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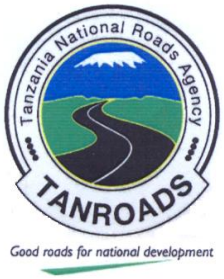

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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR RAPID TRANSIT SYSTEM FOR PHASE 3 IN DAR ES SALAAM CITY

FINAL REPORT

October**, 2016**

Acknowledgement:

The ESIA team wishes to convey heartfelt thanks and appreciation to all stakeholders who in one way or another supported the review of this ESIA report. Thanks very much all of you. Special thanks should be given to the Management of TANROADS HQ and Regional Office, DART Management, Ilala and Temeke Municipalities and other departmental staff for their prompt assistance during the undertaking and review of the Environmental and Social Impact Assessment.

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Acronyms and Abbreviation

ADB	African Development Bank
BOQ	Bills of Quantities
BRT	Bus Rapid Transit
CBOs	Community Based Organizations
CFC	Chlorofluorocarbon
CITES	Convention of International Trade in Endangered Species
CO	Carbon dioxide
CRB	Contractors Registration Board
CRO	Community Relations Officer
DART	Dar Rapid Transit Agency
DANIDA	Danish International Development Agency
DAWASCO	Dar es Salaam Water Supply and Sewerage Company
DAWASA	Dar es Salaam Water and Sewerage Authority
dB (A)	Decibels in scale A
DOE	Director of Environment
EA	Environmental Assessment
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
EIS	Environmental Impact Statement
ELO	Environmental Liaison Officer
EMA	Environmental Management Act
EMP	Environmental Management Plan
ERB	Engineers Registration Board
ESCBA	Environmental and Social Cost Benefit Analysis
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EWURA	Energy and Water Utilities Regulatory Authority
GDP	Gross domestic Product
HIV/AIDs	Human Immunodeficiency Virus/ acquired immunodeficiency syndrome
I&APS	Interested and Affected Parties
IET	Institute of Engineers Tanzania
IMC	Ilala Municipal Council
JICA	Japan International Cooperation Agency
MACC	Municipal Aids Control Coordinator
MARPOL	Marine Pollution from ships
MEAs	Multilateral Environmental Agreements
MKUKUTA	Mkakati wa Kukuza Uchumi na Kuondoa Umaskini Tanzania (National Strategy for Economic Growth and Reduction of Poverty)
NBS	National Bureau of Statistics
NE	North-East
NEMC	National Environment Management Council
NGO	Non-Governmental Organisation
NMT	Non- Motorized Transport
NORAD	Norwegian Agency for Development Cooperation
NSGRP	National Strategy for Growth and Reduction of Poverty
NPV	Net Present Value

ODA	Official Development Assistance
OSHA	Occupational Safety and Health Authority
PEDP	Primary Education Development Plan
PM	Particulate Matter
PMO	Prime Minister's Office
PMOLARG	Prime Minister's Office Local Administration Government
PPE	Personal Protective Equipment
RAP	Resettlement Action Plan
ROW	Right of Way
SAWA	Sanitation and Water
SE	South-East
SEA	Strategic Environmental Assessment
SEU	Safety and Environmental Unit
SO_X	Sulphur Oxides
SSRW	Standard Specification for Road Works
SUMATRA	Surface and Marine Transport Regulatory Authority
TANESCO	Tanzania Electric Supply Company Tanzania
TANROADS	Tanzania National Roads Agency
TOR	Terms of Reference
TV	Television
TZS	Tanzania Shillings
UNEP	United Nations Environmental Programme
USD	United States Dollars ($)
UTI	Urinary Tract Infection
VP	Vice President
WC	Ward Councilors
WFA	Water for All
WEO	Ward Executive Officer
WBG EHSG	World Bank Group Environmental, Health and Safety Guidelines (http://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/ifc+sustainability/our+approach/risk+management/ehsguidelines)

EXECUTIVE SUMMARY

Introduction

The Government of Tanzania intends to establish, operate and manage the Bus Rapid Transit (BRT) system, which is the cost effective sustainable transportation system for Dar es Salaam City to ensure fast and orderly flow of traffic on urban streets and roads.

The BRT project follows the current land use plan that shows an extension of planned residential areas in the north-west direction along Ali Hassan Mwinyi road, in the south direction along Kilwa road and in Tabata area. The plan also shows an extension of unplanned residential areas in the west along Morogoro road and in the south-west corridor along Nyerere road. There is also an extension of industrial areas north along Ali Hassan Mwinyi road, Nyerere road and part of Mikocheni Area.

The BRT system is implemented in phases. Phase 1 traverse along the Morogoro Road, Kawawa North, Msimbazi Street, and Kivukoni front with a total length of 20.9 km. The BRT infrastructures under this phase have been completed with financing from the World Bank. Phase 2 will cover the Kilwa road and Kawawa South with a total length of 19.3 km while the proposed BRT Phase 3 covers Uhuru Street, Nyerere road, Bibi Titi na Azikiwe Street making a total length of 23.6 km. Initially, The Government of United Republic of Tanzania requested the African Development Bank (ADB) to support implementation of both phase 2 and 3.

According to the ADB's initial environmental screening guidelines, projects involving major rehabilitation of urban roads, which are likely to result in significant displacement of people are classified as Category 1, and these require detailed environmental and social impact assessment. Similarly, according to the requirements of Tanzania's Environmental Management Act No. 20 of 2004, the proposed project is under the list of projects requiring an Environmental Impact Assessment. In order to facilitate carrying out of Environmental and Social Impact Assessment, Da es Salaam Rapid Transit (DART) Agency commissioned M/s Kyong Dong Engineering Co. Ltd of Korea in joint venture with M/s AMBICON Engineering Ltd of Tanzania to carry out an Environmental and Social Impact Assessment, Detailed Engineering Design and preparation of Tender Documents for BRT phase 2 and 3.

The Environmental Impact Assessment (EIA) was conducted in accordance with the requirements of the Environmental Management Act No. 20 of 2004 and Environmental Impact Assessment and Audit Regulations (2005) and applicable ADB Safeguard Policies. Other important legal provisions, which provide guidance on environmental issues pertaining to road sector have been consulted such as the Road Act (2007),

Environmental Code of Practice for Road Works (2009), and Environmental Assessment and Management Guidelines in the Road Sector (2011)

Currently the World Bank has shown interest to finance Phase 3 of the Bus Rapid Transport facilities in Dar es Salaam City as one of the components of Dar es Salaam Urban Transport Improvement Project (DUTP). The BRT Phase 3 is designed to cover Nyerere road corridor from Gongolamboto to Kariakoo, part of Uhuru Street (from Buguruni Traffic light to Kariakoo), part of Mandela Road (from TAZARA Traffic light to Buguruni traffic light), Bibi Titi Road and Azikiwe Street with a total of 23.6 km where it connects with other inward routes joining Kisarawe Town.

The construction of 23.6km of BRT through a major urban center may give rise to significant adverse environmental and social impacts that are sensitive and unprecedented and as such the project has been classified as Category A under the World Bank Safeguard Policies. In this regard, the preparation of ESIA for Category A projects has to be carried out independently from the Feasibility and/or Design Consultant.

As it was agreed, the supervision for finalizing the Detailed Engineering Design, Environmental and Social Impact Assessment as well as supervision of the construction works for phase 3 will be done by TANROADS. For that reason, among others, TANROADS engaged an independent Consultant to review the Environmental and Social Impact Assessment report prepared for Phase 2 and 3 to focus on the proposed BRT Phase 3 and to be consistent with the National legislations and World Bank requirements.

The main objective of the BRT project is to ensure orderly flow of traffic in urban streets and roads by increasing the level of mobility and to meet the ever increasing travel demand of the city residents with ultimate aim of increasing comfort and quality of life and urban development. Apart from improving public urban transport in Dar es salaam City, BRT system intends to generate more jobs to residents by involving people to invest in the BRT system bus operation, fund management and fare collection companies.

The objective of the Environmental and Social Impact Assessment is therefore to identify and predict the impacts likely to be associated with the construction and use of the BRT system and propose mitigation measures. These interventions and mitigation measures are to be incorporated into tender documents for contractors' dossiers during project implementation.

Project Background and Description

The proposed BRT Phase 3 project is envisaged to be constructed in Dar es Salaam City within Ilala and Temeke Municipalities. The BRT Phase 3 is designed to cover Nyerere road corridor from Gongolamboto to Kariakoo, part of Uhuru Street (from

Buguruni traffic light to Kariakoo), part of Mandela Road (from TAZARA traffic light to Buguruni traffic light), Bibi Titi Road and Azikiwe Street with a total of 23.6 km where it connects with other inward routes joining Kisarawe Town.

The BRT system will comprise a two-lane, i.e. one- lane per direction, two way roads dedicated for buses only that allow busses to bypass peak hour congestion as well as achieve high speed to reach destinations faster. The proposed roads will comprise of bus lanes, mixed traffic lanes and non-motorized traffic (NMT) facilities. The corridors and non-motorised traffic facilities will include trunk and feeders; feeders include bicycle pedestrian paths, pedestrian overpasses and flyovers (if required) etc. Station terminals will include elements like access area, fare collection area, platforms circulation. Bus Deports will include elements like access area, maneuvers, fuelling washing, and maintenance, parking and necessary buildings such as for maintenance.

According to the set-up of the BRT project implementation, the Tanzania National Roads Agency (TANROADS) will be the executing Agency for the project that will procure and manage the BRT infrastructure contracts. The Chief Executive of TANROADS shall also designate a BRT Unit and the Manager of the Unit as Coordinator for the day-to-day management of the project during construction and maintenance. The DART Agency will be responsible for procurement of service bus operators (private), fare collection system and ITS systems as well as overseeing operations of the BRT system.

The road works will be undertaken by competent and experienced civil engineering works contractor, while supervision of the civil works will be undertaken by experienced engineering consulting firm, all to be procured competitively. The Consultant in collaboration with TANROADS will supervise and monitor implementation of the environmental and social management plans.

Policies, Legal and Administrative Framework

National policies, legislations, administrative structures, international treaties and conventions relevant to the environment in relation to the project road were reviewed. The Road Act No.13 of 2007 was equally reviewed to assess the extent of the project requirements. Other Acts for professional conduct were also considered to ensure that, their relevancy to the proposed project is taken into account. Administrative and Institutional Framework for environmental management comprise of , the Minister responsible for Environment, National Environmental Advisory Committee, Division of Environment, National Environment Management Council (NEMC), Sector Ministries, Regional Secretariat and Local Government Authorities as well as agencies implementing the projects.

Environmental and Social Baseline Conditions

The Physical Environment

The project area is characterized by developed residential buildings, industrial buildings and high concentrations of trade and other social services and manufacturing activities. Along the project road, there are various utility infrastructures some of which will be relocated.

The assessment of housing and settlements in the area shows that the majority of buildings are roofed with corrugated iron sheets while few buildings are covered with tiles and asbestos. The walls of the buildings are made of concrete blocks and a small proportion of households built from burnt bricks and stones. On the increase is the number of houses built with its walls covered with glasses. On the other hand, the houses of most households have tiled floors followed by those which have cement screed.

The project area experiences a modified type of equatorial climate. As in all other parts of Dar es Salaam region the climate of the project area is influenced by the monsoons, that is South-East Monsoons and North-East Monsoons. Also, the vicinity of the sea has a strong influence on both rainfall and temperature. The SE Monsoons are predominant in April to October when the overhead sun is in the northern hemisphere. The NE monsoons are predominant from November to March when the overhead sun is in the southern hemisphere. However, as an area with rainfall throughout the year, rainfall may occur even during the dry seasons. There are two main rain seasons; a short rain season from October to December and a long rain season between March and May. The average rainfall is 1000mm (lowest 800mm and highest 1300mm). The rainy seasons are also the most humid periods. It is generally hot and humid throughout the year with an average temperature of 29ºC. The hottest season is from October/November to March during which temperatures can raise up to 35ºC. Humidity is around 96% in the mornings and 67% in the afternoons. The project area is relatively cool between May and August, with temperature around 25ºC.

Dar es Salaam city dwellers depend on different sources of energy such as electricity and gas, also stand-by generators are used during power outages especially in commercial areas. The main source of power for lighting, business and industry is electricity, which is generated, transmitted and supplied by a sole power utility, Tanzania Electric Supply Company Limited (TANESCO). Residents commonly use electricity, charcoal, gas for cooking and lighting. A large number of service outlets use charcoal and gas for cooking, some use kerosene stoves.

The solid wastes generated in the area include paper, food wastes, plastics and others depending on the requirement and services offered in the respective area. Municipal Councils play important roles in financing, planning and providing waste

collection and disposal services in the project area. Solid waste collection in the project area is carried out by both Municipalities and some private companies.

Socio-economic Setting and Cultural Environment

The third phase of BRT project will be implemented in Dar es Salaam City, specifically intercepting Ilala and Temeke Municipalities which are two municipalities among the three municipalities in Dar es Salaam City; another Municipality is Kinondoni.

The 2012 Tanzania National Census reports that the population of Temeke and Ilala municipalities were 1,368,881 and 1,220,611 people respectively. An ever increasing population in Dar es Salaam has resulted into a number of environmental issues including solid waste generation and transmission of diseases.

Despite the government efforts to control the transmission of HIV/AIDS at different levels in the area, the disease still features among the top ten diseases. Moreover, reports from the Ilala Municipal Hospital shows that 50-60% of the patients admitted in the medical wards are on account of AIDS related complications.

The Dar es Salaam City Profile, 2004, indicates that GDP per capita for Dar es Salaam to be Tshs 584,086 with 35% of the population earning an average low income of Tshs 387,319 per annum (about Tshs 32,000 per month).

The status of health services in Dar es Salaam (including the project area) is with ratio of 18,637 persons under care of one physician. The quality of service is reflected in long queues at medical service centres, congestion in hospital wards and poor facilities in general. The ratio is one (1) physician to 5,333 patients in health centres.

Public Consultation

The community perception of the project is good and most of the people wish to see immediate implementation of the project, but they are worried of compensation rates of their high valuable land and other properties. They require fairness throughout the whole process. Below are some of their concerns during public consultation:

(i) The present sideways of the roads are used for commercial and settlement activities, therefore compensation is the most important issue among other impacts.
(ii) Any land or property should not be occupied by the BRT project unless compensation is fully completed.
(iii) In future, the government should consider other alternative transport systems such as railways which use lesser space than the roads which involve resettlement of people.
(iv) Compensation should be paid within six months from the date of property valuation, otherwise there will be increment.
(v) The residents gave warning on storm water/wastewater management, that the contractor

should know the soil condition and waste water management to address the storm water/wastewater problem.

(vi) They also requested a new approach of BRT roads design in order to accommodate motorcyclists.

(vii) It was requested that compensation is paid in United States Dollars (US$) to avoid devaluation of the Tanzania Shilling.

(viii) Valuation exercise should be open for everybody to access it before being paid and the breakdown for valuation should be shown to an affected person before receiving compensation.

(ix) The government always pays compensation late; don't you think this is not right?

(x) Make sure the project is implemented, do not end with mere discussion without implementation. The project should be implemented as soon as possible.

(xi) Sufficient time should be given for PAPS who will be relocated.

(xii) During valuation of properties to be affected, the present market value of properties must be considered.

(xiii) The Developer should use good and transparent procedures for resettlement, and not use of forces.

(xiv) This project is good if will be well managed. The construction activities can start as early as possible provided the Contractor will be procured at early stages.

(xv) Why is the government still issuing building permits in the project area while they have a plan for BRT project?

(xvi) Kariakoo area has very high land value, the client should be fair in implementing compensation bearing in mind that the areas has a lot of multi-storey buildings

(xvii) They requested the developer to conduct survey as early as possible in order to let people free of worries.

Major Significant Impacts

Combining community concerns and consultants assessment of environmental and social impacts, the major significant impacts are:

(i) Displacement of people and properties including formal and informal traders currently on the right of way (ROW) due to land acquisition;

(ii) Relocation of infrastructure and disruption resulting from land take;

(iii) Vegetation clearance to pave way for project construction activities;

(iv) Disturbance, particularly land scarring at borrow sites or sources of construction materials (sand, aggregates, stones);

(v) Contamination of water from leakages (oil and grease) of fuels and lubricants from the construction equipment;

(vi) Poor air quality from dust and emissions around the construction site and material hauling routes;

(vii) Generation and poor disposal of solid and liquid wastes;

(viii) Soil erosion and silting of channels;

(ix) Impacts from workers' camps establishment;
(x) Increased noise pollution;
(xi) Vibrations due to compaction and blasting on quarry sites;
(xii) Traffic interference during road construction;
(xiii) Increase in HIV/AIDs cases;
(xiv) Increased risks of accidents involving buses;
(xv) Increased flooding cases in areas with poor drainage systems and in low lands.

Alternatives Considered

The important aspect of the proposed project road is that it will follow the existing roads alignment. Other routes or spaces that may be considered as alternatives for the project are either very narrow in nature or the spaces are planned for other development activities. Since the proposed Dar es Salaam roads are gazetted as either regional or trunk roads and have been in use for many years then, consideration of alternatives leaves no other better option for the project routes. Instead supplementary or additional routes could be added to the proposed BRT system to ease the traffic in existing roads.

In order to ensure efficient operation of BRT system and for safety reasons three feasible design alternatives were considered: (i) *Opening Median* - provision of open space in the media, which means that BRT lane is divided with mixed traffic by a separator; (ii) *Opening Separator* – provision of open space in the outer separator, which means BRT lane is mixed with mixed traffic in case of emergency; and (iii) *Opening Median at Station* – provision of open space close by station, implying that BRT lane is divided with mixed traffic by a separator. For efficient operation of BRT system, the most recommended option is the first alternative, which has dedicated lanes while installation of median and separation are strongly recommended for safety reasons.

In order to accommodate pedestrian flyovers, which require enough space of side walk due to ramps and stairs, the design has considered to install pedestrian flyovers in practicable areas with high pedestrian crossing traffic without demolishing buildings and private properties.

Recommendations and Plan for Mitigation of Impact

- Compensation will be considered in places where properties cannot be avoided or left intact;
- Roads alignment to follow existing roads to avoid relocating some of the properties;
- Structures outside the construction corridor but within the road reserve may be left intact during the initial stages but with time they will need to be removed to pave way for future expansion of the road when required;

- Water pipes located/crossing in the right of way (road reserve) may be moved slightly away from the road or provision of service duct may be considered;
- Protection of existing water channels feeding the Ocean must be considered;
- Borrow materials should be obtained from existing borrow areas such as those currently used for road construction or new ones opened on agreement with the respective communities;
- Ensure reinstatement of all borrows areas as close as possible to the original site condition once the use of the borrow pits is exhausted. This will be ensured by preparing the "*borrow pits operation and rehabilitation plan*" by works contractor. Extracted and stockpiled top soil shall be used for landscaping. Moreover, steep edges of these pits will be leveled and smoothened to avoid posing risks to neighboring community. Clearance and mobilization of the site shall be limited to the core area of the project. In this case, the diversions to accommodate traffic shall be established within the ROW i.e. within the road reserve not beyond 30 m from the ROW
- Carry out works during the dry season to prevent soil from being washed away by rain;
- Drainage structures shall be properly installed to avoid scouring;
- Adhering to specified cut and fill gradients and replanting embankments with flat growing grass that will reduce erosion and enhance soil stability especially on the embankments;
- Areas cleared for improving sight distances shall be replanted with grass to control erosion;
- Worker's camp site/location shall be rented from individuals or local authorities and appropriateness shall be approved by the Client in order` to minimize impact to the community;
- Water sprinkling to reduce the dust at construction site and near settlements;
- Sprinkle water twice a day or more when visual inspection indicates excessive dust and during heavy traffic;
- Use of Personal Protective Equipment (PPE) for workers for occupational Health and Safety;
- Construction machines/equipment shall be well maintained to ensure total fuel combustion. All vehicles shall be frequently checked and serviced during the whole construction period so that the level of exhaust emissions is reduced;
- Movement of vehicles should be kept to minimum necessary for completing the job;
- Where the noise levels is beyond 85 dB (A), ear muffs or plugs shall be provided to all those working within the construction equipment area including the operators;
- Equipment shall be well maintained or fitted with noise silencers such as mufflers.
- During construction at site, the contractor shall only work during the normal hours (especially activities involving noise) so that the residents living along the project road are not disturbed during sleeping and resting hours;
- Provide a noise monitoring meter at noise sites;
- Control the speed of road construction equipment in residential areas;
- Dispose the spoil materials into the numerous borrow pits located along the project road before they are restored;
- Sort wastes according to their type and quality. Decomposable waste can be buried on

sanitary landfills and recyclable materials can be sent to the recycling stations;

- Encourage and reward employees who show good practice of solid waste management;
- For general health of laborers in the work camps, a contractor to arrange for a central canteen as wastes can easily be managed and general hygiene easily monitored;
- Pit latrines in especially in camps shall be well located to avoid contaminating ground water facilities;
- Ablution units connected to septic tanks and soak-away pits would be expensive but a less polluting option;
- Workmen shall be provided with personal protective equipment (PPE);
- Dangerous places shall be well barricaded and no children shall be allowed to wonder around the construction sites;
- Avoid washing construction equipment at the intake or near the water source;
- Repair all construction equipment to avoid fuel and oil leakage;
- No refueling of construction equipment shall be carried out within 100 m of the water sources;
- Construction equipment service bays shall be provided with berms to avoid spills being washed away to the water sources;
- The contractor shall prepare and install warning signs along the projects roads requiring the vehicles to reduce the speed;
- Install speed humps at all settlements along the project roads;
- Prepare and install temporary traffic signs that are legible both during the day and at night indicating that the road works are in progress;
- Reinstatement of all borrow sites with top soil then re-vegetation with local species of flat growing grass type;
- Trees must be planted along the roads to help capturing air emissions (particularly carbon dioxide) generated by motor vehicles;
- Construction of toilets (e.g. septic tank system) at stations, depots and terminals to avoid contamination of available water systems and dangers to road users;
- Reinforce provision of waste bin in the buses in order to prevent improper garbage and solid waste disposal resulting from ‘take away’ habit along the roads;
- Design a proper program for ensuring cleanness of roads e.g. regular cleaning of the water channels.

Environmental and Social Management Plan

TANROADS and its Contractors envisage working in close cooperation with the sub-Wards, Wards, Municipals, Regional and National level authorities to ensure that the BRT project is executed in a smooth manner. The structures for undertaking various responsibilities during road pre-construction, construction and operation phases have been presented as specified in the Environmental and Social Management Plan under section 8 of this ESIA. The costs of various mitigation measures have been

included in the total cost of the project in the Bills of Quantities as specified in the Standard Specifications for Road works. Estimated costs for compensation for peoples' assets are about 17 billion Tanzanian Shillings, while the costs for relocation of utilities (water supply, electricity and telecommunication lines) is estimated to be over 6 billion Tanzanian shillings making the total compensation costs to 24 billion Tanzanian shillings as provided in the Resettlement Action Plan (RAP).

Proposed Monitoring and Auditing

The overall procurement, project supervision and monitoring of construction works fall under the Chief Executive of TANROADS. The authority is well organized with qualified and experienced professionals. TANROADS will assign a project Manager under the BRT unit to coordinate close follow up and timely response to correspondence forwarded from the Consultants and Contractor. The Authority will attend tripartite monthly progress meetings and conduct site visits to discuss and address issues related to progress of works. TANROADS shall also be responsible for monitoring the Result Based Logical Framework in consultation with appropriate institutions. The monitoring of environmental and social mitigation measures will lie with Environmental and Social Department of TANROADS and DART Agency and the National Environment Management Council (NEMC).

The Consultant in collaboration with TANROADS will supervise and monitor implementation of the environmental and social management plans. The budget for monitoring amounts to TZS 95,680,000 during pre-construction, construction and operation phases.

Environmental Cost - Benefit Analysis

Attempts have been made to assign dollar value on impacts such as displacement of people and relocation of infrastructure. But other impacts such as emissions, poor air quality, noise pollution, pollution of soils and ground water cannot easily be quantified in monetary terms. The fact that cost-benefit- analysis seeks to translate all relevant considerations into monetary terms makes the whole analysis complex. In cost – benefit analysis, both the costs of, say, putting a dripping pan under the leaking grader or a front-wheel loader to reduce ground water pollution and the benefits of doing so including saving the human lives and prevention of debilitating and painful cancer diseases from consuming carcinogenic substances, are presented in terms of dollars.

BRT roads construction will open up many opportunities to the City especially along the project roads and other neighboring centers, Regions and Nation at large. The BRT system will allow more vehicles to reach the city center within the short time, thus commercial activities will be performed within short times and more benefits will be gained. Roadwork activities will have offered some short-term employments to local community such as construction laborers, security personnel, Contractors, Engineers, Environmental Assessment teams, etc.

Many more benefits ranging from taxes on construction materials, availability of good infrastructure in the City, etc. will be realized. Overall, the BRT project will have great benefits economically and environmentally compared to current status of the City transport system. Therefore the benefits to be realized from the BRT project surpass the envisaged environmental and social costs within the lifetime of the project.

As a conclusion on the proposed BRT Phase 3 project, the environmental and social costs are relatively lower in value and are thus outweighed by the benefits to be realized from the project. The consideration of No-Project or Do-Nothing option has been dismissed as best alternative due to the need and desirability of the BRT system to solve transport problems in Dar es Salaam City. Therefore, the country at large stands to benefit significantly in terms of a thousand million dollars if the project is implemented.

Decommissioning

Decommissioning is the final phase in the life cycle of the project after design, construction, and operation for the design life. Most often, it is a process involving operations such as dismantling and demolition of structures, and management of resulting demolished materials. As long as people in Dar es Salaam are in continuous expansion and more development is coming, there will always be a need for even a better road between them. Therefore decommissioning of the proposed BRT project should be thought of in terms of upgrading the road from even the present status to the next higher stage.

