

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

1. Full title of the Project

The Project for Transit Oriented Development (TOD) for Dar es Salaam

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

Technical Cooperation for Development Planning

3. Categorization and its reason

The Project is categorized as a “Category B” Project because of the following reason: The Project is not likely to have significant adverse impact on the environment under Japan International Cooperation Agency (hereinafter referred to as “JICA”) Guidelines for Environmental and Social Consideration (April 2010) (hereinafter referred to as “JICA Guideline”) in terms of its sectors, characteristics and areas.

4. Institution responsible for the Implementation of the Project

– Dar es Salaam Rapid Transport Authority (hereinafter referred to as “DART”)

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

1) Expected Goals which will be attained after implementing the proposed plan

To enhance the capacity of relevant institutions to use TOD method for urban planning, and improve mobility along the BRT lines and establish coordination mechanisms for planning and implementation

2) Outputs

- 1) To develop TOD strategy guideline
- 2) To develop a system to incorporate the TOD strategy in development plans of Dar es Salaam
- 3) To establish coordination mechanisms and measures among relevant organizations for TOD implementation
- 4) To enhance capacity for planning and implementation using TOD method

3) Activities

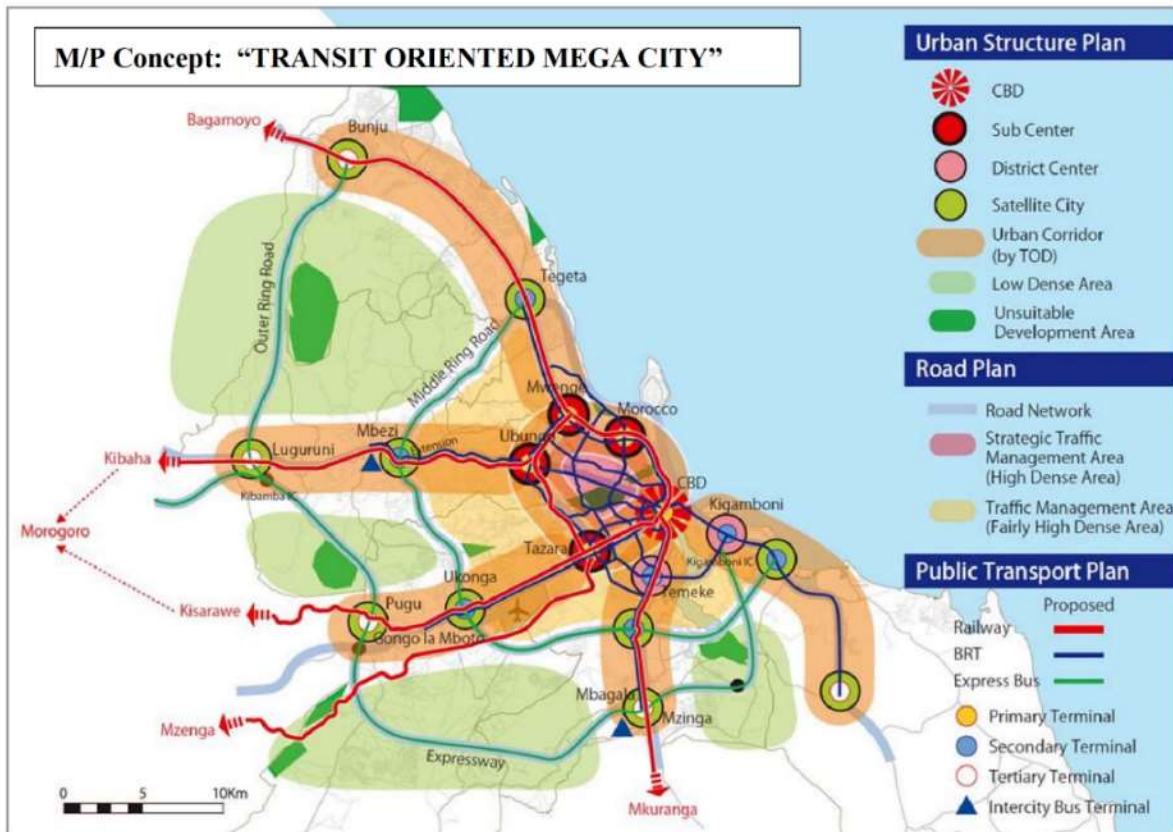
- 1) Output 1
 - 1-1 To develop TOD strategies for individual corridors and an overall comprehensive TOD strategy based on existing development strategies.

- 1-2 To select BRT stations in line with the TOD strategy and develop a concept design draft for the station area development for selected stations. (Pilot Project)
- 1-3 To coordinate with relevant development partners and major business partners to analyze legal frameworks, development methods, and other issues necessary to implement TOD method.
- 1-4 To analyze challenges in connectivity with various transportation modes, including feeder services around BRT stations.
- 1-5 To study and propose a system to incorporate the TOD strategy to urban planning and transportation planning of Dar es Salaam.
- 1-6 To incorporate concept designs developed in Activity 1-2 in detailed plans for urban development.
- 2) Output 2
 - 2-1 To analyze the challenges of BRT on service (accessibility, safety and comfortability) and develop TOD implementation measures.
 - 2-2 To develop a guideline for urban planning and implementation using TOD method.
 - 2-3 To amend the guideline that reflects improvements, lessons learned, and recommendations from Activities 3-1 through 4-3.
- 3) Output 3
 - 3-1 To review stakeholder coordination mechanisms for planning and implementation using TOD method from the perspectives of urban development / urban transportation and to recommend a legal framework and an implementation system necessary for stakeholder coordination mechanisms.
 - 3-2 To review the measures to implement TOD (development planning methods, development mechanisms, and implementation tools) and reflect them in the guideline for Output 2.
 - 3-3 To manage the coordination mechanisms to plan and implement TOD.
- 4) Output 4
 - 4-1 To conduct capacity assessment for implementing agencies and municipalities.
 - 4-2 To develop a training plan for improving urban planning capacity and implement the training.
 - 4-3 To conduct training of trainers (TOT) to enable staff of implementing agencies to carry out Activity 4-2 by themselves, and conduct the training for Activity 4-2.

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

1) Location

The Project targets BRT phase 1 to 6 and their stations located in Dar es Salaam.



Source: JICA Study Team

Figure 1: Project area

2) Description of the Environment in the Target Area

(1) Natural Environment¹

a) Geology and topography

The main formations underlining Dar es Salaam City areas are a succession of flat tertiary, Quaternary and Upper Mesozoic strata. Late Permian to Jurassic Karoo series consisting mainly of continental and coastal sequences of shells, siltstones and coarse sandstone characterize the south-eastern coast of Tanzania². The Upper Mesozoic instead features limestone, shells and sandstones and some gypsum, coal and salt intrusions near the coast.

The area surrounding Dar es Salaam City is mainly characterized by sparse to very sparse vegetation such as grass and short trees. Site elevation ranges between hilly areas of 60-150 meters extending to the southwest region of the study area and lowlands of less than 5 m above mean sea level along the coast. The dominant part of the residential terrain comprises gentle slopes, terraces and hills or flat plains ranging from 5-20 m above mean sea level.

¹ This section is composed based on the description of "Dar es Salaam City Master Plan 2016-2036"

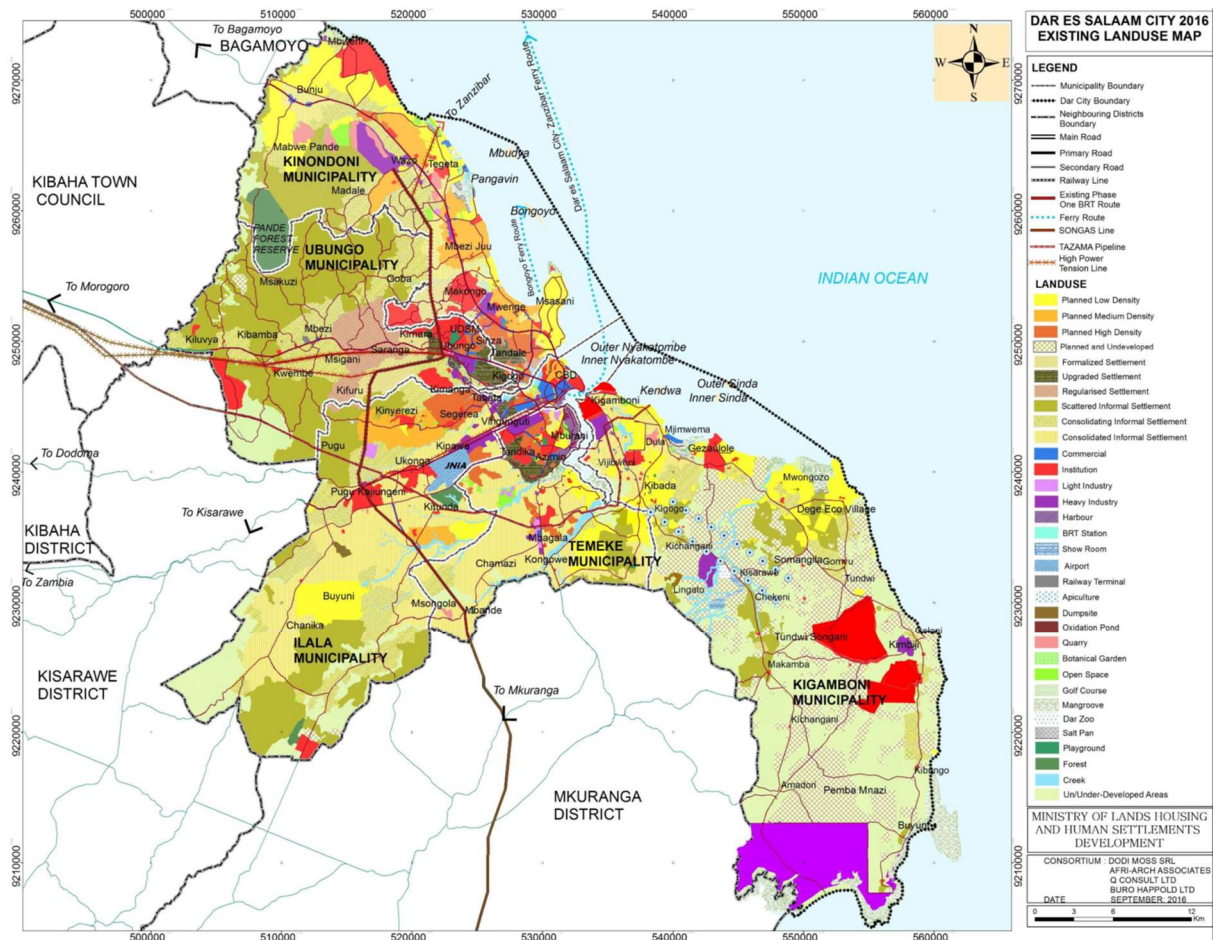
² JICA, WRM, MoW 2011, 3-10)

