

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

**1. Full title of the Project**

Project for Formulation of Comprehensive Development Master Plan in the Mombasa Gate City

**2. Type of the study (e.g. Master Plan, Feasibility Study, Detailed Design, etc.)**

Master Plan

**3. Categorization and its reason**

(1) Category: B

(2) Reason:

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

**4. Agency or institution responsible for the implementation of the project**

Mombasa County Government (MCG)

**5. Outline of the Project (objectives, justification, location, proposed activities, and scope of the study)**

**5.1. Objectives**

The objective of the Project is to formulate comprehensive development master plan in Mombasa.

**5.2. Location**

Mombasa County and part of Kwale County, Kenya

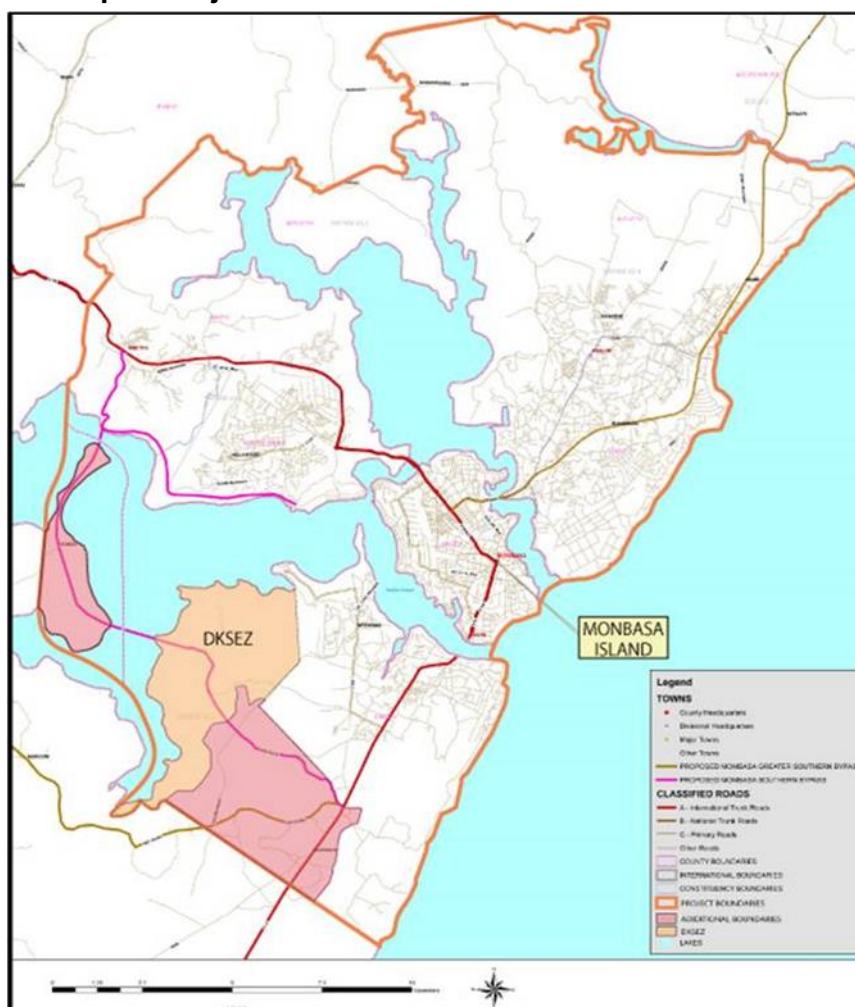
**5.3. Scope of the Project**

- (1) Formulation of development vision
- (2) Formulation of integrated development strategies
- (2) Formulation of Structure plan including Land use
- (3) Formulation of comprehensive urban development master plan
- (4) Human resource development through technical transfer of master planning

(5) Holding seminars to share the progress and results of the Project

## 6. Description of the project site (maps, environmental and social condition, current issues, etc.)

### 6.1. Location Map of Project Site



### 6.2. Environmental condition

Mombasa is the second biggest city in Kenya, with population of 940,000 in 2009. Most of the city functions are centralized in the Mombasa Island which lies at the center of the County. 2 bridges are spanned towards the mainland direction to the west, and 1 bridge towards the north. Currently there is no bridge towards the south bound, and ferry is operated from the southern edge of the Mombasa Island to the southern inland, instead.

