

Environmental and Social Consideration in Detailed Planning Survey
(Technical Cooperation for Development Planning)

1. Full title of the Project

The Project on Detailed Planning of Integrated Transport System and Loop Line Project in the Nairobi Urban Core (hereinafter referred to as ‘the Project’)

2. Type of the Study

Master Plan Complementary Study

3. Categorization and its Reason

3.1 Categorization

Category B

3.2 Reason

The Project is not likely to have significant adverse impact on the environment under the JICA Guidelines for Environment and Social Consideration (April, 2010) in terms of its sectors, characteristics and area.

4. Agency or Institution Responsibility for the Implementation of the Project

Nairobi City Council Government (NCCG)

NCCG will be responsible for overall coordination of the Project.

5. Outline of the Project

5.1 Objective

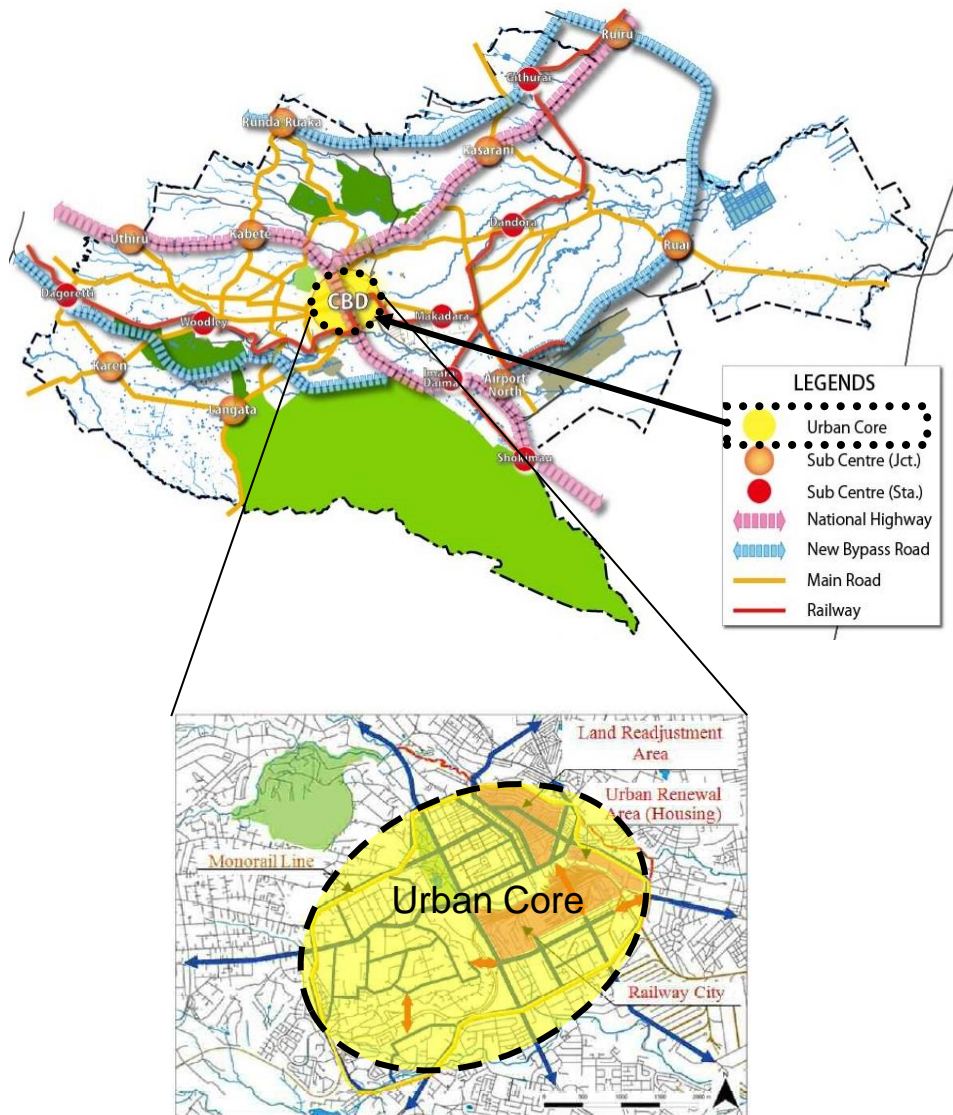
Objective of the Project is to promote realization of the Development Vision of the Nairobi Urban Core; “Compact urban center that is creative, livable, green, efficient, competitive and inclusive”, proposed by the Nairobi Integrated Urban Development Master Plan (NIUPLAN). NIUPLAN was formulated in 2014 by NCCG supported by JICA, in order to develop a holistic approach to address intense urban issues arising.