Near the coast, the strata are relatively flat with a minor East dip and evident North-South fractures creating a stepped landscape. A weakly consolidated coral reef deposits and sand are standard feature. The Pugu Hills instead have a slight northwest dip that encourages drainage in that direction. They are characterized mainly by Tertiary white sandstones. The coast sub-catchment has a relatively flat gentle, relatively low complexity and elongated drainage shape; erosion levels along the catchment area are relatively small³. Its characteristics are similar to those of the adjacent Lower Ruvu catchment.

b) Land use

Dar es Salaam has 1,830 km² area, of which 90% is land and 10% is water bodies. Two thirds of entire area is for urban area and developed area. Five radial roads determine the structure of the Dar es Salaam that grows outward to the city boundary and beyond, like four fingers. Major land use in Dar es Salaam is residential area which consists of formal residential area and informal settlement. 72% of residential land and 42% of entire Dar es Salaam is occupied by informal settlement, which are rapidly increased according to increase of immigrant. Each other urban land use such as commercial, industrial, institutional, and transport is less than 5%. Natural land use which consists of conservation land, urban agricultural land, open space and undeveloped land has 600 km² as equivalent to 33% of entire Dar es Salaam. Urban agricultural land is the second largest land use next to informal settlement.

³ JICA, WRM, MoW 2011, 3-4



Source: Dar es Salaam City Master Plan 2016-2036, Main report, 2018

Figure 2: Existing land use

c) Meteorology

As Dar es Salaam is along the coastal zone of the Indian Ocean, hot climatic conditions characterize with temperatures ranging from 25 °C (mainly in June) to 29 °C observed during the other months. Dar es Salaam experiences two rain seasons, with short rains falling between November-January and long and heavy rains between March and June, with an average annual rainfall of 100 mm. The main winds in Tanzania blow in an Easterly direction and are stronger on the coast and weaker inland. During January, the Inter-tropical Convergence Zone (ITCZ) crosses above southern Tanzania⁴, and the winds have a southerly component. In July there is a northerly component.

d) Water resources

The main hydro geological structure within the Coastal sub catchment is the Kimbiji aquifer mainly recharged within the Pugu Hills area. Groundwater is abstracted in some areas through boreholes and wells. Wami-Ruvu Basin Authority (Byarugaba 2012) indicated that the ground water table ranges from 1 m to 6 m below ground

⁴ JICA 2011 4-3

level and quality is sometimes brackish or saline due to saline water intrusions or natural salt formations within the limestone.

Dar es Salaam has four major rivers of Mpiji, Msimbazi, Kizinga and Mzinga. A below table shows the length and catchment areas of these rivers. Adding to them, Dar es Salaam has many small and seasonal rivers and streams including Tegeta, Mbezi, Mlalakuwa, Kijitonyama, Sinza and Tabata.

Table 1: Length and catchment areas for Dar es Salaam main rivers

| S/N | River Name | Length (km) | Catchment Area (km ²) |
|-----|----------------|-------------|-----------------------------------|
| 1 | Mpiji River | 12.74 | 52.05 |
| 2 | Msimbazi River | 35.62 | 289.21 |
| 3 | Kizinga River | 17.45 | 432.02 |
| 4 | Mzinga River | 10.40 | 40.72 |

Source: JICA (2008)

The rivers and streams in Dar es Salaam are a source of water for different types of human activities. Some streams such as Tegeta, Mbezi, Mlalakuwa, Kijitonyama, Sinza and Tabata occasionally serve as last resort water sources for low-income families in unplanned settlements that cannot afford to purchase water commercially. Rivers and streams also supply water for irrigation of vegetable gardens. Other uses include sand mining in valley bottoms common in Mpiji and Mbezi rivers, onsite washing of cars, bathing and swimming. Ecologically, the rivers and streams of Dar es Salaam City collect and drain storm water to the wetlands and the ocean, thus, protecting the built-up areas from flooding hazards.

e) Protected Area

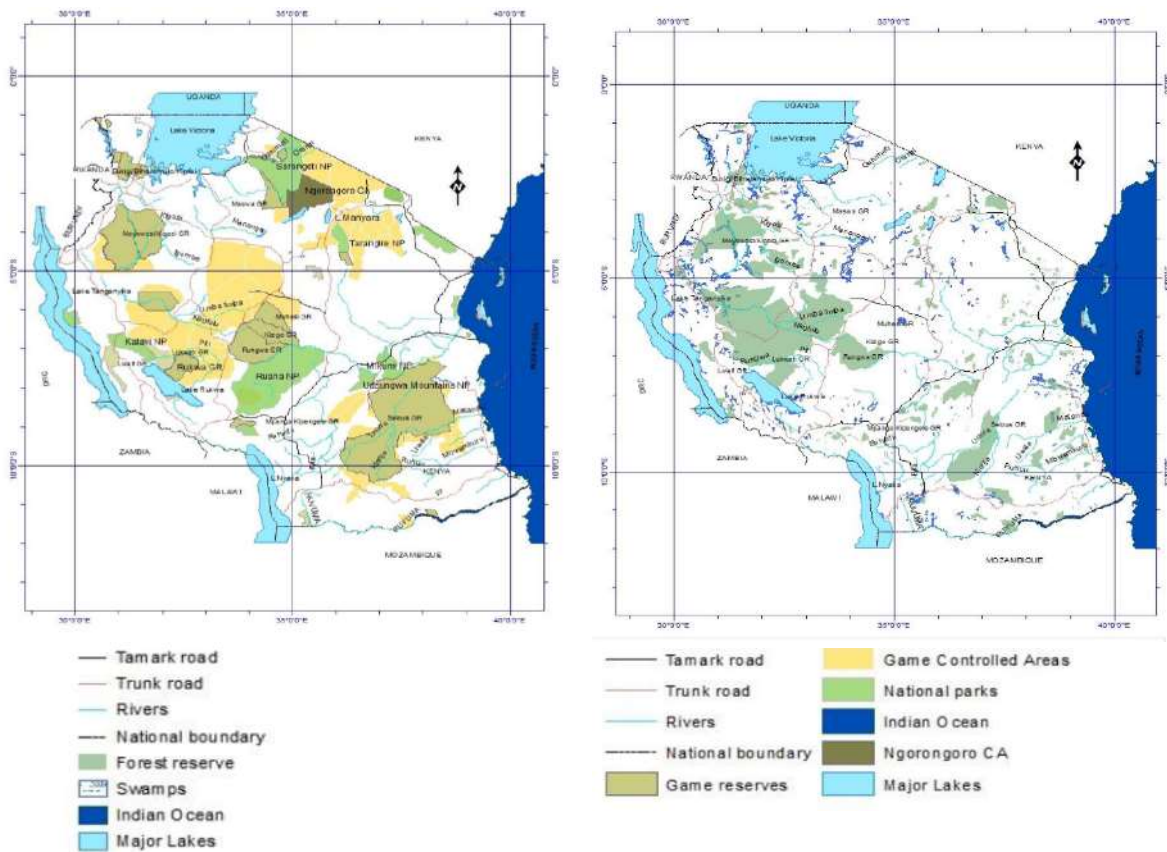
Tanzania has designated a large network of wildlife and forest protected areas covering 16 National Parks, 1 Conservation Area, 28 Game Reserves, 42 Game Controlled Areas, 38 Wildlife Management Areas, 4 Ramsar Sites, and 109 Forest reserves⁵ (Figure 3). Also, four areas are inscribed into UNESCO's Natural World Heritage Sites and five are inscribed into Biosphere Reserves but none of them locate designated in Dar es Salaam (Table 2).