Most of the land in Mombasa County lies in coastal lowland, and its elevation ranges

from 8m in the coastal area to 100m in the west. Topographically, the land is categorized into 3 parts: The first part is the coastal plain along the coastline, stretching to 6km. The second part consists of shale layer and toughly eroded sparse sandstone layer over the top. Last part is hilly area with sandstone. In the littoral area, the soil consists of well drained coral sands.

There are 2 marine protected areas in the coast zone; Mombasa Marine National Park and Mombasa Marine National Reserve. Those marine protected areas attract many tourists since there are coral reefs approximately 150m offshore with rich biodiversity. There is also mangrove forest along the inland coastlines in Mombasa, but slums are also nearby.

### **6.3. Current issues**

The city of Mombasa plays an important role for East and Central African Regions as the gate city of the Northern Corridor. The Mombasa Port handles import and export not only for Kenya, but also inland countries such as Uganda, South Sudan, Rwanda, Burundi and east part of the Democratic Republic of the Congo. Due to the rapid economic development of the region, the Mombasa Port is expanding its capacity. In addition to this, the population of the city of Mombasa is increasing. Rapid urbanization raised issues such as housing problems and lack of infrastructures for the appropriate urban development.

Though it is important to have a plan to develop the city appropriately, there is no valid Master Plan for urban development, since Mombasa Physical Plan formulated in 1971 expired in year 2001. Urban development in Mombasa takes place within a context of a complicated institutional and legal framework. This compounded by current lack of City Master Plan has led to unfettered, uncoordinated and haphazard urban development, marked by increased informality in the city's economy, dysfunctional infrastructure, inefficient spatial economy and degraded environment among others.

## **7. Legal Framework of Environmental and Social Considerations**

### **7.1. Laws, Regulations and Relative agencies and institutions**

#### **(1) Laws and Regulations**

Environmental Management Coordination Act (EMCA) was established in 1999 to strengthen the legal and institutional framework for environmental management. Under EMCA, various regulations concerning implementation of Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), and Environmental Audit (EA), and management activities for air, water, wastes, and noise, to protect

environment. Other regulations related to environmental consideration include wildlife conservation, forest management, water resources management, and health and safety for workers.

The basic idea and principle of social considerations are mentioned in the new constitution 2010. It is clearly mentioned that vulnerable groups within society including women, older members of society, persons with disabilities, children, youth, members of minority or marginalized communities, and members of particular ethnic, religious or cultural communities is considered. According to the constitution, “marginalized community” means (a) a community that, because of its relatively small population or for any other reason, has been unable to fully participate in the integrated social and economic life of Kenya as a whole, (b) a traditional community that, out of a need or desire to preserve its unique culture and identity from assimilation, has remained outside the integrated social and economic life of Kenya as a whole, (c) an indigenous community that has retained and maintained a traditional lifestyle and livelihood based on hunter or gatherer economy, or (d) pastoral persons and communities.

Kenya’s land system defines 3 types of land: Public Land, Community Land, and Private Land. Laws and regulations related to land have been drastically integrated or newly formulated. In principle, National Land Commission is responsible for land acquisition and resettlement on public projects on behalf of the central and local governments.

