393	533	214	174	286	219	627
Grogan B	558	681	393	307	285	254	462
Korogocho A	446	659	359	231	295	215	1192
Korogocho B	259	299	133	122	165	138	1039
Highridge	532	616	278	240	333	304	2068
Nyayo	222	390	90	68	298	192	766
Gitathuru	608	788	430	359	344	284	1100
Total	3268	4343	1999	1582	2278	1806	8606

5.5. BUILDING MATERIALS

Most of the structures within the settlement are made of temporary materials such as iron sheets and mud. Mud (46%) is the main material used for the construction of walls while a significant number are constructed out of iron sheets (38%). The latter do not provide adequate protection from the adverse weather and if poorly prepared mud can be a health risk. Very few buildings (8%) have their walls made of dressed natural stone.

Most of the floors in the buildings within Korogocho are earthen accounting for 55% of all the structures. According to the Socio-economic survey, structures with cement floors are about 44% of all the structures.

The main roofing material, accounting for almost 100% of the units, is corrugated iron-sheets. This is evident from aerial images of the settlement.

PLATE 5.1: A TYPICAL HOUSING STRUCTURE IN KOROGOCHO

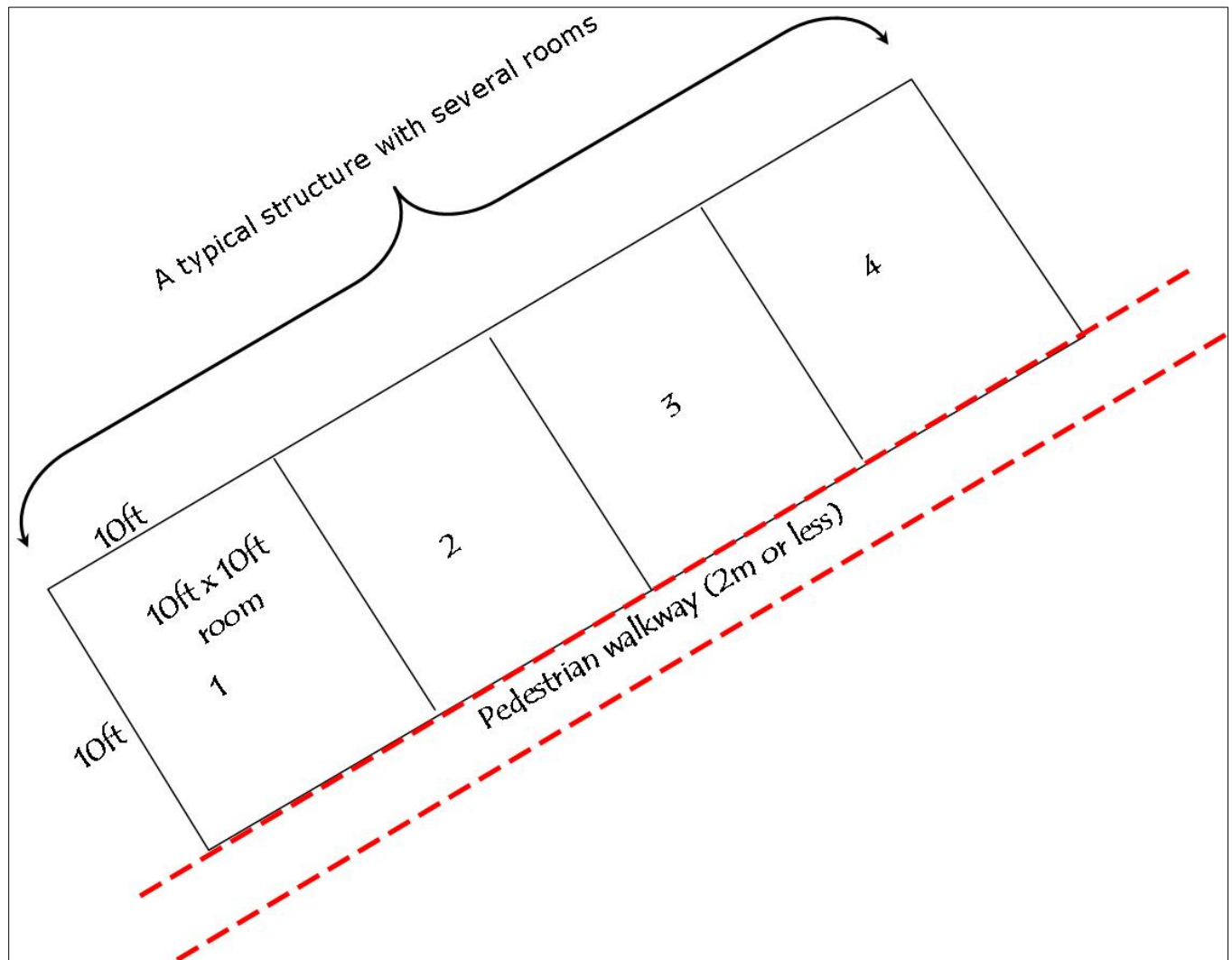


The above picture shows a typical housing unit in the Korogocho area. Note the open drains running alongside and fronting the structure.

5.6. ROOM SIZE AND OCCUPANCY OF STRUCTURES

Most of the housing units are single roomed. These units are occupied by households of varying sizes with each holding up to an average of 3 people. Only 26% and 9% of the households occupy 2 rooms and 3 rooms respectively. The individual rooms are small with the typical size being 10 by 10 feet often constructed in varying multiples.

FIG 5.1.: TYPICAL LAYOUT STRUCTURE LAYOUT



5.7. PRESENT AND FUTURE HOUSING NEED

The total population of Korogocho is estimated at 34,152 people. With an average household size of 4, housing stock required works out about 8, 538. Further projected population for 2030 the Vision Period for Kenya using the Population growth rate of the City of Nairobi of 4.1% (CBS, 2009) is 79,411 persons. This increase will be triggered by natural growth and in-migration into the settlement. Therefore the projected housing stock required for Korogocho by 2030 is about 19,852 houses.

5.8. OTHER INFORMAL SETTLEMENTS

The whole Kasarani Division has a proliferation of settlements with similar characteristics to Korogocho. These include Mathare, Mugure, Gathecha, Ngomongo and Glu Cola among numerous others. The settlements have inadequate provision for sanitation facilities, high population density. Open drainage channels are common and prone to flooding. Limited electricity supply, limited access roads and poor waste disposal system are all common features.

Mathare is located about 2.5Km to the West of Korogocho. Mathare lies downstream of River Gitathuru. It occupies land belonging to the Government of Kenya under the City Council of Nairobi. Initially a quarry site, part of this land, has been occupied by the Catholic Church and some wealthy individuals for development. 60% of the residents are adults. The structures, numbering about 5000, are similar to Korogocho and other such settlements mainly made of iron sheets. Alike, to Korogocho, most structures have about 3 rooms measuring 10 by 10 sq feet, mainly residential. The majority of the structure owners and their families reside within the settlement.

Ngomongo, also known as Jathaini, borders Korogocho to the North. It occupies land area measuring 80 acres.

The population is estimated at about 6000 occupying 270 structures. Some of the structures have up to 15, 10 by 10 ft rooms, while some structure owners have permanent houses. Majority of the resident populations are tenants. Common building materials are iron sheets, timber and mud.

5.9. RESIDENTIAL NEIGHBOURHOODS

The dominant type of land use in the neighbourhood is residential use. These are housing estates such as Kariobangi North, Kariobangi South, Dandora Estates, Huruma, Civil Servants Estate and Baba Dogo among others. Kariobangi estate is a City Council of Nairobi Housing Development consisting of a residential neighbourhood of self contained two-bed roomed houses with schools, clinics, religious facilities and commercial areas. The main housing typologies in the City Council area are bungalows. However nearer to the main roads, are to be found high-rise flats.

Kariobangi North is straddled by Outering Road to the West and Kamunde Road to the north. The Estate lies on the Western Boundary of the Planning area. The houses in this estate are varied in design and range from the flats, and maisonnettes - including the famous red brick and timber houses (owned by the Nairobi city Council) - to the privately owned bungalows.

Baba Dogo is located about a Kilometer north of Korogocho. It is a mixed use neighborhood with low income residential housing co-existing with heavy industrial activities.

Dandora, which lies adjacent to the Planning area is an expansive Estate divided into five phases. It was developed as a City Council of Nairobi site and service scheme. The common housing is high-rise flats. The scheme was designed with space for public institutions and commercial activities. The main dumping site for the City of Nairobi is located within this area.

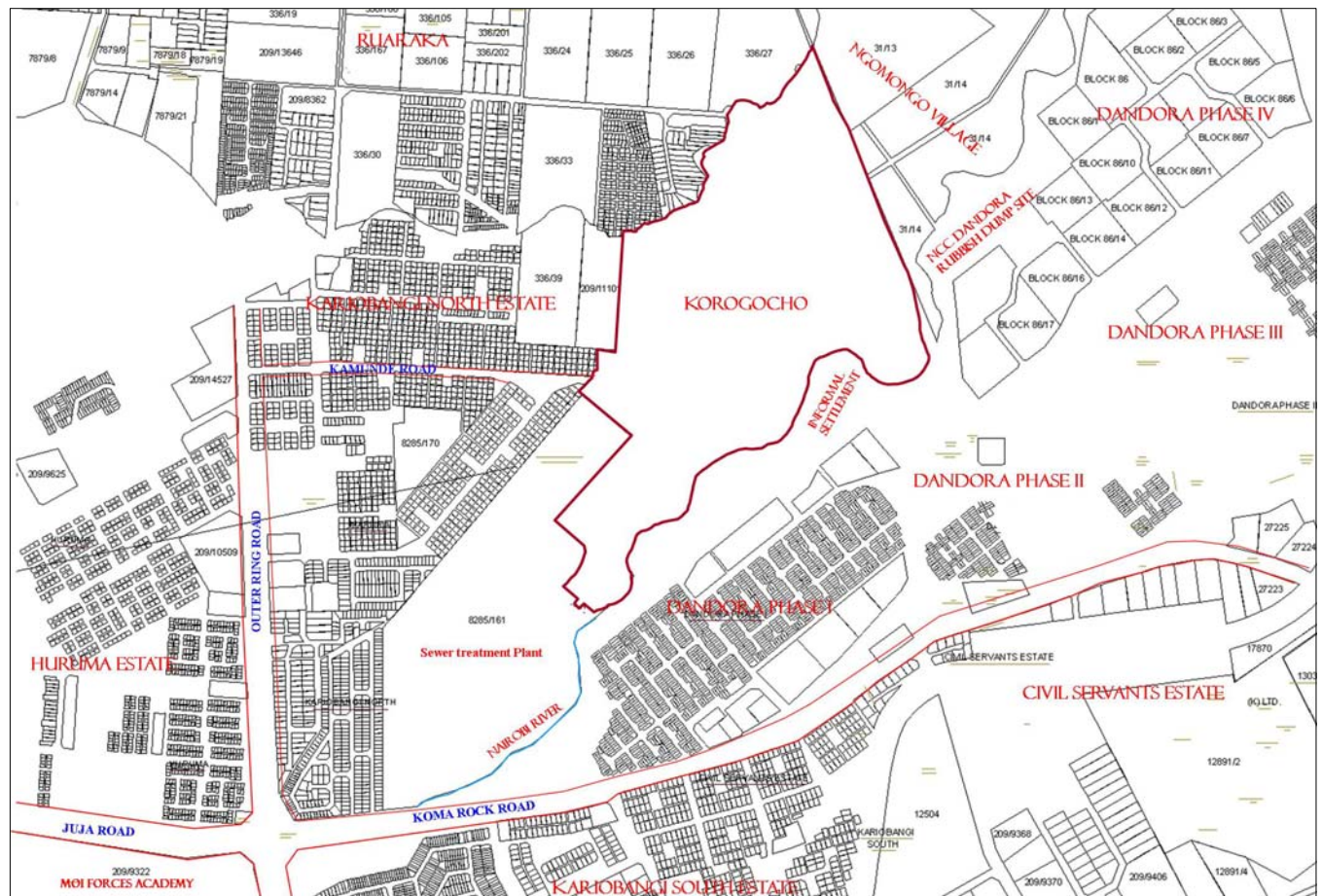
Kariobangi South and Civil Servants Estates are located adjacent to each other and accessible via Outering road. This is about 1Km South of Korogocho along Mutarakwa Road. These are also Estates that were sold off as Tenant Purchase Schemes. Kariobangi South has mixed housing including maisonnettes and flats. Civil Servants Estate on the other hand self contains row houses.

Huruma is located about 1Km West of Korogocho. It is an extensive Residential Estate located to the West of Outering Road bordered to the North by Juja Road, by Kariobangi and Dandora to the East, Moi Air Base to the south, Mathare to the North and to the West. The Estate has a variety of amenities including schools, health and religious centres.

5.10. EMERGING ISSUES

- Majority of the residents are tenants
- Tenants are segregated into short term and long term tenants
- Long term tenants: have stayed in settlement more than 10 years
- Residential use is the dominant land use
- Poor housing most of which is temporary low quality building materials
- Some of the Villages in the settlement show some level of spatial organization while others have haphazard layouts

MAP 4.1.: KOROGOCHO IN ITS IMMEDIATE NEIGHBOURHOOD CONTEXT



Chapter 6 ECONOMY

6.1. INTRODUCTION

Economic activities in Korogocho are both formal and informal with a heavy leaning towards informal activities. Formal activities have not had the opportunity to have a foray into the settlement due, among other things, to insecurity of land tenure and presence of illegal gangs.

6.1.1 FUNCTIONS OF COMMERCIAL CENTERS

The commercial areas in the settlement serve mainly basic functions including provision of household goods. Businesses in Korogocho include: Retail shops, Butchery, Food outlets (Hotels), Bars, Kerosene outlets, Water vendors, Salon/Barber shops and Cereals outlets.

The neighborhood of the Planning area is commercially vibrant with many commercial and shopping nodes including Kia Maiko and Kariobangi Market among others.