Table 2: Protected Area

| Natural Heritage Site | Biosphere Reserves |
|-----------------------------------------------|------------------------|
| Kilimanjaro National Park | Lake Manyara |
| Selous Game Reserve | Serengeti – Ngorongoro |
| Serengeti National Park | East Usambara |
| Ngorongoro Conservation Area (mixed heritage) | Jozani - Chwaka Bay |
| | Gombe Masito Ugalla |

Source: UNESCO, World Heritage Site List

⁵ Source: National Biodiversity Strategy and Action Plan (NBSAP) 2015-2020, 2015, Division of Environment, VPO



Source: National Biodiversity Strategy and Action Plan 2015-2020, 2015, Division of Environment, VPO

Figure 3: Terrestrial Protected Area: Game Controlled Areas and National Parks (Left), Forest Reserve and Swamps (Right)

Although there are no designated areas of conservation or protection within the boundaries of Dar es Salaam, there are several reserves within the region. They are: The Pande Game Reserve, Pugu Forest Reserve and Kazimzumbwi Forest Reserve, all being located just outside the region. The Dar es Salaam Marine Reserve System covers an area of 127 ha and comprises both land and sea. It includes four island reserves a few kilometers north of the Dar es Salaam harbor including Bongoyo, Pangavini, Fungu-Yasin and Mbudya and three islands south of Dar es Salaam including Sinda, Makatobe and Kendwa. These reserves are abundant in terms of coral and reef related flora and fauna and are home to some endangered species. The reserve also plays significant role as a stopover of migratory birds during the northern winter.

Table 3: Protected area in and near Dar es Salaam

| No. | Name | Municipality | Location from Dar es Salaam |
|-----|-----------------------------|------------------|-----------------------------------------|
| 1 | Ruvu Forest Reserve | Partially Ubungo | Approx..24km northwest |
| 2 | Pande Game Reserve | Kinondoni | Approx. 29km northwest |
| 3 | Ruvu South Forest Reserve | Partially Ilala | Approx. 30km west, along Pugu Road |
| 4 | Kazimzumbwi Forest Reserve | Partially Ilala | Approx. 25km west, along Pugu Road |
| 5 | Pugu Forest Reserve | Partially Ilala | Approx. 18km west, crossed by Pugu Road |
| 6 | Vikindu Forest Reserve | Partially Temeke | Approx. 16km south, along Kilwa Road |
| 7 | Mangrove forest of Salender | Kinondoni | Along Ally Hassan Mwinyi Road |

| No. | Name | Municipality | Location from Dar es Salaam |
|-----|------------------------------|---------------------|--------------------------------|
| | bridge | | |
| 8. | Dar es salaam Marine Reserve | Within Indian ocean | Bongoyo, Mbudya Kendwa Islands |

Source: Study Team

There are two Key Biodiversity Areas (hereinafter referred to as “KBA”) in Dar es Salaam. KBA are “sites contributing significantly to the global persistence of biodiversity”, in terrestrial, freshwater and marine ecosystems, set out by the Global Standard for the Identification of Key Biodiversity Areas (IUCN 2016)⁶.

Dar es Salaam Coast

This KBA covers both terrestrial and marine systems with the area 40,184 ha. The whole of the coastal line was until quite recently lined with protective mangroves and supposed sizeable populations of water birds. However, it is now badly polluted and degraded.



Source: Key Biodiversity Org.

Figure 4: Location of KBAs in Dar es Salaam

Kisarawe District Coastal Forests

This KBA locates in the western side of Dar es Salaam with the area 40,091 ha. It is composed of three abovementioned forest reserves, namely, Pugu Forest Reserve (2,180 ha), Kazimzumbwi Fprest Reserve (4,887 ha), and Ruvu South Forest Reserve (35,000 ha). Proximity to Dar es Salaam, these forests are always under high pressure from the city. Maintaining forest on Pugu is important for water-catchment management.

f) Flora

Vegetation of Dar es Salaam is constituted of various species of disturbed bushland and woodland species. They are coastal shrubs along the beach areas, Miombo woodland, vegetation in coastal swamps and mangrove trees. Tree species found include Neem trees (*Azadirachta indica*) and Ashoka trees (which are among the most commonly planted trees in Tanzania) and a few African teaks, also grasses like sea weeds and other grasses, different plant species like palm trees, flower plants/ gardens and food plants from urban agriculture. Also, there are some protected mangrove forests: for example, mangrove forest of Salender bridge protected by Tanzania Forest Services or TFS.

⁶ Source: IUCN

g) Fauna

There are limited wildlife resources in Dar es Salaam due to its high demand for land for settlements and industrial development. The population particularly of larger animals has been significantly reduced. The only place where large animals can be found is in the Dar es Salaam Zoo located in Kigamboni and Temeke municipality. There are few velvet monkeys in some places especially those areas with trees like the University of Dar es Salaam. There are aquatic species like fish and sea turtles, also reptiles, amphibian and insects.

According to the IUCN Red List, there are 160 species are categorized into the critically endangered in a particularly and extremely critical state (CR), however, their habitat is not mentioned on the list,

There are eighty areas designated as Important Bird and Biodiversity Areas (IBAs) in Tanzania by the Bird Life International with the total area of 16,886,497 ha. Among total 1,073 bird species, 59 species are globally threatened species, and 31 species are country endemics⁷.

(2) Social Environment

a) Economy

Through two decades of sustained growth, Tanzania reached an important milestone in July 2020, when it formally graduated from low-income country to lower-middle-income country status. Tanzania's achievement reflects sustained macroeconomic stability that has supported growth, in addition to the country's rich natural endowments and strategic geographic position⁸. Covid-19 pandemic-induced shocks slowed Tanzania's GDP growth rate from 5.8 % in 2019 to an estimated 2.0 % in 2020, because tourism, a major contributor to GDP growth, declined significantly in 2020. However, GDP growth rate recovered to 5.2 % in 2021. Following table shows the latest key economic indicators of Tanzania.

Table 4: Key Economic Data of Tanzania

| Name of indicators | | Data | Unit | Time |
|----------------------------|--------------------|-------|---------------|--------|
| GDP | Total | 62.41 | USD Billion | Dec/20 |
| | Annual Growth Rate | 5.2 | percent | Sep/21 |
| | Per capita | 976 | USD | Dec/20 |
| | Per capita PPP | 2,635 | USD | Dec/20 |
| Unemployment rate | | 9.5 | percent | Dec/20 |
| Inflation rate | | 4 | percent | Jan/22 |
| Consumer price index (CPI) | | 106 | points | Jan/22 |
| Balance of trade | | - 562 | USD Million | Sep/21 |
| Government Debt to GDP | | 37.8 | percent of GP | Dec/19 |

Source: IMF Trading Economics

⁷ Source: BirdLife International, <http://datazone.birdlife.org/country/tanzania/iba>, Downloaded on 10th March 2022

⁸ Source: Tanzania Overview, The World Bank, retrieved on 18th February 2022

Dar es Salaam is Tanzanian main engine of economic growth and serves as an industrial, fishing, and commercial centre. Until 2015 when Tanzanian government decided to accelerate to move to a new capital, Dar es Salaam was also a main administrative centre of Tanzania. The region has a major harbour, and it attracts commerce and transportation activities from both the formal and informal sectors. Urban agriculture is also carried out within the region, providing a means of livelihood for some households. Share of national GDP was projected as 17% (17,640 billion TZS) and GDP per capita is around 1.5 times as national average (3.2 million TZS) in 2016.

b) Population

Dar es Salaam has experienced continued rapid population growth over the past several decades. The 2012 Population and Housing Census revealed that population of Dar es Salaam was 4.4 million with rapid increasing in the most recent decade (annually more than 5%), and the National Bureau of Statistics Tanzania projected 5.3 million in July 2019.

Temeke municipality commands the highest population density with 92 persons per hectare followed by Dar es Salaam city (former Ilala municipality) at 40 persons per hectare. Kigamboni municipality has the least population density of 3 persons per hectare because Kigamboni municipality has vast undeveloped land due to poor accessibility to Central Business District in Dar es Salaam.

c) Ethnic Groups

There is a difference in ethnicity between Mainland Tanzania (Tanganyika) and Zanzibar reflecting their historical backgrounds. Mainland Tanzania is the area of African people where about 95% of population are Bantu group (speakers of Bantu language group) consisting of more than 130 ethnic groups and 4% are other African ethnic groups, while other 1% is consisted of Asian, European, and Arab who migrated from other areas. In Zanzibar where Swahili culture was born influenced by the immigrated Arab and Islamic merchants and sailors, people are consisted of African, mixed Arab and African⁹.

d) Religion

As same as ethnic group, there is a difference in religion between Mainland Tanzania (Tanganyika) and Zanzibar reflecting their historical backgrounds.

Majority is Christian which is 63.1% of total population in Tanzania mainland. Muslim is 34.1%, folk religion is 1.1%, and others such as Buddhist, Hindu, Jewish are less than 1% each. On the other hand, people are almost entirely Muslim in Zanzibar.¹⁰

⁹ The World Fact Book, CIA

¹⁰ The World Fact Book, CIA, retrieved on 20th February 2022

e) Gender

Tanzania formulated the Women and Gender Development Policy (WGDP) in 2000, and the National Gender Development Strategy (NGDS) in 2005 to implement WGDP. WGDP aims to mainstream gender perspective into policies, programs and strategies, as well to create opportunities for women to participate in the effort for poverty reduction and development. NGDS then serves as a document to further clarify the issues hindering gender equality in Tanzania, and suggests necessary strategies. The document includes the guidance to effectively carry out the WGDP, the strategies and activities to be applied in priority sectors, such as the decision-making and the delegation of authority, gender mainstreaming, collection of gender disaggregated data, and other related sectors such as education, economics and empowerment, and the mechanism to administer those strategies and activities¹¹.

