

Project Formulation Study
on
Nairobi Metropolitan
Development Planning Project

Study Report

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Table of Contents

Location Map

Photos

Executive Summary

	Page
1.1 INTRODUCTION	1
1.2 Background	1
1.3 ECFA Mission	1
1.3.1 Purpose of Mission	2
1.3.2 Members of ECFA Mission	2
1.3.3 Itinerary of Mission	2
1.4 Coordination Meetings	2
1.4.1 Coordination Meeting	2
1.4.2 Contacted Person	2
1.5 Acknowledgement	2
2. PRESENT SITUATION OF CITY OF NAIROBI	7
2.1 Area and Topography	7
2.1.1 Administrative Area	7
2.1.2 Topography	7
2.1.3 Climate	8
2.1.4 Land Distribution	8
2.2 Population and its Distribution	8
2.3 Economic Activity	9
2.4 Infrastructure	10
2.4.1 Airport	10
2.4.2 Roads	10

2.4.3	Water Supply	11
2.4.4	Sewerage	11
2.4.5	Solid Waste Management	12
2.5	Legal Framework governing Physical Planning	12
3.	APPROACH TO FORMULATION OF NAIROBI METROPOLITAN DEVELOPMENT PLANNING	13
3.1	Basis of Metropolitan Development Planning	13
3.1.1	Kenya Vision 2030	13
3.1.2	Points at Issues	14
3.2	Objectives Area and Goal of the Project	16
3.2.1	Objective Area	16
3.2.2	Goal of the Project	16
3.3	Terms of Reference of the Study	16
3.3.1	Objectives of the Study	16
3.3.2	Scope of the Study	17
3.3.3	Study Schedule.....	19
3.3.4	Expected Major Outputs of the Study	20
3.4	Organization for Implementation of the Study	20
4.	APPLICATION FORM FOR JAPAN'S DEVELOPMENT STUDY PROGRAM (DRAFT).....	23
5.	CONCLUSIONS	23

List of Tables

Table 1.1	ECFA Mission	2
Table 1.2	Itinerary of ECFA Mission.....	3
Table 1.3	Coordination Meetings.....	4
Table 1.5	List of Contacted Officials.....	5
Table 2.1	Administrative Division of Nairobi City.....	7
Table 2.2	Land Distribution in Nairobi City.....	8
Table 2.3	Population and its Growth Rate in Nairobi.....	9
Table 2.4	Population in Municipalities and Towns at Environs of Nairobi City.....	9
Table 2.5	Gross Domestic Product and its Growth Rate in Kenya	10

List of Figures

Figure 3.1	Study Schedule	20
Figure 3.2	Organization Chart of the Ministry of Local Government.....	22
Figure 3.3	Organization Chart of Nairobi City Council.....	22

Abbreviations

CBD	: Central Business District
CEO	: Chief Executive Officer
GOJ	: Government of Japan
GOK	: Government of Kenya
NCC	: Nairobi City Council
MOL	: Ministry of Land
JKIA	: Jomo-Kenyatta International Airport
NESC	: National Economic Social Council

Photos



Central Business District



Residential Area



Main Road (A-109 to Mombasa)



Expansion of urban area beside main road (A-109)



Informal Settlement



Informal shops in a industrial area

EXECUTIVE SUMMERY

1. Background and Purpose of Mission

The City of Nairobi with its administrative area of 684 km² is capital of the Republic of Kenya and also the center of administration, politics, economy and culture of Kenya. In 1973 the Ministry of Land established “Nairobi Urban Development Strategy” covering a period of 30 years. Unfortunately to date no amendment and/or adjustment on the said strategy has been made comprehensively, though various projects and/or studies have been carried out to address to specific issues. It is no longer adaptable not only to the future but also to the present situation of the city.

In 2006, the Government of Kenya (GOK) through the Ministry of Lands (MOL) applied to the Government of Japan (GOJ) a technical cooperation for “the Study on Nairobi Metropolitan Development Planning Project”. It was unfortunately not accepted by GOJ. MOL is willing to challenge and to submit the application to GOJ again in view of the urgency and significance of the Project.

The purpose of ECFA mission is to complete a revised application of the Study by means of co-working with the MOL staff concerned and through coordination meetings with the other related government authorities.

2. Policy of GOK on Urban Development

GOK has officially announced “Kenya Vision 2030” in July-August 2007, which is the new country’s development blue print, covering the period 2008 to 2030. It aims at making Kenya a newly industrializing, “middle income country providing high quality life for all citizens by the year 2030”. Regarding urban and housing sector, it is mentioned that Kenya’s cities and towns are poorly planned and therefore there is an acute need for an effective capacity for regional and urban development planning. There is four flagship projects in housing and urbanization sector, and one of them is the metropolitan and investment initiative-prepare metropolitan and investment plans for 6 regions including Nairobi.

3. Issues of Nairobi City

Population in the city has grown to approximately three (3) million in 2007 from 2.1 million in 1999, indicating annual growth rate of 4.5%. Of the total population 29% lives below poverty line and of the total population more than 40% are categorized as informal settlements, mainly residing in slums. Meantime economic development has been incessantly expanding in and around the city area. The City of Nairobi has been playing a key role in Kenyan economy. The City of Nairobi contributes to 51% of the national GDP. As consequence of such increase in population and economic development, now the city has been facing to various issues/problems such as stress on land and, natural

environment, inadequate public services and overburden on infrastructure as well as various social matters.

a) Informal settlements

Influx from the rural areas to the Nairobi city is now spilling into various environs of the city and the main cause of creating slums and squatters. People in such slums and squatters are hardly possible to access to adequate public services including water supply and sewerage, health and education facilities, etc. and there are a lot of issues of gender. Such slums and squatters are one of the reasons resulting in degrading urban environment.

b) Stress on land resources

The city of Nairobi is not much favored with natural resources especially land and water. Keeping pace with the increasing population and expansion of economic activities, a large number of housing estates/residential estates, high rise buildings, industrial establishments have been developed within the city area. Actual land use pattern has been greatly changed compared to the ones in 40 years ago. There is reduction of vegetation and open land which have been playing important role in the natural environment, scenery, retardation of storm rainfall, recharging water resources, etc.

c) Limited water resources

In view of the geographical location, the city of Nairobi is presumed to be not favored with rich surface and ground water resources. It has been identified the most promising source in future is the surface runoffs to be tapped in the small rivers in the eastern slopes of the Aberdare Ranges only, and this resources could meet the demand only up to 2014. Accordingly it is no exaggeration to say that such resources development would be the one which governs development of Nairobi in future. Water supply will be one of the priority sectors that are required to be addressed urgently as possible.

d) Lack of integrated approach to development

A number of studies have been conducted since 1990s, each of which had objective to address its specific problems. There is no integration among the studies, and no comprehensive urban development plan/strategy has been conducted since 1973. The 1973 urban development strategy established is now outdated and no longer adaptable even to the present situation of the city and its environs. It is now hardly possible to Nairobi City Council and other stakeholders how to control, adjust and limit development activities keeping harmony with the natural environment and exploitable resources, since there is no adequate and proper master plan to guide.

4. Recommended Study

To solve the issues and effectively promote implementation projects, the following study is recommended to conduct.

Study Title: Nairobi Metropolitan Development Plan
Objectives: - To prepare a comprehensive and integrated master plan for Nairobi Metropolitan Development - To conduct pre-feasibility study for the first priority project which will be pointed out through the master plan
Major Work Components Phase I: Urban Development Master Plan Collection, Survey and Review of Data and Information Metropolitan development strategy Update of geo-spatial data infrastructure build up under JICA Physical development planning Strategy for social sector improvement Institutional capacity building Preliminary investment plan at intervals of 5 years Prioritization of the proposed projects Phase II: Pre-feasibility Study Supplemental survey and investigation necessary for the feasibility study Preliminary project planning and design Cost estimate Implementation program Economic and financial evaluation Preliminary environmental impact assessment
Study Term: 18 months

5. Organization for Implementation of the Study

It is noted that the National Urban and Metropolitan Areas Development Board is in the process of creation within GOK. This organization will be responsible for urban development matters in future and is presumed to steer the contemplated Study overall. The Ministry of Local Government is presumed to be a leading agency of the contemplated Study, which will be CEO of the above said board. The Nairobi City Council will be the greatest beneficiary among the others and also play significant role.