6.2. HIERARCHY OF COMMERCIAL ACTIVITIES

6.2.1. UN-ORGANIZED SHOPPING STREETS

The Planning area has shops and 'hotels' along the major roads where foodstuffs and other small household goods are sold. Also, a number of shops are operated within the estate to cater for the basic needs of the residents.

Within the Huruma area vibrant commercial activity is found in the Huruma Corner area where stalls are located along the road while others hawk their wares in the open air. Kia Michael a famous slaughterhouse is also located off Huruma Road near the Huruma Corner area.

6.2.2. FRUIT AND VEGETABLE MARKET

The major commercial activity in the vicinity of Korogocho area is the adjacent "Soko Mjinga" Market. It is located just outside the planning area to the south west and along Outering Road in the Kariobangi area bordering the City Council Market.

The Market occupies a significant area of land and serves not only Korogocho but also the surrounding Dandora, Kariobangi North and Huruma Estates among others. This Market is located at the Southern edge of the Settlement and is served by Market Road, which opens out onto Komarock Road.

6.2.3. OUTERING ROAD

Outering road forms a major commercial spine especially in the area between Kamunde Road and the Juja Road-Outering Road Roundabout.

There is a concentration of commercial establishments serving clientele from as far out as Kariobangi North to Ruaraka and Huruma Estates. The major developments here include Banks like Equity and Co-Operative Bank of Kenya, Hardware and dry goods wholesalers. Garages and other automotive businesses are also concentrated in the area, which serves as a parking lot for trucks.

Other commercial enterprises along this important road include Industrial developments like Alpha Paints, Service Stations like Kenol and Shell Petrol Service Stations.

6.2.4. FORMAL MARKETS

Run by the City Council of Nairobi, these are closed in stalls offering services and products as diverse as hair dressing and dress making to sale of dry foods like cereals. There are about three such formal markets within the Dandora Estate and one in Kariobangi North and Kariobangi South. There are numerous shops and kiosks in the area located conveniently near residential areas.

6.2.5. INDUSTRIES

DISTRIBUTION OF INDUSTRIES

Most of these activities are petty and located along the main circulation spines for maximum visibility and for ease of access by the customers. Activities like welding and repair require electricity and this is found along the main roads.

The Kariobangi Light Industries are located at the Juja Road-Outering Road roundabout and extend Southwards and eastwards along Outering Road and Komarock roads respectively. These produce various commodities including shoes, wines and spirits.

Heavy Industrial activities are located in the Baba Dogo-Ruaraka area. The major establishments include Kenafric Industries, PZ Cussons, Insta Pumps Group, East African Breweries and Central Glass Industries among others.

TYPE OF INDUSTRIES

The Industrial activities within Korogocho can only be described as light industrial as they consist of “Jua Kali” activities employing one or few people. Artisans are involved in such activities as welding, bicycle repair shops, shoe repairs.

6.3. EMPLOYMENT

6.3.1. SOURCES OF EMPLOYMENT

The residents don't have access to the formal labour market due to poor levels of education, lack of professional skills and physical distance to the main sources of employment. These make them economically vulnerable leading to unstable jobs and

low salaries. Most people work as casual labourers within the city especially in the Industrial areas like Baba Dogo, Kariobangi Light Industries and in the Lunga Lunga area.

More over, the neighboring estates cannot be considered up market hence do not offer significant avenues for employment for the residents.

A few of the residents rear domestic animals such as pigs, goats and chicken. This is common as a way of supplementing livelihoods.

Several residents rely on the neighboring Dandora dumpsite for their daily needs. Some street urchins have set up an area near Highridge where they sort out these items from the dumpsite for resale.

Other income generating activities are garbage recycling, washing clothes, emptying latrines, roadside cooking.

The following are the main sources of income for the residents of Korogocho

TABLE 6.1 SOURCES OF INCOME

Source of Income	% of residents
Business	49
Wage/employment	42
Rental	2
Other	4

From the S.E. Survey 2009

6.3.2. LEVELS OF INCOME

According to the Socio-economic survey (Dec. 2009), the average household income is around Kshs. 7,300 (91.25USD) per month.

6.4. EMERGING ISSUES

- Insecurity
- Lack of capital
- Poor roads
- Lack of electricity
- High costs of transport

Chapter 7 EDUCATION

7.1. INTRODUCTION

The population in Korogocho stands at 34,152 residents. Therefore there should be 13 nursery schools, 10 nursery-primary schools and 4 secondary schools according to the physical planning handbook. Schools in Korogocho include Korogocho High School, Daniel Comboni Primary School, Glory Primary School, Ngunyumu Primary School and Maranatha Primary School among others.

TABLE 7.1.: DISTRIBUTION OF SCHOOLS PER VILLAGE IN KOROGOCHO

Village	Population	No. Of nursery sch.	No. Of nursery- primary sch.	No. Of secondary sch.
Nyayo	2593	0	1	0
Kisumu Ndogo	4841	0	4	0
Korogocho A	4472	0	0	0
Korogocho B	3411	0	5	0
Highridge	8638	0	5	2
Gitathuru	4989	0	1	0
Grogan A	2752	1	1	1
Grogan B	2456	3	0	0
Total	34152	4	17	3

7.2. NEIGHBOURHOOD PROVISION

At least each of the Estates in the neighborhood has a primary and nursery school. These are all located within a radius of 3Km from Korogocho and hence are accessible to its residents. Primary Schools within Huruma include Daima, Salama, Huruma and Ndururuno among others while Secondary Schools include Ndururuno, Huruma Girls', Moi Forces Academy, which is not in Huruma but located opposite Ndururuno along Juja Road.

Primary Schools in Dandora include Dandora Primary, James Gichuru, Tom Mboya, Wangu and Ronald Ngala among others while Secondary Schools include Dandora Secondary School in Phase II and Good Shepherd Secondary located in Phase III.

In Kariobangi South there is Dr. Mwenje Secondary School and Kariobangi South Primary School both run by the City Council.

Schools in Kariobangi North include Marura Primary and Kariobangi North Primary School.

A major Tertiary Training College in the neighbourhood is the Kenya School of Monetary Studies located in the Mathare North area, which borders Huruma to the North.

7.3. EMERGING ISSUES

1. There are two public primary schools in the settlement
2. Numerous non-formal schools run by FBOs and CBOs
3. Preference for private schools by the residents
4. High level of congestion in the schools
5. Poor structures
6. Only 18.2% of schools have electricity
7. High School drop out rates
8. Competing expenditures between school needs for children and other household needs

Chapter 8 COMMUNITY AND PUBLIC FACILITIES

8.1. INTRODUCTION

Many of the community facilities available consist of churches and mosques, the chief's office and health facilities.

8.2. HEALTH FACILITIES

The dilapidated environment coupled with poor sanitation, limited access to safe drinking water, congestion and poor housing conditions are precursor for numerous health problems for the inhabitants. This is worsened by scarce availability and accessibility of health facilities and low quality of health services.

There are only two government-run health facilities in the settlement. Others are seven FBOs-run facilities and six clinics supported by community funds. Most of these facilities are in poor state and lacking in basic amenities.

There are many chemists and clinics in Korogocho but are not equipped enough or prescribe medication. According to the Soci-Economic Survey, Dec.2009, the main health facilities include Tumaini Clinic, Provide International, Makwak and the Korogocho B City Council Hospital.

Tumaini Clinic is cited as the most important as it offers various services including Maternity Services. Majority of the inhabitants use this facility, which is located in Highridge. The Health facility occupies an area of about 0.0694 hectares against a requirement of 1.21ha per Health Centre.

Other Health facilities include the Kariobangi Catholic Church Health Centre and Catholic Dispensary, which lies slightly outside the planning area. The Vision Health Centre and Provide International offer lower level services like out patient care up to prescription and provision of medication.

Health facilities in the neighborhood include Huruma Nursing Home and Dandora Health Centre in the Dandora Phase I area. A City Council Health Centre known as Kariobangi North Centre is found in the Kariobangi North area. All these are located within a radius of 3Km of Korogocho and are thus accessible.

Community Organizations working within Korogocho include Provide International, Maji Safi, Light and Hope, Crisis Centre, Nyayo Kenya Network of Women with AIDS (KENWA) among numerous others.

8.3. RELIGIOUS INSTITUTIONS

Korogocho has many religious institutions including churches, mosques and Faith Based establishments like Children Homes. Churches within the neighborhood include Redeemed Gospel Church, St. John's Catholic Church, and All Nations Church. There are also several mosques with a major one in the Highridge area.

Children Homes in the neighbourhood include Missionaries of Charity Theresa Home in the Huruma area run by the Catholic Church. A landmark church is the Kariobangi Catholic Church located just after the Outering Road-Kamunde Road Junction while Dandora North PCEA is located a little further along the road.

The Huruma Mosque at the Junction of Huruma Road and Outering Road is also a landmark with a mosque and a primary and secondary school.

Dandora Catholic Church attached to Dandora Primary School is found in the Dandora area.

It is therefore evident that the neighbourhood has adequate supply of religious facilities though their condition is often questionable.

8.4. GOVERNMENT AGENCIES

The main Government representation within Korogocho is at the Chief's Camp in Korogocho 'A'. The compound has among other facilities, the Resident's Committee Offices, the Dispensary, Radio Koch FM and the church. The Villagers employ the Police Station within Ngomongo Village outside the Planning area.

These include Police Stations one of which is the Ngomongo Police Station. A Police Post is found at the Huruma John Saga area.

The Provincial Administration in the area is represented by the Chief's Office in Huruma and the location Chief in Korogocho.

8.5. EMERGING ISSUES

- Insufficient provision for health facilities
- Lack of a Police Station
- High levels of insecurity exhibited by robberies and mugging
- Prevalence of gangs fighting for control of lucrative areas
- Perceived indifference of security organs to the security problems

Chapter 9 INFRASTRUCTURE AND UTILITIES

9.1. INTRODUCTION

The neighbourhood is fairly well developed and hence most essential infrastructure and services are available. The services and facilities include water, roads, electricity, sewer and telephone lines among others.

9.2. TRANSPORT

9.2.1. ROAD NETWORK

Korogocho has a current main road network of about 4.8 km (4,825.46m) consisting of 2.7Km of tarmac roads with the rest being a mix of graveled and earth roads for a total of 2.1Km. All the roads within the settlement are un-surveyed and therefore have no formally defined widths. Access into the site is mainly via Kamunde Road breaks off from the major Outering road and runs through the Kariobangi North area.

There are 4 major roads in Korogocho. There is a 12 meter wide main road between Gitathuru and GroganA and B which joins another 15 meter wide main road that's runs between Highridge and Gitathuru to Korogocho B. There is another 18 meter wide main road between Highridge and Korogocho A. Finally, there is 18 meter wide main road from Highridge to Nyayo village. The major roads length and future tarmacking costs are indicated in the table below:

TABLE 9.1. MAJOR ROADS SIZE AND LENGTH

Major Roads	Length (Km)
12 meter	0.898
15 meter	0.916
18 meter	0.112
18 meter	0.796

Many parts of the settlement have no access roads. Residents access their houses along 1 or 2m wide paths. Over 30% of the structures have no access to the above main roads.

9.2.2. INTERLINKAGE WITH EXISTING NEIGHBOURHOOD NETWORK

The neighborhood is comprised of a network of local distributors and internal access roads most of which were tarmacked. The main circulation spines in the area are Juja Road, Outering Road and Komarock Road. Outering Road joins Kenya's main airport - the Jomo Kenyatta International Airport to the Thika Highway - via the GSU roundabout on the North.

The existing road system is interlinked and serves a wider area up to and including the Central Business District. The roads in the area link to other major roads including Jogoo Road and the Thika Super Highway.

9.2.3. EXISTING TRAFFIC SYSTEM

MOTOR TRAFFIC

The area experiences heavy motor traffic from public service vehicles circulating to and from the City centre. It increases during rush hours in the mornings and evenings. Outering Road and Juja Road especially have heavy traffic through out the day, which peaks during early morning and evenings.

PEDESTRIAN TRAFFIC

This is the main mode of transport within the Korogocho Villages. It is however not adequately catered for. Currently the site is crisscrossed with dirt pedestrian paths, which become muddy and impassable during the rainy season and dusty when it's dry.

Provision for pedestrian traffic is not adequately catered for on all the main roads including Outering Road, Juja Road and Komarock Road.

PUBLIC TRANSPORT

There are no Public transport facilities within the Korogocho settlement. The residents use the modes that ply routes along Outering Road, Komarock Road and Juja Road.

These are the same routes serving the neighboring Estates. These include No. 46, 48, 32, and 14 to the CBD. Number 17 and 28 serve part of Outering Road originating from Umoja Estate, then onto Juja Road, then First Avenue in Eastleigh then to Gikomba Market.

Route 48 originates from Dandora, then onto Outering Road towards Thika Road where the destination is the Central Business District.

The area residents therefore have a wide array of routes to pick from as all of the vehicles can be boarded at the Outering Road-Juja Road roundabout.

9.3. ENERGY AND COMMUNICATION

9.3.1. ENERGY

Electric lines are found along the main thoroughfares including Bunyore Road and Baridi Lane. Some of the structures are connected although connections to the larger settlement are few. Connections to residential units are limited with many individual connections being to commercial users including shops and light industrial activities like welding businesses. It is important to note that most of these connections are illegal.

The common energy used for lighting in the households is kerosene lamps used by 52% of the residents, followed by electricity and candlelight used by 32% and 11% of the residents respectively. This is according to the Socio-economic Survey - December 2009, which further states that the one Village with the most households connected to electricity is Highridge.

Electricity from the national grid is available in the neighborhood along the major access roads. The supply is regular and adequate to support the prevailing activities.

9.3.2. OTHER SOURCES OF ENERGY

Two Biogas facilities are found in Grogan B Village. They occupy a total area of 300Sqm. They are located at sanitation points complete with ablution facilities (toilets and bathrooms), community water point and a public office available for use by any community members. These services are at an affordable fee.

These facilities are run by the youth of Grogan B to better their lives. Although the sanitation facilities are operating, the biogas facility is not fully operational because of lack of funding for maintenance.