5.2 Justification

The Project complies with the Government of Japan’s Country Assistance Policy for the Republic of Kenya, which aims to develop economic infrastructure and aligns well with the Nairobi Metropolitan Transport Network Improvement Program under the Rolling Plan.

5.3 Location

The Project covers the area of the Nairobi Urban Core.



5.4 Scope of Study

-Outputs of the Project

Component 1: Detailed plan of Integrated Transport System in the Nairobi Urban Core

Component 2: Loop line project framework.

-Activities

- (1) Review and analyze current situation of transport and urban development in Nairobi and its Urban Core.
- (2) Embody the integrated transport system development vision in line with the Development Vision of the Nairobi Urban Core proposed by NIUPLAN.
- (3) Coordinate with on-going and planned projects in both transport and urban development in the Nairobi Urban Core.

(4) Formulate the detailed plan of integrated transport system in the Nairobi Urban Core composed of;

- Public transport system connectivity plan (Infrastructure and service policy),
- Related urban development plan(s) at pilot site(s), and
- Timeframe and phasing plan of development.

(5) Design the loop line project framework including;

- Preliminary design of route alignment and transport system, and
- Implementation structure, legal framework and financial scheme.

(6) Strategic Environmental Assessment

(7) Capacity building of NCCG and organizations related to urban transport system and urban development.

6. Description of the Project site

6.1 Climate

Although Nairobi is situated close to the equator, its altitude of about 1700 metres results in a modified climate as opposed to a tropical climate. The differences between the seasons are minimal and are generally described as the “wet” season and “dry” season and can be categorized as follows:

*Mid-December to Mid-March: Warm, sunny, dry.

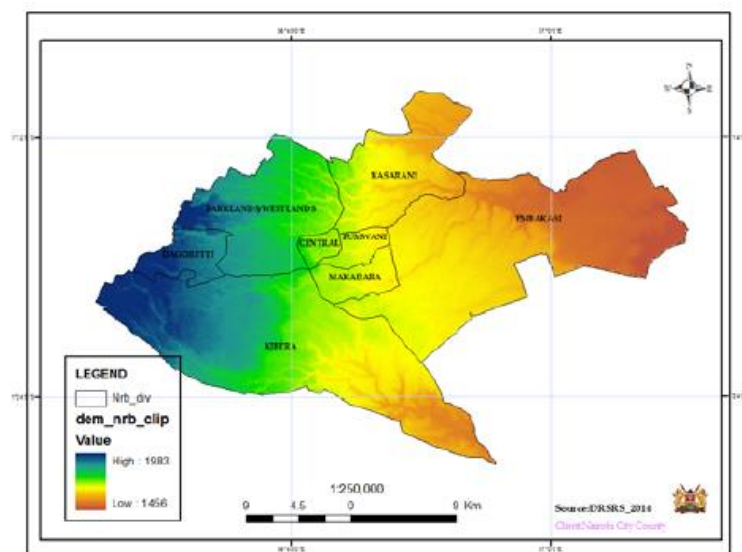
*Mid- March to May: Main rain season.

*June to Mid-October: Cool, rather cloudy (especially July-August), dry.

*Mid-October to Mid-December: Secondary rain seasons.

6.2 Topography and Geology

Nairobi lies at an average altitude of 1650 m asl (range 1500-1800 m). The city lies at the edge of the Athi Kapiti plain and the lower slopes of the Kikuyu and Aberdare escarpment. Land elevation increases from east to west.