Conclusion and Recommendations

The implementation of the proposed BRT 3 project will enhance mobility in the City of Dar es Salaam particularly along the project corridor and will improve accessibility to socio economic activities by reduction of travel time and transport costs. In general, the project has been well conceived and is technically feasible, socially and environmentally sustainable, and economically justified and viable.

It is important to bear in mind that on environmental ground, the proposed BRT corridors have been in existence for many years. Therefore the environment along the roads has been significantly altered and some of the impacts have already occurred. Disturbance due to installment of BRT system will be there especially for resettlement of those who have been occupying or carrying business in the right of way. Also some impacts will be noted in areas where the existing road is narrow such as most areas along Uhuru road. It is recommended that the project be allowed to go to a next stage and later be implemented provided that the proposed mitigation measures are appropriately implemented.

1.0 INTRODUCTION

1.1 Background of the Project

The Government of United Republic of Tanzania intends to establish operate and manage the a Third Phase of the Bus Rapid Transit (BRT) system, which is the cost effective sustainable transportation system for Dar es Salaam City to ensure fast and orderly flow of traffic on urban streets and roads.

The Dar es Salaam City is the largest in Tanzania and the principal center of commerce and Industry. It is also an important terminal for air, sea, and road transport. For the city council and municipalities to play their roles effectively, i.e. responsibility for transport, environmental planning and development and road maintenance, they therefore require road networks with enough carriageways to handle ever increasing traffic congestion, which is a growing problem in the city roads.

The BRT project follows the current land use plan that shows an extension of planned residential areas in the north-west along Ali Hassan Mwinyi road, in the south along Kilwa road and in the Tabata area. The plan also shows an extension of unplanned residential areas in the west along Morogoro road, in the South-west corridor along Nyerere road. There is also an extension of industrial areas north along Ali Hassan Mwinyi road, along Nyerere road and part of Mikocheni Area.

The BRT system is implemented in phases. The BRT Phase 1 traverses along the Morogoro Road, Kawawa North, Msimbazi Street, and Kivukoni front with a total length of 20.9 km. The BRT infrastructures under this phase have been completed with financing from the World Bank. The proposed BRT Phase 2 will cover the Kilwa road and Kawawa South with a total length of 19.3 km while the proposed BRT Phase 3 covers Uhuru Street, Nyerere road, Bibi Titi and Azikiwe Street making a total length of 23.6 km.

In order to distinguish BRT System from the current public urban transport system, popularly known as *Daladala*, the BRT System will be using quality high capacity buses which meet international service standards, environmentally friendly, operating on exclusive lanes, at less travelling time while ensuring user satisfaction.

The project will link other ongoing initiatives geared towards improvement of the Dar es Salaam infrastructure and transport network. This project may link to other projects such as: Kigamboni toll bridge (560m long) which is now completed to facilitate transport network of Dar es Salaam City with the Kigamboni area;and Kisarawe Freight Station, which is expected to link with other transport infrastructures including, proposed railway project, which is still under feasibility study. These projects will not be conducted simultaneously, however BRT 3 project is expected to link to the proposed

BRT 2 financed by AfDB, Tanzania Zambia Railway Authority (TAZARA) headquarters intersection flyover, which is financed by JICA, and BRT 4, which is also under preparation to be financed by this project.

The Government of United Republic of Tanzania requested the African Development Bank (ADB) to support implementation of both phase 2 and 3. According to the ADB's initial environmental screening guidelines, projects involving major rehabilitation of urban roads, that are likely to result in significant displacement of people are classified Category 1, and these require detailed environmental and social impact assessment. Similarly, according to the requirements of Tanzania's Environmental Management Act No. 20 of 2004, the proposed project is under the list of projects requiring an Environmental Impact Assessment. In order to facilitate carrying out of Environmental and Social Impact Assessment, DART Agency commissioned M/s Kyong Dong Engineering Co. Ltd of Korea in joint venture with M/s AMBICON Engineering Ltd of Tanzania to carry out an Environmental and Social Impact Assessment, Detailed Engineering Design and preparation of Tender Documents for BRT phase 2 and 3.

Initially, the Environmental and Social Impact Assessment (ESIA) was conducted in accordance with the requirements of the Environmental Management Act No. 20 of 2004 and Environmental Impact Assessment and Audit Regulations (2005) and applicable ADB Safeguard policies. Other important legal provisions, which provide guidance on environmental issues pertaining to road sector have been consulted such as the Road Act (2007), Environmental Code of Practice for Road Works (2009), and Environmental Assessment and Management Guidelines in the Road Sector (2011).

Currently the World Bank has shown interest to finance Phase 3 of the Bus Rapid Transport facilities in Dar es Salaam City as one of the components of Dar es Salaam Urban Transport Improvement Project (DUTIP)). The BRT Phase 3 is designed to cover Nyerere road corridor from Gongolamboto to Kariakoo, part of Uhuru Street (from Buguruni traffic light to Kariakoo), part of Mandela Road (From TAZARA traffic light to Buguruni traffic light), Bibi Titi Road and Azikiwe Street with a total of 23.6 km where it connects with other inward routes joining Kisarawe Town.

In this regard, the Environmental and Social Impact Assessment (ESIA) report prepared for Phase 2 and 3 has been reviewed to focus on the proposed BRT Phase 3 whose construction is to be financed by the World Bank. However, the cumulative impacts of all phases have been addressed. The review of ESIA report has been conducted in accordance with the standard requirements of the World Bank Environmental and Social Safeguard Policies.

The construction of 23.6 km of BRT through a major urban center may give rise to significant adverse environmental and social impacts that are sensitive and unprecedented and as such the project has been classified as Category A under the World Bank Safeguard Policies. In this regard, the preparation of ESIA for Category A projects has to be carried out independently from the Feasibility and/or Design

Consultant. The supervision for finalizing the Detailed Engineering Design, Environmental and Social Impact Assessment as well as supervision of the construction works for phase 3 will be done by TANROADS. For that reason, among others, TANROADS engaged an independent Consultant to review the Environmental and Social Impact Assessment to be consistent with the National Laws and World Bank requirements.

1.2 Project Objectives

The main objective of the Phase 3 of BRT project is to ensure orderly flow of traffic on urban streets and roads by increasing the level of mobility, promoting use of non-motorized transport, and to meet the ever increasing travel demand of the city residents with ultimate aim of increasing comfort and quality of life and urban development. Apart from improving public urban transport in Dar es salaam City, BRT system intends to generate more jobs to residents by involving people to invest in the BRT system bus operation, fund management and fare collection companies.

The main objective of the BRT 3 project is to is to improve the transport infrastructure in Dar es Salaam city whereby the proposed roads cover Nyerere road corridor from Gongolamboto to Kariakoo, part of Uhuru Street (from Buguruni traffic light to Kariakoo), part of Mandela Road (From TAZARA traffic light to Buguruni traffic light), Bibi Titi Road and Azikiwe Street/Maktaba with a total of 23.6 km where it connects with other inward routes joining Kisarawe Town. The proposed roads are vital as they form part of regional and trunk road connecting other regions. The project will ensure orderly flow of traffic on urban streets and roads by increasing the level of mobility, promoting use of non-motorized transport, and to meet the ever increasing travel demand of the city residents with ultimate aim of increasing comfort and quality of life and urban development. Apart from improving public urban transport in Dar es salaam City, BRT system intends to generate more jobs to residents by involving people to invest in the BRT system bus operation, fund management and fare collection companies.

In details, following the nature of urban population and economic framework of the Dar es Salaam City and the need of efficient and integrated transport system for the city, the Tanzania National Roads Agency (TANROADS) and Dar Rapid Transit Agency (DART) are jointly implementing the Bus Rapid Transit (BRT) as the bus-based mass transit system that delivers fast, comfortable, and cost effective urban mobility. Whilst TANROADS will be responsible for construction and management of BRT infrastructures while DART Agency will be responsible for BRT system operations.

In Dar es Salaam, lack of sufficient infrastructure has resulted in unreliable service with astonishingly low levels of quality of transport in the city. Meanwhile, the minimal investment engaged by operators, explain the proliferation of small vehicles (*Daladala*) which cannot cater for the problem. A greater number of small buses are necessary to transport the same amount of passengers. Allied to small fares, the obvious

consequences are overcrowded vehicles and congested road ways.

To make the business profitable, vehicles need to run full almost all the time. This means there are no schedules at all, long waiting times in the middle of the route, absence of services during some hours in some regions, especially at late hours in the evening. Another aspect of the problem is the bottlenecks generated in some stops due to the concentration of vehicles. In places like Kariakoo, Buguruni and TAZARA, it is common to see huge congestions, before the *Daladala* stops and an empty street after this point.

The serious public transport problem facing Dar es Salaam has two main causes; the small obsolete passenger vehicles operating without control, and lack of safe road infrastructures that endanger both motorized and non-motorized transport users including pedestrians.

The rationale behind the proposed Bus Rapid Transit System is to regulate urban transport through a specialized infrastructure known as Bus Rapid Transit (BRT) that has been tested in other cities over the last 25 years. Therefore the project aims at ensuring orderly flow of traffic on urban streets and roads by increasing the level of mobility, promoting the use of non-motorized transport, and to meet the ever increasing travel demand of the city residents with ultimate aim of increasing comfort and quality of life and urban development, thus reducing traffic congestion in the city.

Therefore, the specific objectives of Dar es Salaam BRT system are:

- To increase the level of mobility of the majority of residents enhancing their participation in wide range of economic and social activities
- To facilitate the use of Non-Motorized Transport (NMT) by improving service roads and implementing parallel bicycle routes allowing for integration of bicycles and the bus system and for reduction of congestion in the carriage way,
- To meet the continuous increase of travel demand of the city,
- To have a comfortable public transport system at reasonable cost to the users and yet profitable to the operators, using quality high capacity buses which meet international service standards, environmentally friendly operating on exclusive lanes at less travelling time.

1.3 Purpose of the Environmental and Social Impact Assessment

According to the First Schedule of the Environmental Impact Assessment and Audit Regulations, 2005 made under sections 82(1) and 230 (2) (h) and (q) of the Environmental Management Act No. 20 of 2004, the proposed project falls under the list of projects requiring EIA and therefore the Environmental Impact Assessment is mandatory. The project is classified under items 9 and 14 for Transport, Infrastructure, Building, and Civil Engineering Industries respectively as shown below on Table 1 as extracted from the EIA
Regulation.

Table 1: Extract from the List of Projects requiring Environmental Impact Assessment

Transport and infrastructure (i) Construction, expansion or rehabilitation of new trunk roads; (ii) Construction, expansion or rehabilitation of airports and airstrips and their ancillary facilities; (iii) Construction or new expansion to existing railway lines; (iv)Construction of new, or expansion to shipyards or harbour facilities. Building and Civil Engineering Industries. (i) Industrial and housing Estate (ii) Major urban projects (multi-storey building, motor terminals, markets etc) (iii) Construction and expansion/upgrading of roads, harbours, ship yards, fishing harbours, air fields and ports, railways and pipelines (iv)Developments on beach fronts.

The principal objectives of the ESIA study are to identify and investigate in detail the most significant environmental and social impacts likely to result from the design, construction and use of the BRT project roads.

The ESIA study is also required to propose measures for mitigating negative impacts, enhancement measures for positive impacts and prepare an environmental and social management and monitoring plans.

Another purpose of the ESIA study was to address socio-economic issues related with the implementation of the project and provide mitigation plans to prevent or minimize adverse environmental and social impacts arising from the development of the proposed road.

The study also is aimed at ascertaining and updating the socio-economic implications likely to result from the proposed BRT project road including:

- Improving the understanding of the identification, assessment and analysis of potential effects of the BRT roads on communities along the project area in the City life state such as in trade and commerce, traffic flow and residential settlements.
- Identifying local communities concerns and mitigation measures to optimize the positive impacts and minimize the negative impacts
- Identifying contentious issues
- Identifying whether there will be a need for relocation and compensation
- Effecting and creating a sense of local participation and ownership in the project design and implementation process and
- Identifying institutional capacities to implement HIV/AIDS education and information in the project area.

1.4 Scope of the Review of Environmental and Social Impact Statement

The scope of the review of Environmental and Social Impact Assessment as outlined in TOR of this assignment appended as **Annex i** is to:

- Verify the baseline data collected during the undertaking of ESIA;
- Review relevant policies particularly the world Bank safeguard policies which were not covered before;
- Elaborate on the management plans to address potential impacts from transportation or transfer of gravel, sand other materials to the construction site;
- Provide more and specific information of assessment and management plans including decommissioning of borrow pits and other sources of earth materials;
- Review the Environmental and Social Management Plan as well as monitoring plan
- To Review the Environmental and Social Management Plan as well as monitoring plan.

1.5 Structure of the Environmental Impact Statement

This ESIA has been prepared based on requirements of the World Bank Environmental Safeguard Policy and the Environmental Management Act No. 20 of 2004 and its subsequent Environmental Impact Assessment and Audit Regulations G.N. 349 of 2005. Thus, EIS is comprised of the following:

- Executive Summary
- Introduction
- Project description
- Policy, Legal, Administration and Institutional Framework
- Baseline information
- Public Participation and Stakeholders' Consultation
- Assessment of Impacts and Identification of Alternatives
- Environmental Mitigation Measures
- Environmental and Social Management Plan
- Environmental and Social Monitoring Plan
- Cost Benefit Analysis
- Decommissioning
- Summary and Conclusions
- List of References
- Appendices

1.7 Limitations to the ESIA Study

Use of the Borrow Pits

During the ESIA exercise, materials sources were identified from five privately owned sites (Lugoba and Msolwa quarries sites for aggregates, Mbagala and Mpiji for sand and Boko borrow pit for gravel) and tests for works suitability were conducted therefore potential borrow sites and hard stone sources were confirmed. Still, it is up to the contractor to decide which material sites he chooses to use for works during the execution of the activities. Mitigation measure to transport and reinstate borrow pits have been proposed under the Environmental and Social Management Plan (ESMP). The contractor would be responsible for any subsequent consents/ESIA that may be required if they choose alternative sites.

1.8 Methodologies Used in the ESIA Study

Various methods were used to accomplish the review of ESIA study; these include a thorough review of Environmental Management Act Cap 191 of 2004 and Environmental Impact Assessment and Audit Regulation of 2005. Other methods were confirmation of public consultation meetings held where the communities along the BRT project roads such as Uhuru, Nyerere, Bibi Titi and Azikiwe roads were sensitized to participate in the process through consultation meetings which were communicated to the communities.

The baseline information was mainly captured and compiled to suit the ESIA requirements from Region and Districts profiles as well as development plans. On the other hand, data for biological environment were gathered by employing various methods including review of existing relevant research documents, key stakeholders consultation especially local authority and site visit.

The principal stages used in carrying out and accomplishing ESIA study were project scoping, field studies, public participation and project impact assessment as stipulated in the Operative National ESIA Guidelines (2003). Scoping was done through consultation with various relevant stakeholders, reviewing various reports, studies and literature relevant to the environment and road developments in Dar es Salaam. Additional information to augment the data obtained from project scoping was acquired through field studies. Public participation was done through broad consultations that involved public meetings and focus group discussions, with key ward officials and sub-ward leaders. The major concerns raised by the public have been addressed in Table 21 and their minutes are appended as **Annex ii**.

The Social Impact Assessment study was intended to ascertain the socio-economic and socio-impact implications likely to result from the proposed BRT road project, highlighting key elements thereof. The methodology adopted for the study entailed:

- Identification of key informants (Comprising Government officials professionals, business people, community leaders, and CBO's) and soliciting their views and

comments;

- Identification of wards and sub-wards, institutions and business premises along the proposed BRT project roads; Thereafter, a purposeful selection of respondents was done. The sample included adult men, women, youth, teachers, traders, and local government leaders.
- Selection of representative sample of stakeholders composed of local leaders, men, women and youth from all the sub-wards along the influence of the BRT project roads.
- Identification of houses and business premises (mainly *frames*) in the expected Right of Way and discussions on the process of valuation compensation procedures.
- Conducting Meetings, Interviews and Consultations with key informers and Local Authorities leaders, traders, business vendors, and all interested and affected stakeholders along the influence of the roads. The list of consulted wards and other key stakeholders is given in Annex iii.

The main issues that were discussed in the meetings included among others, the effects of BRT roads on socio economic activities such as income generating activities and Employment, on pupils, patients, traffic and transportation; Social Services; Gender, HIV/AIDS; Economic and Trading activities within and outside the Dar es Salaam Region; Existing houses in the Right of Way and compensation procedures; minutes from the public meetings are attached as Annex ii.

Project Impact Assessment

The potential impacts of the proposed BRT roads development were identified by superimposing project elements onto the existing social and environmental natural conditions. A Checklist method was used to identify the impacts and recommended mitigation measures.

The assessment was undertaken in very cordial interactions with the stakeholders. In this process social and environmental impacts were evaluated for various alternatives. The impacts were compared with the situation of implementing the project and that of not implementing the project (i.e. Do - nothing alternative). It was envisaged that this integrated approach provided an “optimum basis” for effective incorporation of reasonable and affordable mitigation measures and remedial actions. The fundamental social considerations influencing the design of the project were taken into account. Among others, the assessment entailed the followings:

(a) Collection of Baseline Data

After defining the scope of ESIA study for the BRT project, the collection of baseline data was conducted. These data enlightened on whether and where more detailed information on environmental conditions at the development site and its surroundings are needed.

For the purpose of this study, the Rapid Assessment Methodology for collection of socio-economic data was adopted. The approach used extensively the qualitative as well as quantitative data collection methods. Qualitative method was used to determine the perspectives and the opinions of the interested and affected parties, while the quantitative data was equally important to provide statistical estimates on the quantitative situation of socio-economic life of people in the project areas, (health, education and HIV/AIDS prevalence rates, etc.).

The sample of the study consisted mainly of sub-ward and ward executive officers, members of committees on social services and environmental protection and the members from the general public who were supposed to be potential affected persons or interested parties. All respondents were selected through convenience sampling techniques.

Both primary and secondary data were collected. Primary data were collected by direct measurement, observations and using semi-structured interviews. Consultation with key informants in the BRT project area was done in order to obtain additional socio-economic data and information. The data and information so collected was meant to update and supplement those collected during previous studies. The interviews served an additional purpose of filling in gaps and providing the missing links.

Secondary data was obtained from various relevant sources of information such as district profiles and wards reports, education and health reports and many other official and non-official documents.

Field surveys and investigations were done along the proposed BRT project roads within the project's sphere of influence. The surveys and investigations covered roadside features and attributes with respect to environmental and socio-economic aspects.

(b) Review of policies, legal and institutional framework

This enhanced the review of national policies, legislation and institutional arrangement for social and environmental management in Tanzania to ascertain the optimal management of impacts. The review also took into account the World Bank environmental and social safeguard policies triggered by the project.

(c) Identifying socio-economic impacts:

This was undertaken by compiling a candidate list of key impacts such as loss of land, settlement pattern, urban trees, business/trade areas, social and cultural systems, water resources, health, education services etc.;

(d) Predicting social economic impacts:

The Social Economic impacts were identified and their magnitude and nature was predicted. For the predicted impacts, causes and effects as well as their secondary and

synergistic consequences for the environment and local community were specified.

(e) Determining impacts significance:

The key activity was to evaluate the significance of impacts, that is, judgment about which impacts identified in the study are considered important and therefore need to be mitigated.

(f) Identifying Mitigation and Management Options:

This basically involved analyzing and making decision on what mitigation measures to be taken against the identified and predicted impacts. Wide ranges of measures have been proposed to prevent, reduce, remedy or compensate for each of the adverse impacts evaluated as significant.

(g) Socio-economic evaluation:

Examination of the economic implications of social and environmental impacts and their solutions is a fundamental aspect of environmental impact study since it helps in formulating recommendations that are realistic and practical. Similarly, the economic value of environmental damage resulting from not taking any environmental actions or economic benefits of introducing environmental management measures was taken into account.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The proposed BRT Phase 3 project is envisaged to be constructed in Dar es Salaam City within Ilala and Temeke Municipalities. The BRT Phase 3 is designed to cover Nyerere road corridor from Gongolamboto to Kariakoo, part of Uhuru Street (from Buguruni traffic light to Kariakoo), part of Mandela Road (From TAZARA traffic light to Buguruni traffic light), Bibi Titi Road and Azikiwe Street with a total of 23.6 km where it connects with other inward routes joining Kisarawe Town. See Figure 1 below.

2.2 Project Roads Description

According to the setup of the BRT project implementation, the Tanzania National Roads Agency (TANROADS) will be the Executing Agency for the project that will procure and manage the BRT infrastructure contracts. The DART Agency will be responsible for procurement of services for bus operators (private), fare collection system and ITS systems as well as overseeing operations of the BRT system. The DART agency was established under the Executive Agencies Act on May 25, 2007. The Urban Development Support Component will be implemented by the Department of Urban Development in the Prime Minister's Office, regional Administration and Local

Government (PMO-RALG).

TANROADS is a semi-autonomous road agency of the Ministry of Works with the responsibility for the maintenance and development of the classified trunk and regional road networks. TANROADS reports directly to the Minister, Ministry of Works and DART Agency reports to the Permanent Secretary, PMO_RALG. The TANROADS Board, consisting of 5 private sector members and 4 government Senior Officers, is advisory to the Permanent Secretary in line with the National Executive Agencies Act No 30 of 1997 and TANROADS establishment order. TANROADS has the requisite organizational capacity to maintain and develop the classified trunk and regional road network in Tanzania. It has a wealth of experience in management of Bank funded projects and other Development Partners projects as well. TANROADS has proper procedures for procurement, accounting and supervision**.** The establishment consists of a Chief Executive with its functions divided among five Directorates of Maintenance, Projects, Planning, Business Support, and procurement and contracts control.

The Chief Executive of TANROADS shall also designate a BRT Unit and the Manager of the unit as coordinator for the day-to-day management of the project. The BRT Unit for Phase 1 is currently paid with funds provided by the World Bank who is funding that phase. The funding of the Unit under Phase 2 will come from the Technical Assistance and Capacity Building Component. The execution of Phase 1 maintains Project Steering Committee (PSC) comprising of various representations from relevant GoT departments which provide overall coordination of the project. The implementation of Phase 2 will have a Technical Committee and the steering committee to ensure smooth execution of the project. The committees will also have a Utility Working Group comprising of Heads of the various utility bodies including TANESCO, DAWASA and TTCL, who will meet on a weekly basis on site to resolve issues relating to the relocation of utilities. The Memorandum of understanding (MOU) between TANROADS and DART Agency will be prepared for smooth implementation of the project.

The road works will be undertaken by competent and experienced civil engineering works contractor, while the supervision of the civil works will be undertaken by experienced engineering consulting firm, all to be procured competitively. The Consultant in collaboration with TANROADS will supervise and monitor implementation of the environmental and social management plans. DART Agency will monitor the implementation of RAP.

TANROADS will be responsible for Maintenance of the BRT lanes during operations and DART Agency would be responsible for overseeing BRT operations with the bus operators from the Private sector. The bus operator would be responsible to purchase adequate buses, operating and maintain bus fleet along with associated ITS systems and fare collection system.

The third Phase of BRT system plan, its detailed engineering designs which is supervised by TANROADS is in progress intends to cover infrastructural design and the associated trunk and feeder network plans. The construction works of the BRT infrastructure is expected to commence in 2016, the proposed BRT network plan is shown on Figure 2 below.

The BRT system will comprise of a two-lane, i.e. one- lane per direction, two way roads dedicated for buses only that allow busses to bypass peak hour congestion as well as achieve high speeds to reach destinations faster. The proposed roads will comprise bus lanes, mixed traffic lanes and non-motorized traffic (NMT) facilities. The corridors and non-motorized traffic facilities will include trunk and feeders; feeders include bicycle pedestrian paths, pedestrian overpasses and flyovers (if required) etc. Speed humps will be provided at all pedestrian crossings. Stations terminals will include elements like access area, fare collection area, platforms circulation. Bus Deports will include elements like access area, maneuvers, fueling washing, and maintenance, parking and necessary buildings such as for maintenance.

The proposed roads will comprise bus lanes, mixed traffic lanes and Non-Motorized Traffic (NMT) facilities. The corridors and non-motorized traffic facilities will include trunk and feeders; feeders include bicycle and pedestrian paths, pedestrian overpasses at crowded areas, terminal stations, intersections and flyovers (if required) etc. Stations and terminals will include elements like access area, fare collection area, platforms and circulation. Bus Deports will include elements like access area, maneuver, fueling, washing, and maintenance, parking and necessary buildings such as for maintenance.