9.3.3. COMMUNICATION

There are no landline telephone services in the settlement. Most of the residents use cell phones.

9.4. EMERGING ISSUES

- There is inadequate provision for access serving the uses especially the institutions and service provision facilities which have higher need for the same
- Illegal power connections
- Most of the existing roads are dirt roads
- No adequate infrastructure for the pedestrians that constitute the overwhelming majority
- Few motor-able routes
- Insecurity due to difficulty in policing areas without roads like Gitathuru Village
- Illegal power connections also leading to frequent accidents

Chapter 10 WATER AND SANITATION

10.1. WATER SUPPLY

Water and sanitation is one of the major problems in the area. Majority of the residents don't have access to piped water within the structures. Many have to travel more than 100m to access the commodity. The socio-economic survey revealed that 94% of the residents of Korogocho buy water and that they spend on average Kshs 18.50 per day on water.

The Korogocho Slum Upgrading Programme in conjunction with the Athi Water Services Board (AWSB) set-up tanks in every village of Korogocho as a short-term measure to address acute water shortage in the area, while awaiting preparation of a water and sanitation reticulation master plan for Korogocho.

The neighboring areas are served by an existing water supply from the Nairobi Water and Sewerage Company. The main trunk line for this also passes across the settlement though structures are constructed over some parts.

The following map shows the location of water points in the various Villages. There are a total of 45 water points in the settlement. From the map, Gitathuru has the highest number of water points at 13 while Korogocho B has the lowest number with 3 water points.

MAP 10.1EXISTING WATER AND SANITATION POINTS

10.2. LIQUID WASTE DISPOSAL

10.2.1. SEWER

Despite being adjacent to a sewage treatment plant, the settlement does not have sewage disposal services. The system sidestepped the settlement to connect to neighbouring areas including Dandora and Korogocho Estates.

The neighbouring formal estates are connected to the Nairobi City Council sewer system. The pipes generally run along the road reserve to serve each plot and connect to the main Nairobi City Council sewer line. A section of this trunk sewer line runs through Grogan 'A' Village.

10.2.2. PIT LATRINES

Although this is the main method of liquid waste disposal only 38% of the households have a private pit latrine. They include communal, community paying and private latrines. The Community paying latrine is the least used mean as only 12% of the residents make use of it. Overall, the latrine Construction ratio is lower than the number of both households and structures.

10.2.3. EXHAUSTER SERVICES/SEPTIC TANKS

The Community facilities use septic tanks and exhauster services for the disposal of their liquid waste, which in many cases ends up in the rivers.

10.2.4. FLYING TOILETS

The disposal of wastes through polythene papers thrown in the open, known as flying toilets, is still common. The disposing off of these toilets into the rivers is widely practiced. This is especially rampant in the night where perceived insecurity prevents the residents from using the latrines, which are located outside.

10.3. SOLID WASTE DISPOSAL

Garbage is dumped all over the village, piling up into hills. Sometimes garbage blocks roads and drainage systems. Solid waste is disposed off by individuals and CBOs on payment of a small fee. These services provided are however termed as unsatisfactory. The settlement has over 10 garbage dumps of various sizes spread throughout the estate.

There is also a recycling area in the Highridge Village between the perimeter fencing and Nairobi River. Here Street urchins collect all sorts of garbage and sort it out for various uses.

PLATE 10.1: WASTE DISPOSAL ALONG ALLEY

Solid waste disposal services are provided by the Nairobi City Council and private solid waste disposal companies within the immediate neighborhood.

10.4. STORM WATER DRAINAGE

Drains within the site are located along the main roads and in between structures. Most of these drains are not paved and are in bad state. They are used for dumping of waste including household and human waste. In fact some pit latrines are built over drains.

Storm water drains are provided along the internal access roads. Many of these drains are paved while yet others have underground connection to the City Council of Nairobi drainage system.

10.5. EMERGING ISSUES

- The settlement lacks a conventional sewer system
- Liquid waste disposal is also a nuisance for it runs adjacent to the exiting open drains;
- Open drains also act as liquid waste drainage areas
- Liquid waste sometimes runs onto pedestrian pathways
- Pit latrines built over open drains

Chapter 11 RECREATION

11.1. PLAY GROUNDS AND STADIA

Sports facilities in the neighbourhood include the Moi International Sports Centre in Kasarani a Stadium of world renown. Another Stadium is found in the Dandora Phase II area.

11.2. RIPARIAN AREA

The Korogocho settlement is located between two Rivers namely Gitathuru and Nairobi Rivers. The riparian area is not clearly defined and encroachment is rampant. However 9% of the land falls within the highest watermark as defined by the Water Resources Management Authority (WRMA). The riparian land is encroached by over 137 structures spread in the villages as shown below.

TABLE 11.1: STRUCTURES ENCROACHING THE RIPARIAN LAND

VILLAGE	No. of Structures	% of Total Structures
HIGHRIDGE	31	1%
KISUMU NDOGO	19	0.6%
GROGAN B	34	1%
KOROGOCHO A	15	0.5%
NYAYO	23	0.7%
GROGAN A	15	0.5%
TOTAL	137	4%

Gitathuru and Korogocho 'B' do not have such structures since they have no riparian frontage.

11.3. EMERGING ISSUES

- Encroachment to the riparian reserve
- % of land subject to flooding
- The steep slopes towards the river valleys especially Gitathuru River experience a high level of erosion in its banks;
- High potential of riparian reserve to compensate the deficit of public spaces

PART II: PROPOSALS

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Chapter 12 PLANNING ALTERNATIVES

12.1. INTRODUCTION

The key underlying objective of the plan preparation is the need to provide a framework for secure land tenure to the residents. To this aim various planning alternatives were considered.

12.2. DESIGN OPTIONS

It was noted at the onset that Korogocho grew as distinct Villages. In designing the plan therefore, the consultants focused on the villages as the basic design units. The justification is that each of the Village has unique characteristics from the rest.

12.2.1.OPTION 1: IMPROVEMENT OF EXISTING SITUATION (EXISTING PLOTS)

This option considered retaining existing developments but only providing roads of access to the existing structures. Each structure would eventually retain most of their occupied area. The option attempted to retain as many structures as possible. Roads would then be created in between the existing structures.

FIG 12.1: SECTION OF GITATHURU SHOWING THIS OPTION



ADVANTAGES:

- Each structure to retain current size with minimal reduction arising from roads and other services.
- Most structures to retain their original locations.
- Minimal movement of residents.

DISADVANTAGES:

- Some existing structures size too small to be viable.
- Poor roads network and difficult/expensive to lay down water and sanitation as well as power-line reticulation.
- The option doesn't avail the creation of additional plots (otherwise created through a rationalization of the layout)

12.2.2.OPTION 2: RE-PLANNING (STANDARD PLOT SIZE)

This option considered re-planning the entire village and providing standard plots of 100m². Structures with areas in excess of 100m² would be reduced to plots of 100m² only, while those with smaller areas would be grouped in order to reach the standard measure.

This is the option preferred by the community with pros and cons as follows:

ADVANTAGES:

Reducing large structures and regularizing the layout, provides opportunity for:

- a) Equality
- b) Creation of additional plots
- c) Public facilities network improved.
- d) Provides opportunity for better layout design.

DISADVANTAGES:

- Adversity affects large structure size owners.
- Considerable movement of households.
- Groups owners with structures size below 80m².

The following diagram illustrates this option

FIG 12.2.: SECTION OF KOROGOCHO 'A' RE-PLANNING OPTION (STANDARD PLOT SIZE)



12.2.3.OPTION 3: RE-PLANNING (EXISTING STRUCTURE SIZE)

This option entails consideration to re-plan the villages afresh and allocate plots equal or nearly equal to existing structures sizes after proportionate reductions arising from provision of land for roads and other facilities.

ADVANTAGES:

- Well designed layout.
- Each person to individual Titles.
- Minimal individual losses in terms of size.

DISADVANTAGES:

- Many plots sizes would be too small.
- Providing adequate access roads to the many small plots would dramatically increase land allocation to roads and other structures.

FIG. 12.3.: PORTION OF HIGHRIDGE ILLUSTRATION OPTION 3

12.2.4.OPTION 4: PUBLIC HOUSING FUNDED SCHEME

This option involved considering a systematic demolition and construction of a high rise public housing funded scheme. Structure owners and tenants would then be allocated complete units.

ADVANTAGES:

- High developments would create many units to the many residents.
- Equality: all residents treated equally
- Would create more orderly housing and facilities.
- Higher density resulting in a lower consumption of soil and rationalization of land resources

DISADVANTAGE:

- Tenure to the beneficiaries, many sell as let and move out to start another slum.
- Would require significant public investment, which is not currently available.

Chapter 13 PLAN PROPOSALS

13.1. INTRODUCTION

The proposed final layout builds on the option preferred by the community which takes into consideration provision of basic services while creating standard sized (100sqm) plots for the residents. Given the need to provide suitable infrastructure and the disorganized nature of some of the villages, it was decided that the entire area be re-planned afresh, and only for those villages exhibiting a more rational layout this will be maintained. This section details out the various proposals for each of the uses that the planning option entails.

The Plan proposals involved the formulation of a land use plan. The plan earmarks use of land for various purposes including Residential, Industrial, Commercial, Recreational, Public purpose and transportation.

Social facilities like health and education are grossly inadequate in the settlement forcing people to commute to nearby developed areas. The settlement is made up of low-income employee living in poor accommodations in village. Several do not live with their families who are left up country due to lack of social and economic facilitations.

Further there is lack of recreational and socio-cultural facilities like parks and playgrounds. This means that the inhabitants of Korogocho though living within the City of Nairobi are unable to enjoy facilities important in leading a decent urban life.

The proposals have therefore been largely influenced by this existing situation as well as considered future needs.

13.2. RESIDENTIAL HOUSING

One of the basic requirements for any settlement is housing. Contrary to popular belief, 'housing' does not only refer to a house as a physical structure, but encompasses all the different elements that constitute a human settlement. Urban environments that display high quality private space, communal space and access to facilities, contribute positively to the living conditions of residents. The physical, social, psychological and cultural environments contribute to the creation of a 'sense of place'. The plan advocates for a high quality living environment that brings about a positive sense of place, which in turn will contribute to high levels of resident satisfaction, ownership and identity.

The plan has proposed a **total of 2067 purely residential plots**. This means that 18,603 households can be accommodated if 9 households would occupy each of the plots, which is a number that incorporates the estimated growth in the medium-long term.

It is also worthy to highlight that the additionally created 317 commercial plots, being commercial/residential will potentially provide additional accommodation for the residential purpose.

13.2.1. AREA REQUIREMENT FOR HOUSING

With the provision of the adequate housing and other physical and social infrastructure in Korogocho, it is assumed that a high proportion of the population will want to stay in the settlement once the plan is implemented. Thus, about 19,852 houses will require to be constructed to accommodate the estimated population growth. The plan has allocated the largest chunk of land to this use. A total of **2067 residential plots** have been proposed each of which will measure about 100m².

This land use will occupy a total land area of 20.89ha taking up **39.64%** of the total available land area.

The table below shows a summary of land allocation for the residential land use across all the Villages.

TABLE 13.1.: SUMMARY OF PROPOSAL FOR RESIDENTIAL USE

Village	No. of Plots	Area (Ha)	Area in %
GROGAN A	143	1.43	34.9
GROGAN B	205	2.05	34.5
GITATHURU	353	3.50	48.03
NYAYO	100	1.00	43.2
KOROGOCHO A	286	2.86	53.42
KOROGOCHO B	216	2.16	25.66
KISUMU NDOGO	227	2.27	47.2
HIGHRIDGE	562	5.62	46.7
TOTAL	2092	20.92	41.70

13.2.2. INVESTMENTS

The cost implications of the proposals under this sector are immense and will include:

1. Processing of leases

2. Cost of obtaining leases
3. Processing of building plans at the City Council of Nairobi,
4. Construction costs .

it is recommended that a type plan be prepared for submission of reduced building plan preparation costs.

13.2.3.RECOMMENDATIONS

The plan has set aside about 2067 plots, purely for residential purposes. This cannot adequately accommodate the projected population. However, the plan proposes for various housing typologies which will vastly increase the carrying capacity of the proposed plots.

The following housing typologies could be considered:

- Detached or freestanding housing
- Attached housing where each unit is joined side by side or one above the other, with a separate outdoor entrance and often a private outdoor space.
- Apartments/flats where several dwelling units share a common (usually indoor) access and area enclosed by a common structural envelope.
- Hybrid housing where two or more forms are mixed.

However considering the uniqueness of the settlement, space constraints, need for cheap affordable housing and building materials, need for incremental development and the large population to be housed, the preferred option is the hybrid combining flats and row houses. This option will constitute of a combination of high-rise apartments and continuous row of housing where internal side walls are shared.

Since the option calls for densification upwards, it allows for open space consisting of front and rear areas, as well as one side of each unit.

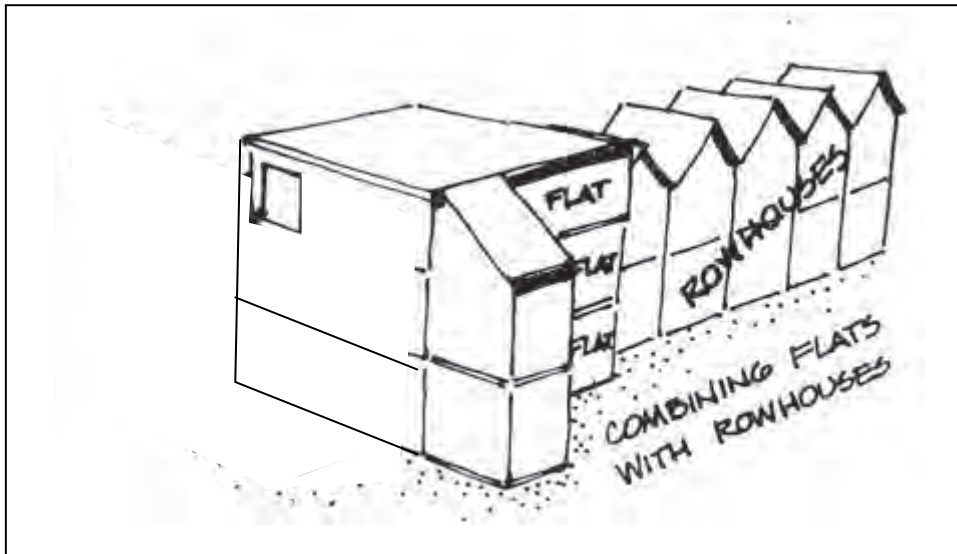
Four storeys are recommended as the upper limit in this option as three flights of stairs is considered the maximum for healthy adults and excessive for children and the elderly. This option will also allow for incremental development of the buildings on floor by floor basis as resources become available.