There existed gap between female and male in labour force participation rate in the “Demographic and Health Survey of Tanzania 2010” (Tanzania National Bureau of Statistics): non-working population rate of female persons between 15 and 49 years was 30% while that of male persons was 16%. There is no big gap in the literacy rate according to the 2012 National Census, literate rate of people above 15 years old in Dar es Salaam is 95 % for female persons and 98 % for male persons. The 2012 Census also indicates that 70% of household heads are male in Dar es Salaam. Rate of house ownership and land occupation right holders almost same between female and male household heads (female 33 % and male 34 % for house, female 21 % and male 25 % for land) .

f) People with Vulnerability

According to the 2012 National Census, several types of persons living with disabilities lived in Dar es Salaam among 4,364 thousand inhabitants.

- About 90 thousand visually impaired persons
- About 80 thousand walking-impaired persons
- About 50 thousand persons who have disability on memory
- About 40 thousand of hearing-impaired persons

“Tanzania Mainland Poverty Assessment” (the World Bank, 2015) indicates that the poverty ration has been decreasing from 34 % of 2007 to 28 % of 2012. However, the number of people working in the informal sector are still large because people working in the formal sector (or officially employed persons) are only 720 thousand. People working in the informal sector get less income, and are less protected by the social welfare system.

Several acts and policies describe consideration and inclusion of vulnerable people as shown in below table. National Policy on Disability (2004) mentions accessibility of disabled persons to public facilities and National Ageing Policy mentions promotion of social participation of elderly persons including public services.

¹¹ Country Gender Profile: Tanzania, Final Report, JICA, 2016

Table 5: List of Laws and Policies relating to Social Welfare

| No. | Name | Year | Contents |
|-----|-----------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | The Constitution of the United Republic of Tanzania | 1992 (Amended) | Constitution of the United Republic of Tanzania, for Tanganyika and Zanzibar |
| 2 | The Disabled Persons Employment Act | 1982 | An act to make provisions for establishment of the systems for promotion of disabled persons' work |
| 3 | Disabled Persons Care and maintenance Act | 1982 | An act to make provisions for the support of disabled persons by their family, establishment of local care facilities and fund for disabled persons |
| 4 | Persons with Disability Act | 2010 | An Act to make provisions for the health care, social support, accessibility, rehabilitation, education and vocational training, communication, employment or work protection and promotion of basic rights for the persons with disabilities and to provide for related matters. |
| 5 | The Tanzania Development Vision 2025 | 1999 | Promotion of social and economic development |
| 6 | National Policy on Disability | 2004 | Situation of disabled persons and legal framework, vision, policy, responsibility of related institutions, and policies. 11 th policy mentions accessibility of disabled persons to public facilities. |
| 7 | National Ageing Policy | 2003 | Policy for promotion of social participation of elderly persons including public services. It mentions that female disabled persons suffer the most disadvantage and introduction of promotion system for their participation in income generating activities. |
| 8 | National Population Policy | 2006 | For disabled persons, it describes strengthening of capacity development and access to training opportunity for disabled person |

Source: JICA Study Team referring to the "Country Disability Information – Tanzania", JICA, 2009

g) Land tenure

A person can have a legal right to land under a Right of Occupancy from the Government for terms of 33, 66 or 99 years. Nowadays generally only 99-year Rights of Occupancy are issued (Right of Occupancy); or a Derivative Right from a Right of Occupancy (Derivative Right). Foreign nationals and companies which majority held by foreigners cannot have a Right of Occupancy or Derivative Right unless they have a Certificate of Incentives issued by the Tanzania Investment Centre. There are two different systems for the Right of Occupancy or Derivative Right, one is conventional and the other is legal, and people apply both systems for land tenure in Tanzania.

As same as other African mega cities, Dar es Salaam does not have sufficient infrastructure for the rapid population inflow. It has been urbanized without plan and informal habitat is expanded urban and suburb area. In 2002, "Informal Settlements and Finance in Dar es Salaam, Tanzania" (UN HABITAT, 2010) reported that between 68 % to 83 % of its population live in the informal residential area.

Informal residential area in Tanzania including Dar es Salaam is different from the so-called Slum or squatter area in other countries. Land use right is allowed even in the informal residential area by the Tanzanian legal system as a result of long-term apparent land occupation. People living in the informal area build permanent houses using cement; and informal residential area is not always lived by poor people. Inhabitants are consisted of different income groups and live there only because of easy accessibility to the land occupation right.

However, in some suburb areas slightly far from the urbanized area, the poor who cannot afford to buy a Right of Occupancy in the densely urbanized area live on the place where not appropriate for building house, for example, river flood zone, which causes environmental pollution by used water or waste, deterioration of the public health, or flood disaster.

It is also reported that land acquisition (acquisition of land occupation right for public/private purposes) causes several problems such as amount or delay of compensation, lack of announcement or few knowledge of the land acquisition process, and weak governance on the land such as uncertainty, unfairness).

7. Legal Framework of Environmental and Social Considerations

1) Laws, regulations and standards related to environmental and social issues including requirements and procedures of Environmental Impact Assessment (EIA), stakeholder participation, and information disclosure.

Table 6 is a list of policies, acts and regulations related to environmental and social issues in Tanzania.

Table 6: Laws, Regulations and Standards Related to Environmental and Social Issues

| Category | Title | Year | Responsible Organization |
|-------------------------------------------------------------|----------------------------------------------------------------------|------|------------------------------------------------------------|
| Policy | National Environmental Policy (NEP) | 1997 | Vice President's Office (VPO) |
| | Agriculture and Livestock Policy | 1997 | Ministry of Agriculture and Livestock Development |
| | National Land Policy | 1997 | Ministry of Land, Housing and Human Settlement Development |
| | National Forest Policy | 1998 | Ministry of Natural Resources and Tourism |
| | National Tourism Policy | 1998 | Ministry of Natural Resources and Tourism |
| | National Human Settlements' Development Policy | 2000 | Ministry of Land, Housing and Human Settlement Development |
| | National Water Policy | 2002 | Ministry of Water and Irrigation |
| | Women and Gender Development Policy | 2000 | Ministry of Women, Gender and Children Development |
| | National Policy on HIV/AIDS | 2001 | Prime Minister's Office |
| | Construction Industry Policy | 2002 | Ministry of Works |
| | National Transport Policy | 2003 | Ministry of Transport and Communication |
| | Wildlife and Wetland Policy | 2007 | Ministry of Natural Resources and Tourism |
| | Road Safety Policy | 2009 | Ministry of Infrastructure Development |
| Act and regulation on Environment and Social Considerations | Environment Management Act (EMA) | 2004 | VPO |
| | The Environmental Impact Assessment and Audit Regulations | 2018 | VPO |
| | The Environmental (Regulations of Environmental Experts) Regulations | 2005 | VPO |
| | Strategic Environmental Assessment | 2008 | VPO |

| Category | Title | Year | Responsible Organization |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------|------------------------------------------------------------|
| | Regulations | | |
| | National Environmental Standards | 2005 | Tanzania Bureau of Standards |
| | National Environmental Action Plan (NEAP) 2013-2018 | 2013 | VPO |
| | The Environmental Management (Fee and Charges) (Amendment) Regulations | 2016 | VPO |
| | National Guidelines for Strategic Environmental Assessment | 2017 | VPO |
| | The National Environmental Research Agenda for Tanzania 2017-2022 | 2017 | National Environmental Management Council (NEMC) |
| Act and regulation on Land Acquisition | The Land Acquisition Act | 1967 | Ministry of Land, Housing and Human Settlement Development |
| | The Land Act | 1999 | Ministry of Land, Housing and Human Settlement Development |
| | Village Land Act | 1999 | Ministry of Land, Housing and Human Settlement Development |
| | Land (Assessment of the Value of Land for Compensation) Regulations | 2001 | Ministry of Land, Housing and Human Settlement Development |
| | Land (Compensation Claims) Regulations | 2001 | Ministry of Land, Housing and Human Settlement Development |
| | The Village Land Regulations | 2001 | Ministry of Land, Housing and Human Settlement Development |
| Act and regulation on Other Environment and Social Considerations | The Land Use Planning Act | 2007 | Ministry of Land, Housing and Human Settlement Development |
| | The Urban Planning Act | 2007 | |
| | Local Government Acts | 1982 | Prime Minister's Office |
| | Regional and District Act | 1997 | Prime Minister's Office |
| | Protected Places and Areas Act | 1969 | Ministry of Natural Resources and Tourism |
| | Marine Parks and Reserves Act | 1994 | Ministry of Natural Resources and Tourism |
| | Forest Act | 2002 | Ministry of Natural Resources and Tourism |
| | Surface and Marine Transport Regulation Authority (SUMATRA) Act | 2001 | Ministry of Transport and Communication |
| | Water Resources Management Act | 2009 | Ministry of Water and Irrigation |
| | Wildlife Conservation Act No. 5 | 2009 | Ministry of Natural Resources and Tourism |
| | The Environmental Management Act (Standards for the Control of Noise and Vibrations Pollution) | 2015 | VPO |
| | Hazardous Waste Control and Management Regulations | 2019 | VPO |
| | The Road Act | 2007 | Ministry of Infrastructure Development |
| | The Grave (Removal) Act | 1969 | Ministry of Land, Housing and Human Settlement Development |
| | Antiquities Act Cap 333R.E. | 2002 | Ministry of Natural Resources and Tourism |
| | The HIV and AIDS (Prevention and Control) Act | 2008 | Prime Minister's Office |

| Category | Title | Year | Responsible Organization |
|----------|------------------------------------------|------|-----------------------------------------------------|
| | Occupational Health and Safety Act | 2003 | Ministry of Labor, Employment and Youth Development |
| | The Employment and Labor Regulations Act | 2004 | Ministry of Labor, Employment and Youth Development |

Source: JICA Study Team

(1) EIA

The Environmental Management Act (EMA, 2004) and the EIA and Audit Regulations (2005) set out the EIA system and procedure of Tanzania. Under this system, required EIA is categorized into 4 according to the First Schedule of the EIA and Audit Regulations. Category type A and B1 require full a fledged EIA, and type B2 and C can shortcut assessment (see Table below). Project proponent pr developer submit a project brief to the National Environment Management Council (NEMC) or Council’s appointed agent and the Council screens the project brief to decide if it requires an EIA or not.