6. Application Form for Japan's Development Study Program (Draft)

The mission has exchanged views for preparation of "Application Form for Japan's Development Study Program" through a number of meetings and discussions with the concerned stakeholders. As a result the mission has drafted the attached form and has handed its over to the Ministry of Land, Ministry of Local Government, and Nairobi City Council for their review and further consideration for submission to GOJ.

1. INTRODUCTION

1.1 Background

The City of Nairobi with its administrative area of 684 km² is capital of the Republic of Kenya and also the center of administration, politics, economy and culture of Kenya. As Kenya bounds its border with Ethiopia and Sudan on the north, Uganda on the west and Tanzania on the south, it plays a core of logistic and transportation alley in the East African region. In fact the city of Nairobi is connected to the port of Mombasa, being largest port in East Africa, through Route A-109 with a distance of about 500 km, to Uganda through Route A-104 and then further to Rwanda and to Ethiopia through Route A-2.

In 1973 the Ministry of Land established “Nairobi Urban Development Strategy” covering a period of 30 years. Unfortunately to date no amendment and/or adjustment on the said strategy has been made comprehensively, though various projects and/or studies have been carried out to address to specific issues. It is no longer adaptable not only to the future but also to the present situation of the city.

According to the Nairobi City Council (NCC), population in the city has grown to approximately three (3) million in 2007 from 2.1 million in 1999, indicating annual growth rate of 4.5 % whereas average population growth rate of the country is at slightly less than 3 % per annum. Such rapid population growth is said attributable largely to influx of people from rural areas, majority of which is categorized to be informal settlements. Meantime economic development has been incessantly expanding in and around the city area. As consequence of such increase in population and economic development, now the city has been facing to various issues/problems such as stress on land, natural environment, public services and infrastructure as well as various social matters.

Urbanization is gradually expanding to adjacent administrative areas causing the same problems as Nairobi city is facing. The increase in economic growth in neighboring countries has also resulting in increasing of transit cargo volume through Nairobi, partly accelerating environmental degradation and destruction of roads in the city.

In 2006, the Government of Kenya (GOK) through the Ministry of Lands (MOL) launched “Nairobi Metropolitan Development Planning Project” in order to establish a new and comprehensive development plan for Nairobi on a basis of metropolitan development concept. GOK then applied to the Government of Japan (GOJ) a technical cooperation for “the Study on Nairobi Metropolitan Development Planning Project”. It was unfortunately not accepted by GOJ. It appears that the application was not complete enough for examination of GOJ.

MOL is willing to challenge and to submit the application to GOJ again in view of the urgency and significance of the Project.

1.2 ECFA Mission

1.2.1 Purpose of Mission

The purpose of ECFA mission is to complete a revised application of the Study by means of co-working with the MOL staff concerned and through coordination meetings with the other related government authorities.

1.2.2 Members of ECFA Mission

The ECFA mission basically comprises of three (3) members as follows:

Table 1.1 ECFA Mission

	Position	Name	Belonging to:
1	Mission Leader (urban planning)	Mr. Yoichi Nishimura	Nippon Koei Co. Ltd.
2	Member (urban infrastructure)	Mr. Kazushige Endo	Nippon Koei Co. Ltd.
3	Member (Institutional matter)	Ms Motoko Wakatabe	Nippon Koei Co. Ltd.

In addition to the above members, the mission was supported by a surveyor who was temporarily recruited by the mission in Nairobi.

1.2.3 Itinerary of Mission

The ECFA mission was engaged in the survey during the period from January 29 to February 27, 2008. Its itinerary is as shown in Table 1.2.

1.3 Coordination Meeting

1.3.1 Coordination Meetings

As shown in Table 1.2, the mission had a number of coordination meetings with the relevant GOK authorities concerned. Also the mission contacted the members of the Japanese ODA Task Force in Kenya, being composed of the representatives of the Embassy of Japan in Kenya, JICA Kenya Office and JBIC Representative Office in Nairobi. Outlines of such meetings are as summarized in Table 1.3.

1.3.2 Contacted Personnel

Through the coordination meetings the mission met many the GOK people, the Japanese ODA Task Force staff and the other people concerned. Table 1.4 lists up all such staff and personnel.

1.4 Acknowledgement

Throughout the investigation period in Kenya, the mission has received various support and advice not only from the members of the GOK authorities concerned but also the members of the Japanese ODA Task Force in Kenya.

The mission would like to express its deep appreciation for their heartfelt and valuable support and advice. Without their support the mission could not complete its purpose.

Table 1.2 Itinerary of ECFA Mission

	Date	Day	Activities
1	Jan. 29, 2008	Tue	Travel from Haneda to Dubai via Kansai airport (EK6251, EK317)
2	Jan. 30, 2008	Wed	Travel from Dubai to Nairobi (EK719)
3	Jan. 31, 2008	Thu	Internal meeting among mission members Coordination meeting with Ministry of Land (permanent Secretary and others)
4	Feb. 1, 2008	Fri	Coordination meeting with JICA Expert seconded to Ministry of Water and Irrigation Meeting with the Japanese Task Force members (Embassy of Japan, JICA Kenya Office and JBIC Representative Office)
5	Feb. 2, 2008	Sat	Review of Kenya Vision 2030 Meeting with Lecturer, University of Nairobi
6	Feb. 3, 2008	Sun	Review of existing plans
7	Feb. 4, 2008	Mon	Athi Water Service Board and Nairobi Water and Sewerage Company
8	Feb. 5, 2008	Tue	Coordination meeting with Girl Child Network Coordination meeting with Ministry of Roads and Public Works (Chief Engineer for Roads) Coordination meeting with National Economic and Social Council (cancelled)
9	Feb. 6, 2008	Wed	2 nd Coordination meeting with Ministry of Land Coordination meeting with Ministry of Water and Irrigation (Permanent Secretary and others)
10	Feb. 7, 2008	Thu	Coordination meeting with Ministry of Tourism and Wildlife Coordination meeting with Nairobi City Council Coordination meeting with National Economics and Social Committee
11	Feb. 8, 2008	Fri	Review of collected data and information
12	Feb. 9, 2008	Sat	Review of collected data and information
13	Feb. 10, 2008	Sun	Review of collected data and information
14	Feb. 11, 2008	Mon	Review of collected data and information
15	Feb. 12, 2008	Tue	Review of Collected data and information Coordination meeting with Ministry of local Government
16	Feb. 13, 2008	Wed	Review of collected data and information
17	Feb. 14, 2008	Thu	Review of collected data and information Meeting with Ministry of Water and Irrigation (Chief irrigation officer)
18	Feb. 15, 2008	Fri	Preparation of report
19	Feb. 16, 2008	Sat	Visit environs of Nairobi
20	Feb. 17, 2008	Sun	Taking photos in Nairobi
21	Feb. 18, 2008	Mon	Amendment of draft application form, Preparation of report
22	Feb. 19, 2008	Tue	Amendment of draft application form, Preparation of report
23	Feb. 20, 2008	Wed	Coordination meeting with Ministry of Land, Coordination meeting with Ministry of Tourism and Wildlife Coordination meeting with Athi Water Service Board
24	Feb. 21, 2008	Thu	Coordination meeting with JICA Expert seconded to Ministry of Water Coordination meeting with Ministry of Local Government
25	Feb. 22, 2008	Fri	Meeting with JICA Kenya Office Meeting with JBIC Office in Nairobi
26	Feb. 23, 2008	Sat	Preparation of report
27	Feb. 24, 2008	Sun	Preparation of report
28	Feb. 25, 2008	Mon	Preparation of report
29	Feb. 26, 2008	Tue	Preparation of report, Travel from Nairobi to Dubai (EK720)
30	Feb. 27, 2008	Wed	Travel from Dubai to Nairobi via Kansai airport (EK316, EK6252)