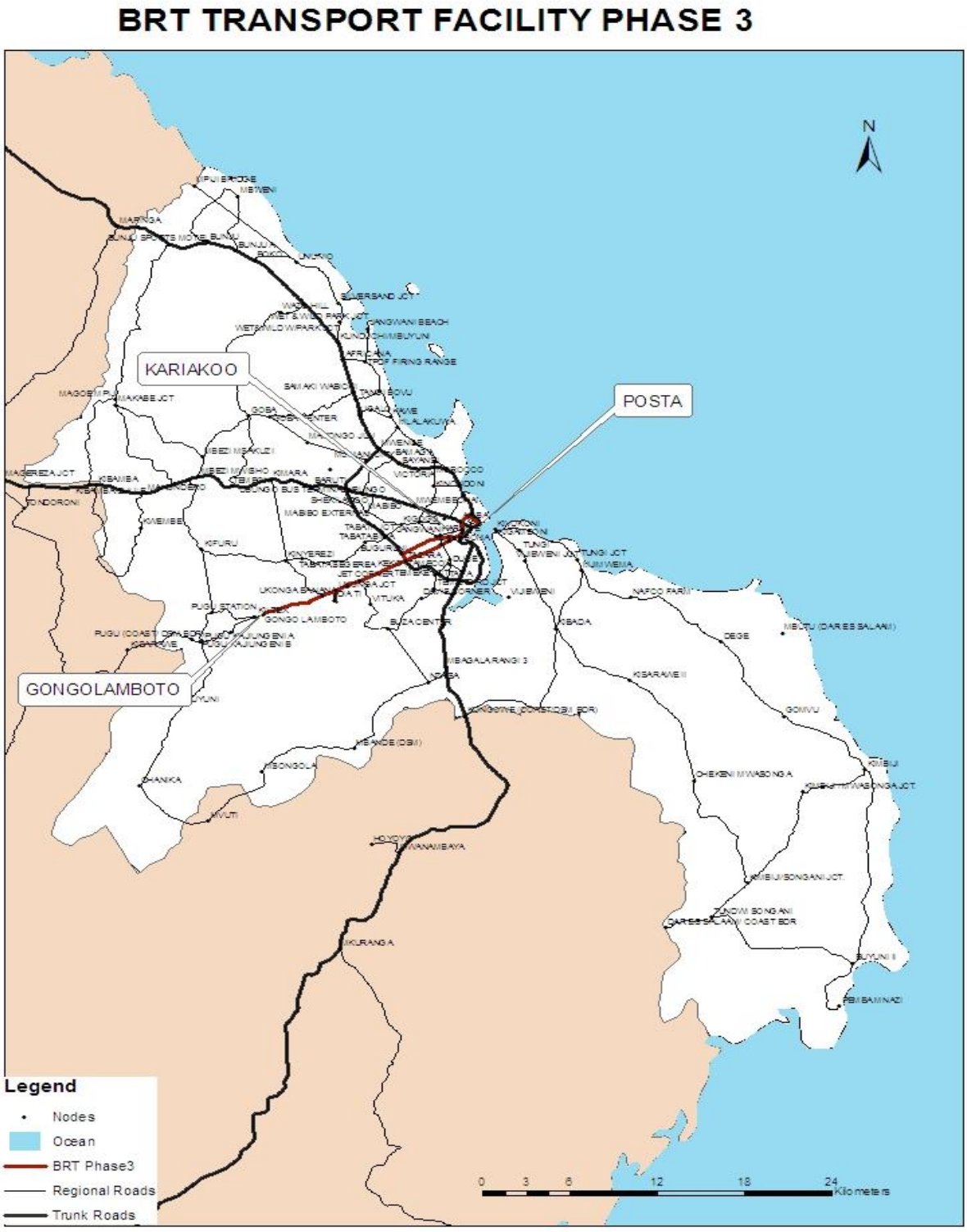


Figure 1 Map of DSM region indicating BRT Phase 3

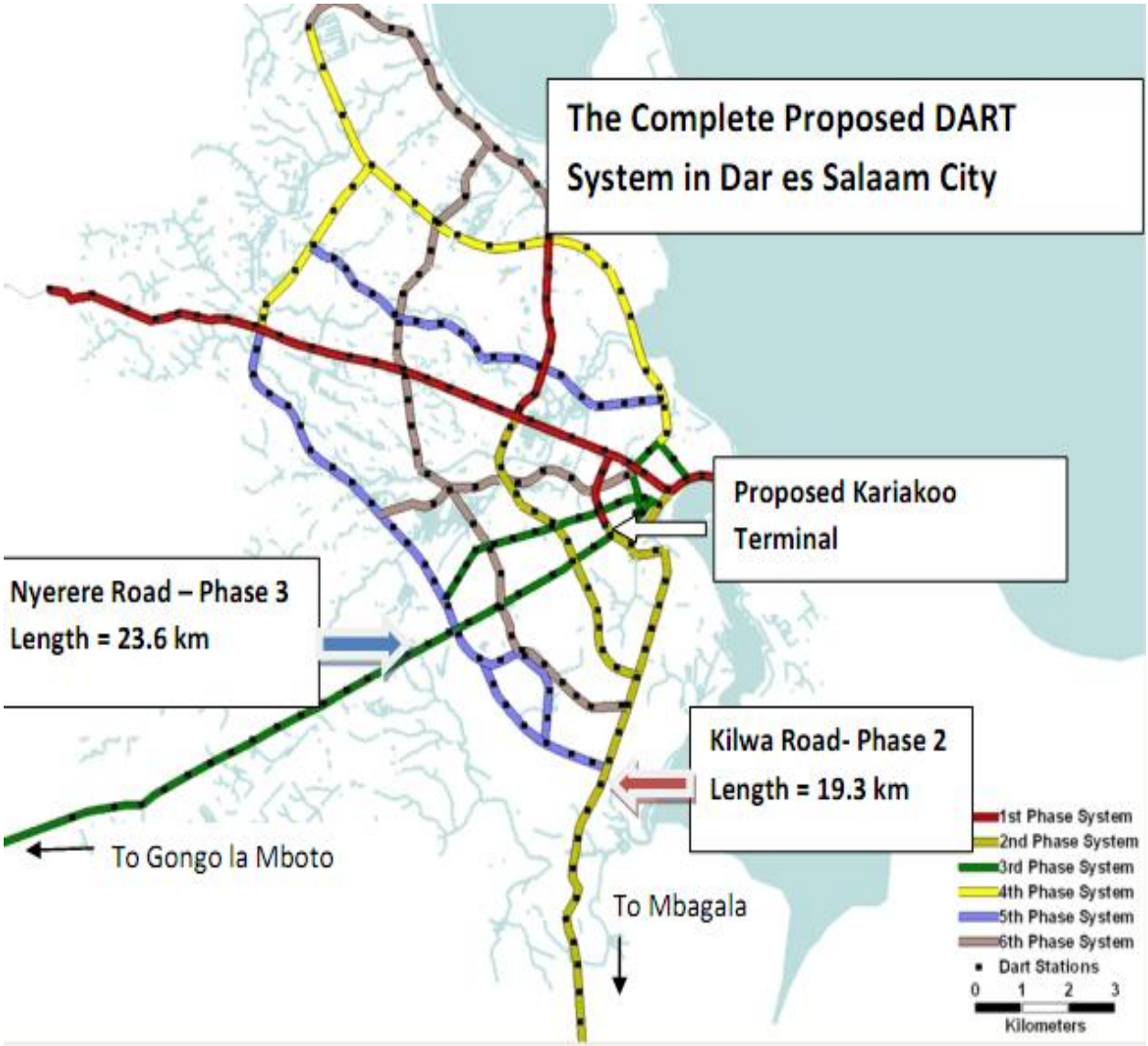


Figure 2: The location and network plan of the proposed roads

2.3 Project Proposed Activities

The planned development of construction of phase 3 will have the following project activities:

2.3.1 Construction of Terminal Buildings

One terminal building will be constructed for DART phase 3 at Guluka-kwalala area. The proposed terminal building will result into a significant loss of structures that include residential commercial and public infrastructures. A total of 774 assets will be affected.

2.3.2 Construction of a Deport

The proposed deport will be constructed at Gongo la Mboto area opposite the proposed site proposed for construction of the terminal buildings. The land is owned by COTEX Company limited but currently no economic activities are being undertaken, similarly there are no settlements within the proposed site.

2.3.3 Construction of the main DART Road

Though the proposed upgrade consisting of 23.6 km will to a large extent follow the existing alignment but there will be an increase in the road carriage area width to accommodate the DART lanes as well as the road way leave. The current width of the road is 45m and DART project would require 21m in most of the alignment 17m in Shaurimoyo area and 32m from TAZARA junction to Gongolamboto and between 21-24.5m at stations; this is done as a mechanism to minimize impact on assets that would require compensation.

2.3.4 Construction of Fly-overs

To minimize traffic impact on major junctions the project also anticipates construction of one fly over as a mitigation measure; the flyover will be constructed at the junction of Nyerere and Kawawa this will affect a filling station particularly one fuel pump and associated infrastructures.

2.3.5 Construction of Bus stations

The proposed project intends to construct twenty three bus stations along the Nyerere Road from new post office bus station in the city center to Gongolamboto bus terminal as well as seven bus Stations will be constructed along the Uhuru road from the current Karume Daladala stop. Considering the design of the bus stations; that is constructed in the center of the DART roads this activity will have minimal impact on land take that will mainly be the existing road way leave and therefore no impact to PAPs.

2.3.6 Construction of Feeder Stations

The proposed project will also construct feeder roads to enable link the proposed project with other feeder roads; The proposed DART Phase Three will construct two feeder stations along the Nyerere Road that include feeder stations at Jet club and Banana feeder station and for the Uhuru road one feeder station will be constructed at Rozana. The feeder stations will have minimal impact and only the way leaves for the existing roads will be utilized.

2.3.7 Construction of walk ways

These are meant for pedestrians and will mainly utilize the existing right of way (ROW) as well as upgrading existing walk ways to minimize impact in some sections of the BRT phase 3, the walk ways size will vary according to space limitation. The design of the infrastructure has incorporated best practice road safety features, however, prior to implementation the supervision consultant (through a qualified engineer) will conduct a design review that include road safety audit of the design and recommend further

measures for strengthening road safety to be incorporated in the final design. This ESIA may need to be updated to reflect changes in design. The road safety audit will review safety measures that were carried out at design stage to identify potential road safety issues and opportunities for improvements, which will be used during construction, and post-construction phases. The road safety audit to be carried out during pre-construction stage will ensure that the design has incorporated adequate pedestrian safety measures, such as: raised speed humps, raised crossing and pedestrian bridges at strategic sections.

2.3.8 Construction of Pedestrians Bridge

Currently as per BRT 3 design and safety traffic audit there will be construction of 5 pedestrians bridges at Rozana *Daladala* station, Gongo la mboto Mwisho, Banana, Airport (just after entrance gate to airport), and at Kisutu market. All these areas according to design consultant no more land will be acquired apart from existing land. At Kisutu market the proposed structure will land on the existing walk way so no land or business will be affected. Since road safety audit is the continuing processes in all project phases, in case of any need of additional pedestrian bridges then the design, ESIA and ESMP will be updated as needed. **Figure 3 shows the general location of the BRT corridor.**

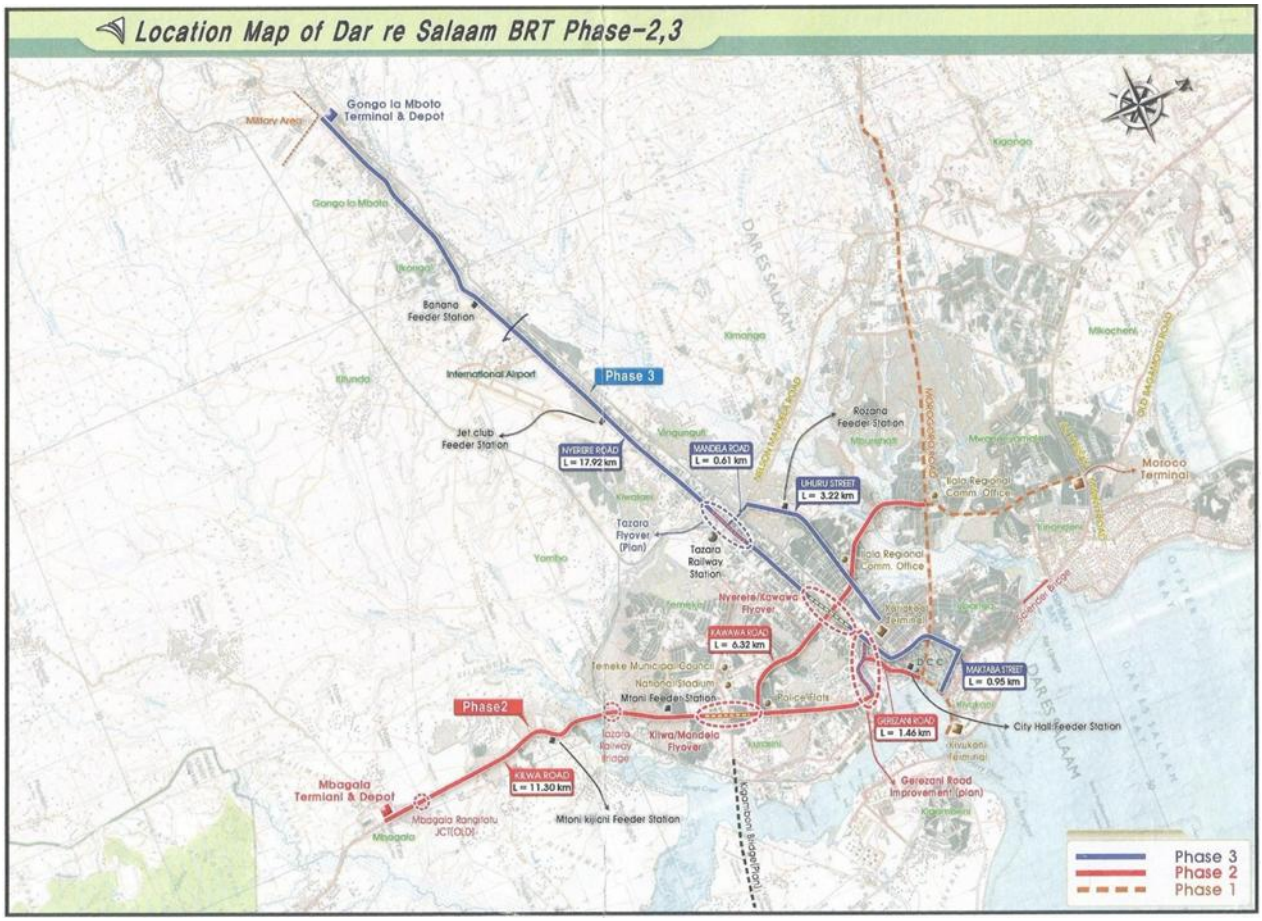


Figure 3: Location Map of Dar es Salaam BRT system

2.4 Construction Phases

The project activities will be assumed to follow the project routines whereby there are pre-construction activities, construction activities and finally operations and maintenance activities.

2.4.1 Pre-construction Phase

Detailed surveys and investigations activity involves road alignment and condition survey, detailed topographical survey, detailed soils and materials investigation, drainage structures. Furthermore, sites or sources for construction materials such as gravels and stones can be agreed to be the existing ones unless otherwise. In case there will be need to opening new borrow pits, the contractor will have to make all necessary arrangement for land acquisition in accordance with the country laws. Environmental and Social Impact Assessment includes identification of environmental and social impacts. The assessment also considers both positive and negative impacts of the project and proposes mitigation measures for the negative impacts.

The pre-construction activities also include the economic analysis which involves traffic surveys and analysis. Furthermore, this will also involve relocation of various infrastructures and utilities such as water and electricity reticulation lines.
The project will involve detailed engineering design and preparation of tender documents. Upon completion of the bidding documents, tenders will be floated to find the credible road project contractor.

This stage will also involve mobilization of the construction human resources, construction equipment and plant, construction materials and erection of workers' camps. At this stage, wastes (solid, liquid and gaseous) will be generated from construction of camps. The staff camp like any other domestic place will generate garbage, packaging, sacks, papers, cardboard boxes, plastic, wood crates, bottles, glass, metal cans and the like. Such wastes will need to be segregated for recycling or incinerating at site. Workers' camps should be located at least 150m from the road reserve of the main road to minimize the harmfull effects of noise and more than 500m from inhabited zone. It must be more than 10km from classified forest to avoid illegal harvest of wood for domestic purposes. Its operation should not lead to conflicts with local population over the use of local resources for domestic purposes.

2.4.2 Construction Phase

The actual road construction will involve the following activities:

- Road side clearance, relocation of services, earthworks, pavement construction and finishing works
- Site clearance; including removal of urban trees and buildings in the ROW if necessary
- Construction of temporary diversions (if the space is available) for traffic and for construction access
- Earthworks will involve excavation of cuttings and placement of fill for embankment in

the low lying areas to uplift the new road on areas subject to flooding.

- Placement of sub-base, base course and laying of surfacing layers
- Finishing works (e.g. installation of signs and guard-rails)
- Site clean-up and restoration of borrow-pits and quarries

Various wastes, ranging from solid to liquid and gaseous will be generated. The construction workshop and workers camps will generate wastes in form of garbage, packaging, sacks, papers, cardboard boxes, plastic, wood crates, bottles, glass, metal cans and the like. Such wastes will need to be segregated for recycling, dumping or incinerating at designated sites.

Wastewater will also be generated, mainly emanating from reservoir for fuel, maintenance centers and warehouses. Other wastewater sources include worker's camps, and runoffs crossing hydrocarbon contaminated areas. Any wastewater contaminated with oils, fuels, bitumen, chemicals or any other hazardous compounds should be collected and disposed of at a proper water treatment facility.

2.4.3 Operation and Maintenance Activities

During project road construction, the detours and diversions will need to function normally to allow the road continue with its activities of serving the area as it is presently operating. Thereafter, maintenance activities of the detours and diversions will cease to allow reinstatement and re-vegetation of these areas or any development activities that existed before. Normal maintenance of the road will be carried out throughout the road operation phase estimated to be about 20 years. This will include but not limited to grass cutting, cleaning of drainage systems, sweeping, and vegetation control within the ROW. During this operation phase there are some activities to be carried out with little road use interference. Other activities will entail installation of signboards, thermo-plastic road marking, maintenance of spoiled road sections, and reinforcement and replacement of road furniture.

It is also expected that during operation phase, few amount of solid waste will be generated mainly from road users by discarding plastic bags, bottles, papers and other related staff. Therefore, it will be the Dar es Salaam City Council obligations to regularly collecting and dispose of, all discarded materials along the project road, in a way which is environmentally friendly. In case of liquid waste, it is anticipated that hydrocarbon spillage due to road accidents may be the main source of pollution during operation phase. This can be controlled by quick response of nearby rescue team, where contaminated soil or water is taken for treatment measures like soil washing or any other reliable technology.

2.4.4 Demobilization Phase

At this stage, when road works are finished all construction equipment such as bulldozers, concrete mixer, roller and the like will be shifted to another site or rather to storage place. Similarly, structures like construction camps, workshops, stores for different materials will also be dismantled, packed and transported to their

appropriate places. However, various wastes will be generated during this stage of which the same methods used to manage waste for previous phases will apply. These will include solid wastes from packaging materials, wood and steel crates, cardboard, wrapping materials, boxes, sacks, drums, cans and chemical containers and any other unused materials. Along with this, upgrading for damaged areas will be carried out before closing the project.

2.5 Required offsite investments

The BRT project is going to require various locally available building materials for road works. Such locally available materials required for road works include aggregates or crushed stone, gravel, sand water and bitumen. Careful attention will be given to the social conditions, work items and movement of equipment on site for the preparation of an appropriate construction schedule. Construction materials will be produced or procurable within Tanzania as much as possible.

2.5.1 Aggregates for Works

Aggregates or crushed stones for road works are likely to be obtained from a far source away from the proposed project area. Two locations for sources of aggregates were proposed including Lugoba and Msolwa Quarries. Lugoba is located along Dar es Salaam – Chalinze – Segera road about 125 km from Dar es Salaam City see figure 4. The Lugoba Quarry is operated and owned by NOREMCO Construction Company. This quarry is authorised to produce construction materials. The rocks from this quarry have been used in various projects in Dar es Salaam for concrete production, asphalt concrete production, surface dressing aggregates, crushed stone base with an excellent in-service records. The Contractor will be buying aggregates from these sources. The contractor shall outline measures to mitigate impacts from transportation of materials from the source to the construction site. However, during the transportation of the construction materials the impacts like dust will be emanating.

The tests results for these aggregates are presented on the Table 2 below. A large amount of aggregates will be required for road works. Such volumes can be obtained and transported by trucks from these established crusher plants or contractor owned crusher plant. If the crusher plant is owned by others and the contractor goes to this site to procure materials then no off site investments will be required. In case contractor needs to establish own crusher plant, then off site investments will be required to establish the crusher site supplied with electricity, dynamite storage facilities, storage area for crushed stones, and accommodation for staff. Also the separate environmental and social impact Assessment for each quarry site, including transportation of material will be required before the license is issued.

Table 2: Test Results for aggregates from Lugoba and Msolwa Quarries

TANZANIA NATIONAL ROADS AGENCY

SUMMARY SHEET

AGGREGATE TESTS

CML CENTRALS MATERIALS LABORATORY

Project: Dar es salaam Rapid Transport (DART) Project.				Date:	26/9/2011					Date:	26/9/2011	
Client: M/S Ambicon Engineering Ltd												
Contract No. 2011/2012/.....				Checked :						Approved :		
Responsible Technician:												
Chainage (Km)												
Location												
Sample No.												
Source of Rock		LUGOBA QUARRY	MSOLWA QUARRY									
Grading	75mm											
	50mm											
	28mm											
	20mm											
	14mm											
	10mm											
	5mm											
	2mm											
	1.18mm											
	600µm											
	425µm											
	75 µm											
Dust content	< 425µm (%)											
Filler content	< 75µm (%)											
Moisture content	%											
Plasticity index	%											
Specific gravity	ρ_s	2.93	2.68									
Relative density		-	-									
Water absorptio	%	0.28	0.87									
Flakiness index	%	-	-									
ALD	mm	-	-									
Bitumen affinity	%	-	-									
ACV	%	-	-									
TFV (10% FACT) (Soaked)	kN	100	45									
TFV (10% FACT) (Dry)	kN	120	80									
AIV	%	13	16									
LAA - Los Angele Abrasion Value	% Grading :B	29	32									
SSS	% Loss	10.7	16.8									

2.5.2 Gravel

The investigation identified one borrow pit area for natural gravel located about 13.5 km from Wazo Hill junction in area called Boko, along Dar es Salaam – Bagamoyo road. The borrow area is located about 1.2 km off left hand side of the Dar es Salaam – Bagamoyo road. This borrow area is an existing one and is currently used by Konoike as source of construction such as sub-grade material [G7 and G15] and also as source sub-base material [G25 and G45]. The available area is huge and can be extended further. Currently the excavation of the material is done up to about 7 m deep.

2.5.3 Sand

Two famous sand sources namely Mpiji and Mbagala were identified as source of natural sand for concrete production. These two sources are the most common sources of natural sand in Dar- es - Salaam. Considering that the project is located not far from those figure 4. Mbagala pit sand was not preferred. From the laboratory analysis the sand is complying with the requirement of BS 882. Considering that crushers are located several Kilometers out of Dar es Salaam, the use of crushed sand is uneconomical for concrete production in particular also considering that the crushed sand normally requires more water for concrete production due to large surface area thereby increasing the cement demand.

The above mentioned sources of materials are operated commercially by privates. In this regard, the contractor will be buying these construction materials. All the management issues remain in hands of owner/seller of the materials.

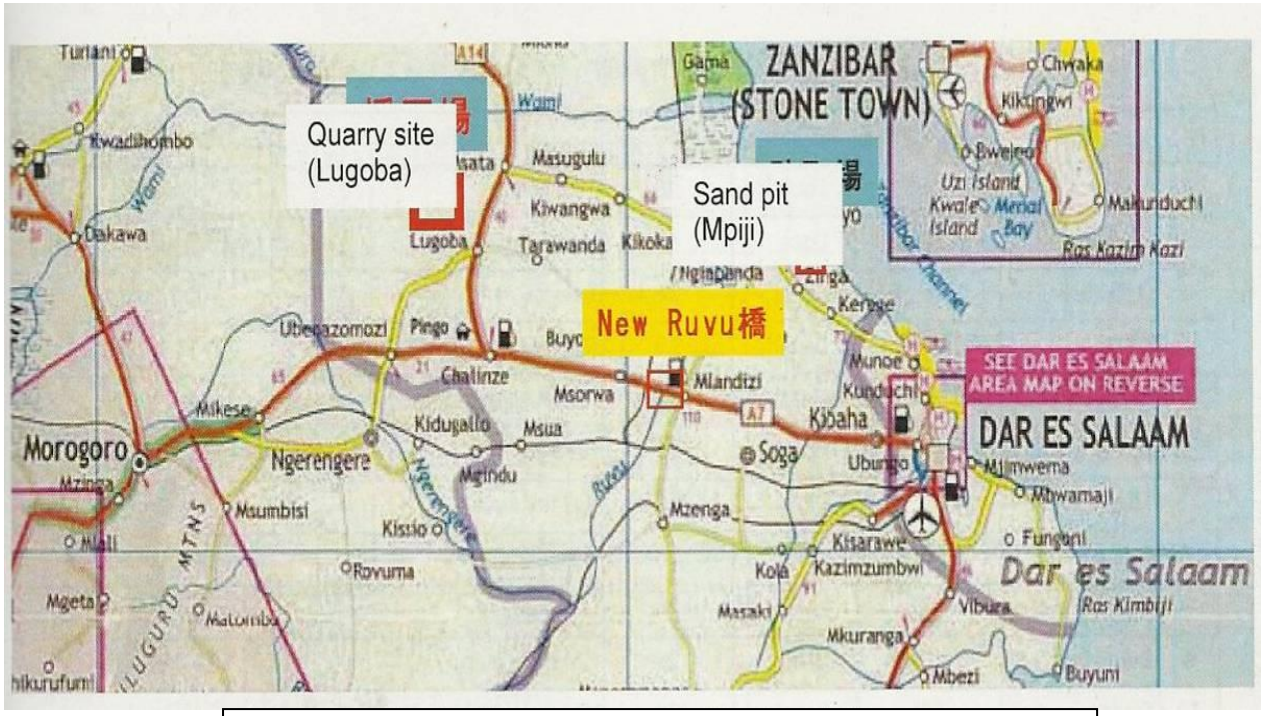


Figure 4: Lugoba Quarry Site and Mpiji Sand Pit

2.5.4 Water for works

. Construction water is expected to be drawn from the nearby rivers at Mtoni Mtongani in Temeke district, near Magomeni Bridge in Msimbazi River in Ilala District and tap water from DAWASCO at Kinondoni. As the residents of Dare s Salaam does not depend on rivers for drinking water, the extraction of water for construction from these sources has less impacts to the community and therefore does not need permit for extraction. Water samples from these sources were tested and found to meet road construction water standards as shown on Table 3 below. In case drawing water from rivers proves to be difficult in terms of distance or availability especially during rainy season, then on-site and/or off-site investments in terms of installation of submersible pumps and electricity may be optional investments. In some situations, the offsite investments may be in form of installation of intakes required at locations where

water for works is expected to be drawn.