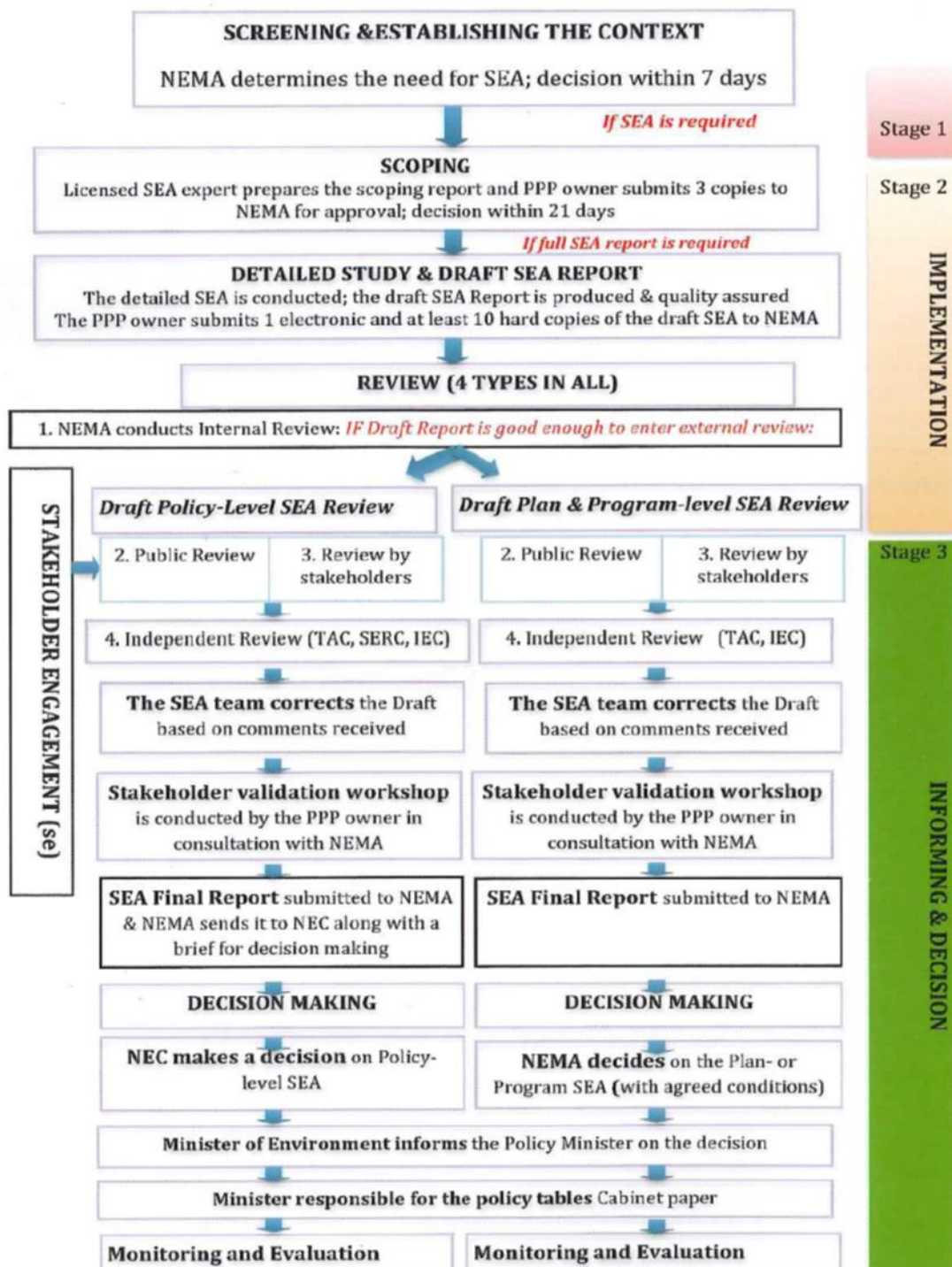
## (2) Related agencies and institutions

NEMA is established under EMCA, as principal instrument of government in the implementation of all policies relating to the environment. One of the departments, Department of Compliance and Enforcement is responsible for pollution control through formulation of regulations, setting up standards, issuance of licenses or permits to operators, and issuances of EIA and SEA licenses after its review.

## **7.2. Procedures of EIA, stakeholder participation and information disclosure**

### (1) SEA

NEMA has formulated the National Guidelines for SEA to show the basic steps and how to integrate environmental issues into policies, plans, and programs through a rigorous stakeholder engagement process. The latest version of the guidelines released in 2012, shows following SEA procedures.