Table 1.3 Coordination Meetings

Date	Day	Meeting with:	Main Agenda
Jan.31, 2008	Thu	Ministry of Land	Courtesy call to Permanent Secretary Purpose of ECFA mission Working system in preparation of Application
Feb. 1, 2008	Fri	JICA Expert in Ministry of Water and Irrigation	Courtesy call and purpose of ECFA mission Water and sewerage in Nairobi
		Japanese ODA Task Force	Introduction of purpose of ECFA mission Hearing ODA principle for Kenya
Feb. 2, 2008	Sat	Lecturer, University of Nairobi	Introduction of purpose of ECFA mission Hearing on Institutional matters (existing laws etc.)
Feb. 4, 2008	Mon	Athi Water Service Board and Nairobi Water and Sewerage Company	Introduction of purpose of ECFA mission Hearing on water and sewerage situation in Nairobi and future plan Hearing on role and responsibility of both organizations
Feb. 5, 2008	Tue	Girl Child Network	Introduction of purpose of ECFA mission Hearing on GCN activity and situation in squatters and slums
Feb. 6, 2008	Wed	Ministry of Land	Status of ECFA mission Organizational build up for urban sector Presentation of Draft Application by ECFA mission
Feb. 7, 2008	Thu	Ministry of Tourism and Wildlife	Introduction of purpose of ECFA mission Tourism industry
		Nairobi City Council	Introduction of purpose of ECFA mission Prevailing overall situation of Nairobi Organizational build up for urban sector
		National Economic and Social Committee	Introduction of purpose of ECFA mission Organizational build up for urban sector
Feb. 12, 2008	Mon	Ministry of Local Government	Introduction of purpose of ECFA mission Organizational build up for urban sector
Feb. 14, 2008	Thu	Ministry of Water and Irrigation	Introduction of purpose of ECFA mission Irrigation scheme
Feb. 20, 2008	Wed	Ministry of Land	Discussion on draft application for development study
		Ministry of Tourism and Wildlife	Policy for tourism
		Athi Water Service Board	Policy for water supply for Nairobi
Feb. 21, 2008	Thu	JICA Expert in Ministry of Water and Irrigation	Policy for water supply for Nairobi
		Ministry of Local Government	Discussion on draft application for development study
Feb. 22, 2008	Fri	JICA Kenya Office	Reporting on activities of ECFA mission
		JBIC Representative Office in Nairobi	Reporting on activities of ECFA mission

Table 1.5 List of Contacted Officials

Organization	Name	Position	Tel.	Physical Address
Embassy of Japan	Oishi Tomohiro	First Secretary	254-20-289-8000	Mara Rd. Upper Hill, Nairobi
JICA Kenya Office	Takahashi Yoshiyuki	Resident Representative	254-20-2724121-4	Rahimtulla Tower 10 th and 11 th Floor, Upper Hill Rd, Nairobi
	Nakazawa Toshiyuki	Assistant Resident Representative	254-20-2724121-4	Rahimtulla Tower 10 th and 11 th Floor, Upper Hill Rd, Nairobi
	Hayashi Kenji	Assistant Resident Representative	254-20-2724121-4	Rahimtulla Tower 10 th and 11 th Floor, Upper Hill Rd, Nairobi
	Tokuhashi Kazuhiko	Deputy Resident Representative	254-20-2724121-4	Rahimtulla Tower 10 th and 11 th Floor, Upper Hill Rd, Nairobi
JBIC Nairobi Representative Office	Susumu Iwamoto	Chief Representative	254-20-2221420	6 th Floor, International House, Mama Ngina Street, Nairobi
	Retsu Hagiwara	Representative Office in Nairobi	254-20-2221420	6 th Floor, International House, Mama Ngina Street, Nairobi
Ministry of Land	Kombo Mwero	Permanent Secretary	254-20-2718050	Arthi house 5 th Floor, 1 st Ngong Avenue
	Njiru M. Nthiga	Director of Physical Planning	254-20-2723042	Arthi House 5 th Floor, 1 st Ngong Avenue
	C. Konyango	Head of Department Metropolitan Section	254-20-2718050	Arthi House, 1 st Ngong Avenue
	Mutuma Mbui	Metropolitan Section	254-20-2718050	Arthi House, 1 st Ngong Avenue
	Eunice Karoki	Metropolitan Section	254-20-2718050	Arthi House, 1 st Ngong Avenue
	Miriam Kebuka	Metropolitan Section	254-20-2718050	Arthi House, 1 st Ngong Avenue
Ministry of Water and Irrigation	Eng. Mahboub M. Maalim	Permanent Secretary	254-20-316186/316261 Ext. 42303	Maji House, Ngong Road
	Eng. Charles K. Koske	Director Irrigation and Drainage	254-20-2716103 Ext. 42258	Maji House, Ngong Road
Athi River Water Service Board	Eng. Lawrence N. Mwangi	Chief Executive Officer	254-20-2724292/3 254-20-2727438-42	Africa-Re Centre, Hospital Road
	Eng. Samuel Mbachia	Monitoring Engineer	254-20-2724292/3, 254-20-2727438-42	Africa-Re Centre
	Eng. John M. Muiruri	Chief Manager Infrastructure Development	254-20-2724292/3, 254-20-2727438-42	Africa-Re Centre
	Eng. Ngunyangi	Donor Project Manager	254-20-550915	Kampala Road Industrial Area
Nairobi Water and Sewerage Company	Eng. Lucy Njambi	Production Manager	254-20-550915	Kampala Road Industrial Area
Nairobi City Council	Peter M. Kibinda	Director of City Planning	254-20-341021	City Hall 2 nd Floor

Nairobi City Council	Thomas Odongo	Deputy Director Urban Planning	254-20-224281 Ext.2440	City Hall 2 nd Floor
	John Koyier Barrek	Assistant Director Planning	254-20-224281 Ext. 2440	City Hall 2 nd Floor
	Justus M. Kathenge	Assistant Director Planning	254-20-224281 Ext.2440	City Hall 2 nd Floor
Girl Child Network	Mercy M. Musomi	Executive Director	254-20-604570, 0722-921376	AMREF-Wilson Airport, off Langata Road
National Economic and Social Council	Leonard N. Kimani	Secretary	254-20-227411 Ext. 22115, 254-20-227236, 0722 876167	K.I.C.C. 4 th Floor Harambee Avenue
Ministry of Local Government	Eng. John N. Maina	Director Urban Development	254-20-340972 / 3 0722805498	Cianda House, 6 th Floor Koinange Street
	James W. Theuri	Roads and Transportation Section	254-20-340972 / 3 0722805498	Cianda House, 6 th Floor Koinange Street
University of Nairobi	Arthur Munyua	Lecturer	0722724288	Faculty of Architecture, Design & Development
Ministry of Roads and Public Works	Mwangi Mairagi	Chief Engineer, Road	254-272-3101	P.O. Box 31260-00100 Nairobi
Ministry of Tourism and Wildlife	Munyithya Kimwele	Senior Tourist Officer	254-20-313010	Utalii House, Nairobi

2. PRESENT SITUATION OF CITY OF NAIROBI

2.1 Area and Topography

2.1.1 Administrative Area

The city of Nairobi has its administrative area of 684 km² at present and remains the same after its expansion in 1969. Before 1969 it was only 83 km². According to “Parliamentary Constituencies, 6th Edition 2002”, the city area is divided into 8 constituencies and each constituency is sub-divided into 48 locations as presented in Table 2.1, and each location is further subdivided into a large number of sub-locations.