Table 7: Project in Each Category of EIA

| Category | Type of Projects | Detail |
|----------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type A | Tourism and Recreational Development | <ul style="list-style-type: none"> • construction of resort facilities or hotels along the shorelines of lakes, river, islands and Ocean • hill top resort or hotel development • development of tourism or recreational facilities in protected and adjacent areas (national parks, marine parks, forestry reserves etc.) on islands and in surrounding waters. |
| | Transport and Infrastructure | <ul style="list-style-type: none"> • construction and/or expansion of trunk roads • construction and/or expansion of airports and airstrips and their ancillary facilities • construction and/or expansion of existing railway lines • construction and/or expansion of ports and harbors |
| | Building & Civil Engineering Industry | <ul style="list-style-type: none"> • industrial parks and housing estate • developments on beach fronts. |
| | Land Development Planning, Land Reclamation, Housing and Human Settlements | <ul style="list-style-type: none"> • land acquired for resettlement • establishment of refugee camps • land reclamation including land under water bodies • dredging of bars, greyones, promenades, dykes and estuaries. |
| Type B1 | Tourism and Recreational Development | <ul style="list-style-type: none"> • any other construction for tourism and recreational activities • major construction works for sporting purposes |
| | <ul style="list-style-type: none"> • Transport and Infrastructure | <ul style="list-style-type: none"> • rehabilitation of trunk roads and airports / airport strips and their ancillary facilities • jetty, dockyard and fish landing sites • construction of inland container depots and cargo handling facilities |
| | Building & Civil Engineering Industry | <ul style="list-style-type: none"> • major urban projects (multi-storey building, motor terminals markets etc.) • construction of residential / commercial buildings, hospitals and institutions including religious complexes and community centers • schools, dispensaries, health-centers (Schools with boarding facilities for >360 students). |
| Type B2 | Tourism and Recreational Development | <ul style="list-style-type: none"> • Camping activities |
| | Building & Civil | <ul style="list-style-type: none"> • dispensaries and health-centers; and |

| Category | Type of Projects | Detail |
|----------|----------------------|------------------------------------------|
| | Engineering Industry | • all School projects (l <360 students). |
| Type C | No description | |

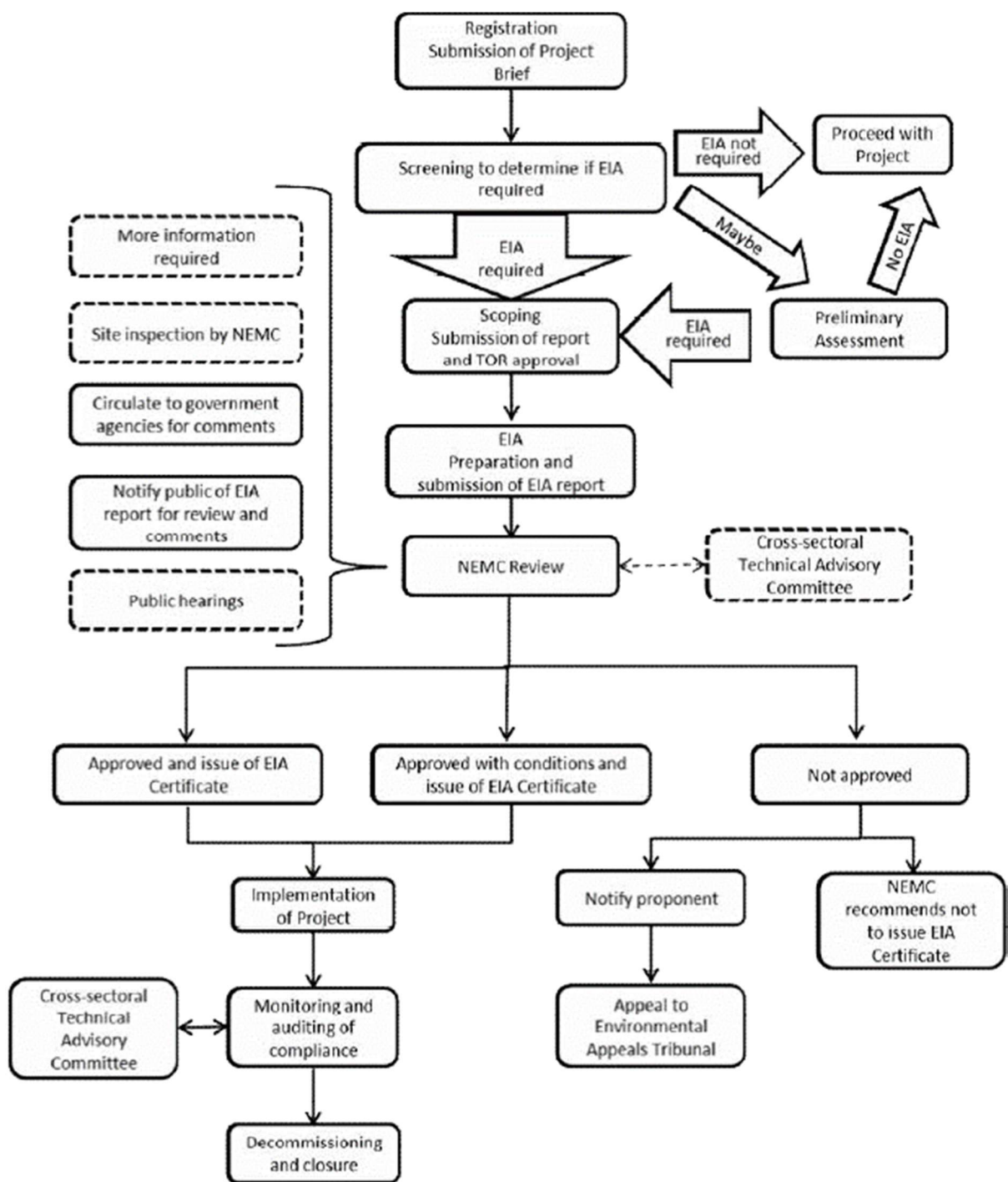
Source: Study Team based on the First Schedule in the Environmental Impact Assessment and Audit Regulations, 2005

The detailed process of the EIA system is described in the EIA and Audit Regulations (2005).

One important issue of the EIA system in Tanzania relates to the responsibility of developer or project proponent for the environmental and social monitoring. In spite that environmental and social management plan and environmental and social monitoring plan shall be included in the EIA, responsibility of developer or project proponent, both in construction and operation, is not provided in the EMA and EIA Regulations. The Main Project team shall clarify the responsibility of developer/proponent at the beginning of the course of the Project.

The EIA and Audit Regulations provide that stakeholder participation and information disclosure are required at the different stages of the EIA procedure. The method of stakeholder meetings and disclosure is also described in the EIA and Audit Regulations.

Also, the Regulations require EIAs to be conducted and relevant documents to be prepared only by experts or firms of experts whose names and qualifications are registered by the NEMC.



Source: JICA Study Team

Figure 5: Flowchart of EIA procedure of Tanzania

(2) SEA

Strategic Environmental Assessment (SEA) is required in the EMA (2004), and detail procedure is provided in the SEA Regulations (2008) and the National Guidelines for SEA. The SEA Guidelines provides the detail procedure of SEA steps, actions required at each step and format. Report of the Detailed Design Study on the project of revision of Dar es Salaam Transport Master Plan (2016) judged that these institutions did not sufficiently understand SEA. Enactment of the SEA Guidelines possibly has enhanced understanding of

governmental institutions that they are required to conduct SEA when they prepare superior plans like policies or strategies with its detailed procedure.

a) Area of SEA

SEA Regulation require SEA in following aeras.