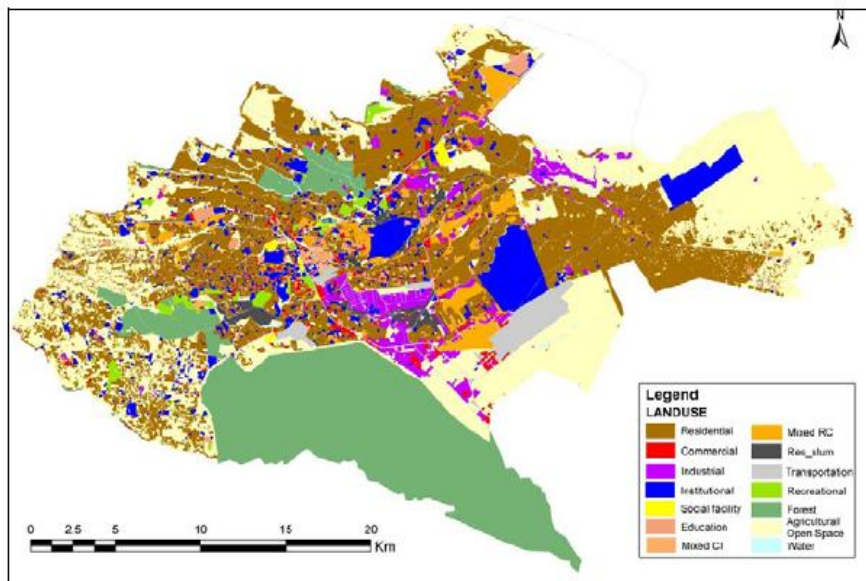


6.3 Land use

Available land use surveys for the whole area of Nairobi city were conducted by Centre of Sustainable Urban Development (CSUD) of Colombia University in collaboration with Nairobi University in 2005 and 2010.

Majority of governmental institutions have their headquarters in the CBD and Upperhill area.

For this reason, the current land use of this area is mostly institutional of mixed use of institutional and others. However, some new office buildings for private companies tend to be constructed outside of the CBD along major roads. And the CBD with its outer edge area can be characterized as ‘Urban Core’ where economic, administrative and political activities are circulating around including a large volume of traffics and people working in Nairobi..



7 Legal Framework of Environmental and Social Consideration

7.1 Laws, regulations and standards related to environmental and social issues

All laws and policies related to the environment and social consideration are listed below.

NAME (Environmental and Social Consideration)	Responsible Institution
Environment Consideration Related	
The Environmental Management and Co-ordination Act, 1999 Amendment Act, 2015	MEWNR NEC NEMA
1.1.EIA/ SEA	
The Environmental (Impact, Audit and Strategic Assessment) Regulation 2009	NEMA
County Government Act 2012	NCCG
1.2Air Pollution	
The Environmental Management and Coordination (Air Quality) Regulations, 2008, Revised 2012	NEMA
The Environmental Management and Coordination, (Water Quality) Regulations 2006, Revised 2012	NEMA
The Environmental Management and Coordination, (Waste Management)	NEMA

NAME (Environmental and Social Consideration)	Responsible Institution
Regulations 2006, Revised 2012	
The Environmental Management and Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009	NEMA
The Environmental Management and Co-Ordination (Controlled Substances) Regulations, 2007	NEMA
The Environmental Management and Co-Ordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulations, 2006	NEMA
The Environmental Management and Co-Ordination (Wetlands, River Banks, Lake Shores and Sea Shore Management) Regulations, 2009	NEMA
The Environmental (Prevention of Pollution in Coastal and Other Segments of the Environment) Regulation, 2003	NEMA
2. Natural Resource, Cultural Heritage	
The Wildlife (Conservation and Management) Act (Cap 376) (1985) Revised Edition 2009	MEWNR KWS
The Forests Act, 2005, Revised 2012	MEWNR KFS
The Water Act, 2002, Revised 2012	MEWNR WRMA
The Water Resources Management Rules, 2007	WRMA
The National Museums and Heritage Act (Cap 216) (2006) Revised Edition 2009	MEAC NMK
3. Laws related with environment during construction	
The Occupational Safety and Health Act, 2007, Revised 2010	MLSSS
The Public Health Act (Cap. 242) 1986, Revised 2012	MOH
The Physical Planning Act (Cap. 286) Revised Edition 2010 (1996)	MoLH&UD
The Energy Act, 2006, Revised 2012	MOEP
The Wayleaves Act (Cap. 292) Revised Edition 2010 (1989)	GoK