Table 2.1 Administrative Division of Nairobi City

	Constituencies	Locations
1	Makadara	4: Makongeni, Maringo, Makadara, Viwandani
2	Kamukunji	4: Eastleigh, Kamukunji, Bahati, Pumwani
3	Starehe	4: Ngara, Stahere, Kariokor, Mathare
4	Langata	7: Karen, Langata, Sarangombe, Kibera, Laini Shabaa, Nairobi West, Mugumoini
5	Dagoretti	7: Uthiru/Ruthimitu, Mutuini, Waithaka, Kawangware, Riruta, Woodley, kenyatta Golf Course
6	Westland	6: Highridge, Kitisuri, Kangemi, Parklands, Kileleshwa, Kilimani
7	Kasarani	7: Kahawa, Githurai, Roysambu, Kasarani, Ruaraka, Kariobangi, Korogocho,
8	Embakasi	9: Mwiki, Ruai, Njiru, Kariobangi South, Dandora, Kayole, Umoja, Embakasi, Mukuru,

(Source: Parliamentary Constituencies, 6th Edition 2002)

The city is bounded with Kiambu and Kajiado Districts on the west, Kiambu and Thika Districts on the north, Thika and Machakos Districts on the east, and Machakos and Kajiado Districts on the south. Such adjacent areas are now absorbing increasing population and economic activities.

2.1.2 Topography

The city is characterized by undulating hilly topography with elevation in a range of 1,460 m to 1,920 m. Lowest elevation occurs at the Athi River at the eastern boundary of the city and highest at the western rim of the city. It is a unique characteristic that the city has Nairobi National Park with the area of 117 km² within its administrative area, extending along the western boundary and attracting a large number of international and domestic tourists annually.

The city is drained mainly by the Nairobi River and the Mokoyeti River, both of which are the tributaries of the Athi River. The former have four (4) main tributaries such as the Rui Ruaka, Mathare Nairobi, and Ngong rivers and the latter mainly drains the area of Nairobi National Park.

Central Business District (CBD) is located almost in the center of the city and developed with a radius of approximately 5 km with its center at a junction of Mombasa Road, (Route A-109), Naivasha Road

(Route A-104) and Thika Road (Route A-2). The city is provided with Jomo Kenyatta International airport on its southern rim.

In order to absorb incessantly increasing population, construction of residential flats has been taking place elsewhere in the city, likely to be mushrooming and causing the stress on land and infrastructure, reduction of vegetation and open areas.

2.1.3 Climate

Climate in Nairobi is of semi-tropical and is characterized by two rainy seasons: a short rainy season from November to December and a long rainy season from March to May.

Air temperature is almost constant throughout the year, approximately 20 degree centigrade. The average annual rain fall is approximately 1,750 mm, of which more than 50 % concentrate during the long rainy season.

2.1.4 Land Distribution

The land in Kenya is broadly divided into government land and freehold land. According to the “Statistical Abstract, 2005”, the land distribution in Nairobi City is as follows as of December 1995.

Table 2.2 Land Distribution in Nairobi City

	Category	Sub-category	Area (km ²)
1	Government Land	Forest reserve	21
		Other government reserves	77
		Townships	93
		Alienated land	225
		Unalienated land	16
		Nairobi Parks	117
		Open water	-
		Sub-total	549
2	Freehold Land	Smallholder Schemes	-
		Other	135
		Sub-total	135
	Total		684

(Source: Statistical Abstract 2005)

By 2005 population reached approximately 3 million, being 1.5 times of that in 1999, and development of commercial, industrial and residential estates has been taking place elsewhere in the city. From these facts it is conclusive that the present land use might have been differed greatly from the 1995.

2.2 Population and its Distribution

According to “Statistical Abstract 2005”, population in the city was 828,000 in 1979, 1,32 million in 1989 and 2.14 million in 1999, and now according to the city council, estimated population in 2007 is

approximately 3.03 million.

Table 2.3 Population and its Growth Rate in Nairobi

Year	Population (1,000)	Average Annual Growth Rate (%)	Population Density (head per km ²)
1979	828		566
1989	1,325	4.7	1,937
1999	2,137	4.9	3,124
2007	3,034	4.5	4,436

(Source: (1) Statistical Abstract 2005, (2) City Council Nairobi)

A share of men and women is almost equal but it should be noted that of the total population 29 % lives below poverty line and of the total population more than 40 % are categorized as Informal Settlements, mainly residing in slums such as Kibera, Mathare, Huruma, Kariobangi, etc.

Immigrants overflowed from the city area also form many squatters at many locations outside the city boundary. Thus urbanization is now extending to such urban centers as Thika, Mavoko (Athi River), and Ruiru, Municipalities in Machakos Districts, Limuru and Kiambu Municipalities in Kiambu Districts, and Ongata Longai and Ngong Towns in Kajiado District. These municipalities and towns are deemed to be satellite centers, and have a close linkage with the City of Nairobi in terms of population and regional economic development. In the metropolitan development concept, they therefore would be considered to be integral parts of metropolitan area. For reference their populations in 1999 are reported as follows:

Table 2.4 Population in Municipalities and Towns at Environs of Nairobi City

Satellite Municipality/ Town	District	Population in 1999
Ruiru municipality	Thika	109,574
Thika	Thika	106,707
Limuru municipality	Kiambu	68,326
Kiambu	Kiambu	60,605
Ongata Rongai town	Kajiado	35,874
Narok (Athi River) municipality	Machakos	27,168
Ngong town	Machakos	20,701
Total		428,955

(Source: Statistical Abstract 2005)

2.3 Economic Activity

Gross Domestic Product of Kenya and its growth rate are shown in Table 2.5 for the period from 2002 to 2006.

Table 2.5 Gross Domestic Product and its Growth Rate in Kenya

Description	Unit	2002	2003	2004	2005	2006
Population	million	32.2	33.2	34.2	35.1	36.1
GDP	Ksh, billion	1,035	1,138	1,286	1,445	1,642
Growth rate	Percent per annum	0.5	2.9	5.1	5.7	6.1
GDP per capita	Ksh	32,132	34,309	37,639	41,136	45,447

Note: (1) GDP and GDP per capita are based on the current price.

(2) GDP growth rate is at constant price with a base year in 2001.

(Source: Economic Survey 2007)

Assuming exchange rate at US\$ 1.00 = Ksh 65, GDP in 2006 was equivalent to US\$ 25.3 billion and GDP per capita US\$ 699. The above figures indicate of growing tendency of the Kenyan economy in the last 3 years.

The City of Nairobi has been playing a key role in Kenyan economy and this would continue even in future. According to “Concept Paper, Nairobi Metropolitan Growth Strategy, February 2006, MOL and City Council of Nairobi”, the City of Nairobi contributes 51 % to the national GDP.

The wage employment is also increasing keeping pace with the GDP increase. The number of wage employ in 2006 showed an increase of 2.8 % from 2005. According to “Economic Survey 2007”, the number of wage employment amounts to 1.86 million, of which 25 % concentrate on the city of Nairobi.

The informal sector contributes to play an important role in absorbing unemployed persons in the labor force. According to the same source as above, the number of informal sector employment is 6.81 million in the country, comprising 34 % in urban area and 66 % in rural area. The informal sector employment of Nairobi city accounts for 24 % of the total.

2.4 Infrastructure

2.4.1 Airport

Jomo-Kenyatta International Airport (JKIA) is located at along the border between the city and Machakos District on the south and is the main international gateway to Kenya, though there two more international airports in the country: Moi International Airport in Mombasa and Eldoret International Airport in Eldoret.

The numbers of arrival, departure and transit were 1,996,000, 2,004,000 and 143,000 respectively in 2004, totaling 4,142,000, accounting for 73 percent of the total commercial passengers of the country. Similarly cargo handling volume in JKIA accounts for 77 % of the total, 52.8 million tones of landed, 130.3 million tones of loaded.

2.4.2 Roads

The city is connected with the port of Mombasa through Route A-109 and to Kampala, capital of

Uganda through Route A-104 and to Ethiopia through Route A-2. The road to Tanzania, Route A-104 bifurcates from A-109 at Athi River, located eastern end of the city.

Roads within the city are classified into district road and city road and networked. But there are a number of missing links in the network. Arterial roads have mainly four (4) lanes but lateral roads and residential roads are in general in two (2) lanes.