Row houses are located either parallel or perpendicular to the street and the number of possible arrangements is large. Four units in a row is the minimum in terms of cost efficiency, while more than ten units is too long (Untermann and Small).

This option allows for multiple-storey units, often with commercial and retail uses on the ground floor and street level, creating a vibrant and pedestrian friendly urban environment. This option will be especially useful in the areas zoned as BCR.

The following is an illustration of the preferred option which will deliver the highest possible number of people.

FIG. 13.1 ILLUSTRATION SHOWING PREFERRED HOUSING TYPOLOGY



Given the aspirations of the plan for low cost housing and considering issues like space constraints the following are the highlights of the option:

- Efficient use of land through high-density low/medium-rise construction
- Relatively high levels of privacy
- Potential for shared walls to reduce construction costs
- Conservation of space while providing desirable amenities
- Support to a viable public transport systems
- Allows for cost reduction mass housing technology
- Design allowing for future sub-letting of parts of the housing units

13.2.4.SUMMARY OF PROPOSALS

- Total number of proposed residential plots is 2067
- Recommended Plot Coverage not exceeding 75%
- Hybrid housing typology combining row housing and flats
- Housing typology allows for incremental development and reduced building costs

13.3. COMMERCIAL

13.3.1.PROPOSAL

A total of **317 plots** have been set aside for the residential/commercial land use. These have been proposed along the main thoroughfares. These plots front on to 18m Roads which are more than adequate to serve them. This commercial zone marked red in the layout includes Light Industrial use (see Industrial section below) and Commercial cum Residential use (BCR)

The commercial feature in the settlement is mainly represented by shops and kiosks and is not envisioned to generate significant motorized traffic. For this reason, service lanes have also not been provided for.

Since some of the commercial establishments are BCR type serving a combination of residential and commercial purpose, the plan has adopted the same for the commercial area. In the high rise typology, the residential purpose can be served on the upper floors while retaining the ground floors for commercial use.

The commercial developments proposed potentially contribute to job creation as a **total of 951** business people can be accommodated. This is assuming that each of the plots will hold 3 establishments measuring about 3x3m each. It is assumed that each of these business owners will employ at least one assistant to help in the running of the business. This will bring the total number of jobs created by the commercial area to about 1,902, while allowing the current businesses to continue their activity. Further, the plan proposes for high rise type developments. If the commercial area is developed as high-rise the number of jobs created goes higher with two storey developments yielding 3,804 jobs and so on.

13.3.2.CAPITAL INVESTMENT

Cost implications for these proposals include processing of Building plans at the City Council of Nairobi, cost of obtaining leases, preparation of building plans for approval and construction costs among others.

13.3.3.RECOMMENDATIONS

The types of developments allowed within the proposed commercial area are in line with the proposal for the residential area. This also takes into consideration the BCR nature of some of the developments. As such, it is proposed that high-rise type of buildings be developed. This will be developed in rows to maximize plot coverage and usage.

13.3.4.SUMMARY OF PROPOSALS

- A total of 317 plots set aside for mixed residential/commercial purpose
- A total of 3,804 new jobs envisioned

- BCR type of development allowed
- Multi-storey developments allowed
- Up to 80% Ground Coverage allowed
- Main developments envisioned including shops and kiosks

13.4. INDUSTRIAL

13.4.1. PROPOSAL

A light industrial zone has been provided in the commercial areas marked in red in the accompanying layout plan. This is within the provision of 317 plots for commercial use. The industrial use is expected to take up about 20% of this, taking up about 64 plots.

Light industrial land use is mainly represented by Jua Kali sheds and has been proposed along the principle roads.

Light industry facilities have less environmental impact than those associated with heavy industry. They are therefore compatible with other land uses including commercial and residential alongside which they are located. Allowable uses in the Light Industrial area include clothes and shoes making, welding, and mixing of foodstuffs, among others.

Apart from space constraints, the Location of the Light Industrial zone has also been informed by the fact that the end products of the sector are consumer-oriented. The City Council of Nairobi Zoning regulations permit light industry near residential and other land uses.

Industries play a key role in employment generation. The plots created are expected to generate about 128 additional jobs for establishments located on non high rise buildings.

13.4.2. SUMMARY OF PROPOSALS

- A total of 64 plots set aside for purpose
- A total of 128 new jobs envisioned
- Jua Kali sheds main type of establishments expected
- Multi-storey developments allowed
- Up to 80% Ground Coverage allowed

13.5. RECREATION

Recreational facilities proposed include open spaces, stadia and play grounds.

13.5.1. OPEN SPACES

Not only does public open space provide aesthetic recreation spaces, and important habitats, but it often helps foster ties within communities, helps create an identity and can provide a neutral place where different groups of people can interact. It is proposed that NEMA come in at this point to help in the greening and development of the open spaces as high quality, well thought out multi-functional space, involving the community.

A total of **23 plots** have been set aside for open spaces. It is proposed that through the participation of the community in the design and maintainance of the same, these be developed into public parks. They are distributed through out the villages as follows:

TABLE13.2: DISTRIBUTION OF OPEN SPACES PER VILLAGE

Village	No. of Open Spaces
Korogocho A	1
Korogocho B	2
Nyayo	2
Highridge	1
Kisumu Ndogo	13
Grogan A	2
Grogan B	2
Gitathuru	0

13.5.2. COMMUNITY GROUNDS AND SOCIAL HALL

Community grounds have been proposed in Highridge while a Social Hall has been proposed in Grogan 'A' and Kisumu Ndogo. The social halls can be used for various community gatherings and activities. The Community grounds proposed in the Highridge area measure about 0.1377ha. This area can be used as a play area for children, holding of concerts and sport events for the youth and for general community gatherings.

13.5.3. THE PLAYGROUNDS

Also, playgrounds are to be found within the compounds of existing schools. Ngunyumu School measures about 0.7 ha with a sizeable playground. The plan proposes that these grounds especially within public schools be accessible, when possible and with the due arrangements, to the public. These areas can be used as play areas for children, holding of concerts and football matches for the youth and for general community gatherings.

13.5.4. STADIUM

The playground belonging to Daniel Comboni Primary School has been incorporated into the plan as a community Stadium. The area christened Korogocho Stadium is quite significant in size measuring about 0.81ha. Since a stadium requires much land the existing facility was proposed in the plan mainly due to land constraints elsewhere within the settlement.

However other Stadia exist in the neighbourhood within the reach of the inhabitants of Korogocho. Such facilities include a Stadium in Dandora less than 2Km away and the Moi International Sports Centre, Kasarani. The latter facility is open to the public who are free to use its various amenities including the swimming pool, gymnasium, conference facilities among others.

13.5.5. RIPARIAN AREA

A riparian area/way leave has been provided along both Rivers Nairobi and Gitathuru. In order to guarantee the safety of the residents, this riparian area was delineated up to the highest recorded water mark and found acceptable by Water Resource Management Authority (WRMA) and the National Environmental Management Authority (NEMA) officials.

The plan proposes the beautification of the area and its use as a leisure area for purposes of rest and relaxation. The Riparian area takes up 9% of the total Planning area as follows:

TABLE 13.3: RIPARIAN AREA FOR THE VILLAGES

#	Village	Length	Area occupied (Ha)
1.	Korogocho A	0.4 Km	0.79
2.	Nyayo	0.2 Km	0.35
3.	Highbidge	0.9 Km	17.2
4.	Kisumu Ndogo	0.3 Km	0.63
5.	Grogan A	0.2 Km	0.34

6.	Grogan B	0.5 Km	0.89
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This does not apply to Gitathuru and Korogocho 'B' as they are not located along the rivers.

Also, a 6m path acting as a buffer zone has been proposed between the riparian area and the rest of the settlement.

The plan proposes for the Landscaping and greening of the 4.8 Ha Riparian Reserve.

The plan proposes that the riparian area be rehabilitated and be used as a public park/recreational area. Actions towards this end are proposed as follows:

- Fencing off of the area to prevent encroachment and other illegal activities
- Pegging off the area to mark the high water marks. This will also guide the fencing activities.
- Gazetting of the area as public park to give legal base to the proposals

13.5.6.WAY LEAVES

The Water main cutting through the boundaries of Grogan 'A' and 'B', Gitathuru and Highridge Villages and power way leave in the Grogan B area are proposed as open spaces to be used for recreational purposes. Comprehensive landscaping and greening is also proposed in order to prevent and deter future encroachment as well as better community fruition. This is expected to be a participatory effort carried out by the residents themselves assisted by government agencies like NEMA and KFS.

13.5.7.THE STREET AS PUBLIC SPACE

The existing street system provides linkage for all the recreational areas including the riparian area, the open space/public parks, playgrounds and the stadium.

Further, streets can be temporary closed off for public exhibitions of wares or for talent shows.

Roadside kiosks form important vantage points for informal gatherings; the strengthening of the same could result in a better quality of life adding social-economic benefits to the life of the community.

The internal paths and secondary access will be developed by residents enhancing their value as public/semi public places as well as to promote additional community ownership and sense of belonging in the area. Use of participatory action planning and design tools will be the most apt for the purpose.

13.5.8. CAPITAL INVESTMENT

The costs incurred under recreational purpose are for construction of 9 playgrounds, construction of community grounds and social hall, fencing off of the proposed stadium and processing of the title for the same. Further, funding will be required for pegging off and fencing of the riparian area. Money will also be required for greening and landscaping of the riparian area and the proposed public parks.

The Plan will also allow for community contributions and advocacy tool to mobilize resources for the purpose among donors and development actors.

13.5.9. SUMMARY OF PROPOSALS

- A total of 23 plots set aside for open spaces
- Total riparian reserve of 4.8ha set aside
- The street to be considered as public space for various community uses strengthening the socio-economic connotation
- Land measuring 0.81ha set aside for Stadium adjacent o Daniel Comboni School
- Mechanisms to be worked out for a strengthened community use of public primary schools spaces building on the pilot project developed by UN-Habitat through the "Good School Good Neighborhood" initiative.
- Community halls and Community grounds set aside

13.6. EDUCATION

13.6.1. INTRODUCTION

The plan recognizes the existing educational institutions and has provided for them to retain their present locations. The existing educational institutions have been factored into the plan and form part of the total provision. There are only two public primary schools and numerous informal private schools most of which offer below par services. The current provision for educational purpose is 18.119ha which constitutes about 33.5% of the total planning area.

There are 17 existing schools which will be retained by the plan. Two blocks with 8 plots each in Kisumu Ndogo and Grogan 'B' have been set aside for new primary schools.

13.6.2. NURSERY SCHOOLS

The settlement lacks public Nursery Schools. It is proposed that new Nursery Schools be developed alongside the Primary Schools for ease of administration and management. This is also for more efficient use of resources like Playgrounds and open spaces.

Currently the settlement has 15 Nursery Schools 13 of which are attached to Primary schools while 2 exist independently.

The residents' needs together with the projected population growth suggest to add Nursery schools using some of the additional available plots.

13.6.3.PRIMARY SCHOOLS

There are only two public primary schools in the settlement. The Physical Planning handbook recommends that each proposed primary schools occupy an area of 3.9ha each. The recommended pattern of distribution of primary school is 1 school per 4000 catchment population.

Two blocks with 8 plots each in Kisumu Ndogo and Grogan 'B' have been set aside for new primary schools

The Plan further suggests **"Good School Good Neighbourhood" (GSGN)** project to be accelerated for the two public Primary schools namely Ngunyumu and Daniel Comboni School. The project approach is based on the objective to enable public schools and other public facilities to expand their service provision and public space connotations beyond the conventional reach. This is aimed at transforming the schools into multi-purpose facilities apart from their primary role as centres of learning. This will contribute to the overall development of the community.

13.6.4.SECONDARY SCHOOLS

There is a shortage of Secondary schools as the settlement currently hosts only two such schools against a projected need of 4 facilities. The Villages underserved by the facility include Highridge, Grogan 'B', Kisumu Ndogo, Korogocho 'A' and 'B', Nyayo and Gitathuru.

The proposal retains the two existing high schools in Grogan 'A' and Korogocho 'B'.

The plan proposes an additional four Secondary Schools to be located in Highridge, Gitathuru, Kisumu Ndogo, Grogan B, Korogocho A and Korogocho B Villages. These are expected to occupy an area of 4.5ha each according to the recommendations of the Planning Handbook. Assuming that each school will have an average of four streams, with thirty students each, it is estimated that each school will have an average student population of 480. The schools will serve not only the Korogocho community but also the neighbourhood population.

It is envisioned that both private and public intuitions will come in to run the proposed schools.

13.6.5.TERTIARY INSTITUTIONS

The plan envisages that Commercial Colleges will locate along the main thoroughfares within the area cordoned off for commercial purposes. It is expected that private investors and donors alike will take this opportunity to develop institutions of higher learning for the youth of Korogocho.

The Commercial plots measure about 100sqm each. The plan proposes that highrise typology of development be explored. This will make maximum use of the plots which will hence be able to accommodate the requisite facilities including lecture halls, computer laboratories, administration offices and ablution blocks, among other facilities. A stadium and multiple playgrounds have been proposed in the plan. The stadium is adjacent to Daniel Comboni Primary School while the playgrounds have been proposed in the various primary schools in the settlement. This will be more than sufficient for any recreational activities the students may want to engage in. Further, social halls have been proposed which may be used for graduation ceremonies among other activities.