Note: MEWNR (Ministry of Environment, Water & Natural Resource), NEC (National Environment Council), NEMA (National Environment Management Agency), NCCG (Nairobi City County Government), KWS (Kenya Wildlife Society), WRMA (Water Resource Management Authority), KFS (Kenya Forestry Society), MEAC (Ministry of East African Affairs, Commerce and Tourism), NMK (National Museum of Kenya), MLSSS (Ministry of Labour, Social Security and Services), MOH (Ministry of Health), MoLH&UD (Ministry of Land, Housing and Urban Development), MOEP (Ministry of Energy and Petroleum) GoK (Government of Kenya)

NAME (Land Acquisition and Resettlement)	Responsible Institution
1. Constitution	
The Constitution of Kenya, 2010	All Govt.
2. Land	
Land Acquisition Act (Cap. 295) Revised Edition 2010 (1983)	MoLH&UD
Government Lands Act (Cap. 280) Revised Edition 2012 (1984)	MoLH&UD NLC
Trust Land Act (Cap. 288) Revised Edition 2012 (1970)	MoLH&UD Council
Registration of Titles Act (Cap. 281) Revised Edition 2010 (1982)	MoLH&UD NLC
Registered Land Act (Cap. 300) Revised Edition 2012 (1989)	MoLH&UD
National Land Commission Act 2012	MoLH&UD

NAME (Land Acquisition and Resettlement)	Responsible Institution
	NLC
Land (Group Representatives) Act (Cap 287) Revised Edition 2012 (1970)	MoLH&UD Council
Land Adjudication Act (Cap 284) Revised Edition 2012 (1977)	Council
Land Consolidation Act (Cap 283) Revised Edition 2012 (1977)	Council
Land Titles Act (Cap. 282) Revised Edition 2010 (1982)	MoLH&UD
Land Disputes Tribunals Act (Cap303A) Revised Edition 2010 (1990)	MoLH&UD
Landlord and Tenant (Shops, Hotels and Catering Establishments) Act (Cap 301) Revised Edition 2012 (1984)	MoLH&UD
Land Control Act (Cap. 302) Revised edition 2012 (1989)	MoLH&UD
Valuers Act (Cap.532) Revised Edition 2012 (1985)	MoLH&UD
3. Human Right	
The Kenya National Commission on Human Rights Act, 2002, Revised 2012	KNCHR
4. Labour's Security	
The Employment Act, 2007, Revised 2012	MLSSS
The Labour Relations Act, 2007, Revised 2012	MLSSS
The Work Injury Benefits Act, 2007, Revised 2012	MLSSS

Note: NLC (National Land Commission), KNCHR (Kenya National Commission of Human Rights)

8. Provisional Scoping

(1) General Environmental and Social Issues

Major environmental and social concerns in Nairobi Urban Core are summarized below. The description is based on the reviewing result of NIUPLAN SEA.

(2) Provisional Scoping

At this detailed planning survey stage, no specific projects are assumed for discussion. In the Project, a long list of strategic projects and the profiles for the selected priority projects will be proposed in the course of master plan formulation, but exact site location, layout design and specification of the priority projects are not determined in the Project.

Therefore, in this provisional scoping, typical and/or general scoping items are presented as a reference for environmental and social considerations implemented in the Project. And provisional rating is carried out as a reference although the extent of impact is almost unknown at this detailed planning survey stage.

If serious adverse impacts are predicted in the process of master plan formulation and project identification, possible measures to avoid and/or mitigate such impacts should be proposed in the Project.

Environmental Items	Scoping Description	Rating
1) Air pollution	If infrastructure or facility development/improvement is implemented, exhaust gas from construction equipment and vehicles, and the dust caused by construction works may increase temporarily during construction period. - Growth in traffic volume due to increase of flow of goods may generate more exhaust gas.	B-


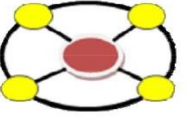
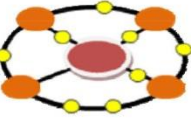