Traffic in the city is very congested mainly owing to increasing number of passenger vehicles (personnel and public) and transit vehicles, mainly trailer to Uganda and western part of the country. Thus heavy traffic jam occurs every morning and evening. The situation is aggravated when storm rainfall occurring.

2.4.3 Water Supply

The pipe water supply in the city is critical now. A number of studies so far have been conducted and a couple of the projects have been implemented mainly under support of the World Bank which has been supporting this sector since 1977.

As part of reform program in Kenya, Nairobi Water Supply and Sewerage Company was established in 2005 and operate and manage the water and sewerage in the city. The said company is under umbrella of the Athi River Water Service Board who holds and leases the assets to the company.

More than 90% of the population has been served the pipe water by the company either through house connection and public taps. There are four sources of water supply: Kikuyu Springs, Ruiru reservoir on the Ruiru River, Sasumua Reservoir on the Chania River, and Chania River gravity intake. These are capable of supplying of 217,000 m³/day at a reliability of 90 %.

The water demand of the city is forecast at 363,400 m³/day in 2000, 450,200 m³/day in 2005, 557,700 m³/day in 2010, and 806,600 m³/day in 2020. There is a great gap between the supply capacity and the demand. The company is therefore forced to rationing supply system in some areas.

2.4.4 Sewerage

According to the survey conducted in 2005 by the World Bank, about 67 % of the population has access to a water-borne sewerage system, and the rest relies on on-site treatment facilities and other measures for disposal of the waste water.

There are two sewage treatment plants: one is Dandora with a daily treatment capacity of 80,000 m³ and Kariobangi sewage treatment plant with a day treatment capacity of 32,000 m³. The former is of a stabilization treatment process, while the later is a conventional type using biological filters. It is reported that there are a number of small plants but their status are not clear at this stage.

Those two (2) sewage treatment plans might have been over-loaded with increasing sewage which is generated as subsequence of increasing water supply.

2.4.5 Solid Waste Management

In order to address future solid waste management in Nairobi, JICA extended its technical cooperation for “the Study on Solid Waste management in Nairobi City in the Republic of Kenya” which was completed in August 1998. The study report has been presented to NCC and to the Ministry of Local Government. At the time of the study the solid waste management was under the city council, though private companies had been involved in.

According to the study, solid waste generation in 1997 is estimated at 1,426 tons per day, of which approximately 370 tons or 25 % of the total generation were being collected by the collection vehicles. Quantity of collection by the city council was only about 22 %, and the rest is dependent on the private firms.

The waste collected are hauled to and dumped at Dandora land fill site which is located at about 7.5 km southwest of the city center. By the time of the study the site has been filled with about 1.3 million m³ of the waste. It is reported that this is a high risk of environmental pollution which will affect the health of scavengers and neighboring residents.

2.5 Legal Framework governing Urban Planning

In terms of urban development, there are two (2) institutions: one is the Ministry of Land and the other is Ministry of Local Government. These institutions are guided by two key statutes: the Physical Planning Act (Cap 286) and the Local Government Act (Cap 265). There are other laws that govern the physical planning and are found mostly related to land. Some of these legislations are:

- 1) Physical Planners Registration Act, 1996
- 2) Environmental Management and Co-ordination Act, 1999
- 3) Public Health Act (Cap 242)
- 4) Agriculture Act (Cap 318), Rev.1986
- 5) Land Control Act (Cap 302)
- 6) Land Acquisition Act (Cap 295), 1968
- 7) Registered Lands Act (Cap 300)
- 8) Survey Act (Cap 299)
- 9) The Building By-Laws (Grade I &II), 1968
- 10) Housing Act (Cap 117)
- 11) Water Act, 2002

3. APPROACH TO FORMULATION OF NAIROBI METROPOLITAN DEVELOPMENT PLANNING

3.1 Basis of Metropolitan Development Planning

3.1.1 Kenya Vision 2030

GOK officially announced “Kenya Vision 2030” in July-August 2007, which is the new country’s development blue print, covering the period from 2008 to 2030. It aims at making Kenya a newly industrializing, “middle income country providing high quality life for all citizens by the year 2030”.

It is described that the Kenya Vision 2030 is to be implemented in successive five-year Medium Term Plan with the first such plan covering the period 2008 – 2012. Unfortunately as of February 2008 this plan is yet to be published.

It comprises three pillars; economic pillar, social pillar and political pillar. The economic pillar aims at providing prosperity of all Kenyans through economic development programme aimed at achieving an average GDP growth rate of 10 % per annum over the next 25 years. The political pillar aims at realizing a democratic political system founded on issue-based politics that respects the rule of law, and protects the rights and freedoms of every individual in the Kenyan society.

The social pillar seeks to build “a just and cohesive society with social equity in a clean and secure environment”. This quest is the basis of transformation in 8 key social sectors; education and training; health; water and sanitation; environment; housing and urbanization; as well as in gender, youth, sport and culture; and in terms of promoting equity and poverty reduction across the entire Kenyan society. Of the 8 sectors, the following four sectors have a direct relation to the urban matters:

Urban and housing sector

Kenya’s cities and towns are poorly planned and therefore there is an acute need for an effective capacity for regional and urban development planning. There is four flagship projects in housing and urbanization sector, and one of them is the metropolitan and investment initiative: prepare metropolitan and investment plans for 6 regions including Nairobi.

Environmental sector

Kenya aims to be a nation living in a clean, secure and sustainable environment by 2030. The goals for 2012 are: (1) to increase forest cover from less than 3 % at the present to 4 %; and (2) to lessen by half all environment-related diseases. There are five flagship projects in this sector. Of these urban related matters are (i) the water catchment management initiatives (5 water towers including Aberdares Range which is the main source of water supply to Nairobi at the present and even in future), (ii) solid waste management system initiative (relocation of Dandora dump site in Nairobi and development of solid waste management system), (iii) plastic bag initiative (tightening the regulations to limit production and environmentally

detrimental plastic bags), and (iv) land cover and land use mapping initiative (comprehensively mapping all land use patterns in Kenya).

Gender, youth and vulnerable groups sector

The 2030 Vision goal is a gender equity, improved livelihoods for vulnerable groups, and a responsible, globally competitive and prosperous youth. There are 6 flagship projects towards 2012. They are (i) increase the women enterprise fund, (ii) establish a consolidate social protection, (iii) rehabilitate or build at least one youth empowerment center in each constituency, (iv) establish a sport's lottery fund, (v) build national culture center, (vi) sustain and increase youth enterprise fund.

Equity and poverty elimination

The 2030 Vision goal for equity and poverty elimination is to reduce the number of people living in poverty to a tiny proportion of the total population. Kenya will aim at a society that guarantees equality of opportunity in accessing public services and providing income generating activities as widely as possible.

3.1.2 Points at Issues

Situations in the City of Nairobi have been explained in the previous chapter from the various points of views. There are a number of social, physical and environmental problems in Nairobi and its environs. They could be summarized as mentioned below:

(1) Continuing rapid population growth

Population in Nairobi has continued to increase at very high rate, more than 4.5 per annum over the last 3 decades, accelerated by influx of people from rural areas, where poverty ratio is more than 50 %. Of the entire land area of Kenya, approximately 80 % is classified into arid and semi-arid areas where about 20 % of the total population residing. Population density is very high, 4,530 heads per km² in 2006.

Such increasing tendency is presumed to continue even in future unless appropriate measures are taken up and development in the rural areas is accelerated. People in the rural areas are depending on agriculture and livestock for their livelihood, easily prone to be affected by change in natural factors such as drought.

(2) Informal settlements

Influx from the rural areas to the Nairobi city is now spilling into various environs of the city and the main cause of creating slums and squatters in and outside the city. People in such slums and squatters can hardly access to adequate public services including water supply and sewerage, health and education facilities, etc. and there are a lot of issues of gender. Such

slums and squatters are one of the reasons resulting in degrading urban and natural environment.

(3) Concentrated economic development activity

It is reported that the Nairobi city bears more than 50 % of GDP of Kenya. The commercial and industrial activities are concentrated in the city of Nairobi and its environs. It is reported that such activities are accommodating a large number of informal employment but on the other hand negatively affecting the natural environment by producing solid waste, industrial waste water, and pollution of water resources and air.