Table 3: Test results for Water suitability for Construction works

Sample Lab. No.		**CWL-S.489**	**CWL-S.490**
District		Temeke	Ilala
Location		Mtoni Mtongani near KTM	near Magomeni Bridge
Source		Kizinga River	Msimbazi River
Date of Sampling		16/06/2011	24/06/2011
Parameter	**Unit**	**Value**	**Value**
PH	-	6.7	7.6
EC	MS/cm	1616	2570
Alkalinity	mg/L	340	620
Chloride	mg/L	495	390.4
Sulphate	mg/L	135.04	152.18

2.5.5 Cement, Reinforcement and Bitumen

The cement, steel and reinforcement are available in Dar es Salaam region. Bitumen can be imported or bought from bulk suppliers such as GAPCO, Oryx, TEMCO Tank LTD.

3.0 POLICY, LEGAL, INSTITUTIONAL AND ADMINISTRATION FRAMEWORK

3.1 Introduction

The BRT project needs to comply with the national environmental policy and legislation because it is going to be implemented in Tanzania.

Tanzania currently aims to achieve sustainable development through rational use of natural resources and incorporating measures in any development activities in order to safeguard the environment. The existing legal document, which drives toward achieving this goal, is the National Environmental Policy (NEP), which was approved by GoT in 1997. The NEP advocates the adoption of Environmental Impact Assessment (EIA) tool for screening development projects, which are likely to cause adverse environmental impacts. In line with this, the Environmental Management Act Cap. 191 (2004) states the powers of various Institutions mandated to oversee environmental management mattes in the country which are the Minister responsible for Environment, the National Environment Management Council (NEMC), Sector Ministries and Local Government Authorities.

Relevant Policies and legislations pertaining to pollution of ground and surface water, pollution of soil, air, land and land use, forests, wildlife, among others, were examined in order to ensure that the proposed road works meet and abide to the existing policies and legislations. These are described below.

3.2 Policies

(i) The National Environmental Policy, NEP (1997)

This highlights sustainable development as its core concept. NEP states that Tanzania is committed to sustainable development in the short, medium and long-term. Section 4 of the NEP stresses the importance of Environmental Impact Assessment in the implementation of the Environmental National Action Plan it asserts that although it is important to tackle immediate environmental problems, precautionary, anticipatory and preventive approaches, used in EIAs are the most effective and economic measures in achieving environmentally sound development. With specific regard to the transport sector, NEP in section 51 focuses on the following aspects:

- Improvement in mass transport systems to reduce fuel consumption, traffic congestion and pollution;
- Control and minimization of transport emission gases, noise, dust and particulates;
- Disaster/spill prevention and response plans and standards shall be formulated for transporting hazardous materials.

(ii) National Land Policy (1995)

This promotes a secure land tenure system to encourage the optimal use of land resources, and to facilitate road-based social and economic development. The Land Policy provides for "full fair and prompt compensations" when land is acquired. Similarly, the project implementation will keenly observe these policy requirements.

(iii) Transport Policy (2002)

It aims at enhancing transport safety and environmental protection, through taking steps to review and update national legislation in transport operations and safety requirements. This project has been geared towards the main purpose of the transport policy that is socially, environmentally and economically viable.

(iv) Wildlife Policy (1998)

It promotes the conservation of the biological diversity, involving all stakeholders in wildlife conservation and sustainable utilization as well as in fair and equitable sharing of benefits. The proposed BRT project roads do not cross areas with wild animals but it pass through areas with urban vegetation in which there are small animals. Therefore, the requirements of this policy will be observed fully in sensitizing the contractors' employees to avoid causing any injury to any animal (if any) during execution of the project.

(v) National Forest Policy (1998)

This policy demarcates and reserves in perpetuity for the benefit of the present and future inhabitants, sufficient forested land and land capable of afforestation, to

ensure environmental stability and maintenance of the ecological balance including atmosphere equilibrium which is vital for sustenance of all life forms, human, animal and plant.

With regards to EIA, the policy calls for environmental assessment of any investment which would convert forest land to other land use or may cause potential damage to forest environment. Road construction is identified as a relevant development activity under this policy and it may end up using forest products in form of timber for works.

(vi) National Water Policy (NAWAPO 2002)

The overall objective of this policy is to develop a comprehensive framework for the sustainable management of the national water resources. It addresses adequately all relevant issues on integrated water resources management and adopts comprehensive policy framework and the treatment of water as both a social and economic good. Water policy issues particularly in water resources management underscore the disaster management from accidental pollution of water sources (Clause 4.8.4). The main objective is to protect against hazards associated with pollution of water sources. Since the BRT roads project will be among the major investments in the Dar es Salaam which could even, if not executed with great care result into pollution but also high abstraction of water resources around the vicinity, the NAWAPO requirements will be highly observed.

(vii) Cultural Property Policy (1997)

This policy covers a wide range of topics relating to both living cultural heritage and historical and archaeological remains ("cultural property"). The policy requires that "all land development shall be preceded by Cultural Resource Impact Studies". So far, no cultural property was noted to be located along the proposed roads however during execution of the works, the BRT project road contractor will have to observe the said requirements through sensitization of his workmen particularly those involved in operation of the road construction equipment.

(viii) The National Policy on HIV/AIDs (2001)

This is a policy which provides for the framework, direction and general principles in the national response interventions in the prevention, care and support of those infected and affected by the epidemic and mitigation of its impact. The specific objectives of the policy are:

- Prevention of transmission of HIV/AIDs
- HIV/AIDs Testing through voluntary testing with pre-and post-test counseling
- Care for people living with HIV/AIDs (PLHAs)
- To strengthen the role of all the sectors, public, private, NGOs, faith groups, PLHAs, CBOs and other specific groups to ensure that all stake holders are actively involved in HIV/AIDS work and to provide a framework for coordination and collaboration
- Research on HIV/AIDs

To create legal framework by enacting a law on HIV/AIDS with a view to establishing multi-sectoral response to HIV/AIDS and to address legal and ethical issues in HIV/AIDS and to revise the legal situation of families affected by HIV/AIDS in order to give them access to family property after the death of their parent(s).

Other objectives include:

- To monitor the efforts towards community mobilization for living positively with HIV/AIDS in order to cope with the impact of the epidemic while safeguarding the rights of those infected or affected directly by HIV/AIDS in the community.
- To identify human rights abuses in HIV/AIDS and to protect PLHAs and everyone else in society against all forms of discrimination and social injustice.
- To provide appropriate effective treatment for opportunistic infections at all levels of the health care system
- To work closely with the Ministry the Ministry of Home Affairs, NGOs and Faith Groups in the fight against drug substance abuse that increases the risk of HIV transmission
- To prohibit misleading advertisements of drugs and other products for HIV/AIDS prevention, treatment and care.

In order to contribute towards observing the objectives of the National Policy on HIV/AIDs, the project Contractor will have to have HIV/AIDs programme aimed at promoting awareness of HIV/AIDs among its service providers and its employees, despite that the HIV/AIDs knowledge is known to most of the Dar es Salaam city dwellers.

The National Employment Policy (1997)

The policy aims at;

- Preparing the conducive environment for the unemployed to employ themselves by directing more resources to the self-employment sectors,
- Identifying potential areas for employment and to lay down strategies of how to utilize such areas in promoting employment in the country,
- To prepare a special procedure for coordination and developing sources of employment including creation of a body that will supervise implementation of the employment policy,
- Identify and elaborate on the status and roles of various stakeholders in promoting and sustaining employment.
- To strengthen (through removal of bottlenecks) the relationship between formal sector and that of self-employment.
- To develop the self-employment sector in rural areas so as to reduce the rate of migration to urban areas ,
- To ensure that activities initiated on self-employment act as a basis for development of the economy and are an inspiration for the culture of self-reliance, etc.

In view of the Government efforts in development of National Employment Policy, the Project Proponent intends to supplement these efforts by providing some few employments during the project implementation. During this period, transfer of technology can be attained among those who will be employed and after their contract terms they can engage in self-employment activities in the informal sector, especially in construction sector with abundant wealth which has not been exploited significantly.

(ix) National Gender Development Policy (2000)

The key objective of this policy is to provide guidelines that will ensure that gender sensitive plans and strategies in all sectors and institutions are developed. While the policy aims at establishing strategies to eradicate poverty, it puts emphasis on gender quality and equal opportunity of both men and women to participate in development undertakings and to value the role-played by each member of the society.

The Ministry of Works, Transport and Communication, TANROADS and DART have adopted the policy through provision of equal opportunities to both men and women in road works and related activities. This BRT project shall also ensure that women will be adequately involved at all levels of project planning to implementation.

(x) National Human Settlements Development Policy (2000)

Among the policy objectives that touch the road sector are to improve the level of the provision of infrastructure and social services for sustainable human settlements development and to make serviced land available for shelter and human settlements development in general to all sections of the communities. The infrastructure and services constitute the backbone of urban/rural economic activities. All weather roads, reliable and efficient transport system are essential to increase productivity and establishment of manufacturing industries.

(xi) Environmental Code of Practice for Road Works (2009)

The main focus of the code is to serve as a tool, which integrates all identified environmental aspects for project managers, road engineers, contractors and environmental specialists. Although this code of practice concentrates much on the construction phase, the responsible engineer must be able to ensure that the mitigation measures identified for a particular project are observed in the field. These mitigation measures should in most cases be integrated in the technical specifications and bill of quantities to ensure that the road contractor can include them in the construction costs so as to achieve sustainable environmental protection.

(xii) MKUKUTA (2003)

This is national strategy for growth and reduction of poverty, MKUKUTA is committed to ensure that any development activity today does not adversely affect the development needs for future generations. The strategy stresses on the sustainable use of the country's natural resources and avoiding harmful effects on the environment and on people's livelihood.

Moreover, the strategy identifies several sources of growth meant for poverty reduction, one of them being Investment in Physical Capital which mainly emphasis on efficient and cost effective provision of infrastructure for transport, power, ICT, with special attention to opening up rural areas and areas with economic potentials in order to address region inequalities. This project therefore is aimed at meeting some of the requirements of MKUKUTA.

(xiii) National Construction Industry Policy (2003)

The main objectives of the Construction Industry Policy include:

- To improve the capacity and competitiveness of the local construction enterprises (contractors, consultants and informal sector)
- To develop an efficient and self-sustaining roads network that is capable of meeting the diverse needs for construction upgrading and maintenance of civil works for trunk, regional, districts and feeder roads network.
- To improve the capacity and performance of the public sector and private sector clients so as to ensure efficient, transparent and effective implementation and management of construction projects.
- To ensure efficient and cost effective performance of the construction industry that will guarantee value for money on constructed facilities in line with best practices.
- To promote application of cost effective and innovative technologies and practices to support socio-economic development activities such as road works, water supply, sanitation, shelter delivery and income generating activities.
- To ensure application of practices, technologies and products which are not harmful to both environment and human health
- To mobilize adequate resources from both the public sector and the private sector for construction and maintenance of public infrastructure.
- To enhance participation in regional and international co-operation arrangements for the purpose of promoting the capacity and competitiveness of the industry and developing markets for export of its services and products.
- To improve co-ordination, collaboration and performance of the institutions supporting the development and performance of the construction industry.

With respect to environmental protection and conservation, section 8.2.2 of the National Construction Industry Policy addresses a number of issues regarding the environment. The construction industry is generally said to be a major source of environmental damage and occupational health problems. A number of the industry's activities are environmentally not sustainable partly owing to lack of awareness of environmentally sound practices and technologies.

Moreover, Construction activities affect the environment in many ways: through resource deterioration, physical disruption and chemical pollution. Large civil engineering projects can easily destabilize fragile hill slopes. Cement, lime and bitumen production pollutes the atmosphere.

(xiv) The National Tourism Policy (1999)

Through the National Tourism Policy, the government of Tanzania is determined to: maintain its tourist resource base in an adequate manner as it forms part of the public resources, improve the existing tourism infrastructure and to develop it further so as to accrue higher revenues from the sector. It further specifies (section 4.3) that tourism should be encouraged but with great care in order:

- To promote and develop tourism that is ecologically friendly and environmentally sustainable;
- To promote and develop land for tourism in a co-ordinated manner so as to attract

private investment and ensure sustainable tourism development

- The proposed BRT system in Dar es Salaam is the first type of transport system in East Africa, so it may be one of the tourist attractions in Tanzania if it is well done and managed.

(xv) The Mineral Policy of Tanzania (1997)

The mineral policy was specifically set for the mineral sector aimed to attract and enable the private sector to take the lead in exploration, mining development, mineral beneficiation and marketing. The policy identifies the role of public sector as to stimulate and guide private mining investment by administering, regulating and promoting the growth of the sector. The policy has put forward some objectives for the mineral sector as follows:

- To estimate exploration and mining development;
- To regulate and improve artisanal mining;
- To ensure that mining wealth supports sustainable economic and social development;
- To minimize or eliminate the adverse social and environmental impacts of mining development;
- To promote and facilitate mineral and mineral-based products marketing arrangement;
- To alleviate poverty especially for artisanal and small scale miners

With specific regard to the infrastructure development sector, section 3.3.8 of the policy stresses on the creation and maintaining of reliable social and economic infrastructure facilities such as transport; water supply, power supply; communications; education and health services; and recreation are vital for the mineral sector's development.

Moreover, section 3.3.12 of the Tanzania mineral policy emphasizes on the integration of environmental and social concerns into mineral development programmes as a means for sustainability of mining sector. As mineral extraction involves different complex processes which directly affect the environment, the policy was set to address all issues due mineral development with respect to the environment. Some of issues addressed are to: reduce or eliminate the adverse environmental effect of mining; improve health and safety conditions in mining areas; and address social issues affecting women, children and the local community. As well the contractors in BRT project have to abide with Mineral Policy in mining areas for gravel, sand and alike.

(xvi) The National Energy Policy (2003)

This policy outlines to adopt clean technology and minimize pollution in developing the energy sector in the country. It emphasizes utilization of the natural energy resources such as water, gas, coal, petroleum and wind in a sustainable and environmentally friendly way. Furthermore, the policy states that energy is prerequisite for the proper function of all sub-sectors of the economy and it is an essential service whose availability and quality can determine the success or failure of development plans.

Generally, all aforementioned policies underscore the importance of applying

Environmental and Social Impact Assessment in developing projects as it provides policy guidance on choices to maximize long-term benefits of development and environmental objectives. ESIA as a planning tool shall be used to integrate environmental and socio-economic considerations in the decision-making process to ensure that unnecessary damage to people and their environment is avoided and the existing roads alignment should be well utilized.

3.3 Laws, Regulations and Guidelines

(i) The Environmental Management Act (EMA) No. 20 (Cap. 191) of 2004

The project further specifies that a developer will not be allowed to undertake or to cause to be undertaken a project or activity without an Environmental Impact Assessment certificate issued under this Act. Phase 3 of the BRT as well is not supposed to start implementation before the Environmental Impact Assessment certificate is issued.

(ii) Environmental Impact Assessment and Audit Regulation of 2005

These regulations were prepared under EMA 2004 and require developers to conduct an Environmental Impact Assessment for any project likely to have negative impacts on the environment. Application for an Environmental Impact Assessment certificate is necessary for any such project. The project has so far gone through the respective steps of project registration, preparation of the Project Brief, preparation of the Scoping Report and this ESIA.

(iii) Environmental Assessment (EA) and Management Guidelines for Road Sector (2011)

The Environmental Assessment and Management Guidelines for the road sector were prepared in 2011 by the then Ministry of Works to establish a systematic way to prepare EIA for road projects in Tanzania. These guidelines present methodologies for the assessment of environmental impacts, the preparation of environmental management plans, presentation of the results and the integration of the mitigation measures into the design specifications and the contract agreements.

(iv) Land Act Cap 114

The Land Act Cap 114 (No. 4 of 1999) replaces the previous basic land law of 1923, and establishes three categories of land: general, village and reserved. In addition, land may be declared ‘hazard land’ where its development might lead to environmental damage, e.g. locations such as wetlands, mangrove swamps and coral reefs, steep lands and other areas of environmental significance or fragility. The Act recognizes customary tenure as of equal status to granted rights of occupancy, and allows livestock keepers to own pasture land either individually or in groups. Importantly the land act promotes gender equality by recognizing equal access to land ownership and use by all citizens- men and women – and giving them equal representation on the land committees.

(v) The Land (Assessment of the Value of Land for Compensation) Regulations, 2001

The Land Regulations were made under section 179 of the Land Act 1999, and provide all specific forms required for Management and Administration, Granted Right of Occupancy, Mortgage, Lease, Easement, Co-occupancy and others including compensation forms (Forms 69 and 70).

These regulations provide criteria for the assessment of compensation on land, as per market value for real property; disturbance allowance is calculated as a percentage of market value of the acquired assets over twelve months; and transport allowance calculated at the cost of 12 tons hauled over a distance not exceeding 20 km. The other criteria include loss of profit on accommodation based on audited accounts and accommodation allowance equivalent to the rent of the acquired property per month over a 36 month period.

The current enactment in force which governs compensation is the **Land Acts No. 4 and 5 of 1999.** At Section 3(g) it points out that, compensation for loss of any interest in land shall be based on the concept of opportunity cost. It further elaborates that, the concept of opportunity cost shall be based on the following:-

- The Market Value of the Real Property
- Disturbance allowance
- Transport allowance
- Loss of profits /income or accommodation
- Cost of acquiring or getting an equivalent land
- Any other immediate costs, loss or capital expenditure incurred to the development of the subject land and
- Interest at market rate
- The BRT project proponent, TANROADS, will have to make use of these current Land Acts of 1999 for payment of compensation.

(vi) Land (Compensation Claims) Regulations, 2001

This provides the basis for eligibility for compensation. It sets out the rights and entitlement for the one claiming compensation. It also provides that compensation takes the form of monetary compensations, or may, at the option of the Government, take the form of all, a combination or any of the following;

- A plot of land of comparable quality, extent and productive potential the land loss;
- A building or buildings of comparable quality extent and use comparable to the building or buildings lost;
- Plant and seedlings; and
- Regular supplies of grain and other basic foodstuffs for a specified period.

(vii) Village Land Act Cap 114

The Village Land Act cap 114 (No. 5 of 1999) confers the management and administration of village lands to Village Councils, under the approval of the Village Assemblies, although the Minister of Lands is entitled to decide on the amount of land which can be owned by a single person or commercial entity.

The Act also provides for the fundamental principles of National Land Policy which are

the objectives of the Village Land Act, 1999 geared towards;

- Ensuring that existing rights and recognized long standing occupation or use of land are clarified and secured by the law
- Ensuring that land is used productively and that any such use complies with the principles of sustainable development; to take into account that an interest in land has value and that value is taken into consideration in any transaction affecting that interest and
- To pay full, fair and prompt compensation to any person whose right of occupancy or recognized long-standing occupation or customary use of land is revoked or otherwise interfered with to their detriment by the State under this Act or is acquired under the Land Acquisition Act No. 47 of 1967.

In view of these requirements, the TANROADS intends to coordinate land use activities with the Dar es Salaam City dwellers along the proposed BRT project roads to reach amicable settlement of private land use.

(viii) The Land Acquisition Act, Cap 118 of 2002

The Land Acquisition Act requires the minister responsible for land to pay compensation as may be agreed upon or determined in accordance with the provisions of the Act. The Act stipulates that no compensation shall be awarded in respect of land, which is vacant ground, or to be limited to the value of the un- exhausted improvement of the land, in case the development of the land is deemed inadequate.

The Act defines the circumstances in which public interest could be invoked, e.g., for exclusive government use, public use, for or in connection with sanitary improvement of any kind or in connection with laying out any new city, municipality, township or minor settlement or extension or improvement of any existing city. Other purposes are in connection with development of any airfield, port or harbor; mining for minerals or oils; for use by the community or corporation within community; for use by any person or group of persons as the President may decide to grant them such land. The acquisition of the land for the public use as well as for the resettlement sites is within the provision of this Act. Further the Act specifies other requirements prior to the acquisition of the land such as investigation for the land to be taken, issuing notice of intention to take land and mode in which notices will be served. It further defines the requirements for and restrictions on compensation.

TANROADS is observing this requirement and it has already consulted the land owners in respective areas through the public meetings and it is expected that compensation for the affected persons will be paid accordingly and the notice for taking land will be issued as early as possible.

(ix) The Graves Removal Act No. 9 of 1969

This Act provide for the removal of graves from land required for public purposes. The Act states that if any land on which a grave is situated, is required for a public purpose the Minister may cause such a grave and any dead body buried therein to be removed from the land and, in such case, shall take all such steps as may be requisite or convenient for the reinstatement of the grave and the re-interment of the dead body

in a place approved by him for the purpose. Before the removal of the graves the Act provides for the manner in which the grave has to be removed in terms of serving notices of grave removal intention to respective persons or a religious body. The Act also gives the manner in which the graves can be removed after the expiration of the served notice.

The Act states that compensation payable under graves removal shall be limited to the reasonable expenses incurred in the removal, transportation, reinstatement and re-interment of the grave or dead body and any placatory or expiatory rites or other ceremony accompanying such removal and re-interment.

The BRT Phase 3 will involve interfering grave sites at Gongo la Mboto. In this regard, the provisions made under this Act will be followed very closely.

(i) Land Use Planning Act No. 6 of 2007

This Act provides for procedures for the preparation, administration and enforcement of land use plans; to repeal the National Land Use Planning Commission Act No 3 of 1984 and to provide for related matters. The objective of the Act is to provide for procedures for the preparation, administration and enforcement of land use plans; to facilitate an orderly management of land use, empower land occupiers and users to make better and more productive use of land, to enhance security and equity in accessing land and its resources;

The Act also provides for a legal framework for planning authorities, at the grassroots level, the mandate to prepare and implement land use plans following the laid out procedures.

The Act is divided into 9 Parts including the following: Preliminary provisions, fundamental principles of the National Land Policy and the National Human Settlement Development Policy, part 3 provides for powers and responsibilities of the Minister, establishment of the National Land Use Planning Commission, its powers and functions, Part 4 provides for sources of funds of the Commission, the powers of the Minister to impose fee and matters relating to accounts and conduct of audit.

Part 5 establishes land use planning authorities. It is proposed to vest powers of such authorities to local government authorities. Part 6 contains provisions relating to acquisition of land needed for planning, demarcation, and consolidation of land, rearrangement and readjustment of land, power of entry by an authorized person and issue of statutory easements and for preservation of monuments. Part 7 contains provisions for compulsory compliance with approved/plans, control of the use of land and provides the procedures for appeal by an individual or a group of persons aggrieved with the decision of with the decision of the Commission. Part 8 contains provisions for offences by and penalties for contravention of the provision of this Act. Part 9 provides for miscellaneous provisions which include the power of the Minister to make regulations, the amendment and revocation of approvals, charging of fees, adoption or modifications of plans, rules, standards, instructions and specifications. The project proponent, TANROADS, will observe the requirement of the Act in the course of executing it.

(ii) Urban Planning Act No. 8 of 2007

The Act provides for the orderly and sustainable development of land in urban areas to preserve and improve amenities. It also provides for the grants of consent to develop land and powers of control over the use of land and to provide for other related matters.

Section 4.1 of the urban planning Act, 2007, identifies the objectives of urban planning to which all persons and authorities exercising powers under, applying or interpreting this act shall be to:

- Facilitate efficient and orderly management of land use,
- Empower landholders and users, to make better and more productive use of their land;
- Promote sustainable land use practices;
- Ensure security and equity in access to land resources;
- Ensure public participation in the preparation and implementation of land use policies and plans;
- Facilitate the establishment of a framework for prevention of land use conflicts;
- Facilitate overall macro-level planning while taking into account regional and sectoral considerations;
- Provide for inter-sectoral co-ordination at all levels;
- Ensure the use of political and administrative structures and resources available at national, regional, district and village levels; and
- Provide a framework for the incorporation of such relevant principles contained in the national and structural policies as may, from time to time, be defined by the government.

The activities of the BRT project are observing the requirements of land use planning and will abide to all such other development as it may be guided from time to time during the course of the project execution.

(iii) Protected Public Places and Recreation Areas Act No. 38 of 1969

This Act was enacted to provide a process and mechanism for protecting specific lands as is deemed necessary at the discretion of the Minister. The Act provides for imprisonment and fines for persons unlawfully trespassing on such protected land areas.

(iv) Forest Act No. 14 of 2002

This Act deals with the protection of forests and forest products in forest reserves and the restrictions and prohibitions in forest reserves. Forest Management plans are administered under the Forest Act (1957). Any contravention of the restrictions and prohibition is considered an offence under this act and subject to enforcement. The law was revised in 2002 to meet the new requirements under the Forest Policy. The new Forest Act No. 14 of 2002 requires that for any development including mining development, road construction and construction of building within a Forest Reserve, Private Forest or Sensitive Forest, the proponent must prepare an Environmental Impact

Assessment for submission to the Director of Forestry.