However, there exist vocational colleges and other institutions of higher learning in the neighbourhood within Kariobangi area, in Mathare North, Ruaraka, and Marurui areas. The Institutions here include prestigious Colleges and Universities including Kenya School of Monetary Studies, United States International University, KCA University. Other accessible Institutions include the University of Nairobi and the Kenyatta University.

13.6.6.CAPITAL INVESTMENT

Costs under this purpose include construction of 9 primary schools and nursery schools, 4 secondary schools, expansion and refurbishment of existing schools like Ngunyumu Primary School, Daniel Comboni and Korogocho High School.

13.6.7.SUMMARY OF PROPOSALS

- A total of 17 educational institutions exist and have been retained
- Two blocks of 8 plots each have been set aside for educational purposes
- Tertiary Institutions proposed in the commercial area
- “Good School Good Neighbourhood” (GSGN) project to be up-scaled
- Existing schools to be retained where they are

13.7. PUBLIC PURPOSE

13.7.1.PROPOSAL

These include Health Services, Administrative Areas, Law and Order, Community centres and religious institutions. A **total of 27 plots** have been set-aside for public purpose in the settlement. Provision has been made for the existing institutions including

Tumaini Health Centre, Legio Maria, Al' Ta' Awoon Center in Highridge, the Chief's Camp in Korogocho 'B'. Further, a mosque has been proposed in Korogocho 'A'.

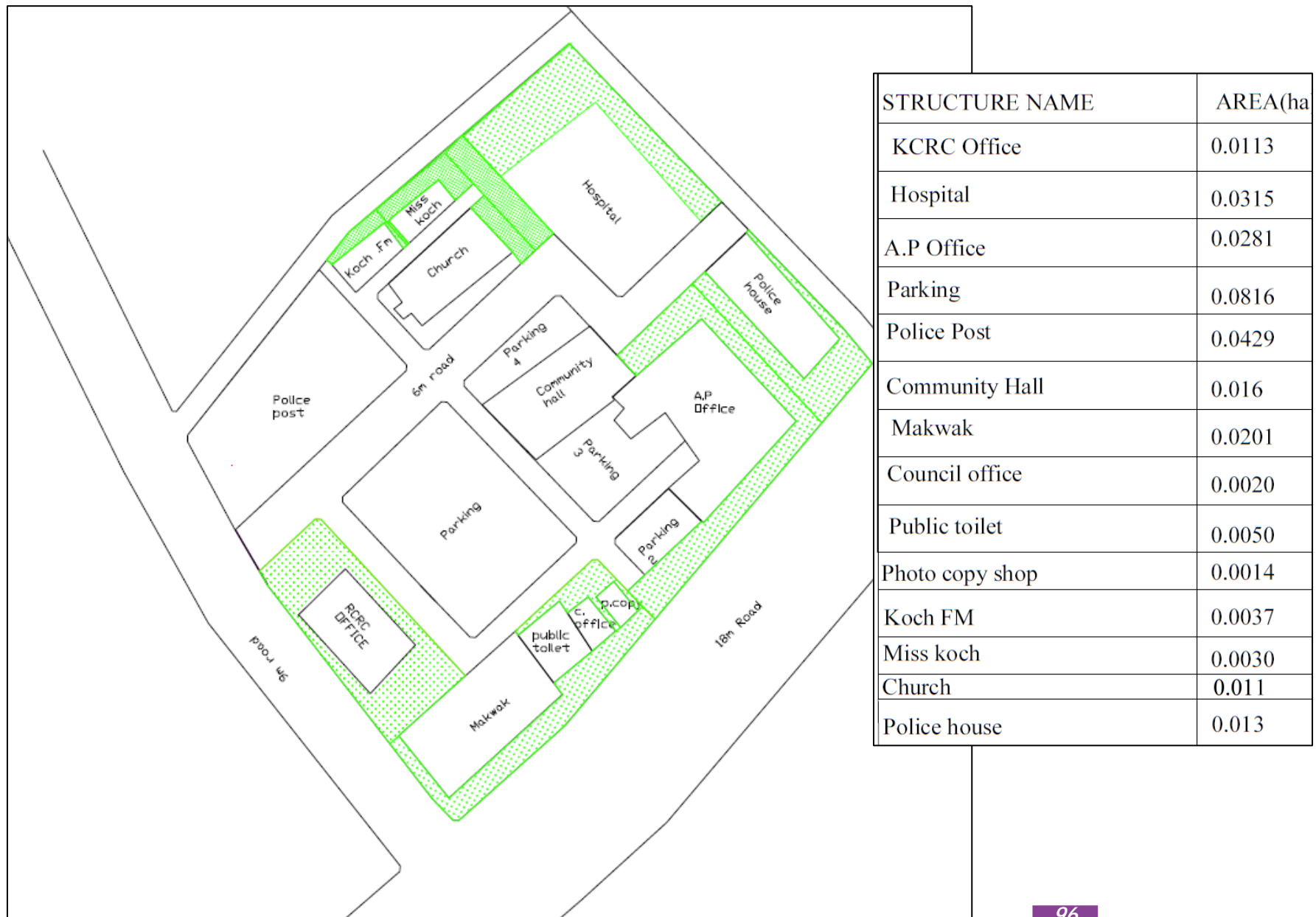
A Police Post covering an area of 0.06ha has been proposed in the Grogan 'B' Village.

The Chief's Camp has been retained in the Korogocho 'B' Village. The Chief's Compound houses other community facilities as the Resident's Committee Offices, the Dispensary, Koch Radio and the church.

The plan also proposes for a Mosque in the Highridge area.

The following is the proposed site layout for the Chief's area arrived at after consultation with the Residents' Committee and Technical Team.

FIG 13.2: THE PROPOSED ADVISORY COMMUNITY CENTRE SITE PLAN



13.7.2.CAPITAL INVESTMENT

Capital investment for this sector will include construction of the Police Station, Construction of new Dispensaries, expansion and refurbishment of existing facilities including Tumaini Health Centre, Provide International and Korogocho 'B' Health Centre (currently under construction).

13.7.3.SUMMARY OF PROPOSALS

- Police Station proposed in Grogan 'B' area
- Existing major health centres to be expanded and refurbished
- Community centre to be located at the current Chief's compound
- Some religious institutions to be retained

13.8. TRANSPORTATION

13.8.1.INTRODUCTION

Transport is considered as being a major issue that requires considerable attention in the settlement. Lack of sufficient accesses and utilities is inhibiting the area's economic development and public amenity. It is seen as being a barrier to the development of the settlement with implications with health and hazards like fire.

The main current transport issues addressed in the plan are as follows:

- Provision of an effective road hierarchy
- Road reserves
- Traffic management
- Pedestrian crossing facilities
- Junction design and layout
- Cycle and pedestrian facilities
- Public transport facilities
- Parking

13.8.2.PROVISION OF AN EFFECTIVE ROAD HIERARCHY

Many parts of the settlement have no access roads. Residents access their houses along 1 or 2m wide paths. Over 30% of the structures have no access to roads.

The current road network is about 4.8 km (4,825.46) of roads. A hierarchy of 18m, 12m and 9m roads been proposed for the site. The principle roads proposed are 18m wide, secondary roads are 12m wide while access roads are 9m wide.

PRINCIPLE ROADS

The principle roads in the settlement had been identified for improvement by the Ministry of Local Government as part of the Korogocho Slum Upgrading Programme. These are local roads to link the settlement to the collector roads in the neighbourhood including Kamunde Road and further on to the major arterials like

Outerring Road and others. These have been adopted into the plan with a total road distance of 3.68Km.

In summary, the following have been set aside for further upgrading in the programme:

TABLE 13.5.: ROADS EARMARKED FOR IMPROVEMENT

Road	Current Status	Length (Km)	Road Reserve (m)
A	Dilapidated tarmac	1.64	18
B	Tarmac	0.9	18
C	Tarmac	0.75	12
D	Murram road	0.39	12

SECONDARY ROADS

The Secondary Roads branch out from the 18m principle roads and do not serve individual plots. They serve as the link between the principle roads and the access roads. There are two secondary roads proposed covering a total distance 1.35Km.

ACCESS ROADS

The access roads are 9m wide and provide circulation within individual Villages up to individual plots. The layout of the plots provides for access to every plot as required by the City Council of Nairobi. A total of 107 access roads have been provided in the plan covering a total distance of 33.12Km.

The proposed access roads summary table is as follows:

TABLE 13.5.: PROPOSED ROADS SIZE AND LENGTH

Access Roads	9 meter	Length (meters)	12 meter	Length (meters)
Nyayo	6	569	-	-
Kisumu Ndogo	16	1221	-	-
Korogocho A	12	1583	3	246
Korogocho B	5	305	7	1101
Highridge	21	2767	-	-
Gitathuru	18	2060	-	-
Grogan A	14	1073	-	-
Grogan B	12	1176	-	-

13.8.3. ROAD RESERVE UTILIZATION

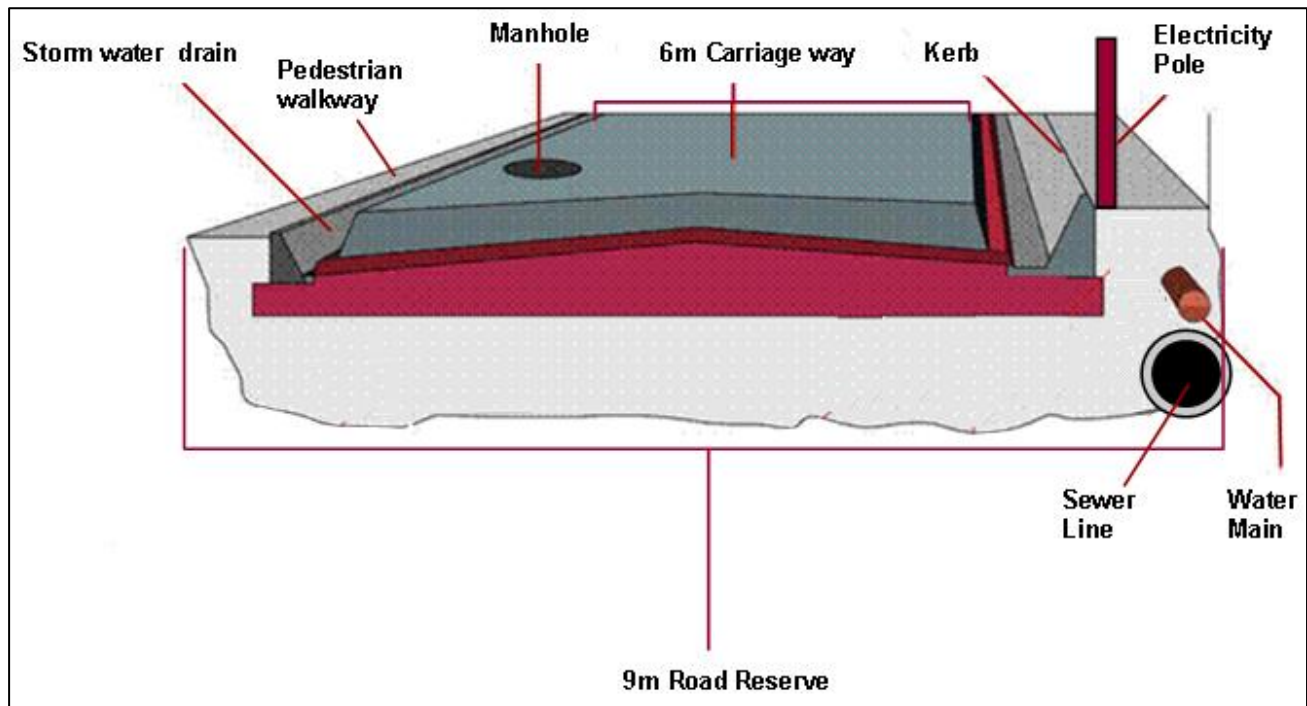
The plan provides for a hierarchy of roads ranging from 18m, 12m and 9m. Generally, 3m of the entire road reserve are set aside for utilities including water mains, power lines, storm water drains, among others.

For example a typical 9m road reserve would have 6m provided for the carriage way with the pedestrian walkway taking up 1.5m on one side of the carriage way. Street lights can also be provided on this side. The storm water drain can be provided under the pedestrian walkway, under the carriage way or as a buffer between the two. However, it is proposed that this be located under the pedestrian walkway for ease of maintenance and to prevent dumping of garbage into the drains. Manholes are also placed strategically along the carriageway to provide access to the sewer line.

The opposite side of the carriage way can accommodate power lines on the surface underneath which would be the utility lines including the trunk sewer lines and the water mains.

The following is a cross section through a typical 9m road showing the location of various utilities.

FIG13.3: CROSS SECTION ACROSS A TYPICAL 9M ROAD



13.8.4. PARKING FACILITIES

Currently, there is no provision for parking in the settlement. The plan proposes a total of 5 public parking lots located in Kisumu Ndogo. The parking spaces are limited due to space constraints and the fact that parking was not a key priority in the development vision of the people of Korogocho.

The plan also allows for on street parking within the area cordoned off as commercial. A large part of this area lies along the principle roads therefore being sufficient for the purposes. In essence however, on street parking is intended for short-term, commercial loading, mobility impaired and taxi parking.

Further parking bays have been provided for public service vehicles and for non-Motorized Public Service means like bicycles and motorbike (*boda boda*). This will be at designated points along the principle roads. Other vehicles to be accommodated include hand held carts.

However, there is need to conduct a parking survey that will lead to a parking strategy to cater for future demands of the settlements. Multi-storey or basement parking can be explored in the strategy.

13.8.5. PEDESTRIAN AND CYCLING FACILITIES

Walking and cycling are the most sustainable modes of transport. There is no negative impact on environmental quality and these transport modes are healthier and more efficient than private car transport. There are opportunities to provide direct and safe pedestrian and cycle routes, for example in conjunction with the areas of open space and other public spaces provided. All new proposed roads present an opportunity to provide cycle routes to ensure there is a choice of travel modes.