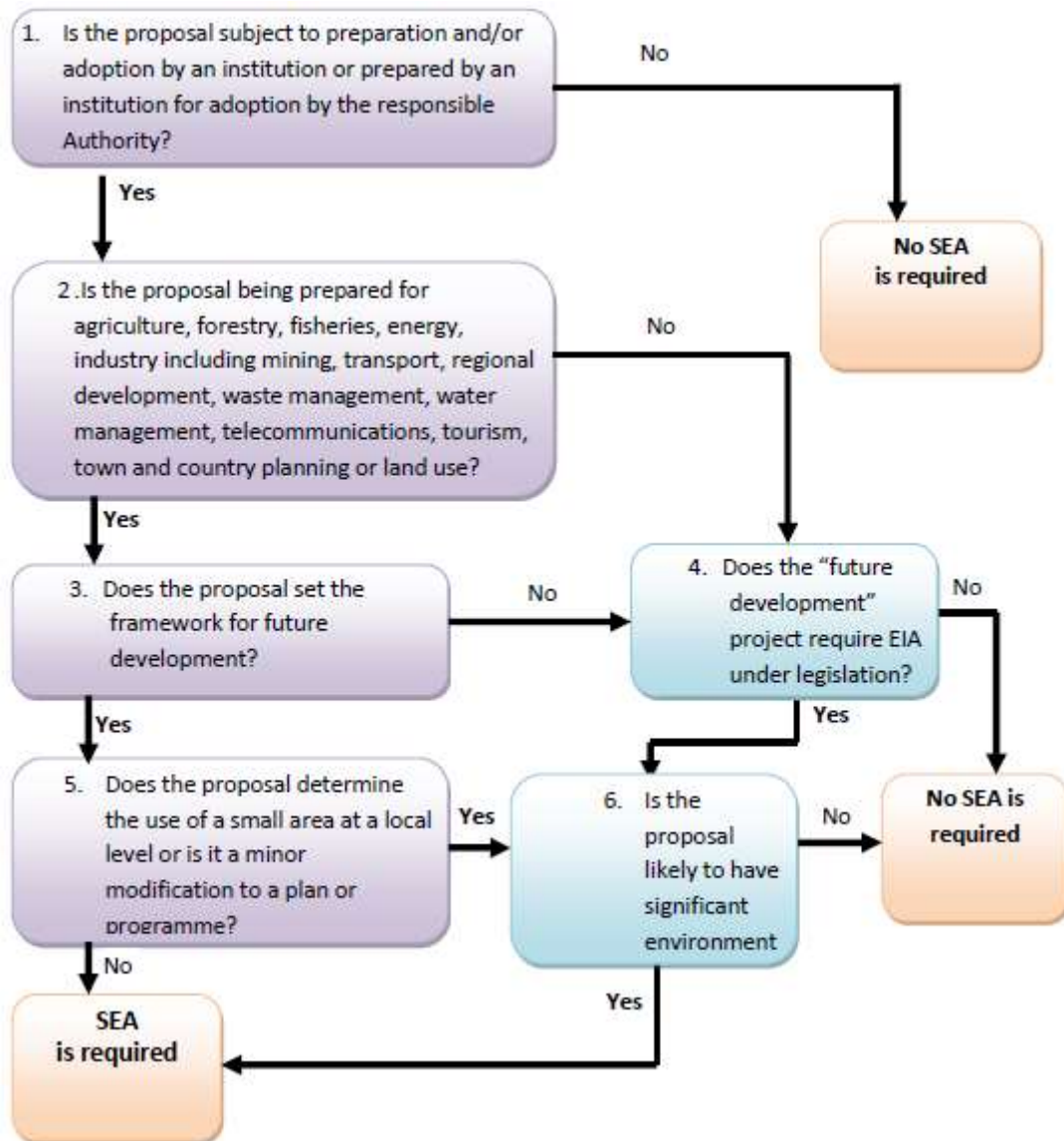
- (a) Bills
- (b) Regulations
- (c) Policies
- (d) Strategies
- (e) Plans
- (f) Physical plans
- (g) Programmes
- (h) General management plans of protected areas
- (i) Mineral or petroleum resource plan or project
- (j) Hydro-electric station project
- (k) Planned major water project
- (l) Any other aspect as the Minister may decide.

b) Process of SEA

Step 1 Screening

This step determines if there are important environmental effects of a policy, bill, regulation, strategy, plan or programme. According to SEA Regulations, this step requires a responsible authority (with a proposal to undertake SEA) to prepare a summary of its views as to whether the policy, bill, regulation, strategy, plan or programme is likely to have significant environmental effects at the beginning of the SEA process.

Figure 6 shows process and criterial of determination of conducting SEA.



Source: National Guideline for SEA

Figure 6: Criteria in SEA screening

Step 2 Scoping and Terms of Reference

A scoping process should be conducted in order to determine and establish the terms of reference and level of details of the information to be included in the SEA report to be prepared; key authorities to be consulted; opportunities for public consultation; and the consultation period it intends to use.

Key issues to be established in the SEA scoping will be as follows.

- a) Objectives of the SEA study including decision criteria as well as suitable indicators of desired outcomes
- b) Alternatives to be considered
- c) Spatial and temporal dimensions of the study
- d) Assessment criteria

- e) Significant issues to be studied, such as physical, ecological, social, economic, institutional and political, based on the objectives established for the SEA
- f) Relevant stakeholders to be consulted, including agencies with the various decision-making mandates covered by the study spatial boundaries
- g) Methods and techniques of data acquisition and analysis in the SEA study and sources of relevant data as well as amount of information available
- h) Clear justification of the scoping methodology and why some impacts have been excluded
- i) Expertise to be engaged in the SEA process must comprise experts in SEA or environmental and natural resources management from a sector ministry, government agency, department, higher learning and research institutions or
- j) registered environmental experts. The list of experts shall be accompanied by relevant documents, qualifications, curriculum vitae (cv) and contacts.

The responsible authority will prepare a written report on the results of the scoping exercise including following items.

- i. How scoping was undertaken
- ii. How issues and problems were identified
- iii. How spatial and temporal dimensions of the study were identified
- iv. How results of scoping exercise were synthesized including details of potential negative and positive impacts
- v. How stakeholder groups were identified, analyzed and involved in the scoping exercise
- vi. How the authorities, interested and affected parties were consulted, including dates and summaries of issues raised
- vii. Which alternatives should be examined in the assessment
- viii. What are the Terms of Reference (TOR) for the SEA study

Step 3 Preparation of Draft SEA Report

A typical SEA report will contain the following:

- a) Title of the report
- b) Non-Technical Summary briefly describing the study and its outcomes
- c) Introduction (this should contain the scope and methodology of work)
- d) Proposed bill, regulation, policy, strategy, plan or programme. This encompasses i) Objective, purpose and rationale, ii) Alternative policy, options and strategies, iii) Areas and sectors affected, iv) Proposed activities for bills, policies, regulations, plans and programmes, and v) Implementation plan and time scale.
- e) Environmental analysis that will include: i) Description of baseline environmental conditions focusing on

areas potentially affected, ii) Relevant legislative framework and related policy, plan and programme documents, iii) Overview of consultation and public/stakeholders' engagement activities undertaken, iv) Prediction and evaluation of impacts including cumulative effects, v) Alternative policy, plan, and programme options, considered and compared against environmental indicators, and a justification for a considered alternative, and vi) Linkages with ongoing projects and how they fit in the proposed policy, plan and programme.

- f) Recommendations, including: i) Recommended policy, bill, regulation, plan and programme changes, ii) Recommended mitigation measures, iii) Recommended alternatives, and iv) Need for subsequent SEA for plans and programmes.
- g) Cited references
- h) Relevant technical appendices such as stakeholders' meetings referred to in the assessment
- i) Environmental management plan (EMP) and environmental monitoring plan (EMoP).

An EMP includes

- a) Summary of impacts
- b) Description of mitigation measures
- c) Description of Environmental Performance Monitoring Program
- d) Institutional arrangements
- e) Implementation schedule and reporting procedures should indicate
- f) Cost estimates
- g) Institutional strengthening/capacity building

Step 4 Consultation and participation

Public consultation is mandatory when undertaking SEA. At minimum, the responsible authority must meet with the main stakeholders to inform them about the policy, bill, regulation, strategy, plan or programme and to solicit their views.

- a) Consultation bodies
 - Sector ministries;
 - Government agencies and departments; and,
 - Local government authorities.
- b) Requirements for consultation

Public participation and institutional consultation should be open and transparent and should also be conducted at the early stage of the preparation of SEA. A summary of requirements for consultation is shown in Table 8.

Table 8: Consultation Requirement in SEA

| Steps in the SEA | Consultation requirements in Domestic situations | Additional requirements in Transboundary |
|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| i) Determination if a bill, policy, regulation, strategy, programme or plan requires SEA | <ul style="list-style-type: none"> • Consult consultation bodies if screening is required | |
| ii) Decision on scope and level of detail of the assessment | <ul style="list-style-type: none"> • Consult consultation Bodies | |
| iii) SEA report and draft bill, policy, regulations, strategy, programme or plan | <ul style="list-style-type: none"> • Information made available to the Public • Consult consultation bodies • Consult the public | <ul style="list-style-type: none"> • Consultation of ‘environmental authorities in the member state authorities’ in the member state likely to be affected • Consultation of the public concerned in the member state likely to be affected |
| iv) During preparation of bill, policy, regulation, strategy, programme or plan | <ul style="list-style-type: none"> • Take account of environmental report and opinions expressed | <ul style="list-style-type: none"> • Take account of results of transboundary consultation |
| v) Adopted bill, policy, regulation, strategy, programme or plan: Statement and measures concerning monitoring | <ul style="list-style-type: none"> • Information made available to consultation bodies. • Information made to the public | <ul style="list-style-type: none"> • Information made available to consulted member state |

Source: National Guideline for SEA

c) Methodology for Public Participation

- i. Public meetings;
- ii. Newspaper advertisements and notices;
- iii. Surveys, interviews, questionnaires and response sheets;
- iv. Workshops;
- v. Advisory groups;
- vi. Electronic media; and
- vii. Displays and exhibits.

d) Consultation procedures

The responsible authority shall, as soon as reasonably practicable

- send a copy of the draft report and the policy, bill, regulation, strategy, plan or programme to which it relates with the relevant documents to the Director of Environment and other relevant ministries;
- invite the Director of Environment, relevant ministries and other key stakeholders to express their opinions on the relevant documents within a period specified by the responsible authority; and
- invite comments, where appropriate, from authorities in neighboring countries on trans-boundary environmental concerns

Step 5 Revision of Draft SEA report

Results and rationale for conclusions need to be reported in English accompanied with a non-technical executive summary in both Swahili and English. When reviewing SEA draft report, key questions of concern

to be considered are 1) Quality of information, 2) Level of stakeholder participation, 3) Defined objectives of the SEA, 4) Assessment of environmental impacts; and 5) Planned follow-up activities, and constraints.