The law also requires licenses or permits for certain activities undertaken within the national or local forest reserves, such as, among others, felling or removing trees, harvesting forest produce, entering a forest reserve for the purpose of tourism or camping, mining activities, occupation or residence within the reserve, cultivation, erecting any structures. No forests exist along the BRT project roads for phase 3, but the requirements of protecting the urban trees even the forests outside the project roads will be observed. The project does not affect forest reserve which may require license.

(v) The Mining Act No. 5 of 1998

This Act provides for prospecting of minerals, mining and dealing in minerals. The Act states that "building material" includes all forms of rock, stones, gravel, sand, clay, volcanic ash or cinder or other minerals being used for the construction of buildings, roads, dams, and aerodromes or similar works but does not include gypsum, limestone being burned for the production of lime, or material used for the manufacture of cement.

The Legislation makes EIA mandatory as a precondition for granting various categories of mining licenses. Road construction will involve importation of gravel, crushed stones and sand mined from other places away from the existing road. The requirements of this act will therefore be fully observed.

(vi) Explosives Act No. 56 (1963)

The Act requires all persons wanting to use explosives in their activities to hold an explosives license. For this BRT project this applies to use of materials from any quarries and borrow pits where blasting is to be employed or wherever explosives may be involved. Also in some sections of the proposed alignment rocks may be encountered thus requiring the use of the dynamite to remove rocks. In this case the requirements of this act will be observed.

(vii) HIV and AIDS (prevention and control) Act No. 28 of 2008

The Act provides for prevention, treatment, care, support and control of HIV and AIDS, for promotion of public health in relation to HIV and AIDS.

HIV and AIDS education in workplace: the Act requires that every employer in consultation with the ministry shall establish and coordinate a workplace programme on HIV and AIDS for employees under his control and such a programme shall include provision of gender responsive HIV and AIDS education, distribution of condoms and support to people living with HIV and AIDS.

Project proponent will highly observe the requirement of this Act during project implementation.

(viii) Employment and Labor Relations Act (2004)

Among other things, an Act provides for core labor rights, establishes basic employment standards, provides framework for collective bargaining, and provides for prevention and settlement of disputes.

A contract with an employee shall be of the following form;

(a) A contract for an unspecified period of time;

(b) A contract for a specified period of time for professionals and managerial cadre,

(c) A contract for a specific task.

Subject to the provisions of subsection (2) of section 19, of this Act an employer shall supply a n employee, when the employee commences employment, with the following particulars in writing, namely:

(a) Name, age, permanent address and sex of the employee;
(b) Place of recruitment;
(c) Job description;
(d) Date of commencement;
(e) Form and duration of the contract;
(f) Place of work;
(g) hours of work;
(h) R emuneration, the method of its calculation, and details of any benefits or payments in kind, and
(i) A ny other prescribed matter.

Therefore, project proponent will have to ensure that all employees are treated equally as per requirements of this law.

(ix) The Roads Act No. 13 of 2007

This Act, which repeals the Highway Act Cap 167, provides for road financing, development, maintenance, management and other related matters on finance, offences, penalties and recovery. The Act classifies and declares the project roads to be a public road thus listing it under the first schedule of Trunk Roads in pieces of small lengths within T7, T24, and T25 in trunk and regional roads ordinance in Dar es Salaam Region.

Also relevant clauses to the project are included under Parts IV, V and VII of the act covering aspects such as:

- Execution of the road works
- Road safety
- Restriction on the use of roads
- Serving notice to holders of land to be affected by the road and matters related to compensation under section 36,
- Regulation on maximum weight, speed and dimensions under section 42.

The Act observes the importance of protecting the environment, under section 30 the road authority (local government or any other relevant institution or agency) has

entrusted with the duties of developing, managing and maintaining the public roads under its jurisdiction, and shall comply with the prescribed guidelines, regulations or any other written law relating to environmental protection and waste disposal. According to the Road Act (section16), it states…….”where it becomes necessary for the Road Authority to acquire a land owned by any person……the owner of such land should be entitled for compensation for any development on such land in accordance with the Land Acquisition Act, Land Act, Village Land Act and any other written laws”.

The act also provides for offences, penalties and recovery on destroying bridges, causing damage to public roads, obstructions on roads, nuisance on roads, stretching of ropes over public roads etc. The fines are also prescribed under the offences committed on the public roads. The Project Proponent and its Contractors will observe all the requirements of this act in order to have smooth execution of its activities.

(x) The Water Resources Management Act No. 11 of 2009

Water legislation has been updated to bring it in line with the National Water Policy 2002. This current Water Resources Management Act No. 11 of 2009 provides for institutional and legal framework for sustainable management and development of water resources; outlines principles for water resources management; provides for the preventions and control of water pollution; provides for participation of stakeholders and the general public in implementation of the National Water Policy; repeals the Water Utilization (Control and Regulation) Act, 1974 and vests all water in the country to the Government of United Republic of Tanzania and sets procedures and Regulations for the extraction of water resources.

The Act also sets standards for receiving waters and effluent. It is anticipated that the BRT project will use water possibly drawn from existing public water supply system within the project area. The contractor and the proponent will observe all the requirements including use of the abstracted water for construction activities and ensure that no pollution or mismanagement of the existing water resources and thus respect and maintain the existing system of water rights.

(xi) The Occupational Health and Safety Act No. 5 of 2003

This Act sets provisions for the safety, health and welfare of persons at work in factories and other places of work. It is also meant to provide for the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with activities of persons at work; and to provide for connected matters. The road project will eventually be a place of work to be registered as per OSHA regulations that govern the places of work and observe all safety and health practices at work sites by its consultants, contractors and sub-contractors. Based on the requirements of this Act, the contractor for BRT project and the proponent will abide to this Act.

(xii) The Architects and Quantity Surveyors Act No. 16 of 1997 R.E. 2002

This Act provides for establishment of the Board of Architects and Quantity Surveyors responsible for registering and regulating the conduct of the Architects, Quantity Surveyors and Architectural and Quantity Surveyors Consulting Firms. The road project proponent is observing the requirements of this act and is ready to assist the

board during inspections of the project works.

(xiii) The Engineers Registration Act No. 15 of 1997 Revised Edition of 2002

This is an Act which formed the Engineers Registration Board, a statutory body with the responsibility of monitoring and regulating engineering activities and the conduct of engineers and engineering consulting firms in Tanzania through registration of engineers and engineering consulting firms. Under the law, it is illegal for an engineer or an engineering firm to practice Engineering profession if not registered with the board. The board has also been given legal powers and has the obligation to withdraw the right to practice from registered engineers if found guilty of professional misconduct or professional incompetence. Registration with the board is, thus, a license to practice engineering in Tanzania.

The BRT project is an engineering assignment and the project proponent is observing all the requirement of this act through engaging the services of personnel and firms that are registered with the Engineers Registration Board.

(xiv) The Contractors Registration Act No. 17 of 1997, R.E 2002

This is an Act which provides for registration of contractors and also establishment of the Contractors Registration Board, the body responsible for regulating the conduct of contractors in Tanzania.

The Project proponent will equally abide by all requirements of this Act in terms of supporting the activities of the board during inspection of any site for road construction, installation works for the purpose of verifying and ensuring that the works are being undertaken by registered contractors; and that the works comply with all governing regulations and laws of the country.

(xv) International Treaties and Conventions

Tanzania has ratified a number of Multilateral Environmental Agreements (MEAs) and consequently has duties under those agreements. The most relevant MEAs are:

Table 4: Multilateral Environmental Agreements (MEAs), Treaties and Conventions ratified by Tanzania

Type of Convention	me of Convention	Relevance to the BRT Project
Pollution Prevention Conventions	○ The convention on the prevention of Marine Pollution by dumping of Wastes and other wastes, London, (1972), ○ The convention on the prevention of Marine Pollution from ships (MARPOL) (1973) ○ United Nations Convention on the Law of the sea, Montego Bay,	The BRT project operations will involve generation of liquid and solid wastes from camps, concrete works, etc. Such wastes will not be discharged in water bodies without

	(1982).	treatment.
Bio diversity related conventions	○ Convention of Biological Diversity, (1992) ratified by Tanzania in 1996), ○ Convention to combat, desertification, particular Africa, Paris 1994, ○ The Cartagena protocol on Bio safety to the convention on Biological Diversity (2000).	Project activities will involve clearing of vegetation from borrow sites, quarry sites and camp sites. Re-vegetation will be carried out upon completion of the works. The project will also work with the respective communities in the conservation of available organisms
Other Conventions	○ The convention on International Trade and Endangered species of Wild Fauna and Flora (CITES), Washington (1973), ○ The convention concerning the Protection of World Cultural and Natural Heritage, Paris, (1972), ○ The convention of Wetlands of International Importance especially as water fowl Habitat (The Ramsar Convention) (1971) ratified by Tanzania i998).	The project operations may encounter areas with endangered flora and fauna species. In such cases the project staff and the contractor will in no event involve themselves with the trade of such species
Climate Change Conventions	○ The United Nations Framework convention on climatic change (1992) ○ Kyoto Protocol (1997)	The project will prevent the leakage of greenhouse gases into the atmosphere through regular maintenance of construction equipment.
Chemicals and Ozone Protection Conventions	○ Basel convention on the control of Trans boundary movements of Hazardous Waste and their Disposal, 1989 Rotterdam convention on prior Informed Consent Procedure ○ Stockholm Convention on Prior informed organic pollutants ○ Vienna Convention on protection of Ozone layer ○ The Montreal protocol on substances	All wastes generated along the project road will never be moved beyond Tanzania Boundaries. Permitted disposal will be done in Tanzania. Cooling facilities

	that deplete the ozone layer, Montreal, 1987 ○ Protocol on Liability and compensation on Damage resulting from Trans boundary movement of Hazardous waste and their disposal, 2000	(fridges) to be used by the project will not be using chlorofluorocarbons (CFC's)
Regional conventions	○ The Convention on the conservation of Nature and Natural Resources, 1968 Algiers, (1968) ○ The Bamako convention on the Ban of the import into Africa and the control of Trans boundary movement of Hazardous Wastes within Africa, 1990 ○ Nairobi Convention for the protection, management and development of the Marine and Coastal environment of Eastern African Region, 1985 and the related protocols. ○ Lusaka Agreement on cooperative enforcement operations Directed at illegal Trade in Wild Fauna and Flora (1994)	All importations of chemicals such as explosives at quarry sites will follow national legislations on the Industrial and Consumer Chemicals (Management and Control) Act No. 3 of 2003

3.3 Administrative Framework

The administrative and institutional arrangements for environmental management for all sectors in Tanzania are stipulated in the Environmental Management Act No. 20 of 2004. There are seven (7) institutions mentioned by the Act, of which the Minister Responsible for Environment is the overall in-charge for administration of all matters related to the environment. The legal institutions for environmental management in the country include:

(i) Minister Responsible for Environment

The Minister responsible for Environment, VP Office is the overall responsible for all matters relating to environment, responsible for all policy matters necessary for the promotion, protection, and sustainable management of Environment in Tanzania.

(ii) National Environmental Advisory Committee

The EMA 2004 stipulates the obligations of the National Environmental Advisory committee as to advice the minister responsible for environment or any sector ministry on all matters regarding the environment. In this particular development, BRT project, the national advisory committee has to recommend to the minister or sector ministry on the protection and management of the environment based on the EIS.

It further review and advise the minister on any environmental standards, guidelines and regulations pertinent to the environmental protection.

(iii) Division of Environment

The Division of Environment coordinates various environmental management activities being undertaken by other agencies and promotes the integration of environment consideration into policies, plans and programmes, strategies and projects.

(iv) National Environment Management Council (NEMC)

EMA 2004 gives National Environment Management Council (NEMC) the overall responsibility for undertaking the enforcement, compliance, review and monitoring of Environmental Impact Assessment and in this regard facilitates public participation in environmental decision-making. NEMC is mandated to submit recommendations to the Minister responsible for Environment for decision making, approval or disapproval of ESIA reports.

Sector Ministries

There are established in each Sector Ministry an Environmental Section with the responsibility of overseeing preparation and implementation of ESIAs of investments in the Sector. In addition they are mandated to:

- Coordinate the activities related to the environment within the ministry, PMO,
- To ensure that environmental concerns are integrated into the ministry or in a department of development planning and project implementation in a way this protects the environment,
- To prepare and coordinate the implementation of environmental action plan at the national and local levels and
- To ensure that sectoral standards are environmentally sound, and the like.

The Ministry of Lands and Human Settlements Development will be responsible for coordinating all activities related to valuation, compensation and resettlement procedures.

(v)Ministry of Works, Transport and Communication (MOWTC): Safety and Environment Division (Works)

Ministry of Works, Transport and Communication now has four main divisions.

- Transport Infrastructure
- Transport Policy and Planning
- Technical Services
- Safety and Environment

Since MOW has a main stake in the road sector, the ministry formulates policy, sets standards and specification; define the long term strategic plans; monitors and controls application of the regulations; and participates in the management of the executive

agencies. In the Ministry, environment falls under Safety and Environment Division.

Under the Safety and Environment Division there is Environment Unit responsible for implementation of environmental management matters in the road sector. For environmental assessment of road projects, the Environment Unit

- Prepares strategic environmental assessment (SEA);
- ;
- Assesses and comments on environmental assessment;
- Advises the ministry for approval of environmental assessment reports;
- Participates in EIA review in collaboration with NEMC;
- Controls the implementation of Environmental Management Plan (EMP);
- Promotes public environmental awareness;
- Assist in the development and implementation of the environmental management system;
- Advises the ministry on all environmental issues related to road construction, upgrading, and maintenance and operation.

Under the Act, EMA 2004, some environmental responsibilities have been delegated to Sectoral Ministries. The MOWTC did set up its Road Sector – Environmental Section which oversees management of the environment within the road sector.

(vi) Local Government Authorities

EMA (2004) states that, there shall be designated or appointed by each City, Municipal, District, and Town Council an Environmental Management Officer who shall be a public officer and shall perform functions prescribed in Section 40 of this Law.

(vii) TANROADS

According to the setup of the BRT project implementation, the Tanzania National Roads Agency (TANROADS) will be the executing Agency for the project that will procure and supervise the construction of the BRT 3 infrastructures including implementation of ESMP.

(viii) DART AGENCY

The DART Agency will be responsible for procurement of services for bus operators (private), fare collection system and ITS systems as well as overseeing operations of the BRT system. The bus operators are responsible for purchasing approved buses, operating and maintain bus fleet along with associated ITS systems and fare collection system.

(ix) Regional and District Administrative Structures

The Regional Administration Act No. 9 of 1997 provides for Regional Commissioners to oversee Regional Secretariats, with District Commissioners directly supervising the

District Councils. Local authorities oversee the local planning processes, including establishing local environmental policies.

The National Environmental Policy establishes a policy committee on environment at regional level chaired by the Regional Commissioner, mirrored by environmental committees' at all lower levels, i.e. at the district, division, ward and village or "mtaa" councils.

At local Government level, an Environmental Management Officer should be designated or appointed by each City, Municipal, District or Town Council. In each City or Municipality or District, Environmental Committees have been established in order to promote and enhance sustainable management of the environment.

The Village Development Committee is responsible for proper management of the environment in their respective areas. The District Council designates for each administrative area as township, ward, village, "mtaa", kitongoji" an Environmental Management Officer to coordinate all functions and activities related to protection of environmental in their area

(x) Regional Secretariat

EMA No. 20 (2004) stipulates that, there shall be the Regional Secretariat, which is headed by Regional Environmental Management Expert, is responsible for coordination of all environmental management programmes in their respective regions and in liaison with the Director of Environment. The Regional Environmental Management Expert is responsible for:

- Advising the local authorities on matters relating to the implementation of and enforcement of environmental by-laws/Act;
- Creating a link between the region and director of environment and the director general of the council (NEMC).

(xi) Local Government Authorities (City, Municipal, District, Township, Ward, Village, Sub-village "Mtaa", "Kitongoji")

The environmental management officer under the local government authority is responsible for promoting environmental awareness in the respective area on the protection of the environment and conservation of natural resources.

Under the Environmental Management Act (2004), the City, Municipal, District and Town Councils are headed by Environmental Management Officers, who are responsible for environmental matters. The functions of the officers are to:

- Ensure enforcement of the Environmental Management Act in their respective areas,
- Advise the Environmental management Committee on all environmental matters,
- Promote awareness in their areas on the protection of the environment and conservation of natural resources,
- Collect and manage information on the environment and the utilization of natural resources,

- Prepare periodic reports on the state of the local environment,
- Monitor the preparation, review and approval of EIA's for all local investors,
- Review by-laws on environmental management and on sector specific activities related to the environment,
- Report to the DoE and the Director General of the NEMC on the implementation of the Environmental Management Act,
- Perform other functions as may be assigned by the local government authority from time to time.

All of the above institutions are responsible for the environmental management of the BRT system and their link to this project are specified in functions as enumerated in the respective sections above.

3.4 World Bank Environmental and Social Safeguard Policies

World Bank Safeguard policies require that:

a) Potentially adverse environmental impacts affecting the physical environment, ecosystem functions and human health, and physical cultural resources, as well as specific social impacts, should be identified early in the project cycle;

b) Unavoidable adverse impacts should be minimized or mitigated to the extent feasible; and

c) Timely information should be provided to stakeholders, who should have the opportunity to comment on both the nature and significance of impacts and the proposed mitigation measures.

Similar to the first phase, the proposed development of BRT phase 3 has been rated environmental assessment risk Category A and triggers the following safeguard policies Operational (OP) and Bank Procedures (BP):

(i) **Environmental Assessment (OP/BP 4.01)** requires the assessment and mitigation of potential impacts to ensure that projects proposed for Bank financing are environmentally sound and sustainable. The policy requires that Environmental and Social Assessment (ESIA) report to be prepared to meet the Bank appraisal procedures for the project. The policy also emphasizes consultations and disclosure of ESIA report locally for access by both the general public and internationally.

(ii) **Physical Cultural Resources (OP/BP 4.11) -** The Bank operational policy on safeguarding cultural properties is to protect cultural assets and defines cultural property as sites having archaeological, paleontological, historical, religious and unique natural value. These sites, when stumbled upon, require that the authorities are informed and the site is demarcated and protected. Physical, Cultural heritage resources may get affected due to road works; located in the influence area. Graves could be located in the right of way. Potential impacts or "chance finds" of physical cultural resources are addressed as part of the ESIA and Environmental and Social Management Plan (ESMP).

(iii) **Involuntary Resettlement OP/BP 4.12** - This policy covers direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by; involuntary taking of land resulting in relocation or loss of shelter; loss of assets or access to assets, or loss of income sources or means of livelihood, whether or not the

affected persons must move to another location. The objective of this policy is to avoid where feasible, or minimize the resettlement, exploring all viable alternative project designs. The proposed project settings may induce land acquisition. The policy requires preparation of a Resettlement Action Plan, which is prepared as a separate document to mitigate the effects of involuntary resettlement.

4.0 BASELINE ENVIRONMENTAL AND SOCIAL CONDITIONS

4.1 Introduction

The baseline information presented in here was mainly captured and compiled to suit the EIS requirements from Region and Municipal profiles as well as development plans. On the other hand, data for physical and biological environment were gathered by employing various methods including review of existing relevant documents in the Municipal and Regional level, consultation of the key stakeholders, especially local authorities at community level and site visits.

4.2 Project Location

The phase 3 of BRT project is to be implemented in Dar es Salaam city, specifically intercepting Ilala and Temeke Municipalities which are two municipalities among the three municipalities in Dar es Salaam, another is Kinondoni Municipality. The proposed BRT routes are mostly following the existing roads in order to avoid relocation of people and destruction of properties. The project design will be reviewed before implementation. If it happens that there is change in design this ESIA will be revised accordingly.

The proposed BRT roads in phase 3 there are Uhuru road, Azikiwe/Maktaba Street, Bibi Titi road and Nyerere roads up to Gongolamboto area making the total of 23.6 km. The larger part of the project is located in Ilala municipality, only small portion of the project road around TAZARA located in Temeke Municipality. Ilala Municipality is located in the north and west of Dar es Salaam, while in the east it stretches by the coastal line of the Indian Ocean. Temeke Municipal Council is located in the south of Dar es Salaam City, borders Coast Region in the South, Temeke has a coastal line of 70 km length and lies between 39º12' - 39º33' east and 6º48' -7º33' south.

Ilala Municipality lies between longitude 39º and 40º east and between latitude 6º and 7º south of the Equator. The Municipality is bordered by the Indian Ocean on its Eastern part with distance of about 10 kilometers. On the southern part it is bordered by Temeke Municipality, whereas on its Western part it is bordered by Kisarawe District Coast Region and on its North is bordered by Kinondoni Municipality. Ilala ranges between 0 and 900 meters above sea level. Thus the Municipality consists of a larger lowland area and a small part forming the uplandzone. Figure 5 below shows the project area and boundaries.

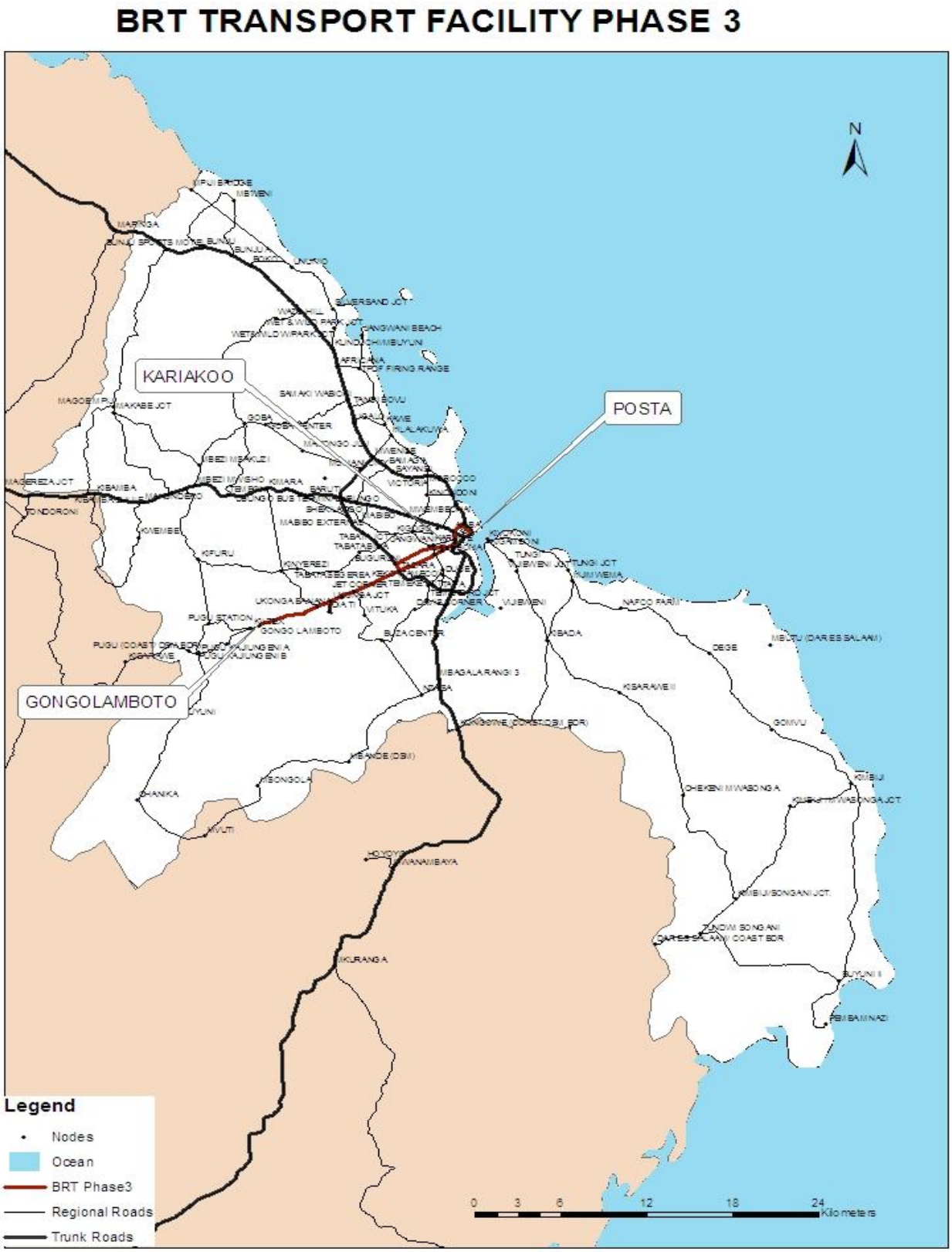


Figure 5: Dar es Salaam map showing the project area in Ilala and Temeke Municipalities.

4.3 Physical Environment

4.3.1 Topography

The topography of the project area is characterized by mixed residential buildings, industrial buildings, infrastructural and high concentrations of trade and other services and manufacturing activities. There are various facilities along the roads including urban trees as shown on Figure 6. The lowland areas in Ilala start where the municipality borders with the Indian Ocean (Kivukoni ward) and extends up to Segerea, Ukonga and Kitunda wards. Beyond these wards, the small upland areas emerge as small hills or plateaus of Pugu, Kinyerezi, Chanika and Msongola wards. Whereas most of the lowland areas constitute the urban part of the Municipality, the upland areas are predominantly agricultural and rural in character.

Figure 6: Project area showing some of the existing features including buildings, drainage system and light vegetation, along Uhuru road.

4.3.2 Climate

The project area experiences a modified type of equatorial climate. As in all other parts of the Dar es Salaam region the climate of the project area is influenced by the monsoons, that is South-East Monsoons and North-East Monsoons. Also, the vicinity of the sea has a strong influence on both rainfall and temperature. The SE Monsoons are predominant in April to October when the overhead sun is in the northern hemisphere. The NE monsoons are predominant from November to March when the Overhead sun is in the southern hemisphere. However, as an area with rainfall throughout the year, rainfall may occur even during the dry seasons. There are two main rain seasons; a short rain season from October to December and a long rain season between March and May. The average rainfall is 1000mm (lowest 800mm and highest 1300mm). The rainy seasons are also the most humid periods. It is generally hot and humid throughout the year with an average temperature of 29^{o}C.