Pedestrian walkways are a section of the road separated from the main carriageway by a kerb and dedicated for use by pedestrians. The main public pedestrian walkways shall be provided of not less than 1.5m widths along the principle roads. This will run for a total distance of 4.8Km. Further, a minimum of 1.5 meter wide footpaths shall be provided along both sides of all access roads. The total distance for this will be 32Km. These have been provided in the plan in order to promote safety of non-motorized road users; pedestrian walkways have been planned. This is along all the proposed roads including principle roads, secondary roads and access roads giving a total provision of 36.8Km.

In addition it is recommended that grass margins, shall generally be provided to separate footpaths from carriageways as considered appropriate.

Pedestrian crossings will also be provided at strategic points especially in areas that are envisioned to attract large numbers of pedestrians. Such crossings include marked areas like zebra crossing and will be especially important such as in shopping areas and where vulnerable road users such as school children are likely to cross.

The plan provides for cycle ways, which will accommodate bicycles and hand carts. Together with the pedestrian walkway, this area shall have a cycle way giving a combined minimum width of 3m.

13.8.6. PUBLIC TRANSPORT FACILITIES

The provision of a viable public transport service within Korogocho has hitherto been difficult due to inadequate provision for roads.

The roads have been designed to serve different modes of transport. Since they connect to roads outside the settlement can accommodate public transport routes. These include both motorized and non-motorized means. Motorized means included buses and matatus with the major bus parks being at road junctions. The roads being 18m wide can adequately accommodate dropping off and picking of passengers.

13.8.7. CAPITAL INVESTMENT

The Capital investment for this purpose includes construction of the roads including principle roads, secondary roads and access roads. Further funding will be required for construction of parking facilities, pedestrian walkways and cycle paths.

13.8.8. SUMMARY OF PROPOSALS

- Total roads distance 36.8Km
- Hierarchy of Principle (18m), Secondary (12m) and access roads (9m) provided for
- Total of 4 principle roads, 2 secondary roads and 107 access roads , provided for
- Minimum 9m roads provided as required by the City Planning department
- Public utilities provided within road reserve
- Total of 13 parking facilities provided in the plan
- Cycle and pedestrian walkways given a combined width of 3m
- 1.5m wide pedestrian walkways provided for along principle roads
- Total distance of pedestrian walk ways is 38.4Km
- Public transport facilities provided for along principle roads

13.9. PUBLIC UTILITIES

According to the Planning Handbook, Public utilities are those essential services or facilities that support human lives. They include water, sewerage, garbage collection,

Electricity/power, Telephone, etc. Provision for sewer, power line and drainage has been made as part of the proposed road reserves.

13.9.1.WATER RETICULATION

The primary source of water in the settlement is piped water from the City Council of Nairobi sources. However, individual plots and structures do not have direct water supply. Water is obtained from various community water points spread throughout the Villages. According to the Socio-economic survey (Dec. 2009), 59% of the residents had access piped water. This was available within a distance 100 meters. However, a significant number of residents could not access the same.

A main water pipe by the Nairobi Water and Sewerage Company passes through the settlement. The line passes through the boundaries of Grogan 'A' and 'B', Gitathuru and Highridge Villages. It crosses into the village from Kariobangi Estate over Gitathuru River and exits at Nairobi River onto Dandora Estate. A total of 46 structures have encroached onto the reserve. Most of these structures have been built over the reserve. The plan proposes the removal of these structures while providing a 3m wayleave on either side of the line. This area is to be free of any developments.

New network of Water pipes are also proposed along all the roads. The network of pipes measures about 36.8Km. This will provide water to every plot within the Village.

The future land owners will have the option of creating a common water point within their plots or providing each household with water. This is however not feasible as it is recommended that a water point be 3x3m in size. Given the small size of plots the plan proposes that one point be provided for each plot.

Also, it is recommended that at least one point be available after every 500m following the requirements outlined in the Physical Planning Handbook.

Since the total distance of the access roads is 33.12Km, it follows that the settlement requires about 66 water points to satisfy its water needs.

13.9.2.COMMON ABLUTION FACILITIES

The plan recognizes that there is poor provision for toilet facilities. Currently some latrines are even built over drains and empty into rivers. Also, the use of flying toilets is rampant especially at night because of insecurity to walk to the facilities. There are two sanitation points complete with bath, toilet and water point in the Grogan 'B' area. These two facilities also have biogas plants which are not fully operational due to financial constraints. The plan proposes for a total of 21 new sanitation points where toilet bathroom and water supply facilities will be provided. The plan will also adopt the existing 45 water points.

13.9.3.STORM WATER DRAINS

Most of these drains are not paved and are in bad state. They are used for dumping of waste including household and human waste. In fact some pit latrines are built over drains.

These are designed to dispose of rainwater from roofs, open areas and paved areas. They will serve to take the drainage from highways as well as from buildings. It is envisaged that the channels will be laid alongside the road just outside the property boundaries within residential areas. These are the responsibility of the Kenya Urban Roads Authority as they will be constructed alongside the roads.

It is recommended that the drains will be laid to a self-cleansing gradient and will be properly jointed to prevent the access of tree roots or of the surrounding soil.

As with other utilities, the total length of the drains will follow the road lengths and will measure about 36.8Km.

To reduce runoff into storm water drains it is recommended that storm water from rooftops and from rain be infiltrated into adjacent soil, rather than discharged into the storm sewer system. Storm water runoff from paved surfaces can be directed to unlined ditches before flowing into the storm sewers, again to allow the runoff to soak into the ground. Permeable paving materials should be used in building sidewalks, driveways and in some cases, parking lots, to infiltrate a portion of the storm water volume.

13.9.4.SOLID WASTE DISPOSAL

The area lacks a solid waste management system. The plan proposes a total of 8 solid waste disposal (SWD) points. The SWD points will be fenced off to prevent over spillage and straying of rubbish due to the effects of the wind.

Trees will also be planted around the fence to act as buffer between the area and other land uses. They will also provide an aesthetic effect to counter the eyesore of the disposed waste.

13.9.5.ENERGY

ELECTRICITY

Currently, there are many illegal connections to the structures. The plan envisages that power lines will be located along all the proposed roads namely: principle, secondary and access roads. The total length of the power lines following the thoroughfares is 36.8Km.

This will also serve as a Blue Print for Kenya Power when charting new paths for future power reticulation.

A high voltage power line passes through Grogan B Village. Currently there are structures under this entire area. The Plan proposes a 30m way leave on either side of the power line clear of any developments.

OTHER SOURCES OF ENERGY

Two Biogas facilities are found in Grogan B Village. Combined, they occupy an area of 300sqm. They are located at sanitation points complete with ablution facilities (toilets and bathrooms), community water point and a public office available for use by any community members. These services are at an affordable fee.

These facilities are run by the youth of Grogan B as an income generation activity. Although the sanitation facilities are operating, the biogas facility is not fully operational because of lack of funding for repairs and maintenance. The plan proposes that these facilities be upgraded and refurbished to act as supplementary sustainable source of energy for the people of Korogocho. The energy will be used for lighting, heating and cooking and will provide a cheaper alternative to electricity.

It is proposed that at least one such facility be provided for each of the other villages namely Highridge, Grogan 'A', Gitathuru, Korogocho 'A' and 'B', Kisumu Ndogo and Nyayo. It is proposed that each of the facilities occupy an area of 100sqm giving a total provision of 0.01ha including the existing plants.

13.9.6. STREET LIGHTING

The settlement currently lacks a system of street lighting making it prone to illegal activities at night like mugging and others. There exists a uni-pole mounted flood light facility in the Gitathuru area. This facility can provide light for up to a radius of 500m. This is solar powered hence helps to protect the environment as well.

To supplement this, the plan proposes that street lighting be provided along all roads proposed in the plan. This includes along all the principle, secondary and access roads. The street lighting will therefore cover a total distance of 36.8Km. Normally street lighting within residential developments requires a lantern at each junction and all lanterns to be placed at not more than 25m intervals. Attention shall be paid to pedestrian security and general safety of those using the site.

It is proposed that these be solar powered in order to reduce the costs of maintenance in the long run.

The various Villages will be covered as follows:

TABLE: 13.6 STREET LIGHTING SCHEDULE

	Village	Distance
1.	Korogocho A	5.4 Km
2.	Korogocho B	4.6 Km
3.	Gitathuru	7.4 Km
4.	Nyayo	1.7 Km
5.	Highridge	9.2 Km
6.	Kisumu Ndogo	2.1 Km
7.	Grogan A	2.5 Km
8.	Grogan B	3.4 Km

13.9.7. CAPITAL INVESTMENT

The capital investment for this sector includes connections to 2067 plots, refurbishment of the existing trunk sewer, refurbishment and expansion of existing water mains, implementation of a Water Management strategy, Construction of communal sanitation and water points, construction of street lighting system, constructing and fencing off propose 8 waste points, Construction of 36.8Km of storm water drains.

13.9.8. SUMMARY OF PROPOSALS

- Expansion and refurbishment of existing trunk sewer and water mains
- Construction of new water network along the roads of access to serve individual plots
- Provision of 66 water and sanitation points
- Expansion and refurbishment of bio gas facilities as alternative/sustainable energy sources
- 30m high voltage power way leave provided
- Provision of 36.8Km of Storm water drain system
- Provision of 36.8Km of street lighting at no more than 25m intervals

Chapter 14 LAND OWNERSHIP

There are three types of plot occupation envisioned. These include ownership and tenancy.

14.1. OWNER DRIVEN DEVELOPMENT

14.1.1.INDIVIDUAL OWNERSHIP AND DEVELOPMENT

Owner driven development is divided into two, including for the affluent and for the very poor. The affluent are able to obtain land and do subsequent construction by themselves.

The poor may wish to own land but may be unable in the immediate term to provide the resources for the same. They will however be able to develop through the help of donors and through pooling of resources. The latter option will be especially useful in the cases where the plot beneficiaries have grouped as in the case of group titles.

For the very poor incremental methods can be employed including building incrementally. In this method, the owners construct the houses slowly as and when resources become available.

14.1.2.CO-OPERATIVE OWNERSHIP

The ownership of the property is vested in the co-operative or group of which residents are co-owners.

14.2. TENANCY

Since not everyone will be able to own land and to cater for future population inflows into the settlement, tenancy will also be allowed in the settlement. In fact majority of the residents of the settlement will be tenants.

This can also be donor driven in which case the rents are subsidized or fully paid by donors.

14.3. SHARED EQUITY

This is a combination of ownership and tenancy in which residents purchase a stake in their property (for example, 50%) and pay rent on the remainder to the other stakeholder

Chapter 15 DEVELOPMENT CONTROL STANDARDS

15.1. INTRODUCTION

In order to create a sustainable Korogocho community, the proposed development standards have regard to the following primary aims:

- Connectivity and permeability of streets and layout
- Sustainability where walking and cycling routes are prioritized
- Safety where streets paths and cycle routes are safe for all ages and mobility
- Legibility where the development is easily navigable
- Creation of a sense of place to create a vibrant urban environment
- Relationship of buildings to each other to create elegant and healthy spaces

15.2. GENERAL USE STANDARDS

The creation of quality housing developments that will create and maintain sustainable communities, as well as good quality urban spaces, underpins the aspirations of the physical development plan.

15.2.1.DENSITY

The plan recommends that the area be developed as a high-density area given the large population that needs to be accommodated on a relatively small piece of land.

The principal benefits of increased residential density are seen as:

- More economic use of existing infrastructure and land
- Efficient use of existing infrastructure
- Better access to existing services and facilities
- Efficient public service vehicle provision

15.2.2.PLOT RATIO

Plot ratio is the relationship between site area and the total floor area of the buildings erected on it and is calculated by dividing the gross floor area of the building by the site area. It aims to prevent over-development of a site while achieving desirable scale

of development. It is recommended that the **plot ratio not exceed 3**. This is appropriate for the settlement.

15.2.3.PLOT COVERAGE

Plot Coverage ensures that the built environment is not inappropriately overloaded with building mass. This is expressed as a percentage, determined by dividing the total plot area by the ground floor area of the building.

The maximum **coverage for the settlement shall not exceed 75%**.

15.3. MINIMUM PLOT SIZE

This was arrived at after many consultative meetings with stakeholders and project beneficiaries. The recommended minimum plot size is 100sqm but can be higher for institutions.

15.4. INFRASTRUCTURAL SERVICE STANDARDS

Where water and/or sewerage infrastructure is privately provided, the type and design shall be in compliance with the standards set by the City Council of Nairobi.

In addition, provision must be made for possible future connection into the public system.

15.5. STANDARDS ON DESIGN AND LAYOUT

15.5.1.ROAD STANDARDS

These will follow the requirements set out by the Kenya Urban Roads Authority (KURA).

15.5.2.BUILDING LINES

It is proposed that continuous and consistent building lines be created along street edges. It is recommended that a **building line of 1.5m** be provided.

15.5.3.BUILDING HEIGHT

The building height to be achieved is **recommended as four floors**.

However the following should be considered for applications for higher heights:

- The effect of the building on the microclimate in the immediate vicinity
- The degree of obtrusion of the building on the skyline

15.5.4.HOUSING LAYOUT AND DESIGN

In the interests of security, all areas used by the public such as open spaces, roads and footpaths, should be overlooked by housing.

Residential layouts should be designed in such a way that through traffic is discouraged.

House design should make use of materials and architectural form that is both aesthetically pleasing and affordable to the residents of the settlement.

Housing designs shall consider orientation and sun-path so as to maximize amenity and daylight.

Chapter 16 PLAN IMPLEMENTATION AND INSTITUTIONAL FRAMEWORK

16.1. PLAN IMPLEMENTATION PROCESS

16.1.1.INTRODUCTION

The implementation will be dictated by available resources but will generally follow the following course:

16.1.2.PREPARATION OF STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) REPORT

This is the first step in the implementation of the approved plan. The objective of the SEA is to provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of the Development Plan, with a view at promoting sustainable development. The SEA process involves the sensitization of the local community and will further seek their views on the proposals entailed in the plan.