Depending on the type of SEA, the Director of Environment may arrange for on-site visits where necessary.

There shall be a Technical Review Committee (TRC) which is a cross-sector technical committee composed of members from sectors related to environment and resource management. The importance of TRC is crucial in enhancing required technical credibility, institutional inter-agency co-ordination and accountability, and transparency in deciding the fate of a proposed undertaking. The Director of Environment will collate the TRC's comments and recommendations of the site visit report and submit the review report to the responsible authority, for finalization of SEA report.

The Minister of Environment will inform the responsible authority decision as 1) approved, 2) not approved, or 3) subject to be approved incorporating recommended changes.

c) Monitoring

The responsible authority shall monitor the implementation and submit a report to the Director of Environment annually or at intervals that will be prescribed by the Director of Environment.

Step 1 : What needs to be monitored

Step 2 : What sort of information is required

Step 3 : What are the existing sources of monitoring information

Step 4 : Are there any gaps in the existing information, and how can these be filled

Step 5 : What should be done if adverse effects are found

Step 6 : Who is responsible for the various monitoring activities, when should these be carried out, and what is the appropriate format for presenting the monitoring results

2) Gap Analysis in the Tanzanian Regulations and the JICA Guidelines for Environmental and Social Conservations

(1) EIA

Gap analysis on screening criteria, scoping item, public hearing, information disclosure and monitoring between Tanzanian EIA regulations and JICA Guideline has been conducted.

1. Tanzanian EIA regulations mention environmental, social, cultural, economic, and legal considerations shall be done in EIA. Screening criteria cover various aspects which are described in JICA Guideline, such as pollution, resettlement, socio-economic impact, inequality on social group and gender. However, environment and health of employee is not included.
2. NEMC and responsible ministry shall conduct monitoring. There is no description about monitoring and feedback in construction or implementation by developer in Tanzanian regulations.
3. Both mention public hearing about assessment result.

4. NEMC gathers public opinions on project itself, Environmental Impact Statement and TOR of EIA. NEMC shall disclose these opinions according to request if NEMC judges necessary. No public disclosure is required.

There are no significant gaps between in EIA of Tanzania and JICA. However, monitoring feedback and public disclosure is not described sufficiently in the Tanzanian Regulations. The project should conduct periodically monitoring and information disclosure by responsible institution of the Project.

(2) SEA

Gap analysis on screening criteria, scoping item, public hearing, information disclosure and monitoring between Tanzanian SEA regulations and JICA Guideline has been conducted.

1. Alternative shall be considered in step 2 of Tanzania regulations as same as JICA Guideline.
2. Consultation and monitoring after approval of SEA final report are mentioned in step 4 of Tanzanian regulations as same as JICA Guideline. In this process, Tanzanian regulation requires consideration of accessibility to the information by people who is not available to internet or to public language.

Then, there are no significant gaps between in SEA of Tanzania and JICA.

3) Relative agencies and institutions

Both process of EIA and SEA, responsible authority is who plan or implement projects needs to conduct assessment. Activities by responsible authority are reviewed by NEMC in EIA or VPO Environment Department in SEA.

Table 9: Responsibility of Relevant Organizations

| Name of Agencies/Institutions | Responsibilities |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DART | Provide environmental and social assessment for projects implemented by DART respectively, including conducting assessments and monitoring for EIA and SEA. |
| City Council and Municipality Councils | Responsible for providing recommendation to NEMC and VPO as a manager of administration within their boundary |
| NEMC | Responsible for judging EIA categories, processing EIA reports, and providing recommendation to the Minister responsible for environment on granting EIA Certificates |
| VPO, Director of Environment and Environment Department | Responsible for judging SEA requirement, processing SEA reports, and providing recommendation to the Minister responsible for environment on granting SEA approval |
| VPO, Minister of State Responsible for Environment | Responsible for approving EIA and SEA reports and issuing EIA Certificates and SEA Approval Notices. |

Source: JICA Study Team

8. Result of the consultation with recipient government on environmental and social consideration

including roles and responsibilities.

Meetings with NEMC on February 8, 2022, and with VPO Environment Department on February 10, 2022, were held to understand Tanzanian EIA and SEA system. Regarding to EIA, the Project shall not include any construction, EIA certification might not be required. On the other hand, strategy or plans which propose several projects and programs targeted on entire of Dar es Salaam Region shall be possibly required to conduct SEA. However, the criteria of determination of necessity depends on screening by VPO Environment Department based on brief explanatory report officially submitted in the Project.

According to the above discussion, the Project will be implemented in compliance with both Tanzanian Regulations and JICA Guidelines.

9. Summary of Result of investigations for environmental and social considerations

1) Approval of EIA and SEA

(1) EIA Approval

Environmental Impact Statement (EIS) is approval by the Minister (Article 92, EMA). The NEMC plays the key role throughout the EIA process¹².

- Necessity of EIA is determined by NEMC by screening the project brief that proponent or developer prepares and submits.
- Where NEMC determines an EIA is needed, scoping report including TOR prepared by the proponent or developer is submitted to and approved by the NEMC.
- Upon completion of the review process, NEMC prepares a report on the review of EIS and submits it to the Minister of State (Union and Environment).
- The Minister gives the decision on the EIS whether EIS is approved, not approved, or approved with specified conditions.
- EIA certificate is issued by the Minister where he approves the EIS.

(2) SEA Approval

SEA Report is approved by the Minister (Article 23, SEA Regulations). Environmental Division of VPO plays an important role throughout the SEA process¹³.

- Environmental Division of VPO determines whether SEA is required or not according to a brief explanation of project prepared by the responsible authority.

¹² Source: The Environmental Impact Assessment and Audit Regulations, 2005

¹³ National Guidelines for Strategic Environmental Assessment, 2017

- Environmental Division of VPO determines scope and TOR based on scoping and communication prepared by the responsible authority.
- The responsible authority consults stakeholders in order to obtain their views and comments and, based on this, prepares final draft SEA report to submit to Environmental Division of VPO.
- Environmental Division of VPO engages in Technical Review Committee (TRC) in revising the final draft SEA report and provides comments and recommendations to the responsible authority.
- The Minister decides whether SEA is approved or not approved.
- The responsible authority monitors significant environmental impacts of implementation and prepares periodic reports to submit to Environmental Division of VPO.

2) Measures against pollution

TOD promotes usage of public transportation and formulation of compact city by urban development along BRT corridors. Then, implementation of TOD likely alleviates pollution by reduction of vehicles in Dar es Salaam and limits area can be polluted by human settlement. However, construction of building and urban development as implementation of TOD affects environment temporarily and densifying urban function around stations might occur negative influences.

3) Impact on the natural environment

TOD promotes to densify urban functions and population along BRT corridors and control unplanned urban sprawl. Then, implementation of TOD likely reduce risks to affect natural environment. However, it is needed to carefully assess the impact of TOD because some sections of BRT corridors are located on/near protected areas including reserve lands and KBAs. Even along BRT corridors, urban development should be controlled based on the assessment.

4) Impact on the social environment

TOD may include urban redevelopment and re-organize urban transportation system. Then, implementation of TOD may affect social environment in several aspects. It is essential for the Project to disclose information to the community people living/ working in and near to the TOD plan area to enhance their understanding and reach general agreement about the TOD strategy and the concept plan of selected stations. TOD guideline needs to include not only the method of community participation but also livelihood restoration program when land is acquired. Also, it should be considered that land occupation right may not be shared among concerned people, especially in the area where people start occupation recently.

5) Monitoring

EIA is monitored by NEMC together with responsible governmental institutions (Article 99, EMA), and SEA is implemented is monitored by the sector ministry (Article 24 of SEA Regulations). It is not provided in both EMA and SEA Regulations that project implementer or developer is not responsible for monitoring and

feedback both at the construction stage and operation stage. However, it is needed to collect detail information about responsibility or implementer for monitoring in the Project.

10. Provisional Scoping (types and magnitudes of possible adverse impacts)

Provisional scoping was made for the policy and the plan that might be proposed by the output of the Project. The results of the provisional scoping are summarized in Table 10. The provisional scoping has been done according to JICA Guideline.