(2) EIA

Environmental Impact Assessment Guidelines and Administrative Procedures were developed in Kenya in 2002, and sectoral guidelines are now under development. EIA system in Kenya does not show significant gaps with World Bank's safeguards and

Japanese EIA system. The second schedule of EMCA lists project types, and any project proponent need to submit a project report (similar to IEE) to NEMA. After its review, NEMA determines if the proposed project is subject to undertake EIA or not. However, specific criteria used for the determination on the necessity of EIA are not clear.

## 8. Provisional Scoping (types and magnitudes of possible adverse impacts and mitigation measures)

The provisional scoping on possible environmental and social impacts related to the formulation of the urban development master plan is shown below.

Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
Pollution	1	Air Pollution	Construction Phase	B	B	B	B	B	<p>Construction Phase: Exhaust gas from construction vehicles and heavy equipment may increase during construction works.</p> <p>Operation Phase: Local air quality may be improved due to ease of traffic congestion after the urban transport improvement. Exhausted gas from new road traffic, waste treatment facilities, and industries may increase.</p>
			Operation Phase	B	B	C	D	B	
	2	Water Pollution	Construction Phase	B	B	B	B	B	
			Operation Phase	B	D	C	B	B	

Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
	3	Waste	Construction Phase	B	B	B	B	B	Construction Phase: Construction wastes may be generated during construction works. Operation Phase: On-road dumping and illegal dumping may be reduced by improved waste management. Population growth associated with urbanization may bring waste increase (including sludge from waste treatment plants and industrial wastes).
			Operation Phase	B	D	C	B	B	
	4	Soil and groundwater Contamination	Construction Phase	B	B	D	D	D	Construction Phase: Soil contamination caused by oil (asphalt) may occur in road construction works. Operation Phase: Soil and groundwater pollution by hazardous substances may occur during industrial operation and improper waste management.
			Operation Phase	B	D	C	C	B	
	5	Noise and Vibration	Construction Phase	B	B	B	B	B	Construction Phase: Noise and vibration may occur due to construction vehicles and heavy equipment operation. Operation Phase: Improved traffic management may reduce honking on road. Noise and vibration from industry operation, water pumps, newly developed roads, and railway operation may increase.
			Operation Phase	B	B	C	C	C	
	6	Ground Subsidence	Construction Phase	D	D	D	D	D	Operation Phase: If excessive amount of groundwater pumping for industrial or domestic use may cause ground subsidence.
Operation Phase			C	D	C	C	D		
7	Offensive Odor	Construction Phase	D	D	D	D	D	Operation Phase: If waste in the city is properly managed, offensive odor	

Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
Natural Environment			Operation Phase	C	D	C	B	B	problem may be improved. Other odor problems may occur due to new industry operation which uses chemicals (such as ammonium), and due to waste/wastewater treatment facilities.
	8	Bottom Sediment	Construction Phase	B	B	B	B	B	Construction Phase: Discharged sediments associated with land reclamation construction works may impact on river and wetland bottom characteristics.
			Operation Phase	C	D	D	C	C	Operation Phase: Organics in effluent from wastewater treatment facilities, industries, or waste treatment plants may give impact on river and wetland bottom characteristics.
	9	Protected Areas	Construction Phase	C	C	C	C	C	Construction Phase: Depending on location of infrastructure and facility development, land reclamation and construction work may cause destruction of protected areas and ecosystem.
	Operation Phase		C	C	C	C	C	Operation Phase: New industry operation and increase of environmental load associated with urbanization may affect protected areas and ecosystem. Proper waste and wastewater management may improve natural environment.	
	10	Hydrology	Construction Phase	C	C	C	C	C	Construction Phase: Land reclamation and road/bridge construction work at coastal area may cause hydrological changes.



Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
			Operation Phase	C	D	C	C	D	Operation Phase: Excessive groundwater pumping for new industry and domestic use, large amount of water intake for cooling water at power plant, and topographical change by infrastructure installation may cause hydrological change.
	11	Topography and Geographical Features	Construction Phase	B	B	B	B	B	Construction Phase: Infrastructure and facility development may cause topographical and geographical change.
			Operation Phase	D	D	D	D	D	
	12	Coastal Area (Mangrove, Coral reef, and Tidal flat)	Construction Phase	B	B	B	B	B	Construction Phase: Land reclamation in coastal zone, dredging, and sediment runoff from terrestrial area may cause ecosystem degradation due to construction works. Operation Phase: If waste and chemical substance management is improved, coastal environment may be properly conserved. Increased environmental load may damage mangrove areas, and ecosystem.
			Operation Phase	C	C	C	C	C	
	Social Environment	13	Involuntary Resettlement and Land Acquisition	Construction Phase	C	C	C	C	C
Operation Phase				D	D	D	D	D	
14		The Poor	Construction Phase	C	C	C	C	C	Construction Phase: Infrastructure and facility development may bring employment opportunity to the poor. Operation Phase: The poor may migrate into the city associated with urbanization. Slum area expansion and mal-distribution of benefit may occur.
			Operation Phase	C	C	C	C	C	

Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
	15	Minority and Indigenous Peoples	Construction Phase	C	C	C	C	C	Construction and Operation Phase: Variety of people and tribes lives in Mombasa. Any impact to indigenous people is unknown. If there are indigenous people who need to be protected, the master plan should take into account their rights and protection.
			Operation Phase	C	C	C	C	C	
	16	Local Economy (Employment, Livelihood etc.)	Construction Phase	C	C	C	C	C	Construction Phase: If infrastructure or facility development is initiated, employment opportunity for local residents and project opportunity for private sector may be increased, and regional economy may be vitalized. Operation Phase: mal-distribution of development areas may widen gap of regional economy. Employment opportunity may be increased due to urbanization.
			Operation Phase	B	C	C	C	C	
	17	Land Use and Utilization of Local Resources	Construction Phase	B	C	C	C	C	Construction and Operation Phase: Land use strategy may become clear by the master plan, and local resources such as agriculture and tourism may be accelerated.
			Operation Phase	B	C	C	C	C	
	18	Water Use	Construction Phase	D	D	D	B	D	Construction and Operation Phase: If water system is improved, clean water may be distributed to wider areas. Excessive water use in new industries and power plants may cause water shortage.
			Operation Phase	B	D	B	B	D	
	19	Existing Social Infrastructure and Services	Construction Phase	C	C	C	C	C	Construction and Operation Phase: Infrastructure development (roads, water and wastewater etc.) and social services may be stimulated via stakeholder meetings during the master plan planning. Population influx may pressurize capacity of schools and health care facilities.
			Operation Phase	C	C	C	C	C	

Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
	20	Social Institutions such as Local Decision Making Institutions	Construction Phase	B	B	B	B	B	Construction and Operation Phase: NGO and social groups may become active through the master plan and following project planning, and interactive communication may be expected.
			Operation Phase	B	B	B	B	B	
	21	Misdistribution of Benefit and Damage	Construction Phase	C	C	C	C	C	Construction and Operation Phase: Areas which cannot receive benefit from the urban development may exist. Change of urban structure may cause loss of some people's livelihood.
			Operation Phase	C	C	C	C	C	
	22	Local Conflict of Interest	Construction Phase	C	C	C	C	C	Construction and Operation Phase: Conflict between benefited group and non-benefited group within the areas, or conflict between people in the county and people outside may occur.
			Operation Phase	C	C	C	C	C	
	23	Cultural Heritage	Construction Phase	C	C	C	C	C	Construction Phase: Land use change or new construction works may displace or demolish cultural sites. Infrastructure and facility development should avoid such sites. If I is unavoidable, mitigation and compensation should be done in proper manner. Operation Phase: If waste management and wastewater management is improved, cultural sites in the city may be properly conserved.
			Operation Phase	D	D	D	B	B	
24	Landscape	Construction Phase	C	C	C	C	C	Construction Phase: Depending on location of construction works, use of heavy equipment and construction vehicles may give impact on landscape. Operation Phase: New infrastructure or facility development may change landscape. Proper waste management may improve landscape conservation.	
		Operation Phase	C	C	C	C	B		

Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
25	Gender	Construction Phase	B	B	B	B	B	<p>Construction Phase: During the master plan planning and following project planning, women's group activities and involvement may be strengthened.</p> <p>Operation Phase: Population growth with urbanization may widen gender gaps.</p>	
		Operation Phase	C	C	C	C	C		
26	Children Right	Construction Phase	C	C	C	C	C	<p>Construction and Operation Phase: Improved infrastructure and social services may give positive impact on children's living environment; However, street children may increase due to widened poverty gaps associated with urbanization.</p>	
		Operation Phase	C	C	C	B	B		
27	Sanitation and Infectious Diseases (HIV/AIDS)	Construction Phase	B	B	B	B	B	<p>Construction Phase: Workforce influx from outside of the city may cause increase of infectious diseases.</p> <p>Operation Phase: Population influx with urbanization may increase infectious diseases such as HIV/AIDS.</p>	
		Operation Phase	B	B	D	D	D		
28	Public Health	Construction Phase	C	C	C	C	C	<p>Construction Phase: Increase workforce influx from outside of the county may cause lack of health care facilities.</p> <p>Operation Phase: If waste and water and wastewater is properly managed, public health environment may be improved. Population influx caused by urbanization may bring lack of health care facilities.</p>	
		Operation Phase	C	C	C	B	B		
29	Accidents and Safety	Construction Phase	B	B	B	B	B	<p>Construction Phase: Accidents may occur during construction works.</p> <p>Operation Phase: Accidents may</p>	

Category	No.	Item		Possible Impacts					Description
				Urban development	Urban transport	Electricity	Water/wastewater	Waste management	
			Operation Phase	B	B	B	B	B	occur during industry operations (such as machinery accidents and unexpected chemical releases). If urban traffic management is improved, traffic accidents may be reduced.
Others	30	Cross-Border Impact	Construction Phase	C	C	C	C	C	Construction and operation Phase: Job seeker influx from neighboring countries may occur.
			Operation Phase	C	C	C	C	C	
	31	Global Warning	Construction Phase	B	B	B	B	B	Construction Phase: CO2 emission may increase due to construction works using heavy equipment and construction vehicles Operation Phase: New industries and power facilities may increase CO2 emissions. New traffic at newly constructed roads may bring another CO2 emission. On the other hand, if traffic management is improved, CO2 emission caused by traffic jam may be reduced.
			Operation Phase	B	B	B	B	B	

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 future 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

Since the Project aims at master plan formulation, urban development strategy alternatives will be examined in the Project during the process of the master plan formulation by Strategic Environmental Assessment.

### 10. Result of the consultation with recipient government on environmental and social consideration including roles and responsibilities.

MCG agreed to abide JICA guidelines for Environmental and Social Considerations

(April 2010) in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

#### **11. Terms of Reference for Environmental and Social Considerations**

- (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 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 Master Plan)
- (6) Confirmation of existing environmental and social conditions of the proposed projects area in Master Plan as a baseline data (land use, natural environment, culture and lifestyle of indigenous people and their communities, local economy and socio-cultural environment and others)
- (7) Confirm legal framework and institution of Kenya on environmental and social considerations, and examine the experiences of SEA study in Kenya:
  - A) Laws, regulations and standards related to environmental and social considerations (environmental impact assessment, resettlement, public participation, information disclosure and others)
  - B) SEA study reports conducted in Kenya development projects, and other relevant information
  - C) Gaps between the “JICA Guidelines for Environmental and Social Considerations (April 2010)” and legal framework of Kenya on environmental and social considerations
  - D) Outlines of relative agencies and institutions responsible of implementation of the projects
- (8) Prediction of likely impacts of proposed projects in Master Plan
- (9) Evaluation of likely impacts of the projects above (8) and comparative analysis of alternatives of proposed projects, 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)
- (12) Support to hold stakeholder meetings