The increased population and commercial and industrial activities has been causing mess in road traffic within the city in association with increasing transit traffic to neighboring countries.

(4) Stress on land resources

The city of Nairobi is not much favored with natural resources especially land and water. The city area has been limited to about 684 km² since 1969. Keeping pace with the increasing population and expansion of economic activities, a large number of housing estates/residential estates, high rise buildings, industrial establishments have been developed within the city area. And this tendency is still continuing.

Actual land use pattern has been greatly changed compared to the ones in 40 years ago. There is reduction of vegetation and open land which have been playing important role in the natural environment, scenery, retardation of storm rainfall, recharging water resources, etc.

(5) Limited natural resources

Human activities and commercial and industrial activities require various infrastructure in order to ensure and sustain them. One of important infrastructure is water supply. In view of the geographical location, the city of Nairobi is presumed to be not favored with rich surface and ground water resources.

According to the latest study, most promising source in future is the surface runoffs to be tapped in the small rivers in the eastern slopes of the Aberdare Ranges only. It involves a total length of transmission; 82 km, and source development; 3.8 m³/second (328,320m³/day). Financial requirement was estimated at US\$ 252.2 million in the study. Even these resources developed on a run-of-river scheme it could meet the demand only up to 2014.

Accordingly it is no exaggeration to say that such resources development would be the one which governs development of Nairobi in future. It will be one of the priority sectors that are required to be addressed urgently as possible.

(6) Lack of integrated approach to development

A number of studies have been conducted since 1990s, each of which had objective to address its specific problems. There is no integration among the studies, and no comprehensive urban development plan/strategy has been conducted since 1973.

The 1973 urban development strategy established is now outdated and no longer adaptable to the present situation of the city and its environs. It is now hardly possible for NCC and other stakeholders to control, adjust and limit development activities keeping harmony with the natural environment and exploitable resources, since there is no adequate and proper master plan to guide.

3.2 Objectives Area and Goal of the Project

3.2.1 Objective Area

The objective area of the project is the city of Nairobi (684 km²) and its environs.

3.2.2 Goal of the Project

The goal of the project is to produce a comprehensive and integrated master plan for Nairobi metropolitan development which will cover the period of 30 years from 2008. The purpose of the master plan aims at:

Controlling the urban growth;

Reinforcing of urban infrastructure and public facilities;

Improving living conditions of informal settlements;

Ensuring sustainable economic growth;

Creating co-existence among human activities, economic development activities and natural environment; and

Reinforcing public service capability and institutional capacity.

In addition to the above the City of Nairobi be planned to be an excellent regional core in the East African Countries.

3.3 Terms of Reference of the Study

3.3.1 Objectives of the Study

The objective of the Study is as set forth below:

- (1) To prepare a comprehensive and integrated master plan for Nairobi Metropolitan Development

- (2) To conduct pre-feasibility study for the first priority project which will be pointed out through the master plan

3.3.2 Scope of the Study

Study title is proposed as Nairobi Metropolitan Development Plan. It is proposed to carry out the contemplated Study in two (2) phases. For every phase, geo-spatial data infrastructure built by JICA shall be used by means of updating it with the latest data and information.

The scope of work of the respective phase will be, but not be limited to the following:

(1) Phase I: Formulation of Urban Development Master Plan (M/P)

Collection, Survey and Review of Data and Information

- 1) Socio-economic data such as population and its growth rate and distribution in the study, informal settlements, regional gross domestic product and its growth rate, employment and job opportunity
- 2) Topography and climate; topography, water resources, climate characteristics
- 3) Land use; land use pattern (classification and area)
- 4) National policy and previous studies on urban development and related infrastructure and public facilities
- 5) Housing
- 6) Urban infrastructure (water supply, roads, sewerage, sanitation, solid waste management, drainage)
- 7) Public facilities; hospital, clinic, educational institution
- 8) Natural environment
- 9) Institutional set up: Ministries and organization concerned and their structure and responsibility, existing legislations related to urban and physical development planning and implementation

Metropolitan development strategy

- 1) Planning horizon
- 2) Development scenario: Forecast of population and economic development including growth rate, environmental consideration, informal settlements
- 3) Comprehensive metropolitan strategy

Some examples of strategy are shown below.

- International core city in Eastern Africa
- Commercial and business city with National Park
- Sharing functions among Nairobi city and satellite cities
- Industrial core in regional industrial corridor

Update of geo-spatial data infrastructure build up under JICA

Physical development planning

- 1) Spatial structure plan
- 2) Land use plan
- 3) Infrastructure planning; water supply and sewerage, sanitation, drainage, roads
- 4) Public facilities planning; schools, hospital, clinic, etc.
- 5) Appropriate measures for slums and squatters
- 6) Preliminary implementation program with estimate of capital requirement at intervals of 5 years
- 7) Preliminary impact assessment on natural environment

Strategy for social sector improvement

- 1) Appropriate measures to support informal settlements
- 2) Reinforcement of the public services in slum areas
- 3) Support to women and youth groups

Some examples of measures to support informal settlements are:

- Improvement of water supply, sanitation;
- Construction of public facilities such as community center;
- Vocational trainings for youth and women;
- Leadership trainings for community leaders;
- Education on gender, law and order.

Institutional capacity building

- 1) Organization for metropolitan development
 - 2) Role and responsibility of the respective stakeholders to be involved in the organization
 - 3) Reinforcement of existing legislations relative to the metropolitan development plan
- Preliminary investment plan at intervals of 5 years
- Prioritization of the proposed projects

(2) Phase II: Pre-feasibility Study

The Phase I results in a priority project which requires an urgent implementation to meet acute shortage and/or demand. It is proposed to carry out a pre-feasibility study for such priority project to assess its technical feasibility and financial viability. The works under this phase will therefore will include, but not be limited to the following:

- Supplemental survey and investigation necessary for the feasibility study
- Preliminary project planning and design
- Cost estimate
- Implementation program (including short term support programs by donors)
- Economic and financial evaluation
- Preliminary environmental impact assessment

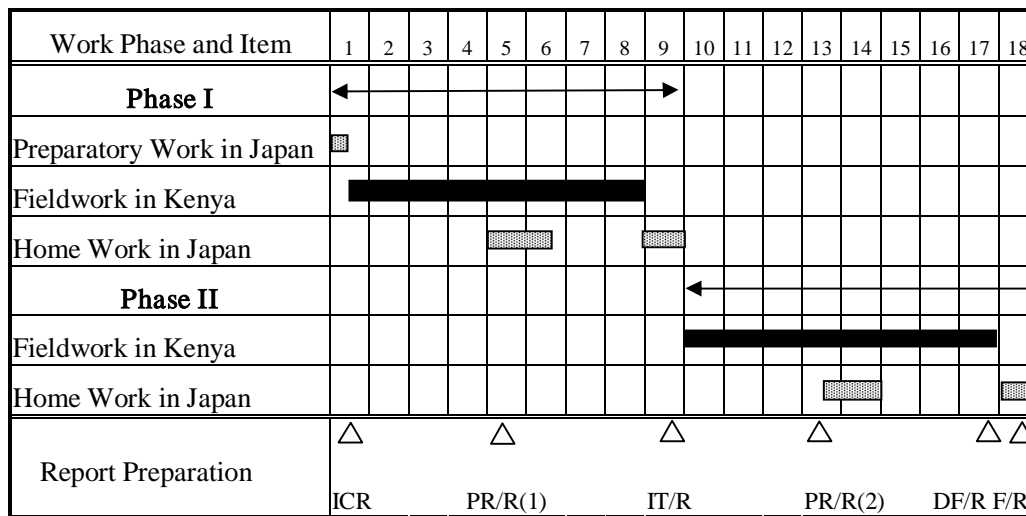
Examples of priority project are shown below.