Environmental Items	Scoping Description	Rating
2) Water pollution	If infrastructure or facility development/improvement is implemented, discharge of mud, oil, etc. from the construction site may cause water pollution during construction period. Possibility of water pollution due to effluents from operation of the facility will depend on what kind of facility is proposed in the Project. Development of Loop Line induced may create new employment opportunities and lead to population influx. Increase of inhabitants may cause sewage contamination.	C
3) Soil contamination	Infrastructure or facility development/improvement may induce soil contamination during construction period. Any industries to produce or use hazardous substances may not be planned, so possibility of soil contamination is low.	C
4) Waste	Infrastructure or facility development/improvement may generate wastes during construction period. Development of Loop Line may create new employment opportunities and lead to population influx. Increase of inhabitants may generate more wastes.	C
5) Noise and vibration	Construction noise and vibration from construction equipment and vehicles may occur during construction period if infrastructure or facility development/improvement is implemented. Growth in traffic volume due to increase of flow of goods may generate more noise and vibration.	B-
6) Ground subsidence	Excessive water use during the construction may cause ground subsidence in the city	C
7) Offensive odour	Some construction activities may produce offensive odour during operation, but it depends on what kind of industry or facility is proposed in the Project.	C
8) Bottom sediment	Unknown	C
9) Accident	If infrastructure or facility development/improvement is implemented, the risk of accident may increase during construction period. Growth in traffic volume due to increase of flow of goods may cause an increase in traffic accidents.	B-
10) Topography and geographical features	If infrastructure or facility development/improvement is implemented, some impact may occur.	B-
11) Soil erosion	If infrastructure or facility development/improvement is implemented, the construction works may cause soil erosion.	C
12) Groundwater	Development of Loop Line may create new employment opportunities and lead to population influx. Increase of inhabitants may increase consumption of water which may cause some impacts.	C
13) Hydrological situation	Unknown	C
14) Protected areas	There are no protected areas and national parks in Nairobi Urban Core.	D
15) Flora, fauna and biodiversity	There is no significant flora, fauna and biodiversity in Nairobi Urban Core.	D
16) Meteorology	Increase of concrete structures may surge the heat island effect on the Nairobi Urban Core.	B-
17) Landscape	Careful attention should be paid when selecting the Loop Line alignment.	B-
18) Global warming	Growth in traffic volume due to increase of flow of goods may increase emission of carbon dioxide.	C

Environmental Items	Scoping Description	Rating
19) Involuntary resettlement	Depending on proposed alignment of the Loop Line, involuntary resettlement is not avoidable.	C
20) Local economy such as employment and livelihood, ect.	The development of Loop Line may lead to the creation of new employment opportunities, vitalization of local economy, and then improvement of people's livelihood. However, it is also probable that inequality of opportunity and income may be induced.	B+/C
21) Land use and utilization of local resources	Land use modification by rearrangement of transport system may cause confusion of local resources.	C
22) Social institutions such as social infrastructure and local decision making institutions	Unknown.	C
23) Existing social infrastructures and services	Development of Loop Line may create new employment opportunities and lead to population influx. It is quite probable that existing social infrastructure and services such as water supply, electricity, waste disposal, education and health facilities, etc. could not meet the needs of increasing inhabitants.	A+
24) The poor, indigenous and ethnic people	Require further detailed study	C
25) Misdistribution of benefit and damage	Require further detailed study	C
26) Cultural heritage	There are no cultural heritages in Nairobi Urban Core.	D
27) Local conflict of interests	Require further detailed study	C
28) Water usage or water rights and communal rights	Require further detailed study	C
30) Hazards (risks), infectious diseases such as HIV/AIDS	Transport workers (e.g. truck drivers, dock workers), who often endure harsh working and living conditions, will be more in danger of damaging their health in general as well as at higher risk of contracting sexually transmitted infection such as HIV/AIDS.	B-
31) Gender	Require further detailed study	C
32) Children's right	Require further detailed study	C

Note: Rating A+/-: Significant positive/negative impact is expected. B+/-: Positive/negative impact is expected to some extent..C: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses) D: No impact is expected.

9. Alternatives to the project activities including “without project” option

The Development of Loop Line was selected under the NIUPLAN with alternative analysis of urban structures referred as the illustration below. Since the Project is for confirming viability of the loop line system and further analysis of loop line system, additional alternative analysis will be carried out for loop line system.