The hottest season is from October/November to March during which temperatures can raise up to 35^{o}C. Humidity is around 96% in the mornings and 67% in the afternoons. The project area is relatively cool between May and August, with temperature around 25^{o}C. As an example, Figure 6 presents the Mean Annual Temperature and Rainfall characteristics in Temeke municipality in 2009.

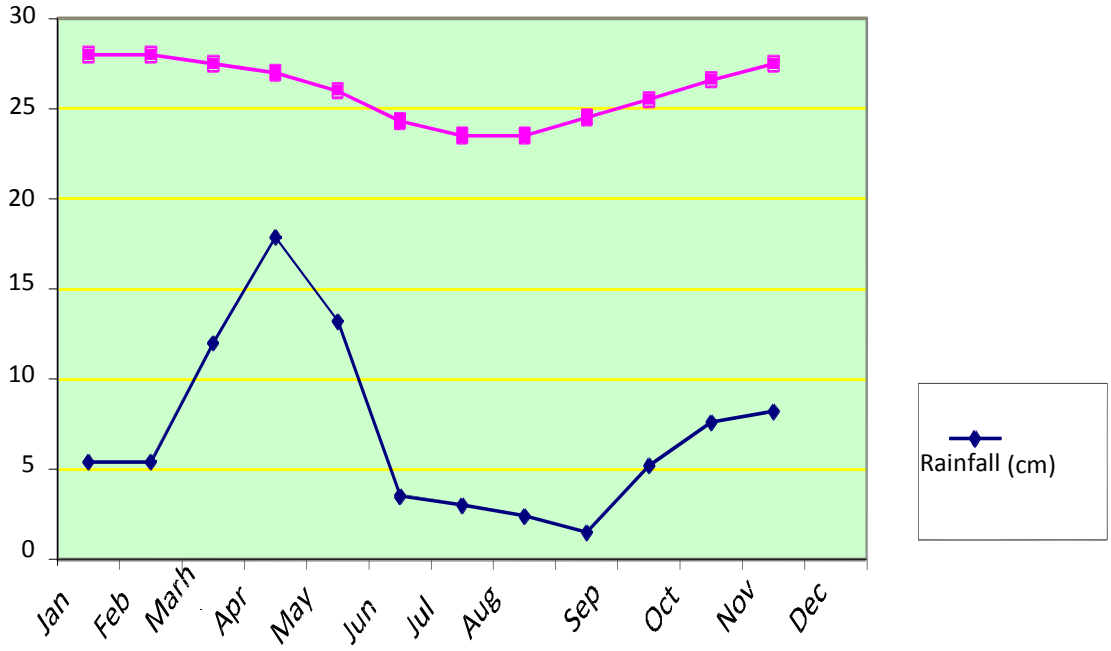


Figure 7: Mean Annual Temperature and Rainfall characteristics in Temeke in 2009
(Source: Social –economic profile in 2010 for Temeke Municipal Council)

4.3.3 Soils and Land

The soil type in these areas consists of sand, clay and loam properties. The main type of soil is a mixture of rock-sandy soil and coral stones. The areas of Temeke and Ilala are 786.5 km² and 273 km² respectively (United Republic of Tanzania 2002 Population and Housing Census).

4.3.4 Air Quality

Unfortunately, the air quality of Dar es Salaam City has not been consistently monitored in terms of regular samplings. The air quality readings were carried out randomly and for reason.

The National Environment Management Council (NEMC) has some air quality data prepared in two phases namely;

1. Phase I which commenced in March 2005 to December 2005
2. Phase II which was started in Jan. 2006 to Dec.2007.

The air quality sampling sites were based on different features including residential, commercial, light industrial and roadside characteristics. The parameters monitored were PM_{10}, NO_X, SO_X, O_3 and CO. Altogether 5 monitors were set in 5 sites in Dar es Salaam, two (2) roadside sites along Morogoro road, two (2) residential sites and one commercial site

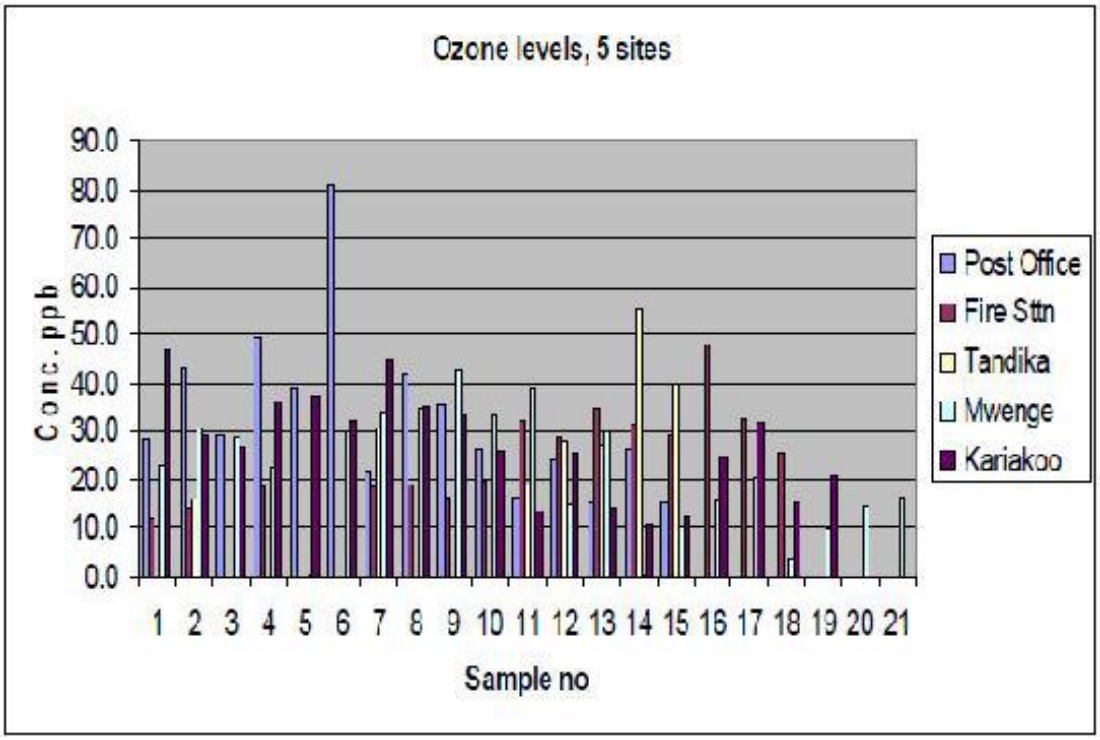
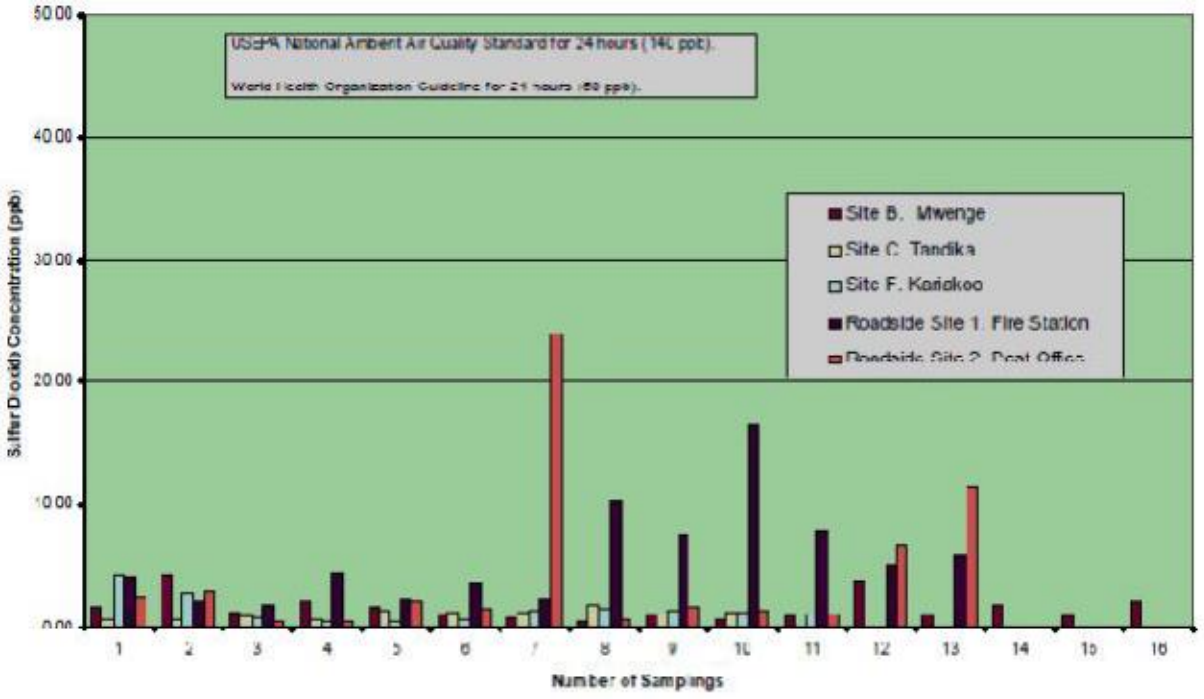


Figure 8: Ground level Ozone concentrations at 5 sites in Dar es Salaam



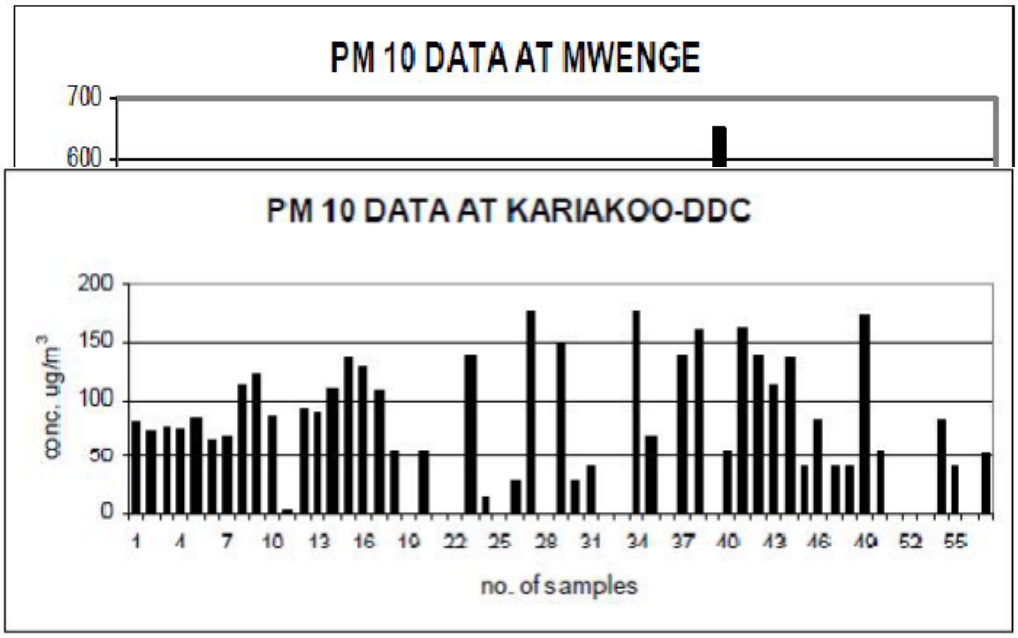


Figure 9: Sulphur dioxide concentrations at five sites in Dar es Salaam city

Figure 10: Particulate matter concentrations at Mwenge in Dar es Salaam

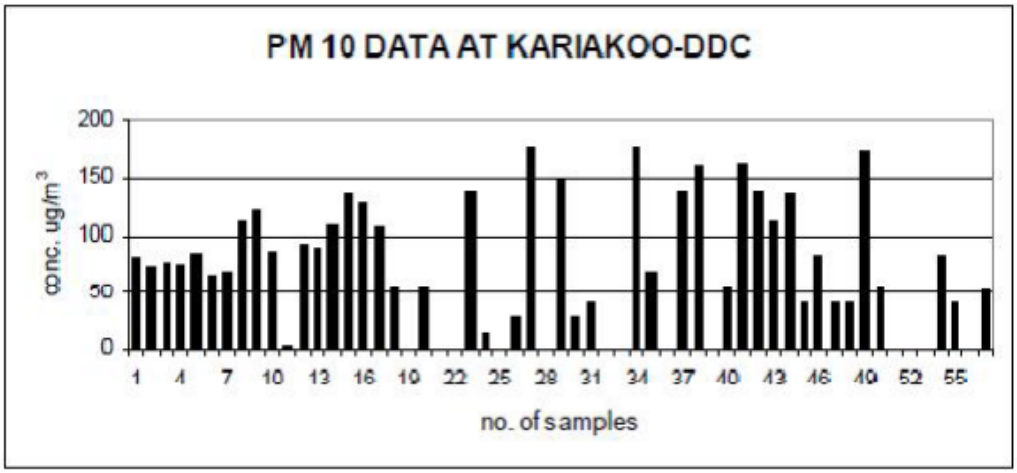


Figure 11: Particulate matter concentrations at Kariakoo in Dar es Salaam

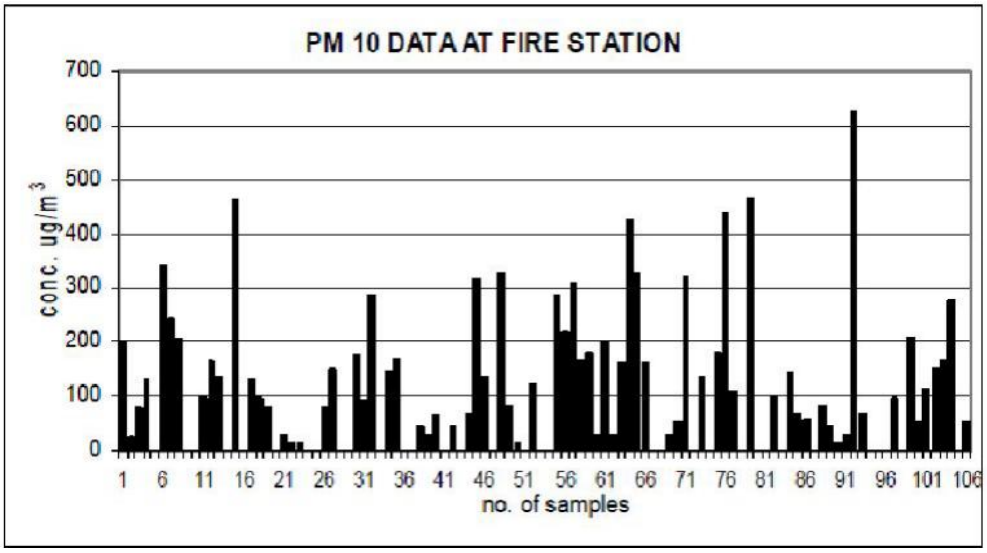


Figure 12: Particulate matter concentrations at Fire Station in Dar es Salaam

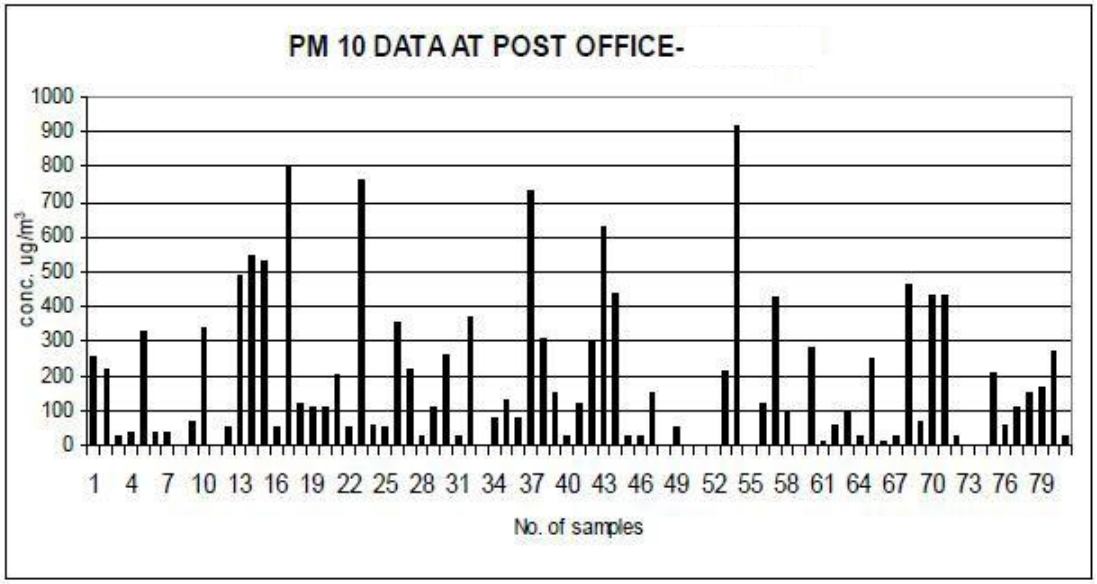


Figure 13: Particulate matter concentrations at Post office area in Dar es Salaam

There were no CO records due to the inefficiency of the sampling equipment used.

In 2005, an independent roadside air quality levels were undertaken around Dar es Salaam at 11 sites by using manual sampling methods (Jackson, 2005). Parameters measured were sulphur dioxide, nitrogen dioxide, particulate matter and particulate lead. Results showed that the hourly average sulphur dioxide (SO2) concentrations were between 127 and 1,385µg/m3. The levels of SO2 were above the recommended WHO standards at 87% of the sampling sites. The hourly average nitrogen dioxide concentration ranged between 18 and 53µg/m3. The maximum hourly nitrogen dioxide concentration of 53µg/m3 was below the WHO guideline value of 200µg/m3.

Another roadside study of levels of ambient air quality in Dar es Salaam was carried out in 2010, which indicated that the concentrations of both SO2 and NO2 were high (Othman, 2010). They both exceeded WHO guideline values. A random sampling done at Kunduchi Beach hotel indicated a daily average of NO2 at 20µg/m3 and a daily average of SO2 at 230µg/m3.

The three independent sampling results do not show any consistency while there is a consistence in the letter two samplings but the results collected by NEMC are far low.

In the absence of other reliable data the above data can be used for indicative purposes only and they may show that exceeding of limit values might be expected in some parts of Dar es Salaam city. Also, since the air quality of a location is greatly influenced by precipitation, temperature, relative humidity and wind speed, therefore sample results carried out previously in Dar es Salaam cannot represent the actual levels in the project areas.

It is important to note that the causes of urban air quality impairment include:
a) Open waste burning
b) Biomass burning
c) Dust
d) Particulate matter
e) Vehicular emissions and
f) Industrial emissions
g) Others include natural methane emissions from wetlands

Therefore some more additional work is required to single out emissions caused by motor vehicles

4.4 Biological Environment

4.4.1 Flora

The project area is characterized by planted shade trees, lawns, hedges, and gardens. Most of the natural vegetation cover has been lost due to urbanization. Different plant species such as Palm trees, peacock flower, Christmas trees, neem *(Azadirachta indica)*, yellow cassia and varieties of grass species are available. Also bougainvillea and governors plum *(Mchongoma* in Swahili*)* are available.

4.4.2 Fauna

Since the project area is urban, existing animal species include terrestrial creatures which are domestic animals (livestock) such as pigs, cattle, chicken, and other types of birds. Birds are found in flood plains, tree groves and along the river banks.

Livestock keeping in Ilala, in 2008/2009, was found to be done in peri-urban areas and least in urban. Major types of animals found were dairy cattle (7,500), Poultry (450,000), Sheep and Goats (2,700) and Pigs (3,500). Zero grazing is mainly done in urban areas and semi intensive to extensive method in peri-urban. Ukonga, Segerea, Kitunda and Kipawa wards are leading in livestock keeping.

In Temeke municipality, in 2009/2010, it was found that there are about 5,982 dairy cattle, 6,480 indigenous cattle, 304 dairy goats, 7,080 indigenous goats, sheep1,948, 176,721 broiler chickens and layers, over 294,500 indigenous chicken, 30,210 ducks, 586 rabbits , Horse 22, camel 46 , Dogs 4,022, Cats 239, Donkey 25 and 4,880 pigs.

The presence of domestic animals in the project area signifies that there is dependence of natural water streams/rivers as a source of drinking water for animals. Prevention of surface and underground waters from pollution is therefore very essential, and the provided mitigation measures have to be implemented.

4.5 Socio-Economic Profile

4.5.1 Population and Demographic Patterns

According to 2012 Population and Housing Census Temeke Municipality has a population of 1,368,881 male 669,056 and female 699,825 with household average of 3.9. Ilala Municipality has a population of 1,220,611 male 595,928 and female 624,603 with household size of 4.0. Annual growth rate in both municipalities is 5.6%. Population in the project wards is Gongolamboto is 57,312, male 27,927 and female 29,385 with the household size of 4.0.

The impact of higher population densities always is associated with widespread of poverty and other serious environmental and social problems such as crimes, poor hygiene, leading to unsustainable development the situation we are experiencing in areas such as Gongolamboto currently.

4.5.2 Ethnic composition

The main native' ethnic groups in the project area are *Zaramo* and *Ndengereko* but due to urbanization many people of different ethnicity have immigrated in making heterogonous tribal composition whereby no single ethnic group accounts for more than 25% of the total population. Ilala is the most affected area in the City due to its status of being hub for social-economic activities and other interactions. The rapid Economic growth of the city also attracts influx of people from different corners of the country and outside the country.

4.5.3 Occupation and Income

Most of the people in the project area involve themselves as either employed or self-employed. In that case the buildings in the project areas have heterogeneous use i.e. residential, institutional and commercial and others by private or individuals where most of them deal with business and community services. Some of economic activities involved in the project area are:-

i. Hotels
ii. Livestock keeping especially chicken and dam cattle
iii. Import and export businesses
iv. Transportation services e.g. *Daladala*
v. Shops
vi. Office works e.g. consultants
vii. Clearing and forwarding
viii. Agro businesses
ix. Medical businesses
x. Handcraft businesses
xi. Banking businesses
xii. Construction business

xiii. Fishing activities in Indian Ocean
xiv. Tourism
xv. Mining and
xvi. Itinerants

These activities play a significant role to the Dar es Salaam City economy in terms of revenue and in provision of job opportunities to the residents. Agriculture is still an important economic activity, but it is dealt in the peri-urban area of the Project area.

The Dar es Salaam City Profile, 2004, indicates that GDP per capita for Dar es Salaam to be TZS 584,086 with 35% of the population earning an average low income of TZS 387,319 per annum (about TZS 32,000 per month). Some of the above economic activities are explained bellow.

Markets

Markets refers to an open space or covered building where vendors convene to sell their goods or where commercial dealings are conducted i.e. where demand for a particular commodity or service is available.

Ilala Municipality has 18 markets. Among these, 13 are functioning markets in whichn six (6) are big and seven (7) are small markets while the remaining 5 markets are not yet in function. The Thirteen (13) markets which are functioning have at least 13,264 businessmen. Most of the markets have been located at the city centre according to the field survey carried in 2009 by the Trade and License Department; the municipalities still have 21,500 businessmen who are not accommodated in any market. This has let them operate business in unauthorized areas. The Municipality intends to construct high rise building at Kisutu, Ilala ward and Buguruni markets so as to create space for businessmen who currently operate in areas not designated for.

The Municipality has also designed a big and modern market at Kinyerezi and Tabata of which shall substitute the Kariakoo market for wholesale and retail businesses. The existence of these two markets will also reduce concentration and congestions of business at the existing city markets.
The two planned markets intend to create 29,000 operators in unauthorized areas. This will also enable the municipality to collect total sum of 5,220,000,000.00 TZS per year of rent of which currently is not collated. It also intends to improve the existing markets hence create space for business operators and on the hand improve revenue collections.

Problems facing the Market Sector

- There is high demand for commercial space in the city. This is reflected by the fact that for every building in the area that is constructed to provide these spaces face

oversubscription

- Similarly, demand for spaces for small trade activities is also high. The numbers of small traders is increasing in the city especially Kariakoo area daily. This is because traders prefer business prime areas that attract large number of customers
- The *Mama/Baba Lishe* businesses nourish well in areas that have large interaction of people especially of medium and lower class levels of income
- The available markets are suffering from shortage of market facilities. Poor infrastructures for toilets and water
- There is no an organized garbage disposal
- Not secured from theft due to high congestion.

For the time being, there are 17 formal markets in Temeke municipality with the capacity of 4500 small traders. The Table 5 below shows various markets operating in Temeke municipality.

Table 5: Various markets operating in Temeke municipality

S/NO	Markets	Number of Traders
1	Temeke Sterio	1250
2	Tandika	550
3	Mtoni	200
4	Kurasini	68
5	Temeke Mwisho	60
6	Keko Magurumbasi	250
7	Keko Mwanga	30
8	Mbagala Kizuiani	100
9	Kigamboni kwa Urassa	60
10	Kigamboni Tuamoyo	35
11	Kigamboni Ferry	25
12	Kigamboni Kilimani	15
13	Mbagala rangi tatu	350
14	Zakhem	100
15	Maguruwe	70
16	Kibonde Maji	75

The following markets are operating informally; Yombo Limboka, Bulyanga, Mbagala Mangaya, Mbagala Nyoka, Yombo Machimbo, Kongowe, Mtoni Buba and Mbagala Kimicho.

Informal Sector

According to the National population and Housing Census 2002 the Informal sector account for about 49% of total population labour force of 66,6075 of Temeke population. The category of informal occupations include: street vendors who constitute 24.4%, farmers 13.4%, service and shop sales workers 11%, craftsmen 10% elementary occupations 9%, technicians and associated professionals 8%, plant operators and assemblers 6 % as shown in Figure 14 below.