The report will be prepared by Environmental experts registered and recognized by NEMA as the report will be presented to the same authority for approval. The implementations can begin once the license has been provided.

16.1.3.SURVEY OF PLOTS

This will involve demarcation of the boundaries of the plots created. The process will be guided by the project manager and representatives from the Ministry of Local Government and overseen by the Surveys Department. The culmination of the process will be the preparation of deed plans.

16.1.4.ALLOCATION OF PLOTS

Following the survey process, the plots will then be allocated to beneficiaries once land allocation principles and mechanisms will be agreed with the community. The overseer of this process will be the Ministry of Local Government.

16.1.5.SYSTEMATIC TRANSLOCATION OF VILLAGERS

The Villages have been planned independent of each other except for the provision of public facilities and utilities. This means that implementation can go on concurrently in all the villages. Another option is to use one Village as pilot for the rest of the Villages. Also, each of the villages can be broken up into cluster and a section be used as pilot.

16.1.6.CONSTRUCTION OF FACILITIES

After translocation, the process of construction of facilities will then begin. These include buildings, roads and drain system, water pipes, play grounds and public parks,

16.1.7.PREPARATION OF TITLES

Since the allocation process will already be done, this will be an ongoing process.

16.2. PLAN IMPLEMENTATION

The proposed physical and integrated development plan is the basis for the carrying out of a number of development projects within Korogocho. Along with the physical layout, the plan also provides guidelines for provision of physical and social infrastructure and services to help raise the standards of living of the inhabitants of the settlement.

The plan is also a blue print for the planning of informal settlements not only in Nairobi but also in the rest of the country. The principles of participatory and consultative planning applied in the planning process are key tools that ensure ownership of the plan and effective implementation by the beneficiaries of the plan. Other key issues addressed that are pertinent to slum upgrading include the provision of secure tenure and provision of basic infrastructure and services.

The planning process approaches used were holistic, integrated and multi disciplinary. The plan covered a wide range of issues ranging from zoning regulations, to institutional arrangements, structure characteristics, neighbourhood developments, provisions of facilities among others. The planning process was multi disciplinary in the sense that it brought on board players from various sectors including International bodies like the UN HABITAT, Governmental agencies like the ODPM/MOLG, NEMA, the Departments of Lands and Physical Planning, WRMA, the City Council of Nairobi, among others.

The plan also addresses the shared vision of the people of Korogocho as follows:

- Improved sanitation and drainages
- Better health facilities
- Security of tenure and improved shelter
- Improved roads and access
- Improved security

The implementation of the Physical Integrated Development plan will go along way in realizing the aspirations of the Korogocho residents as follows:

- The plan layout proposes a network of roads that open up hitherto closed up areas of the settlement. These include areas like Gitathuru, which experienced a very confused layout and did not have any motorable routes.
- The plan also lays out activities to be carried out in its implementation. These have estimated costs to go along with and provide opportunities for investors to come in and help in the development of the settlement.
- The implementation of the plan will also create harmony and co-existence of the residents in that it promotes community participation in the execution of most of the projects and activities.

- It also promotes job creation as the various activities proposed will require manpower from the residents. Also, the commercial and industrial area proposed will give opportunity for enterprising residents to carry out business and further employ their peers.

REVENUE ENHANCEMENT

Informal settlements are in most cases outside formal service provision of the City Council. This is occasioned by, among other factors, lack of revenue collection from these areas. The plan provides for a framework within which the City Council can obtain revenue from the area hence have a basis for provision of services to the residents.

The plan provides for the creation of a secure tenure system, zoning of the settlement and infrastructure improvement.

The plan provides for creation of avenues for both the Central Government and the Local Authority-The City Council of Nairobi to collect revenue and hence enhance service provision to the settlement.

Some of these are as follows:

Central Government Departments

- Payment in lieu of Lease on allotment/allocation of plots
- Transport Licenses for Public Service Vehicles for newly created routes
- Surveying of the plots created

City Council of Nairobi

- Licenses for the various business as a result of the commercial area created
- Park Fees for the Open areas created to be under custody of the Council
- Waste Collection Services
- Application fees for Development application
- Occupation Certificates for complete buildings
- Property Rates
- Valuation charges for the plots created

To Parastatals

- Payment for water provision
- Payment for connection to existing sewer
- Payments to Kenya Power for power connection and subsequent monthly payments

- Payment to NEMA for review of SEA
- Payment of fees for review of Regular Environment Audits to NEMA

16.3. KEY ACTORS IN IMPLEMENTATION

After approval of the plan various players will need to sit down and start the implementation process. The various actors will need to be brought on board for them to know their roles as required. Some of the key agencies that have played a significant role in the preparation of the plan in line with current legislation include the following.

16.3.1.THE CITY COUNCIL OF NAIROBI

The roles of the City Council of Nairobi in the implementation of the plan are as follows:

- Town Planning Committee approval
- Full Council adoption
- Part of the plot allocation committee
- Set regulations and adopt proposed
- Approval of building plans for construction
- Supervision all construction works

16.3.2.THE PHYSICAL PLANNING DEPARTMENT

- Endorsement of plan
- Certify the Physical Integrated Development Plan once complete
- Forward the plan to the Minister of Lands for approval

16.3.3.THE DEPARTMENT OF LANDS

- Preparing and conferment of leases
- Preparation and issuance of allotment letters

16.3.4.UNHABITAT

- Overall coordination and technical assistance
- Seeking of donor funding
- Overall liaison organ
- Provision of Technical know-how
- Community mobilization
- Community sensitization

16.3.5.KIDDP

- Provision of Funding
- Provision of Technical know-how
- Community mobilization
- Community sensitization

16.3.6.MINISTRY OF LOCAL GOVERNMENT

- Coordination of implementation activities
- Sourcing donor funding
- Overseeing plot allocation
- Conferment of allotment letters
- Coordination of survey
- Community mobilization
- Community sensitization
- Liaison between government agencies

16.3.7.THE SURVEYS DEPARTMENT

- Coordinating survey activities
- Preparation of deed plans

16.3.8.KOROGOCHO RESIDENTS' COMMITTEE

- Community mobilization
- Community sensitization
- Overseeing employment of residents in programmes

16.3.9.NGOs AND CBOs

- Community mobilization
- Community sensitization

16.3.10. THE CONSULTANTS

Having delivered the plan to the client the consultants will bow out of the projects but will be available for any follow up required.

16.4. IMPLEMENTATION MATRIX

The following is a matrix showing proposals of how the plan will be implemented. These include the problems being addressed, activities to be done, estimated time frames, estimated costs and the actors.

TABLE 16.1.: IMPLEMENTATION STRATEGY

ITEM	PROBLEMS/ISSUES	ACTION/ACTIVITY	TIME	COST (KShs.)	ACTORS
Plan Approval	N/A	<ul style="list-style-type: none"> • Endorsement of the plan • Submission of the plan to Council • Approved by Town Planning Committee • Adoption by full Council • Approval – Plan certification 	Short term Short term Short term Short term Short term		<ul style="list-style-type: none"> • Plan certification - Director of Physical planning • Plan publishing - Director of Physical planning • Plan Approval – Minister for lands • Plan gazettelement - Director of Physical planning
Environment	Environmental Impact Assessment of the Plan	<ul style="list-style-type: none"> • Undertaking Of Strategic Environmental Impact Assessment (SEA) • Submission of the report to NEMA • Approval • Obtaining the environmental license 	Short term Short term Short term Short term		<ul style="list-style-type: none"> • Environmental expert • Environmental Expert • NEMA • NEMA
Surveying	Need to coordinate surveying of the plan proposals	<ul style="list-style-type: none"> • Surveying of the plan proposals • Approval of the survey 	Short term 		<ul style="list-style-type: none"> • Licensed surveyor • Director of Surveys
Plot Allocation	N/A	<ul style="list-style-type: none"> • Make allocation list • Issuance of allotments letters 	Short term Short term		<ul style="list-style-type: none"> • Technical committee • Nairobi City Council • Ministry of Local Government (MOLG) • Plot Allocation committee • Commissioner of Lands
Processing of Titles		<ul style="list-style-type: none"> • Processing of Individual titles to allottees 	Short Term		<ul style="list-style-type: none"> • Commissioner of Lands • Land allottees
Roads & Drains	Inadequate roads Narrow access roads	<ul style="list-style-type: none"> • Road Designs of 36.8 Km Long Network • Open Principle Roads : 4 • Open Secondary Road: 2 	Immediate		<ul style="list-style-type: none"> • Ministry of roads • City Engineer • MOLG

		<ul style="list-style-type: none"> • Open Access Roads : 107 • Construction of : <ul style="list-style-type: none"> -principle access roads 2. Road A – 1.64 Km 3. Road B – 0.9 Km 4. Road C – 0.75 Km 5. Road D – 0.39 Km 6. Total – <u>3.68 Km</u> -Secondary Roads: -Access Roads: 33.12 Km • Total Road Distance: 36.8 Km <p>Construction of internal access roads</p> <ol style="list-style-type: none"> 1. Korogocho A : 5.4 Km 2. Korogocho B : 4.6 Km 3. Gitathuru : 7.4 Km 4. Nyayo : 1.7 Km 5. Highridge : 9.2 Km 6. Kisumu Ndogo : 2.1 Km 7. Grogan A : 2.5 Km 8. Grogan B : 3.4 Km 			
Non-motorized transport	Lack of provision for non-motorized transport including routes and parking	<ul style="list-style-type: none"> • Construction of bicycle lanes on principle routes • Construction of Parking bays for Bicycles and carts 	Immediate		<ul style="list-style-type: none"> • NGO • City Council of Nairobi •
Sewer Reticulation	Lack of proper sewer reticulation system	<ul style="list-style-type: none"> • Refurbishment and expansion of sewer Trunk line: Total Distance: 36.3 km • Connections to Individual homes: 2067 plots • Individual Sewer Collection 	Medium Term		<ul style="list-style-type: none"> • MOLG • NGO • Plot owners

		<ul style="list-style-type: none"> Construction of sewer lines as follows <ol style="list-style-type: none"> Korogocho A : 5.4 Km Korogocho B : 4.6 Km Gitathuru : 7.4 Km Nyayo : 1.7 Km Highridge : 9.2 Km Kisumu Ndogo : 2.1 Km Grogan A : 2.5 Km Grogan B : 3.4 Km 			
Water supply	Lack of water supply network Illegal water connections	<ul style="list-style-type: none"> Refurbishment and expansion of water trunk line: Total Distance: 36.3 km Provide water mains Individual water collection Formulation of a Water Management Strategy 	Medium term		<ul style="list-style-type: none"> Ministry of water Nairobi sewerage & Co. Ltd MOLG Plot owners
Water and Sanitation Points		<ul style="list-style-type: none"> Construction of 32 Communal water and Sanitation points 			
Street Lighting	Inadequate street lights	<ul style="list-style-type: none"> Installation of street lights Along Principle roads: <ol style="list-style-type: none"> Korogocho A : 5.4 Km Korogocho B : 4.6 Km Gitathuru : 7.4 Km Nyayo : 1.7 Km Highridge : 9.2 Km Kisumu Ndogo : 2.1 Km Grogan A : 2.5 Km Grogan B : 3.4 Km 	Medium term		<ul style="list-style-type: none"> City Council of Nairobi Private companies

Soko mjinga market	Lack of adequate and hygienic space for a market	<ul style="list-style-type: none">Improving drainages and pavingWater and sanitation pointsOwners improving market shedsEnhancing public space connotation of the marketReconstruction and expansion of the market			<ul style="list-style-type: none">CDF FundsMinistry of Local GovernmentCity Council of Nairobi																				
Public open spaces	Lack of recreational spaces	<ul style="list-style-type: none">Construction of 12 open spaces <table><tr><th>Village</th><th>No. of Open Spaces</th></tr><tr><td>Korogocho A</td><td>1</td></tr><tr><td>Korogocho B</td><td>2</td></tr><tr><td>Nyayo</td><td>2</td></tr><tr><td>Highridge</td><td>1</td></tr><tr><td>Kisumu Ndogo</td><td>13</td></tr><tr><td>Grogan A</td><td>2</td></tr><tr><td>Grogan B</td><td>2</td></tr><tr><td>Gitathuru</td><td>0</td></tr><tr><td>Total</td><td>23</td></tr></table>	Village	No. of Open Spaces	Korogocho A	1	Korogocho B	2	Nyayo	2	Highridge	1	Kisumu Ndogo	13	Grogan A	2	Grogan B	2	Gitathuru	0	Total	23			<ul style="list-style-type: none">Ministry of Local GovernmentCommunityVillage representatives
Village	No. of Open Spaces																								
Korogocho A	1																								
Korogocho B	2																								
Nyayo	2																								
Highridge	1																								
Kisumu Ndogo	13																								
Grogan A	2																								
Grogan B	2																								
Gitathuru	0																								
Total	23																								
Solid Waste Collection	Lack of solid waste disposal sites Poor waste management processes	<ul style="list-style-type: none">Fencing of the 8 identified sitesMaintain waste collection centersFormulation of a Solid Waste Management Strategy	Short term		<ul style="list-style-type: none">Ministry of Local GovernmentVillage representatives																				
Security	Insecurity	<ul style="list-style-type: none">Construction of police post in Grogan B – 0.1 HaConstruction of gates at all courtsManning of the security gates at all courts	Immediate		<ul style="list-style-type: none">CommunityCDF Funds																				
Riparian land	Encroachment on to the riparian land	<ul style="list-style-type: none">Pegging of Riparian LandFencing the Riparian land	Immediate		<ul style="list-style-type: none">Ministry of Local GovernmentMinistry of EnvironmentCommunity																				