No Action	Alternative 1 Sub-centre system (poly nucleated development)	Alternative 2 Sub-centre system (bi-polar corridor development)	Alternative 3 Sub-centre system (corridor cum ring development)	Alternative 4 Diffused development System
				
Current situation	<p>There is no dominating single settlement; all nodes of the polycentric network have the same relevance of "spatial participation"</p> <p>Positive aspect</p> <ul style="list-style-type: none"> Better mobility will be maintained by decentralizing the CBD Accelerated growth of sub-centres Living condition in CBD will be maintained and more people will live in the suburbs with better living condition and life style 	<p>Development of minor settlements along the transport corridor connecting two strong nodes.</p> <p>Positive aspect</p> <ul style="list-style-type: none"> Better mobility will be maintained by decentralizing the CBD Living condition in CBD will be maintained and more people will live in the suburbs with better living condition and life style Strong axial development with Strong polar forms. <p>Other feature Multi modal transport along corridors is required.</p>	<p>Development of settlements along the corridor and ring</p> <p>Positive aspect</p> <ul style="list-style-type: none"> High intensity development along city sub centres Medium capacity transport system Network of transport (sectoral and regional centres) <p>Negative aspect Requires high investment on transport infrastructure..</p>	<p>Development of two level of corridor (within NCC and Greater Nairobi)</p> <p>Negative aspect</p> <ul style="list-style-type: none"> High investment cost <p>Other features</p> <ul style="list-style-type: none"> Self-contained or independent development Dispersal development

10. Result of consultation with the proponent government agency

Consultation has been conducted with National Environment Management Agency (NEMA) to establish basic idea of environmental study for the Project and the discussion results described below are agreed with NEMA and NCCG.

- (1) SEA approval of the result of the Project is NOT required by the relevant laws or regulations of Kenya since the Project is supplemental study of the NIUPLAN and basic concepts of those transport plans has been discussed in the NIUPLAN SEA which has been approved by NEMA already.
- (2) Environment Assessment for component 1 regarded as the Detailed Plan of Integrated Transport System in the Nairobi Urban Core (DPIT) and component 2 regarded as the Loop Line Project Framework (LPF) shall be carried out as a supplemental assessment of NIUPLAN SEA.
- (3) Although procedure and contents of the EA study for DPIT and LPF is basically same as regular SEA study, volume and quality could be abbreviated by referring the data from the NIUPLAN SEA as much as possible.
- (4) The Environment Assessment study for DPIT and LPF will be attached to the current approval document as an addendum document after being reviewed by NEMA.
- (5) Either new license document or fee in accordance with this Environment Assessment study is NOT required since the study report is a supplemental for the NIUPLAN SEA report.

11. Terms of Reference for Environmental and Social consideration

Followed by the consultation results, the terms of reference of the environment study for the Project has been established with agreement of both NCCG and NEMA.

Basic items of study are followed by the SEA guideline in Kenya with coordination of requirement from the JICA guideline.

- (1) Review of existing development plans, development projects, studies, and public and private investments;
- (2) Analysis to identify constraints to development, factors of promoting development;
- (3) Analysis of alternatives of projects/development scenarios for achieving the goals of the Project;
- (4) Consideration of contents of developed policy and plans;
- (5) Scoping (clarify extremely important items on environmental and social impacts and its evaluation methods at the time of decision making of the plan);
- (6) Confirmation of existing environmental and social conditions of the proposed project area in the plan as a base line data;
- (7) Confirmation of legal framework and institution of Kenya on environmental and social considerations, and examination of the experiences of SEA in Kenya;
- (8) Prediction and evaluation of cumulative, indirect or secondary impacts as well as likely direct ones of proposed projects/development scenarios in the plan;
- (9) Comparative analysis of alternatives of proposed projects/ development scenarios, including 'without project' option;
- (10) Examination of the mitigation measures (to be avoided, minimized and compensated)
- (11) Examination of the monitoring methods (monitoring items, frequencies and methods), if necessary;
- (12) Technical input to assist NCCG in holding stakeholder meetings; and
- (13) Scoping of a proposed priority project under the detailed plan for its items on environmental and social impacts and its prediction and evaluation methods.

12. Other relevant information

None