Many of these informal businesses do not have official designated area for their activities thus frustrating municipal efforts in keeping the environment clean. In order to reduce tension of the street vendors, Temeke Municipal Council has set aside three designated areas for them. TAZARA with the capacity of taking about 1970 street vendors, Mbagala Rangi Tatu with the capacity of 950 street vendors and Tandika Kampuchea with capacity of 725 street vendors. These areas are not well developed and they lack essential infrastructures such buildings and structures, electricity, water and latrines. However, these located areas are not enough for the existing street vendors due to influx of street vendor arriving each day.

There is a need to build a business park and industrial park capable of accommodating about 7, 000 small scale traders at different levels. Also there is a need to build a modern market at Mbagala Division (Mtoni Kijichi) which will also ease the number of street vendors and numbers of fruits and vegetables stalls in the street.

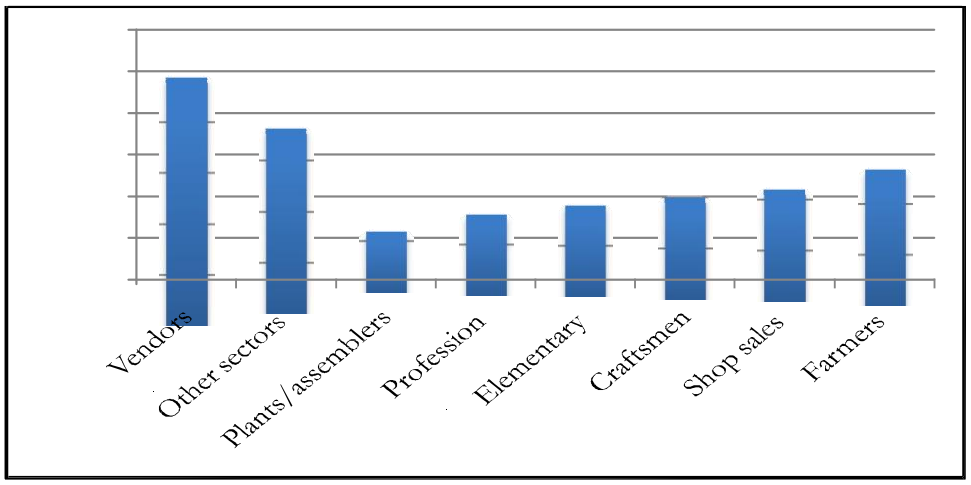


Figure 14: Informal sector contributions in employment in Temeke

Urban Agriculture

Agriculture and livestock activities in Ilala which employs about 13% of the total population is carried out in the area undeveloped for settlement measuring approximately 10,019 hectares of which the area for food crops is 7,201 hectares and cash crops 2,818 hectares. Major food crops are cassava, sweet potatoes, paddy maize, cash crops includes cashew nuts, coconuts and citrus fruits.

Agriculture sector in Temeke contribute significantly to Municipal economy. About 14.5% of the population is engaged in Agriculture and livestock production. It is estimated that the sectors contribution to food requirement is 28% while the remaining is obtained from outside the Municipality. Agriculture is carried out in the peri-urban area. Out of the Municipals' 656,000 hectares of land, 40,000ha are potential arable land. However, only 28,000 ha (70%) are used for crop production. About 10,000 hectares are used for grazing, while the rest is partly marshy or still idle land. In the 10 last years, agricultural land in the fringes of urban settlements have been an important reserve for city expansion, especially in areas like Charambe, Mbagala, Mjimwema, Pembamnazi, Kimbiji, Somangila, and Kisarawe II. An improved road infrastructure in Kigamboni areas has not only led to faster settlement development, but also to vivid agricultural production through better market access.

In addition, small nurseries that produce trees and ornamental plants have been cropping up for the last two years particularly in Mjimwema Chamazi, Charambe, Toangoma, Kurasini and Temeke ward areas. Apart from the private nurseries, the Temeke Municipal Council has been playing a role model by providing two botanical gardens at Mtoni and Gezaulole that provide tree seedlings and ornamental plants. The peri-urban and rural areas of Kimbiji, Somangira, Chamazi Pembamnazi, Mjimwema, Toangoma, Vijibweni and Kisarawe II wards are famous for maize, rice, legumes, cassava, sweet potatoes, fruits and nuts.

Irrigation farming is highly encouraged in the Ilala Municipal; about 60 hectares are being irrigated using seasonal and permanent streams, dip and shallow wells. Presence of ward Resource centre at Kinyamwezi enabled farmers to acquire integrated farming skills offered by the centre. About 1,000 Farmers are trained every year. The centre also produces various seedlings and sells to farmers at affordable prices Most of the farmers depend on rain fed agriculture and irrigation on small scale.

Potential area for irrigation is about 4,000ha, currently 60ha are under irrigation. Two small irrigation schemes have been established at Kidole and Zingiziwa at Msongola and Chanika wards respectively. At the moment Ilala Municipal Council is doing feasibility study for two irrigation schemes at Mzinga river and Zogoali valley in Msongola and Chanika wards, respectively aiming to increase production throughout the year. All agricultural activities are done at the outskirts of Dar es Salaam. There is no

agricultural activities which are done in the city center where the proposed BRT phase III project is located.

Crop Production

The Ilala Municipality covers an area of 210 km^2 with more than half of the area being in the urban and peri-urban but still 15,000 ha are potential arable land for agricultural production, however only 7,201 ha are used for food crop production and 2,818 ha for cash crops. Horticulture activities are carried out in the urban areas in open spaces and in backyard gardens. Crop farming is done in peri-urban and rural areas; the crops are cash and food. The main cash crop in Ilala Municipal Council includes a variety of vegetables such as amaranths, Chinese cabbage, eggplant, okra, kale, leek (*matembele*-Swahili) and night shade (*Mnavu*-Swahili), fruits like citrus, passion, pawpaw, pineapples, mangoes and cashew.

Cassava is the main food crops in the rural areas where a variety being cooked while fresh or dried for making flour. Other food crops are sweet potatoes and paddy grown during the long rain season especially in water logged areas.

Banking and Telecommunication Services

Telecommunication is well covered with TTCL. There are cellular phones operators namely Airtel, Tigo, Zantel, Vodacom and the new one in business being introduced by TTCL -Sasatel. A number of internet service providers are also available in Dar es Salaam.

There are so many commercial banks such as NBC Limited, National Microfinance Bank (NMB), CRDB Bank, Barclays, Baroda, BOA and Exim Bank, which offer financial services such as Current and Savings accounts, Foreign Exchanges, as well as offering a variety of loans. There is a bureau de change which deals with foreign exchange.

Trade, Industries and Manufacturing

The line of trades in this section encompasses wholesale, sub wholesale, retail trade, hotels, guesthouses and financial institutions and related activities. Few private firms conduct wholesale activities and retail trade activities related to agricultural produce. Several local enterprises are carrying out manufacturing of consumer goods. Through this sector, a variety of goods are produced and supplied to municipal inhabitants. The trading sector is contributing tremendously towards enhancing the economic growth of the municipality as it employs about 49% of its residents.

There are nearly 40 major industries that are clustered in Chang'ombe Industrial Area which is situated in the northern part of the Municipality, while over 158 medium scale industries are located in Mbagala, Kurasini and other are due to be established in

the newly designated industrial area at Vijibweni. Manufacturing and processing industries are dominant in Chang'ombe, Mbagala and Vijibweni. Service industries which include garages and warehouses are situated in Kurasini and along the Mandela highway and part of Kilwa road. Wood products such as furniture making and manufacturing industries are concentrated in Keko Magurumbasi and Temeke Yombo.

4.5.4 Health Services

The status of health services in Dar es Salaam in general is very poor with ratio of population to physician of 18,637 (18,637 persons are under the care of one physician). The quality of service is reflected in long queues to see doctors, congestion in hospital wards and poor facilities in general. Refer Table 6 below.

Table 6: The Summary of Municipal Health Characteristics

Characteristics	Data
Population per physician	1:5,333
Population per nursing staff	1: 18,637
Population per health facility	1: 4,000

Source: Dar es Salaam City profile 2004

Over 70% of the population in the project area utilizes health services in public facilities due to their affordability and accessibility. For example Amana District Hospital which is the only public referral facility in Ilala Municipality has the bed occupancy rate ranging between 250% -300% with a doctor patient ratio of 1:1000.

Temeke Municipality has a total of 117 health facilities in which there are public and private. There are is a total of 33 Public facilities, being 2 hospitals, 1 health center, 28 dispensaries and 2 RCH Clinics. There are 84 private facilities, of which hospitals are 2, 5 health centers and 77 dispensaries as shown in table 7. The health facilities that provide primary and secondary health care services in Ilala are indicated in Table 8.

Table 7: Health facilities in Temeke Municipal

Health Facilities	Government Facilities	Non- Government Facilities	Total
Hospital	2	2	4
Health centre	1	5	6
Dispensaries	28	77	105
RCH Clinic	2	-	2
Total	**33**	**84**	**117**

Table 8: Health Facilities in Ilala Municipal

Health type	Ownership		Total
	Public	Private/Public	

		institution	
Hospitals	1	8	9
Health centres	2	12	14
Dispensaries	18	116	134
Special clinics	1	13	14
Total	**22**	**153**	**171**

Source: Ilala Municipal Annual Report, 2009

4.5.5 HIV/AIDS situation

Despite the government efforts to control the transmission of HIV at different levels in the area, the disease still features among the top ten diseases. Moreover, reports from the Ilala Municipal Hospital shows that 50-60% of the patients admitted in the medical wards are on account of AIDS related complications. So far, data shows that 6,425 HIV/AIDS cases have been reported since 1988. Out of these, 54% are females and the rest are males. However, 1,842 HIV/AIDS deaths have been reported so far.

More than 15,052 people have been given ARV Services in 2008/09 and also 2009/2010 19,270 people were given ARV. This increase is equivalent to 4,218 people, and there are 23 centres which provided ARV. Welfare and treatment; in 2009/2010 a sum of 113,892 people tested HIV, among of them 11,678 people were positive HIV, in 2008/2009, 49525 people tested; among of them 9,256 were positive HIV. In Temeke Municipal there are 64 centres for HIV /AIDS test. Figure 15 illustrates the HIV situation in Temeke.

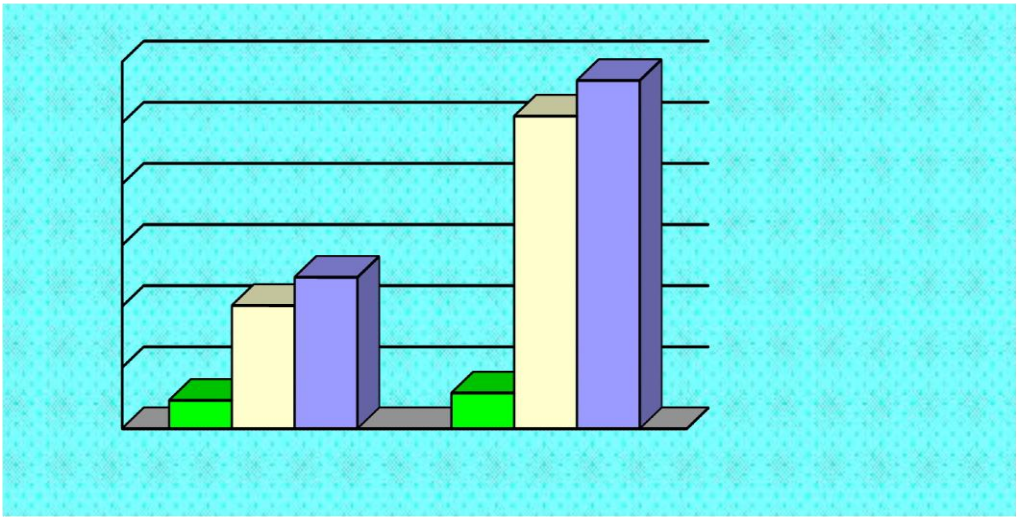


Figure 15: The situation of HIV/AIDS 2008/09 and 2009/10 in Temeke

In 2008 /2009 services were provided in 40 centres and 2009/2010, 57 centres provide the services. Sum of 36,781 pregnant have been tested in 2008/2009 and in 2009/2010 39,582 pregnant were tested and 2,987 pregnant has been affected with HIV. Table 9 shows the HIV service in Temeke Municipality in 2009- 2010.

Table 9: The HIV service in Temeke Municipality in 2009- 2010

No	Service	Year	Tested	Positive	Percentage
1	VCT	2009	81,605	11,678	14.30%
2	PMTCT ANC&L&D	2009	39,582	2,987	7.50%
3	TB/HIV	2009	5,466	2,091	38%
4	Care& Treatment	2009	Enrolled 10164	On ART 6,086	60%
5	VCT	Jan - March 2010	22,470	3,001	13%
6	PMTCT ANC&L&D	Jan - March 2010	10,965	812	0.07%
7	TB/HIV	Jan - March 2010	622	281	45%
8	Care& Treatment	Jan - March 2010	2,703	1,482	55%
9	Care& Treatment	April - June 2010	3,020	1,701	56%
10	VCT	April - June 2010	23,690	3,260	14%
11	PMTCT ANC&L&D	April - June 2010	20,561	1,325	6%
12	TB/HIV	April - June 2010	-	-	-

The main purpose of HIV situation presentation in this report is to alert the proponent and the contractor and other stakeholders on the existence of the disease in the project area, so that, the provision HIV/AIDS health education to the community may seem important; private organizations may be hired to do that work.

Other Health Indicators

Table 10: Health indicators in Ilala Municipality

S/N	Type Of Indicator	Municipal Rate	Regional Rate	National Rate
1	Population Growth Rate (PGR)	4.60%	4.3	4.60%
2	Total Fertility Rate (TFR)	5.7	5.7	5.7
3	Infant Mortality Rate (IMR)	69/1000	-	68/1000
4	Under Five Mortality (U5MR)	191/1000	-	153/1000
5	Maternal Mortality Rate (MMR)	529/100000	-	578/100000

Table 11: Trends of morbidity in Temeke Municipality in 2006 - 2010

No.		2006		2007		2008		2009	
	Causes	No of Occurrences		No of Occurrences		No of Occurrences		No of Occurrences	
1	Malaria	4809	8761	198325	172103	340540	337069	246123	301398
2	ARI	146	1433	64037	62256	95719	72307	227838	193692
3	Pneumonia	1151	1697	48065	21975	66271	33257	22002	19827
4	Diarrhea	1104	1425	30843	32643	60922	43514	52335	61560
5	Anemia	508	916	24661	14828	32913	17287	8492	17449
6	Intestine Worms			8689	9637	37442	25536	39458	55760
7	Skin Infections			12816	10321	27850	25247	14417	22733
8	UTI	126		12434	16414		28378		
9	Minor Surgical Conditions			11071	10162	12533	33392	-	-
10	Ear Infections			-	-	-	-	6560	8565

Malaria is the leading among top ten diseases of morbidity and mortality in Dar es Salaam according to the data received from health services provision centers. The most vulnerable social groups to malaria are children below 5 years of age and pregnant women; this is due to biological reasons.

Table 12: The situation of Malaria in Temeke Municipality 2009

	Under 5 Yrs	Above 5 yrs	Total
Morbidity Due to Malaria	242,123	301,398	543,521
Mortality Due to Malaria	341	361	702
Admission Due to Malaria	3,879	6,088	9,967

In view of the health status figures, the health condition in the project area is not satisfactory enough and the authorities concerned (Ministry of health) decided taking measures such as introduction of voucher scheme (popularly known as *HATI PUNGUZO HP*) country wide where pregnant women and children below five years of age are offered coupons which enable them to get Long Lasting Insecticide Treated Net (ILLNs) after toping up only five hundred Tanzania shillings.

In collaboration with other stakeholders, internal and external, Temeke Municipal council has been implementing malaria vector control trial project as part of IVM strategy for the past six years. In this project, *Anopheles* mosquitoes are targeted by applying a biological larvicide known as *Bacillus thuringiensis* var *israelensis (Bti).* This project covers five wards out of thirty wards of the whole Municipality which is 16.7%.

4.5.6 Education

By the year 2009 - 2010, Temeke municipality had a total of 109 registered pre-primary schools of which 17 were privately owned and 92 were owned by the government. The total number of children in all pre-primary schools was 6174 of whom 3032 were boys and 3142 were girls. Government schools had 5596 children of whom 2714 were boys and 2882 were girls. The private schools had 1349 children of whom 688 were boys and 661 were girls. There were also 124 primary schools in the municipality out of which 17 are privately owned.

Temeke Municipal Council had 76 secondary schools out of which 39 were government owned and 37 were privately owned. Table 13 shows primary enrolment in Temeke Municipality.

Table 13: Primary schools enrolment in Temeke (standard one pupil), 2005-2010

Years	**Estimated No. to be Enrolled**	**Actual No. enrolled**	**% of Estimated No.**
2005	24,439	21,075	86
2006	24,773	21,890	88
2007	25,494	25,027	98
2008	20,124	24,281	120
2009	19,585	23,538	120
2010	24,278	24,175	98.5
	138,694	**139,986**	

The enrolment of primary schools (standard I to VII) in Ilala Municipal increased from 109,799 pupils in 2004 to 128,043 in 2009. There were 85 secondary schools of which 49 were for government and 36 owned privately. The total number of students in the year 2006 for secondary schools was 39,103, in which 18,145 were girls and 20,103 boys. The primary schools' enrolment in Ilala Municipality from 2004 to 2009 is shown in Table 14.

Table 14: Actual Primary School Enrolment Standard I –VII

Year	Boys	Girls	Total
2004	55,415	543,884	109,799
2005	66,207	60,304	126,511
2006	64,469	65,706	130,275
2007	63,347	62,832	126,179
2008	63,407	62,341	125,748
2009	63,299	64,744	128,043

The statistics show that the number of enrolment of primary school pupils has been increasing from year to year since the inception of Primary Education Development Plan (PEDP). Also there has been improvement for students joining secondary education in which for the year 2009 it is 100% of students who joined secondary education. It is noticed therefore that the transport demands increases as well day to day.

The school pupils' transport system from home to school and school to home in Dar es Salaam especially for government schools is not good at all. The government schools are given as an example because most of private schools have their own transport system, they own school busses. The *Daladala* which is the existing community transport system in the city use to leave the students at stations intentionally due to that their transport fare (currently 150 TZS) is little and thus tend to carry mature passengers who pay more (minimum of 300 TZS). They always reach late at schools and thus most of them don't attend morning periods at school, even if they attend, the get tired.

Thus, the BRT project proponent has to design operation procedures that do not show favoritism for the transport of school pupils/students; for example use of automatic operating doors which do not need the presence of the so called conductors, people who collect fares on buses.

4.5.7 Housing

Life forms along the proposed BRT roads are mixed, such that there are residential, industrial, institutional and commercial activities. Housing and settlement in the area shows that the majority of buildings have houses roofed with corrugated iron sheets

while few buildings are covered with tiles. The walls of building are of concrete blocks and a small proportion of households have houses with walls built from burnt bricks and stones. On the increase is the number of houses built and later covered with glass. On the other hand, the houses of most households have tiles floors followed by those which have cement screed.

4.5.8 Public Transport and Infrastructure

Public Road Transport

The public road transport system mainly consists of (15-17 seats) and mid-sized (25-32 seats) buses called *'Daladala'*. There are approximately 7,000 registered and privately owned *Daladala* in services with an aggregate seating capacity of approximately owned *Daladala* conventional bi buses are operated by *Usafiri Dar es Salaam* (UDA) which is a public entity, which operates approximately 30 buses, mostly on out of town routes with an aggregate seating capacity of approximately 1,300.

The reliability, comfort and safety of public transport services in Dar es Salaam are low. Considering the total urban transport fleet size, the maximum daily passenger capacity is estimated to be 4.6 million passenger trips but can be reduced due to breakdowns and deliberate removal of vehicles from non-profitable routes reducing the available capacity to about 70% of the maximum (or 3.2 million passenger trips per day (in 2002). This is below the estimated demand of approximately 3.6 million passenger trips per day.

Data collected from 10,000 commuters in a Dar es Salaam Transport Master-plan study funded by JICA (2007) found that:

- 80% dissatisfaction with the overall present transport arrangements, (waiting time, comfort and safety)
- Respondent journey time (including waiting and access time) averaged 95 minutes indicating that on average 3 hours a day is taken for commuting by *Daladala.*
- Traffic speeds are in the order of 10-12 Km/hr. (peak times)

Transportation Challenges

- Inadequate road network and storm water drainage
- City center traffic congestion and accidents Disorganized Central Business District (CBD) Chaotic public transport
- Inadequate Non-Motorized Transport (NMT) facilities and
- Increasing Air pollution

Road Transport and Infrastructure

In general the existing road system towards the southern regions of the project area is poor or worse. Most of the road network in the peri-urban are constructed of gravel and bare earth and are destroyed during the rainy season. Despite their poor conditions, roads are the most important means of transportation. BRT system will have great impact on these roads if they are not upgraded, because they will be more accessible from Dar es Salaam to areas like Chanika, Pugu and Kisarawe.

However, Ilala Municipality enjoys relatively good services of all important infrastructures. It can easily be accessed from all parts of the country by roads though they are narrow compared to the number of people accessing it, railway lines, and air or by sea.

Water Transport

Temeke is where one of the national pride natural harbour is located on the Indian Ocean, it is the hub of the Tanzania and near-by land locked countries Transportation system as all of the main railways and several highways originate in or near the port. Also Tanzania government has been provided two pantones (MV Magogoni & MV Kigamboni) which carry passengers and loads.

4.5.9 Tourism

Tourism is currently one of the leading economic sectors in Tanzania and has unlimited potential to contribute even more to the development of the country. There are a number of tourist attractions in Dar es Salaam. In Ilala there are Landmarks, Museums and Art Galleries, libraries and cultural centres including Zingiziwa Zoo and historical Mango tree at Kibasila and other attraction centers.

There are several Hotels and Restaurants, Bars, Recreational areas, Conference facilities to accommodate tourists in the Municipality. Among those they are famous modest ones. Travels and tours are plenty.

Common Landmarks in Ilala

These are the landmarks available at Ilala Municipal Council of which nowhere else you can find them.

- **Bismarck Monument;** it is located at the entrance of the main Western Gate of the State House. This bust sculptured by Regas and mounted on a granite plinth was donated by the famous German geographer Hans Meyer (of Kilimanjaro fame) in 1911;
- **Botanical Gardens;** situated along **Kivukoni** Street opposite Karimjee Hall;
- **Askari Monument;** is placed where previously stood the Statue of Herman von Wissman. It was erected in September 1873 at the junction of what now is called Samora Avenue/ Azikiwe Street. The monument was put up in commemoration of fallen soldiers during World Wars; **Clock Tower;** built at the roundabout of Railway, Nkrumah, Uhuru, India Streets and Samora Avenue to inaugurate Dar es

Salaam elevation to City status in December 1961;.

- **Uhuru Torch;** situated at Mnazi Mmoja Grounds built to celebrate the country's Independence in 1961;
- **Dar es Salaam Railway Station;** this is the first German buildings to be built in the 1800's;
- **Republic Fountain;** located in front of Mnazi Mmoja Health Centre - built for the country's Republic Day celebrations in 1962;.
- **Karimjee Hall;** presented to the then Municipal of Dar es Salaam by the Karimjee family, this historic building was later used as the nation's House of Parliament. It also houses the City Mayor's Parlour and used for meetings and other functions;
- **Mwalimu Nyerere House;** this is the house where Mwalimu Nyerere the father of the nation stayed, it is located at Pugu.

Museums and Art Galleries

- **Museum;** this was built in 1940 by the British as King George V Memorial Museum, with the new building added in 1963. The Museum houses exhibits on the history of Tanzania, marine biology and ethnography. It also includes the skull of Australopithecus Boisei found in 1959 in Olduvai Gorge by the late Dr. Leakey.
- **Nyerere Cultural Centre;** situated next to the Royal Palm Hotel, traditional art and paintings exposition are done and also training on handicrafts are available.
- **Colour Centre;** situated along Samora Avenue where Muzu Sullemanji willingly shows his paintings and photos.
- **Twiga Art Gallery;** this is at IPS Building - Azikiwe Street /Samora Avenue.

Libraries and Cultural Centres

Listed below are libraries and cultural centres at Ilala Municipal Council:

- **Alliance Francaise**; A.H. Mwinyi Road behind Las Vegas Casino
- **British Council;** Ohio Street /Samora Avenue
- **Iranian Cultural Centre;** A.H. Mwinyi Road
- **Korean Cultural Centre;** Morogoro Road Embassy
- **Libyan Cultural Centre**; A.H. Mwinyi Road Embassy.
- **Russian Tanzanian Cultural Centre;** Sea View Road
- **The National Arts Council;** Shariff Shamba Ilala
- **National Central Library;** Bibi Titi Mohamed Street Tanganyika Library.

Also, tourism in Temeke Municipal has great potentials; it is emerging although much of its potential is underdeveloped. However in recent years a number of hotels and motel facilities are growing in the coastal area of Temeke Municipality and this is due to white sand beaches which are obvious attraction. There are also other sites of interest such as geological sites and historical centres like Kimbiji, Mbwamaji and Gezaulole. Currently,

tourism in the Country is under central government, whereby there is a tourist authority which is responsible for tourism development.

4.5.10 Energy

Dar es Salaam city dwellers depend on different sources of energy such as electricity, charcoal, firewood and gas, also stand-by generators are used during power outages. The main source of power for lighting, business and industry is electricity, which is generated, transmitted and supplied by a sole power utility, Tanzania Electric Supply Company Limited (TANESCO). Residents commonly use electricity, charcoal, gas for cooking and lighting. A large number of service outlets use charcoal and gas for cooking, some use kerosene stoves.