		<ol style="list-style-type: none"> 1. Nyayo : 0.2 Km 2. Highridge : 0.9 Km 3. Kisumu Ndogo : 0.3 Km 4. Grogan A : 0.2 Km 5. Grogan B : 0.5 Km 6. Korogocho A : 0.4 Km <ul style="list-style-type: none"> • Landscaping and greening of the 4.8 Ha Riparian Reserve <ol style="list-style-type: none"> i. Nyayo : 0.35 Ha ii. Highridge : 17.2 Ha iii. Kisumu Ndogo : 0.03 Ha iv. Grogan A : 0.34 Ha v. Grogan B : 0.89 Ha vi. Korogocho A : 0.79 Ha • Construction of the 2.3 Km path along riparian reserve to act as a buffer. 			
Recreational Facilities	Lack of recreational areas	<ul style="list-style-type: none"> • Construction of 9 play grounds within proposed primary schools • Expansion and refurbishment of existing schools. (Ngunyumu and Daniel Comboni Primary Schools) • Construction of Proposed community grounds at Highridge Village • Fencing & Development of proposed Korogocho stadium • Process titles for the stadium 	Short term Immediate		<ul style="list-style-type: none"> • CDF Funds • Community • City Council of Nairobi • CDF Funds
Education Facilities	Inadequate public ECD centers Inadequate secondary schools	<ol style="list-style-type: none"> 1. Construction of new schools <ul style="list-style-type: none"> • Primary and nursery schools • Secondary schools 	Immediate		<ul style="list-style-type: none"> • Ministry of Education. NCC • City Council of Nairobi • Ministry of Local Government

		<ul style="list-style-type: none"> • Tertiary schools <p>Proposed for development by private investors in the commercial area along the Principle roads</p> <p>2. Rehabilitation and expansion of existing schools</p> <p>Public</p> <ul style="list-style-type: none"> • Expansion of Facilities in the existing schools <ul style="list-style-type: none"> - Primary schools - Secondary schools 			
Health facilities	Inadequate health facilities	<p>1. Construction of new dispensaries</p> <p>2. Rehabilitation and expansion of existing dispensaries</p> <p>3. Refurbishment of existing facility at Korogocho 'B'</p> <p>4. Refurbishment of existing Private Clinics (Tumaini and Provide International) at Highridge and Gitathuru respectively.</p>	Immediate		<ul style="list-style-type: none"> • Ministry of health • Ministry of local government. • NGO's (Vision) • Village representatives
Power way leave	Encroachment on to the power way leave	<ul style="list-style-type: none"> • Fencing off the 0.5km power way leave • Greening and other initiatives to reduce on dumping and possible encroachment 	Immediate		<ul style="list-style-type: none"> • Kenya Power & Lighting Co. • Community leaders • Technical committee
Water line way leave	Encroachment on to the water way leave	<ul style="list-style-type: none"> • Cordoning off the 0.7km water way leave • 			<ul style="list-style-type: none"> • Ministry of water • Technical committee • Community leaders
Pedestrian walk ways		<ul style="list-style-type: none"> • Construction of pedestrian walk ways along the access roads. Totals road length is 36.8 km • Construction of other walkways 	Immediate		<ul style="list-style-type: none"> • Ministry of roads • Technical committee

Parking facilities	Lack of parking facilities	<ul style="list-style-type: none"> • Constriction of Parking Bays in Kisumu Ndogo Village • Construction of Roadside parking in the commercial areas 			<ul style="list-style-type: none"> • Technical committee • MoIG • Community leaders
Resettlement plan strategy	Need for phasing of resettlement plan	<ul style="list-style-type: none"> • Formulation of resettlement plan • Re allocation of households to their new plots created. • Demolition and construction to fit the new re-alignment. 	Immediate		<ul style="list-style-type: none"> • Technical committee • Government agencies • Community leaders
Building materials	Unaffordable building materials	<ul style="list-style-type: none"> • Carrying out Research on the cheap and affordable building materials • Utilization of the available materials 	Immediate		<ul style="list-style-type: none"> • Community leaders • NGO's • Plot owners
Rent Regulation	Charging of ad hoc rents Unaffordable rents	<ul style="list-style-type: none"> • Formation of Neighborhood Association • Incorporate Institutional stakeholders 	Immediate		<ul style="list-style-type: none"> • Ministry of labour • City council of Nairobi
Neighborhood Association	Need for community policing Need for the sense of togetherness Need for unity in community projects Need to regulate rents and other development control issues	<ul style="list-style-type: none"> • Formation of Neighborhood Association • Constituting of a community based organization (CBO) 	Immediate		<ul style="list-style-type: none"> • Community leaders • MoLG
Economy	Unemployment Insecurity Low standards of living	<ul style="list-style-type: none"> • Zoning of commercial and light industrial (Jua Kali) area • Community participation in implementation of projects like road construction, running of the bio gas facilities among others • Creation of waste recycling centres 	Immediate		<ul style="list-style-type: none"> • Community leaders • MoLG • NGO's • FBOs

Chapter 17 CONCLUSION

The completion of the preparation of the Physical Integrated Development Plan for Korogocho is expected to be the blue print to guide its development. The plan provides a broad framework with specific components that address various development needs.

The layout plans prepared and the accompanying report constitute an important planning component to facilitate easier plan implementation. The plans provide useful guides for day-to-day planning and development control. They act as useful tools for development regulation and also for guiding development applications and in decision making by the council, land owners and developers.

While the responsibility for implementation of the plan largely lies with the City Council of Nairobi and the Ministry of Local Government, the plan identifies all the key actors and points out some of their specific mandates towards the realization of the plan objectives. The role of the council, government and non-government agencies and the local groups, is made elaborate. The implementation of the plan is key to achieving orderly development of Korogocho and the obtaining of secure land tenure for the Korogocho residents.

The plan is strategic and allows flexibility to change during implementation. It allows for reviews of the provisions of the plan but only through a participatory approach. The proposals made are adaptable enough to fit the unique conditions entailed in the settlement vis-a-vis the highly dynamic nature of urban developments.

In order to achieve the proposals made, there is a need for building capacity and developing legal frameworks at the local level for meaningful success to be realized. The City Council needs to enhance its capacity to manage the implementation process in close collaboration with the Ministry of Local Government. There is need for urgent implementation of the plan so as to guide the development of the area and to ensure secure land tenure for the residents of the settlements.

Though the objective of the plan was not to address land allocation issues, the report incorporates useful statistics that will assist the implementers in the matter. However the recommendation is to further support an inclusive debate that can lead to a negotiated solution to cater both the needs of the so called structure owners and tenants without undermining the future development of the area ensuring a significant improvement of the life of all residents.

APPENDIX 1: TABLE OF BASIC STATISTICS - EXISTING SITUATION

VILLAGE									
	GROGAN A	GROGAN B	GITATHURU	NYAYO	KOROGOCHO A	KOROGOCHO B	KISMU NDOGO	HIGHRIDGE	TOTAL
Total Population (Dec.2009)	2752	2456	4989	2593	4472	3411	4841	8638	34152
Number of structures	393	558	608	222	446	259	250	532	3268
No. of Households	856	832	1513	853	2357	1175	1459	1536	10581
Total Area (Ha)	4.166 Ha	5.728 Ha	8.847Ha	2.155 Ha	6.664 Ha	7.678 Ha	4.747 Ha	12.708 Ha	52.694 Ha
Existing Road Length (Km)	0.24 km	0.398 km	1.38 km	1.01 km	0.544	1.51 km	3.4 km	2.19 km	8.5 km
Population Density	66,052 per sq.km	43,088 per sq.km	56,136 per sq.km	120,336 per sq.km	67,109 per sq.km	44,882 per sq.km	101,974 per sq.km	68,015 per sq.km	70,949 per sq.km

APPENDIX 2: TABLE OF EXISTING STRUCTURES

VILLAGE									
	GROGAN A	GROGAN B	GITATHURU	NYAYO	KA	KB	KISUMU NDOGO	HIGHRIDGE	TOTAL
Total no .of Structures	393	558	608	222	446	259	250	532	3268
Sizes of the structures(m ²):									
a. Above 100	21	8	70	22	94	164	149	297	
b. 90-100	8	4	26	3	27	13	60	102	
c. 50-89	91	98	274	62	208	62	34	89	
d. 30-49	161	224	198	130	97	23	7	30	
e. 29 to below	112	226	40	5	20	3	0	14	
TOTAL	393	558	608	222	446	259	250	532	3268
Total No. of long term Tenants (Households)	234	204	583	402	495	411	636	852	3817

APPENDIX 3: TABLE OF PROPOSED PLOTS

	GROGAN A	GROGAN B	GITATHURU	NYAYO	KA	KB	KISUMU NDOGO	HIGHRIDGE	TOTAL
Total No. of plots	194	242	456	118	324	273	246	609	2462
No. of residential plots	145	205	353	100	286	216	200	562	2067
No. of commercial plots	41	27	97	13	31	45	29	34	317
No. of Public Purpose Plots	8	10	6	5	7	12	17	13	78
Public Purpose plots									
No. of Existing Educational plots - Adopted	3	2	2	1	2	5	1	4	20
No. of Existing Public Facility plots - Adopted	0	3	1	0	0	1	0	4	9
No. of proposed Public purpose plot	2	2	2	1	3	3	2	3	18
No. of proposed waste disposal sites	1	1	1	1	1	1	1	1	8
No. of proposed open spaces	2	2	0	2	1	2	13	1	23

APPENDIX 4: TABLE OF DOUBLE PLOTS

The double plots were created in specific areas, where necessary to minimize the number of roads of access in the settlement.

VILLAGE	DOUBLE PLOTS
GROGAN A	6
GROGAN B	4
GITATHURU	0
NYAYO	1
KA	2
KB	0
KISUMU NDOGO	0
HIGHRIDGE	5
TOTAL	18

APPENDIX 5: TABLE OF PROPOSED ALLOCATION OF THE PLOTS

VILLAGE																	
	GROGAN A		GROGAN B		GITATHURU		NYAYO		KOROGOCHO A		KOROGOCHO B		KISUMU NDOGO		HIGHRIDGE		
Structures	No. of Plots	No. of Structures	No. of Plots	No. of Structures	No. of Plots	No. of Structures	No. of Plots	No. of Structures	No. of Plots	No. of Structures	No. of Plots	No. of Structures	No. of Plots	No. of Structures	No. of Plots	No. of Structures	TOTAL PLOTS
Individual	45	45	40	40	284	281	25	25	202	202	240	240	169	169	532	532	1537
Groups of two	75	150	34	68	164	327	31	62	82	164	23	46	41	82	0	0	450
Groups of three	66	198	75	224			41	123	30	90							182
Groups of fours			57	226			3	12									60
<u>Sub Total</u>	<u>141</u>	<u>348</u>	<u>166</u>	<u>518</u>	<u>164</u>	<u>327</u>	<u>75</u>	<u>197</u>	<u>112</u>	<u>164</u>	<u>23</u>	<u>46</u>	<u>41</u>	<u>82</u>	<u>0</u>	<u>0</u>	722
Plots set aside to accommodate Long Term Tenants (10%) in groups of 5.	6	23	5	20	9	58	9	40	11	49	8	41	13	64	64	86	125
Sub Total	192	396	211	578	457	666	109	262	325	415	271	327	223	315	596	618	2384
Public purpose Plots	8	N/A	10	N/A	6	N/A	5	N/A	7	N/A	12	N/A	17	N/A	13	N/A	78
TOTAL	194	N/A	242	N/A	456	N/A	118	N/A	324	N/A	273	N/A	246	N/A	609	N/A	2462

APPENDIX 6: TABLE OF PROPOSED LAND USE ANALYSIS

VILLAGE																								
	GROGAN A			GROGAN B			GITATHURU			NYAYO			KOROGOCHO A			KOROGOCHO B			KISUMU NDOGO			HIGHRIDGE		
Land use analysis	NO.	Area (M²)	Area in %	NO.	Area (M²)	Area in %	NO.	Area (M²)	Area in %	NO.	Area (M²)	Area in %	NO.	Area (M²)	Area in %	NO.	Area (M²)	Area in %	NO.	Area (M²)	Area in %	NO.	Area (M²)	Area in %
Residential plots	145	14,500	34.9	205	20,500	34.5	353	35,000	48.03	100	10,000	43.2	286	28,600	53.42	216	21,600	25.6	200	20,000	47.2	562	56,200	46.7
Commercial plots	41	4,164	10	27	2,700	4.7	97	9700	4.7	13	1300	5.1	31	4,500	1.8	45	4,500	4.1	29	2,900	13.5	34	3,400	1.2
Educational	3	4,116	10.1	2	200	0.5	2	1,629.3	0.52	1	142	1.3	2	316.1	0.3	5	6,687	0.6	1	856.5	2.07	4	12,696.5	8.5
Public purpose	2	422	6.4	5	500	0.5	3	200	0.52	1	155	0.7	3	400	0.8	4	400	1.6	2	200	1.3	7	8,387	6.6
Waste disposal sites	1	100	0.1	1	100	0.1	1	100	0.1	1	100	0.1	1	100	0.1	1	100	0.1	1	100	0.1	1	100	0.1
Power Wayleave	0	0	0	1	12,129	21.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Open spaces	2	281	0.7	1	100	0	0	0	0	2	166	1.3	1	100	0.1	2	0	0	13	738.5	1.55	1	2,420	1.9
Totals for plots	194	24,692	58	242	23,270.4	40.6	456	46,400	54	118	11,610.1	53.9	324	39,000	58.5	273	60,106	74.1	246	25,198.1	53.07	609	82,936	65.2
Roads	0.9 km	13,725	32.9	1.7 km	12,905.4	22.53	5.7 km	18,540	20.9	0.6 km	6,559.9	30.4	1.7 km	19,727	29.6	1.9 km	16,674	25.8	1.7 km	15,941	33.5	3.6 km	24,428	19.2
Roads (before Planning)	0.24 km			0.4 km			1.3km			1.1 km			0.5 km			1.5 km			3.4 km			2.1 km		
Riparian	1	3,478	8.3	1	8,978	15.67	0	0	0	1	3,578	16.6	1	7,911	11.9	0	0	0	1	6,334.6	13.3	1	17,297	13.6
Total Area (Sq/mt)		41,664	100		57,282.8	100		88,470	100		21,548	100		66,638	100		76,780	100		47,473	100		127,081	100