- Water resource development in the eastern slopes of Aberdare Ranges
- Formulation of EPZ (Export Processing Zone)
- Formulation of Integrated Economic Zones in satellite cities
- Improvement of radial trunk roads between city center and satellite cities
- Construction of bypass and link road, missing links, R/C road (radial arterial road, circumferential road) network formation in urbanized area
- Improvement of living conditions in informal settlements

3.3.3 Study Schedule

It is estimated that the Study will require a period of 18 months. A tentative schedule is as shown in Figure 3.1.

Figure 3.1 Study Schedule



(Note) ICR: Inception Report, PR/R: Progress Report, IT/R: Interim Report, DF/R: Draft Final Report, F/R: Final Report

3.3.4 Expected Major Outputs of the Study

Outputs of the Study will be as follows:

Reports	Major Contents	Time of Output
1 Inception Report	Plan of operation and methodology of the Study	At the commencement of the Study
2 Progress Report (1)	Initial findings obtained through filed survey and planning criteria/ strategy for Master Plan	Upon completion of survey and investigation in Phase I
3 Interim Report	Master Plan on Metropolitan Development	Upon completion of the Phase 1
4 Progress Report (2)	Findings from survey and investigation of Phase II and planning criteria and preliminary design	At commencement of Phase II
5 Draft Final Report	Draft report on the pre-feasibility study	Upon completion of Phase II
6 Final Report	Final Report for the whole Study	Within one (1) month after receipt of comment from GOK of the draft report

3.4 Organization for Implementation of the Study

The Study will involve various ministries and organizations of GOK as the Study area encompasses not only the City of Nairobi but also other local administration of the surrounding area and is the capital of Kenya. Also the Study extends over diversified sectors: physical development planning including spatial structure and land use, infrastructure, public facilities, population, economic development, etc. It is therefore most desirable that the Study will be executed under well coordinated structure, which will be represented by all the stakeholders concerned.

Through the present investigation by the mission, it is considered to be most reasonable to proceed with the Study under the following hierarchy:

(1) National Economic Social Council (NESC)

NESC was established in 2005 as an advisory body under the Office of the President with the aim of fast tracking economic development and comprises the representatives of private sector, government ministries, academic and other professional bodies.

Among the number of its roles and functions, the following will be particularly related to the contemplated Study.

Provide policy advice on the basis of analysis of importance on economic development trends and submit such information to the cabinet with appropriate recommendations,

Develop and recommend to the cabinet, co-ordinate policies that will promote social equity, economic growth, create employment and reduce poverty and inequity,

Review the various programs and activities of the government, including Economic Recovery Investment Programme, for the purpose of determining the extent to which such programs and activities contribute to the government policy objectives.

Among a number of the themes being followed by NESC, there are two themes concerned with the contemplated Study: one is “Making Nairobi as a regional service hub” and the other is “Steering the Kenya Vision 2030”.

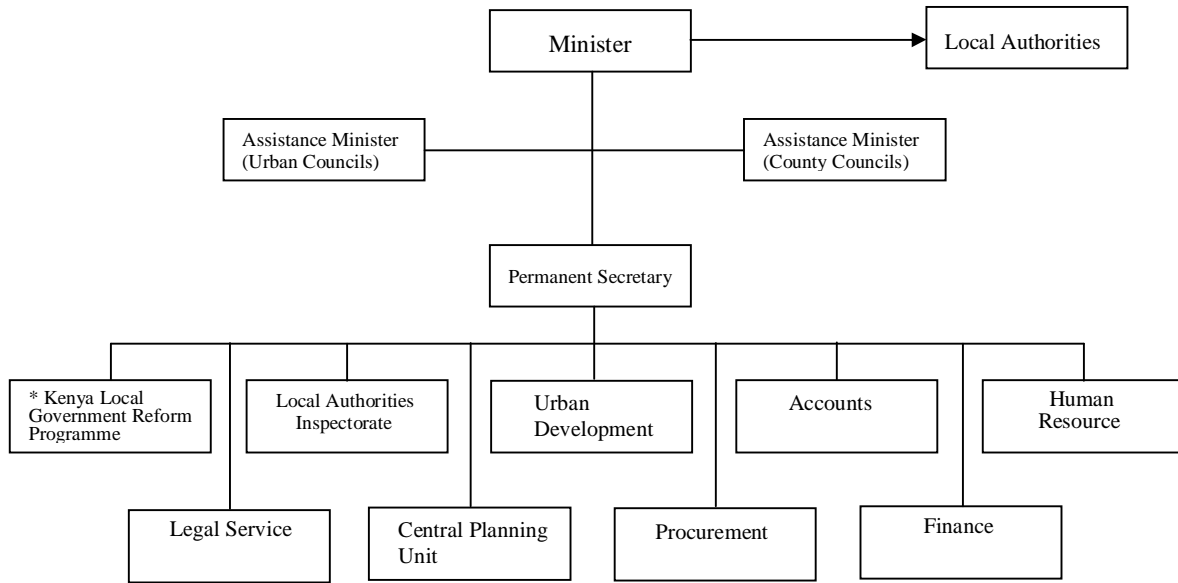
(2) National Urban and Metropolitan Areas Development Board

Initially NESC has proposed to the cabinet the creation of this board and it is now in the process of its gazette.

The board will be responsible for guiding the metropolitan and urban development for Mombasa, Kisumu-Kakamega, Eldoret, Nakuru, Nairobi all of which are targeted in the Kenya Vision 2030. The members of the board will be organized by a chairman and the members from Ministries of Finance, Roads and Public Works, and Transport and Communication and Office of the President with CEO from the Ministry of Local Government. Their roles and responsibility will be defined in Gazette and relevant Act which will be enacted later by the Parliament.

It is presumed that this board will steer the contemplated Study in general and a leading agency is assumed to be Ministry of Local Government, being CEO of the board. Figure 3.2 shows an organization chart of the Ministry of Local Government.

Figure 3.2 Organization Chart of the Ministry of Local Government

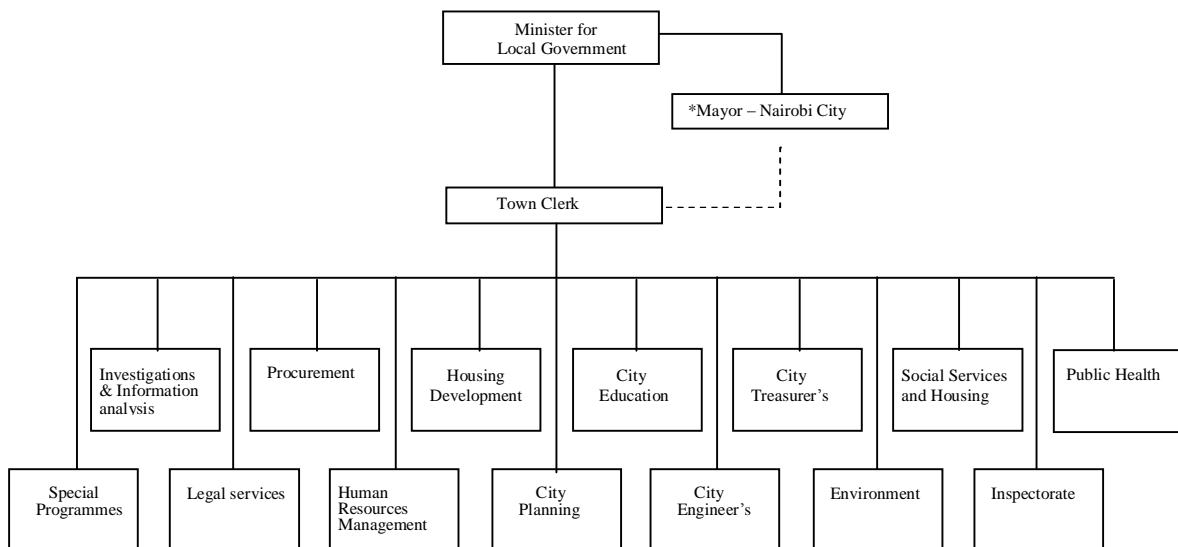


Note: * Kenya Local Government Reform Programme was set up in 1996 with the aim of improving service delivery, participatory governance and poverty alleviation in urban areas

(3) Nairobi City Council

NCC is the most beneficial of the contemplated study and therefore will play significant role throughout the implementation of the contemplated Study. NCC has 13,000 staff in total as of December 2007 and its organization chart is as depicted in Figure 3.3. Among the number of departments, the Department of Urban Planning will have a direct relation with every aspects of the Study.