Table 10: Provisional Environmental and Social Impact Scoping

| No | Potential Impact | Rating | | Brief description |
|---------------------|-----------------------|------------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Before & During Construction | Operation Stage | |
| Pollution | Air pollution | B- | B+ | <ul style="list-style-type: none"> Construction may affect air conditions because number of heavy vehicles is increased. At the operation stage, construction, air conditions shall get better because traffic congestion shall be reduced by promotion of public transportation usage. |
| | Water pollution | C- | D | <ul style="list-style-type: none"> Construction may cause outlet of soils to rivers or sea No influences are predicted after construction |
| | Soil contamination | D | D | <ul style="list-style-type: none"> No influences are predicted by TOD. |
| | Waste | B- | C- | <ul style="list-style-type: none"> At the construction stage, waste lumber and other construction waste may be thrown away. At the TOD operation, garbage may gather at the terminal area if waste management is not sufficient. |
| | Noise and vibrations | B- | B+ B- | <ul style="list-style-type: none"> At the construction stage, noise and vibration of the construction and construction vehicles are anticipated. At the TOD operation stage, the total number of vehicles will be reduced due to the use of BRT, and noise and vibrations of the BRT line will be reduced. But traffic possibly concentrate in such places as terminal area and noise and vibrations in the area may occur. |
| | Ground subsidence | D | D | <ul style="list-style-type: none"> No influences are predicted by TOD. |
| | Offensive odors | C- | C- | <ul style="list-style-type: none"> At the construction stage, offensive odors may occur due to exhaust gas of construction vehicles and construction materials. At the operation stage, offensive odors exhaust gas may be accumulated at the terminal area. |
| | Geographical features | C- | D | <ul style="list-style-type: none"> At the construction stage, small scale land cut or filling may occur. No influences are predicted after construction |
| | Sediment | D | D | <ul style="list-style-type: none"> No influences are predicted |
| Natural environment | Protected area | C- | C- | <ul style="list-style-type: none"> At the construction stage, air pollution and noise and vibration are anticipated to threat wildlife in case that the TOD area is near to the reserved areas. At the operation stage, not only air pollution, noise and vibration but also increase population who live in the TOD area are anticipated to threat fauna and flora of the reserved area in case that TOD area is near to the reserved areas. |

| No | Potential Impact | Rating | | Brief description |
|--------------------|----------------------------------------------------------|------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Before & During Construction | Operation Stage | |
| | Ecosystems | C- | C- | <ul style="list-style-type: none"> At the construction stage, air pollution, noise and vibration, as well as disposal of waste is anticipated to threaten ecosystem in case that the TOD area is near to the reserved areas. At the operation stage, not only air pollution, noise and vibration but also increase population who live in the TOD area are anticipated to threaten eco system of the reserved area in case that TOD area is near to the reserved areas. |
| | Water usage | D | D | <ul style="list-style-type: none"> No influences are predicted by TOD. |
| | Climate change | D | B+ | <ul style="list-style-type: none"> At the construction stage, no impact is anticipated. At the operation stage, CO2 emission from private cars is expected to decrease due to use of BRT. |
| Social environment | Involuntary resettlement | B- | D | <ul style="list-style-type: none"> Before the construction, involuntary resettlement is anticipated due to construction of terminal and yard of construction materials. No influences are predicted after construction |
| | Local economies, such as employment, livelihood, etc. | B- C+ | B- C+ | <p><Negative impact></p> <ul style="list-style-type: none"> At the construction stage, economic activities may slow down due to road blockage and other reasons. At the construction stage, some people may lose the place of their income generating activities, particularly informal sector, due to land acquisition and promotion of BRT. <p><Positive impact></p> <ul style="list-style-type: none"> At the construction stage, job opportunity is generated as construction worker. At the operation stage, job opportunity is generated in the TOD operation. |
| | Land use and utilization of local resource | D | D | <ul style="list-style-type: none"> No influences are predicted by TOD. |
| | Social capital and regional decision-making organization | D | D | <ul style="list-style-type: none"> No influences are predicted by TOD. |
| | Existing social infrastructure and services | B- | B+ | <ul style="list-style-type: none"> At the construction stage, social infrastructures may close or access to them may be restricted due to road blockage. At the operation stage, use of public transport is spread, and access time to social infrastructures and social services may be reduced. |
| | Poverty | C- | D | <ul style="list-style-type: none"> At the construction stage, unequal job opportunity and information access for socially vulnerable people may occur. No influences are predicted after construction |
| | Indigenous and ethnic minorities | D | D | <ul style="list-style-type: none"> Indigenous or ethnic minorities are not found in Dar es Salaam. |
| | Misdistribution of benefits and damages | C- | D | <ul style="list-style-type: none"> At the Construction stage, benefit of employment of workers and acquisition process may be slanted to particular social groups and not to other groups. No influences are predicted after construction |
| | Local conflict of interest | C- | D | <ul style="list-style-type: none"> At construction stage, conflict among stakeholders due to inequity of impact, compensation and information accessibility No influences are predicted after construction |

| No | Potential Impact | Rating | | Brief description |
|----|-------------------------------------|------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Before & During Construction | Operation Stage | |
| | Gender | B- | D | <ul style="list-style-type: none"> • At the construction stage, accessibility and opportunity to information or compensation is predicted to occur • No influences are predicted after construction |
| | Children's rights | B- | D | <ul style="list-style-type: none"> • At the construction stage, child labour may occur • No influences are predicted after construction |
| | Cultural Heritage | D | D | <ul style="list-style-type: none"> • No influences are predicted by TOD. |
| | Landscape | C- | B+- | <ul style="list-style-type: none"> • At the construction stage, landscape may be damaged by construction work. • At the operation stage, landscaping will be improved due to planned and well-organized land use, |
| | Infectious disease such as HIV/AIDS | B- | D | <ul style="list-style-type: none"> • At construction stage, close contact among construction workers may occur to spread infection • No influences are predicted after construction |
| | Accident | B- | B+ | <ul style="list-style-type: none"> • At the construction stage, accidents may occur. • At the operation stage, reduction of traffic accidents is expected due to the increase of use of public transport. |
| | Employee's environment | B- | C- | <ul style="list-style-type: none"> • At construction stage, healthy and safe environment for employees working for construction may not be secured • At the operation stage, healthy and safe environment for employees working for TOD operation may not be secured |

A+ : Significant positive impact

B+ : Significant positive impact to some extent

C : Extent of impact is unknown.

D : No impact

Source: JICA Study Team

A- : Significant negative impact

B- : Significant negative impact to some extent

11. Terms of Reference for Environmental and Social Considerations

1) Rational

The Project aims to enhance the capacity of relevant institutions in urban development and transportation plan which may require SEA of Tanzanian system and JICA Guidelines for Environmental and Social Considerations (2010).

2) Description of SEA Study

(1) Objectives

The objectives of SEA study are:

- b. To identify and assess potential impacts induced by the Project in the target area;
- c. To avoid, reduce and mitigate these impacts;
- d. To collect comments from stakeholders and reflect them to options proposed by the Project;
- e. To evaluate the options from the technical, financial and environmental points of view; and,
- f. To select the optimal option for the Project

(2) Methodology and Flow of the Implementation of SEA Study

- a. Review the existing development plans (upper level/related plans), development projects, studies, and policies.
- b. Examine the issues on environmental and social aspects for TOD planning.
- c. Confirmation of legal framework and institution of government of Tanzania on environmental and social considerations, and SEA cases in Tanzania.
 - Laws, regulations and standards related to environmental and social considerations (environmental impact assessment, resettlement, public participation, information disclosure and others).
 - Gaps between the “JICA Guidelines” and legal framework of Tanzania on environmental and social considerations.
 - Outlines of relative agencies and institutions responsible for the implementation of the Project.
 - SEA cases conducted in Tanzania
- d. Examine the methods to implement the SEA for the Project
- e. Examine the plans, and configure alternatives, which are subject to the SEA.
- f. Study the baseline situation on environmental and social aspects of the plans subject to the SEA.
- g. Conduct scoping (clarify extremely important items on environmental and social impacts and its evaluation methods at the time of decision making such as policy, plan, and program levels).
- h. Predict the environmental and social impacts of each alternative based on the results of scoping.
- i. Compare and evaluate the alternatives including “zero option” from technical, financial, and impacts of environmental and social points of view, and select the optimal plan.
- j. Study the mitigation measures in the optimal plan (to be avoided, minimized and compensated).
- k. Study the monitoring method based on the mitigation measures.
- l. Support to hold stakeholder consultations hosted by the counterparts, and incorporate the outputs into the Project

(3) Alternative

Alternatives of the Project will be focused on Activity 1-1 “to develop a TOD strategy” and Activity 1-2 “to develop a concept design draft for the station area development for selected stations”. Alternatives themselves will be studied from scoping process of the SEA implementation

Alternatives for Activity 1-1 will be discussed in the earliest stage of the Project to compare different options including “zero option” (without implementation of TOD case) from different aspects of not only environmental and social but also technical and economic points of view. Alternatives shall be discussed among stakeholders at the stakeholder meetings and collect voice of civil society at the public meetings. Participants will be determined by discussion between the Implementation Agency and the Project Team, and tentatively supposed as ministries, institutions and local government, but also private sector and local communities may

be involved. Based on the result of the consultation meeting, Implementing Agency with assistance of the JICA Project Team will determine the most appropriate alternative to develop the TOD strategy.

Activity 1-2 will be implemented after the TOD strategy is developed. As it is a concept under the TOD strategy for small area around selected stations, SEA might not be needed. However, it is still needed to consider alternatives in the concept design with explanation to people living and working in and around the selected station area to get their voices.

12. Other relevant information

None