Figure 3.3 Organization Chart of Nairobi City Council



Note: * The Nairobi Mayor is an elected post, while that of the Town Clerk is Civil Service. The Town Clerk is appointed by the Minister under Local Government Act. The Town Clerk and Mayor thus work in cordial relations.

4. APPLICATION FORM FOR JAPAN'S DEVELOPMENT STUDY PROGRAM (DRAFT)

The mission has exchanged views for preparation of "Application Form for Japan's Development Study Program" through a number of meetings and discussions with the concerned stakeholders. As a result the mission has drafted the attached form and has handed its over to the Ministry of Land, Ministry of Local Government, and NCC for their review and further consideration for submission to GOJ.

5. CONCLUSIONS

- (1) The ECFA mission was dispatched to Kenya during the period from January 29 to February 27, 2008 in order to formulate Nairobi Metropolitan Development Planning Project, which is prospected to be applied to the Japan's Development Study Program by GOK.
- (2) The ECFA mission has made a number of coordination meetings with a number of potential stakeholders who will be involved and/or implicated in the contemplated Study for the purpose.
- (3) Through the coordination meetings, field investigations and review of existing documents, the mission has identified a number of issues and problems now prevailing over the city of Nairobi and its environs. And thus the mission recognized the significance and urgency of the metropolitan development.
- (4) The Kenya Vision 2030 has published in August 2007 and it has clearly set forth visions and flagship projects for urban development during the vision's period. The city of Nairobi is one of focus in the said vision.
- (5) It is noted that the National Urban and Metropolitan Areas Development Board is in the process of creation within GOK. This organization will in principle be responsible for urban development matters in future and is presumed to steer the contemplated Study overall.
- (6) The Ministry of Local Government is presumed to be a leading agency of the contemplated Study, which will be CEO of the above said board. The Nairobi City Council will be the greatest beneficiary among the others and also play significant role.

ナイロビ首都圏開発計画

和文要約

和文要約

1. 調査の背景と目的

ケニア共和国の首都であるナイロビ市（面積 684 km²）は、ケニアの行政、政治、経済、文化の中心であり、1973 年に土地省が計画期間 30 年の「ナイロビ都市開発戦略」を策定した。以後、特定の課題に対応する様々な事業ならびに調査が実施されてきたが、この開発戦略は、これらの計画と調整され、改訂されてきてはならず、ナイロビ市の将来のみならず、現況とも整合のとれないものとなっている。

このためケニア政府は、2006 年に土地省からナイロビ首都圏開発計画調査の要請を日本政府に申請したが、日本政府に受け入れられなかったため、土地省はその緊急性と重要性に鑑み、再度申請書を提出したい意向を持っている。

こうした背景から、本調査団は、土地省の関係職員との協働ならびに他の関連政府機関との協議を通して、ナイロビ首都圏開発計画調査の要請書の修正を完成させることを目的とする。

2. 都市開発に関するケニア政府の方針

ケニア政府は、2007 年 7-8 月に 2008 年から 2030 年までの国家開発の青写真である「ケニアビジョン 2030」を発表した。これは、ケニアを新たに産業化させ、「2030 年までに全ての市民に質の高い生活を保障する中程度の収入国」にすることを目指すものである。都市・住宅セクターに関しては、ケニアの都市・小都市は、適切に計画されておらず、地域計画・都市計画の効果的な能力向上が必要としている。都市・住宅セクターの 4 つの重点プロジェクトの一つが、ナイロビを含む 6 つの地域における大都市圏投資イニシアチブである。

3. ナイロビ市の主な課題

ナイロビ市の人口は、1999 年の 2.1 百万人から 2007 年の 3 百万人へと年率 4.5% で増加してきている。総人口の 29% が貧困ライン以下で生活しており、40% 以上が不法居住地（主にスラム）に居住する。経済開発が市の内外で拡大し、ナイロビ市は GDP の 51% を創出するに至っており、ケニア経済に重要な役割を果たしている。こうした人口増加と経済開発の結果、ナイロビ市は現在、土地と自然環境に対する負荷、不十分な公共サービス、インフラに対する過重な負荷、社会問題などの様々な問題・課題を抱えている。

a) 不法居住地域

ナイロビ市への人口の流入は、市の郊外へと広がるとともに、スラム発生の原因となっている。スラムの住民は、上下水道、厚生・教育施設といった公共サービスに十分にアクセスできないとともに、多くのジェンダー問題を抱える。こうしたスラムは、都市環境の悪化の原因の一つともなっている。

b) 土地資源への負荷

ナイロビ市は、自然資源、特に土地と水に恵まれていない。増加する人口の吸収と経済活動の拡大を維持するため、膨大な住宅、居住地区、高層ビル、工業地区が市内に開発されてき

た。実際の土地利用は 40 年前と比較して大きく変化しており、自然環境、景観、水資源の保全に重要な役割を果たす空地と植生が減少している。

c) 限られた水資源

地理的観点から、ナイロビ市は表流水ならびに地下水に恵まれてはいない。将来における最も有望な水資源は、Aberdare 山脈の東側斜面にある小河川からの取水のみであり、この水資源は 2014 年までのナイロビ市の水需要に対応できることが明らかになってきている。したがって、将来のナイロビの開発を決定づけるのは、水資源であるといっても過言ではない。上水道は緊急に対応が求められる優先的セクターの一つと考えられる。

d) 開発計画における統合されたアプローチの欠如

1990 年代以来、特定の問題に焦点を当てた多くの調査が実施されてきている。しかし各調査は統合されておらず、1973 年以来、総合的な開発計画・戦略は策定されていない。1973 年の都市開発戦略は既に計画期間が過ぎており、市ならびに周辺部の現況にそぐわないものとなっている。適切な都市開発マスタープランがないため、ナイロビ市と他の関係機関が、自然環境と利用可能な資源との調和を保持しながら、開発行為をコントロール、調整、制限することが難しくなっている。

4. 提案する調査

課題を解決し、効果的に事業実施に結び付けるために、次の調査の実施を提案する。

調査名: ナイロビ首都圏開発計画
目的: <ul style="list-style-type: none"> - ナイロビ首都圏開発のための総合的マスタープランを策定する。 - マスタープランにおいて位置づけられた優先プロジェクトについて、プレフィージビィティ調査を実施する。
主な内容 フェーズ 1: 都市開発マスタープラン データ・情報の収集、分析、レビュー 首都圏開発戦略 地理空間情報基盤の更新 空間開発計画 社会セクター開発戦略 制度的能力向上計画 予備的投資 5 ヶ年計画 提案プロジェクトの優先順位 フェーズ 2: プレフィージビィティ調査 プレフィージビィティ調査のための補足調査 予備的事業計画・設計 概算事業費の算定 実施プログラム 経済財務分析 予備的環境影響評価
調査期間: 18 ヶ月

5. 提案した調査の実施組織

現在、全国都市・大都市圏開発委員会がケニア政府内に新たに創設されつつある。この組織は、原則的に将来のケニアの都市開発に関して責任を持ち、提案した調査に関しても全般的な監理をするものと思われる。地方自治省から当該委員会の代表者が選任されると考えられるため、提案したナイロビ首都圏開発計画調査についても、地方自治省が主導的な役割を果たすと思われる。また、ナイロビ市役所は、関連する組織の中で最大の受益者であり、調査にとり重要な役割を果たすと考えられる。

6. 開発調査要請書案

調査団は、関係機関との協議を通して、提案の調査に関する開発調査要請書案の作成に関する意見を交換した。その結果に基づき、添付の要請書案を作成し、土地省、地方自治省、ナイロビ市役所に今後の日本政府への提出のための参考として手交した。