4.5.11 Solid Waste Generation and Management

The solid waste generated in the area includes paper, food wastes, plastics and others depending on the requirements and services offered in the respective area. The Local Government (Urban Authority) Act 1982 (Section 55) imposes on urban authorities the mandate “to remove refuse and filth from any public or private place” and to provide and maintain public refuse containers for the temporary deposit and collection of waste. The Municipal Councils play an important role in financing, planning and providing waste collection and disposal services in the project area. Solid waste collection in the project area is carried out by the Municipalities and some private companies.

In 2002, the amount of domestic solid waste produced in Temeke was 505 tons per day at the rate of 0.698 kilogram per person per day (JICA, 1997). As of 2010, the amount of domestic solid waste produced in Temeke Municipality is 743 tons per day. The increase was brought about by the dramatic increase in population from 768,451 (2002) to 1,104,447 (2010). Table 15 below shows the quantity of all sources of solid wastes generated in Temeke Municipality in 2010.

Table 15: The quantity of all sources of solid wastes generated in Temeke Municipality in 2010

S/No	source	Quantity/Day (Tons)	Percentage
1	Domestic	743	71.78
2	Street sweepings & drainage cleaning	51	4.92
3	Hotels and Restaurants	15	1.5
4	Markets	29	2.8
5	Commercial establishments	147	14.20
6	Hospitals & dispensaries	14	1.35
7	Industries	36	3.37
		1035	100

Ilala Municipality was estimated to produce about 1,088 tons of solid waste per day, basing on a generation rate of 0.8 kg per person per day in 2009. The collection rate was around 424 tons per day which is approximately 39% of all solid waste generated per day. Table 16 below shows the existing solid waste generation rate in the project areas.

Table 16: Population, solid waste generated and amount collected in Ilala in 2009

S/No	Ward	Projected population (2009)	Estimates No of business Premises	Number of House holds	Estimates of tons of solid waste generated per day per Ward	Average amount of tons of solid waste collected and disposed	% of solid waste collected and disposed
1	Kivukoni	6,612	400	1600	23.8	15	65%
2	Mchafukoge	15,866	3500	1646	18.69	14	75%
3	Kisutu	8,720	2900	1091	17.3	13	75%
4	Upanga East	10,118	1800	1100	23.9	12	50%
5	Upanga West	12,685	1450	1306	31	15	48%
6	Jangwani	21,539	3900	1115	17.23	12	69%
7	Kariakoo	12,885	4000	994	89.4	75	84%
8	Gerezani	7,671	2500	850	13.5	10	74%
9	Mchikichini	26,664	2670	1820	34.6	30	86%
10	Ilala	32,799	3200	7536	64.2	50	78%
11	Buguruni	91,829	2850	6131	127.7	45	35%
12	Tabata	63,333	3900	4232	96.5	10	10%
13	Segerea	103,875	5400	5110	83.1	15	18%
14	Kinyerezi	7,961	1500	3130	13.7	0	0
15	Vingunguti	94,425	4700	6011	77.9	25	32%
16	Kiwalani	84,885	4300	4438	67.91	15	22%
17	Kipawa	67,755	5600	7837	88.2	30	34%
18	Kitunda	32,096	3200	2919	50	0	0
19	Pugu	20,073	1300	1814	29.16	0	0
20	Chani	32,12	650	1933	25.7	0	0

	ka	7					
21	Msongola	10,002	260	1556	12.7	0	0
22	Ukonga	102,769	3800	4360	82.3	38	46%
	Total	**866,709**	**63,780**	**68,529**	**1,088,49**	**424**	**39%**

Problems Related to Solid Waste Management in the Project Area

Among the challenges facing the solid waste management in the project area include:

- Inadequate resource mobilization; lack of appropriate mechanisms for councils to collect refuse charge, funds to replace the aging fleet of vehicles and other equipment, maintenance of equipment and repair,
- Selection of appropriate technologies; poor systems for solid waste storage at households level, segregation of waste at point of generation, primary collection, secondary collection and transportation is not linked to primary collection due to inadequate of communal storage facilities and proper managed sanitary disposal site and waste transfer station,
- Privatization problems; poor residents and businesses cooperation on willingness to pay refuse charges, lack of contractor's operational experience in solid waste management and inappropriate equipment base, lack of transparency in customers, mobilization and financial information, weak institutional arrangement especially at grassroots level capacity and inadequate enforcement of the existing legislations. Lack of awareness on community involvement in solid waste management as a result even recycling cannot comply due to existence situation
- The central government does not subsidize the waste collection activities thus areas such as Ilala seems always dirty due to the burden of its location say Kariakoo Market –pollutions with limited resources.

The solid waste generation rate in the project area is high and the solid waste management in general is poor, thus BRT project proponent has to ensure proper waste management throughout the project life, e.g. use of skip buckets at all the stations, depots and terminals of the BRT roads for collection of solid wastes before disposal to the sanitary landfill.

4.5.12 Drainage System

The project area experiences rapid growth and urbanization (increase of built areas) that result in increase of demand for infrastructure that includes the drainage system. The human developments have increased surface runoff that can no longer be efficiently collected by the existing infrastructure.

The urban runoffs are collected and transported to the sea through constructed drainage system and natural rivers/streams. Most natural streams are silted and need to

be drained and de-silted regularly which is irregularly done due to inadequate budget allocated for it. They experience severe floods at some location during rainy season due to several reasons like lack of sufficient drainage infrastructure, blockage of drainage network, limited maintenance and unplanned settlements.

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The result is the contamination of water sources and creation of pathogens breeding sites leading to outbreak of diseases, reduced production in industries and traffic congestion during rainy season limiting the movement of goods and provision of some services, loss of properties and damage to many infrastructures, increased accidents during rainy season, People may be forced to evacuate their properties and increased cost on O&M of such infrastructures and properties.

This problem challenges the upcoming BRT system to ensure that the drainage system to be installed in their roads should be able to overcome the existing problems in handling storm water.

4.5.13 Water and Sanitation

Water and Sanitation in Temeke Municipality

Water required for Temeke Municipality is 88.365 million liters per day; the current supply level is 68.43 million liter per day which is equivalent to 68.43%. The major source of water is the water pipe distribution system owned by Dar es Salaam Water and Sewerage Authority (DAWASA) and managed by Dar es Salaam Water and Sanitation Corporation (DAWASCO) which partially serve 12 wards in Temeke out 30 wards i.e Mbagala, Kizuiani, Charambe, Mianzini, Keko, Kurasini, Tandika, Azimio, Temeke, Mtoni, Chang'ombe and Miburani. Other water sources in Temeke are from Msimbazi River, and Mzinga River which mainly used for irrigation purposes. The other source of water is 231 boreholes which are managed by different institutions, water user associations (water committees) and private owned boreholes. These water sources are mainly used for domestic use, industry activities, horticultures and construction purposes. The water supply information is summarized in Table 18.

Table 17: The situation of water in Temeke Municipality

Ward	National census	Population 2009	Water service	Beneficiaries DAWASC

	s 2002					O
			wells	Joined to DAWASCO	Hours	
Kigamboni	36,597	50,138	10	0	0	9,310
Mbagala	70026	95,936	16	712	6	20,346
Charambe	83098	113,845	20	552	6	4,441
Yombo vituka	59739	81843	25	0	0	21330
Makangarawe	42169	57772	12	0	0	7,750
Keko	32,151	44047	5	972	5	11,026
Kurasini	34,370	47087	12	112	4	6,896
Vijibweni	5,148	7053	5	0	0	3,000
Mjimwema	9,026	12399	13	0	0	7,500
P/Mnazi	5,152	7058	4	0	0	6,000
Kimbiji	3647	4996	6	0	0	1,500
Somangila	10,749	14726	13	0	0	1,750
Toangoma	13,596	18627	9	0	0	5,258
Tandika	41,827	57303	10	613	6	24,904
Azimio	60,934	83486	2	425	4	6,400
Sandali	38,890	53279	4	0	0	10,750
Mbagala Kuu	69,523	95247	17	0	2	11,450
Temeke	27,758	38029	5	891	5	13,128
Kisarawe 11	4,253	5827	8	0	0	3,000
Mtoni	47,785	65466	6	728	8	8,824

Chamanzi	8,286	11352	7	0	0	1,250
Chang'mbe	19,375	26544	10	704	4	9,407
Miburani	41,057	56248	10	328	4	8,399
Kibada	3,295	4514	2	0		0
Total	**768,451**	**1,052,781**	**231**	**6,037**		**203,619**

SAWA (Sanitation and Water) organization collaborated with Temeke Municipal have implemented some water projects such as all wells found in primary schools, secondary schools, dispensary and community and the project involving pumps fixing which controlled by solar driven pump. SAWA collaborated with Water For All (WFA) of South Africa. However, the projects targeted to improve water and sanitation at Temeke Municipal.
Some of areas where SAWA involved are Kimbiji despensary, Kimbiji Secondary, Kimbiji centre, Ngobanya,, Yale yale puna, Buyuni centre, Pemba mnazi centre, Somangila Secondary Geza ulole Dispensary and Mwongozo Primary School, Abdul Jumbe/Kisota Secondary school, Temeke Primary school and Chamazi Secondary school and Kiponza.

Among the challenges facing the water sector in Temeke is that the communities are required to contribute 5% of the water project sum as per water policy, this amount is too difficult to achieve, and other communities refuse to contribute, as a result there is deficit in resource (financial), and the water department do not meet their needs. There are inadequate water sources and inadequate number of technical staff in water sector.

Water and Sanitation in Ilala Municipality

Ilala has 239 wells as among the sources of water supply. There are 170 deep wells of which 98 are in operation and the remaining 72 have stopped functioning due to technical problems. The wells which are in operation have the capacity of generating 1,231,439 liters a day.

Availability of water supply in Ilala Municipality is not sustaining the needs. 76 percent of Ilala population depends on deep/shallow wells. Nevertheless, the population of 190,623 of Ilala population (24 percent) depends on tape water from Lower and Upper Ruvu River source supplied by DAWASA. Availability of deep/shallow wells is presented in Table 18 below.

Table 18: Availability of deep/shallow water wells

S/No	Financier	Deep Wells	Shallow wells	Total
1	World Bank	-	19	19
2	Plan International	-	6	6
3	Care International	-	4	4
4	African Ev. Enterprises	-	1	1
5	Ilala Municipal Council	15	55	70
6	Central Government	-	91	91
7	Other Institution	55	445	
Total		70	621	691

Source: DAWASA, IMC-Water sector

Data for peri-urban water supply is presented in terms of number shallow wells and performance measurements in Table 19 below.

Table 19: Water Situation in Peri-urban Areas of Ilala

Ward	Deep wells	Shallow wells		Qualify for Rehabilitation	Requirement
		With Pumps	Without Pump		
Kinyerezi	0	1	8	3	1
Kitunda	2	0	15	2	3
Pugu	1	4	26	5	3
Chanika	0	6	20	2	10
Msongola	0	3	10	3	6
Total	3	14	79	15	23

Source: Ilala Municipal Water Engineering Office

Having known the existing situation of water supply, the BRT project contractor may choose to drill and use deep water wells (if water meets road construction standards) during construction phase and leave the wells free for the community to use, after project completion.

The mitigation measures for negative impacts related to pollution of underground

waters must be implemented seriously, because, the communities rely on underground water supply for their daily use.

Sewerage System

The most popular sanitation systems include conventional sewerage, septic tanks/soakage pits and pit latrines. Conventional sewerage facilities serve only 5% of total number of households in Temeke municipality. The areas covered with the sewerage system include Chang'ombe and parts of Temeke and Kurasini that are part of the old planned medium density residential areas. The existing sewerage system is old e.g. Serengeti brewers across Chang'ombe road and as such, it have low operational capacity. The oxidation ponds located at Kurasini Shimo la Udongo are old and have low operation capacity.

Inadequate coverage of conventional sewerage in Dar es Salaam has left the majority of residents to depend on other alternatives. The use of on-site (liquid waste disposal systems) is very common and the most dependable option for managing liquid waste.

It is estimated that about 85% of households in Temeke municipality use pit latrines and about 10% use septic tanks and soak away pits. The use of pit latrines is common in high density areas such as Mtoni, Tandika, Unubini, Keko, parts of Temeke, Mbagala and Chamazi areas to mention a few.

Effectiveness of on-site disposal systems depends on efficient emptying systems. In Temeke Municipality, pit emptying services and facilities are inadequately provided. The Municipal Council itself does not own any pit-emptying truck and, as a result, residents depend on hiring privately operated dislodging trucks that are rather expensive and not all the residents especially poor households can afford.

Inadequate cesspit emptying services and facilities have been the leading factor behind the frequent overflowing of pits and septic tanks in Dar es Salaam. In order to contain overflow of sludge, some residents have opted to channel excreta and other forms of foul water directly into water sources especially rivers and streams. The habit is a common phenomenon in areas such as along Msimbazi valley.

The management of industrial effluent is poor and inadequate. It is a common phenomenon for industrial owners to discharge industrial effluents and other forms of wastewater haphazardly from industrial premises. Effluents, in most cases, contain hazardous chemicals and materials and/or objects, which are dangerous to the safety of living organisms and aggravate environmental degradation if disposed of haphazardly. Also noted is the fact that during heavy rains, areas such as Buguruni, Vingunguti, and part of Gongo la mboto which have poor drainage systems, experiences a number of problems including, destruction of properties and infrastructure especially roads.

Ground and surface water.

In Temeke and Ilala districts there are several sources of water such as boreholes, piped water from DAWASCO and several perennial rivers such as Msimbazi river, Mto ngombe and Mzinga River which traverses along the city and end up in Indian ocean. These rivers are mainly used for irrigation and construction purposes and flood control mechanism of which need to be protected for environmental sensitivity. The baseline data for water quality management should be undertaken by contractor prior to implementation of the project as indicated in ESMP of this report. This baseline data will help on tracing water quality from oils contamination and oil spillage from construction activities during monitoring.

5.0 STAKEHOLDER CONSULTATION AND PUBLIC PARTICIPATION

5.1 Introduction

Public Participation in the initial stages of the project is of great importance particularly during preparation of a scoping report as well as the planning, design and implementation of the proposed development. The consultant conducted the public participation activities which involved the necessary potential Interested and Affected Parties (I & APs). The comments received and issues raised from these public participation exercises have been incorporated into this EIS and used in determining mitigation measures for the BRT project. Public participation was made through public meetings and achieved the following:

- A vehicle for public input and facilitated negotiated outcomes for the whole city of Dar es salaam;
- it created trust and partnerships;
- negative impacts are minimized;
- positive impacts are enhanced; and
- It provided an up-front indication of issues that may prevent project continuation, that can cause costly delays at a later stage, or result in enhanced and shared benefits

The Consultant conducted the public participation for the proposed construction of BRT roads to involve as many potential Interested & Affected Parties as possible. The meetings conducted include public meetings, key informant interviews and focus group discussion. Issues and concerns raised during the initial public consultations in 2011 have been confirmed as part of the update of the ESIA and Resettlement Action plan (RAP) which has been prepared as separate report. Accordingly, issues arising from this public participation process have been incorporated into the EIS and used in determining mitigation measures for the BRT project.

List of Focus Group Meetings held are as indicated in Table 20 below:

Table 20 List of meetings

S/N	Date	Place	Participants	
			Men	Women
1.	13/09/2011	Ilala Municipal Council	8	3
2.	18/09/2011	Kipawa Ward	26	13
3.	23/09/2011	Vingunguti Ward	8	6
4	26/09/2011	Gerezani Ward	8	4
5	28/09/2011	Kariakoo	4	3

		Ward		
6	29/09/2011	Ilala Ward	11	2

Additional consultations were conducted in the year 2016 during the review and update of the resettlement plan as reflected in Table 21 below:

Table 21 Additional consultations held in year 2016 for the project

DATE	VENUE	STAKEHOLDERS
10th 01. 2016	TANROADS Office (Head quarter)	Sociologists
21.01.2016	DART Office – Ubungo Plaza	DART Engineers and RAP specialist
27.01.2016	Gongo la Mboto ward Office	Ward and Mtaa leaders
28/01/2016	Ukonga Ward Office	Ward and Mtaa leaders
	Vendor's market – along Nyerere road	Vendors
01.02.2016	Mnyamani Ward Office	Ward and Mtaa leaders
	Vendor's market – along Mandela road	Vendors
02.01.2016	Buguruni Ward Office	Ward and Mtaa leaders
	Vendor's market – along Uhuru road	Vendors
03.01.2016	Kisiwani and Malapa mtaa in Buguruni ward	Mtaa leaders and
	Vendor's market – along Uhuru road	Vendors
04.02. 2016	Madenge and Mivinjeni mtaa in Buguruni ward	Mtaa leaders and vendors
	Vendor's market – along Uhuru road	Vendors
05.02.2016	Sharif Shamba Ward Office	Ward and Mtaa leaders of Sharif Shamba and Amana
08.02.2016	Mafuriko, Kasulu and Karume in Sharif Shamba mtaa office	Mtaa leaders
08.02.2016	ShauriMoyo and Lindi mtaa in Gerezani ward	Mtaa leaders
09.02.2016	Ilala District Commissioner's Office	District Commissioner
16.02.2016	Kipawa ward – Banana in Kipunguni mtaa	Ward and mtaa leaders

16.02.2016	Banana business area	Vendors and business people with permanent and temporal structures
13.09.2016	Ukonga – Mwembe-Madafu mtaa Office	Mtaa leaders and relatives of the deceased
13.09.2016	Ukonga – Mwembe-Madafu mtaa Office	Mwembe-Madafu Development Organization leaders
14.09.2016	Ilala Municipal Council – Health Department Office	Health Officers

5.2 Stakeholders Identification and Analysis

Firstly, the consultant identified organization, groups and individuals considered to be regarded as “stakeholders”. This identification was based on each ones roles and their relevance in the proposed BRT roads development project. Some of the stakeholders such as government authorities, district level, wards and sub-ward level that might be impacted by or have interest in the project or exercise some influence on the project were predetermined in 2014 as shown under each level in the table 20 below. However besides this TANROADS will prepare a stakeholders engagement plan and a detailed stakeholders identification and analysis will be conducted to include other emerging stakeholders and their roles and responsibilities in the project implementation. Other key stakeholders including DART, SUMATRA and the Media will be involved in the process,

Table 22: Authorities or Decision Makers

Level	Institutions	Roles and responsibilities
National Level	Prime Minister´s Office Regional Administration and Local Government	○ Issuing policies ○ Providing legal frameworks ○ Issuing licenses, provision of compliance certificates ○ Enforcement of laws and regulations ○ Setting operational standards for transportation projects including roads ○ Project monitoring
	Vice Presidents Office Division of Environment and NEMC,	○ Coordination of the Environmental Management Policy, Act and guidelines, ○ Issuance of EIA Certificates ○ Environmental Monitoring and Auditing ○ Advise to the government on all environmental matters
Regional Level	Dar es salaam Regional Administrative Secretary	○ Oversee and advise on implementation of national policies at regional level ○ Oversee enforcement of laws and regulations ○ Advice on the implementation of development projects and activities at the regional level.
Municipality Level	Ilala and Temeke Municipal Directors´ Offices	○ Oversee and advice on implementation of national policies at district level ○ Oversee enforcement of laws and regulations ○ Advice on implementation of development projects and activities at district level.
	Land and Environment	○ Land use planning ○ Environmental management ○ Land valuation and compensation procedures at the district level.
	Temeke and Ilala Municipal Planning/Health/Community Development Departments	○Baseline data on social and economic conditions Extension services
	Temeke and Ilala Municipal Agriculture Departments	○ Information on the soils of the project area

	Temeke and Ilala Municipal Water Departments	○ Information on area hydrological condition
	Temeke and Ilala environmental Committee	○ Coordination of environmental matters at the district level
Ward Level	Wards Development Committees along the project roads, Ward Councilors, Ward Executive Officers, Ward Environmental Committee	○ Oversee general development plans for ward level ○ Provide information on local conditions and extension services ○ Project monitoring in their area of jurisdiction
Community level	Sub-ward Chairpersons and Executive Officers, Environmental Committee	○ Oversee general development plans for sub-ward level ○ Provide information on local conditions

5.3 Public Participation Process

Issues pertaining to construction of the BRT system to bituminous standard and its environmental and social consequences were discussed first with representatives of the key stakeholders. The Wards Executive Officers and the Wards Counselors of the wards along the project roads from both Ilala and Temeke Municipal Councils, Consultants and the DART Agency representatives were included in the meeting on 13th September 2011. The meetings included the offices of the wards of Gongolamboto, Ukonga, Kipawa, Miburani, Vingunguti, Gerezani, Chang'ombe, Kiwalani, Ilala, Mchikichini, Kariakoo, Buguruni, Keko and Kurasini.

The representatives were informed on the objectives of the government to construct the BRT roads and they were requested by the consultant for their participation to help informing the communities to participate in the public meetings. Different methods off invitation were used to inform the community to attend the public meetings. Most of them used invitation letters (refer to **Annex iii** for a sample of invitation letter) and oral invitation by loud speakers. The public consultation meetings started on 16th– 29th September 2011 and January 2016. The attendances of the meetings are appended in Annex **ii.**

Since the BRT roads construction is likely to affect human settlements, it is anticipated that there will be significant environmental and social impacts affecting various groups socially and economically. It is further anticipated that the communities will have to be protected from any negative impacts, while opportunities to be offered by the project need to be made visible to the communities. Those various groups likely to be affected by the project were consulted and closely involved in raising their concerns of the

project.

5.4 Community Concerns and Corresponding Responses

The public participation process followed the guidance as stipulated in the Environmental Management Act No.20 of 2004 part XIV regarding Public Participation in environmental decision-making and also followed EIA Regulations during the scoping process for the proposed BRT roads construction. In order to facilitate an open and transparent process, Interested & Affected Persons were identified and informed of the proposed development the way back when the BRT project consultants such as Engineers, Surveyors, Environmentalists and Sociologists visited the site (along the existing roads)for reconnaissance of the properties and development activities taking place along the roads. The comments/concerns received during all phases of public participation exercise have been incorporated and are addressed in this EIS in Table 23.

Table 23: Issues/comments response table

S/ No	Issue/Concern	Response and/or Section in the EIS
1	The present sideways of the roads are used for commercial activities; mainly retailers, thus compensation is the most important issue among other impacts.	The owners of the business will be provided with alternative sites for conducting business.
2	It should be put clear to the communities on how compensation will be done and the Land Acts to be used.	The valuation and compensation of properties to be affected will be conducted in accordance with Section 3.2.2, National Land Act No. 4 and 5 of 1999 and Land (Compensation Claims) Regulations 2001
3	Any land or property should not be occupied by the proponent unless compensation is completed.	No land or property will be occupied by the proponent before the completion of compensation as required by the Land Act. After compensation, PAPs will be provided a notice of three months for vacation.
4	People should be well educated so that they can easily understand the project; otherwise the project implementation may be very difficult.	There will be on going consultation and information flow through the public meetings about the project – starting with the consultation during ESIA exercise and disclosure of the ESIA report.
5	Compensation should be paid within six months from the date valuation was conducted, otherwise there will be increment.	According to the Land Act Compensation has to be implemented within 6 months after the approval of the Valuation Report. If the compensation will not be effected in this period it will accrue an interest which is equivalent to the rate of fixed deposit in the Commercial Bank.

6	People to be displaced should be given new plots for resettlement.	The compensation amount should be used to buy a new plot as indicated in Section 3.2.2 Land (Compensation Claims) Regulations, 2001)
8	What is the width of the required road?	The total width of the road reserve required is 60m according to the Roads Act of 2007.
9	Are you going to pay us if our land is occupied and houses demolished?	All the affected properties will be compensated before demolition of the building or vacation.
10	Will the government provide plots for us for resettlement?	The compensation includes the land value, which will be used to purchase another plot. However, priority of buying plots will be given to the affected persons.
11	You have to think on the use of alternative transport systems such as railways which use small space, instead of roads which involve resettlement of people	Noted. This is also one of the objectives of the Transport Policy.
12	What if compensation is paid five years after valuation	According to the Land Act Compensation has to be implemented within 6 months after the approval of the Valuation Report. If the compensation will not be effected in this period it will accrue an interest which is equivalent to the rate of fixed deposit in the Commercial Bank.
13	When is the project expected to start?	The project is still in a design stage that will be completed in 2016; we expect the phase 3 project to start before 2017
14	What is the required width from the center line of the road?	The total width of the road reserve required is 60m, 30m from the center line to either side. However in some sections more than 30m road reserve will be required to accommodate necessary road facilities
15	If our land is occupied and houses demolished, where are you going to place us?	All Affected properties will be compensated and buy another plot for settlement.
16	How will the frame owners (owner of buildings) be compensated? What rights do tenant have?	All affected business undertakings will be compensated for, and allowance including for loss of profit for 36 months will be paid. Compensation for tenancy includes payment equivalent to **36 months of**

		rent.
17	Where are they going to place Tax Drivers parking area which is now alongside the project road at Ukonga? How is the compensation planned for those with car service along the roads?	The parking/car service area along the road will be considered in the design in consultation with affected persons.
18	Who were supposed to attend the meeting? The building owners or business men?	All interested and affected persons are supposed to attend the meetings.
19	When is valuation?	All the people will be informed through their local authorities when the time table for valuation is set.
20	How will the community be involved during the construction phase of the BRT project? Sensitization seminars on HIV/AIDs and sexually transmitted diseases should be given respective community groups dealing with such issues	Employment will be there to those truthful, hardworking and well disciplined, who will be interested to apply for the job. During construction awareness creation on HIV/AIDs will be carried out
21	The government always pays compensation late; don't you think this is not right?	Immediately after approval of valuation and receipt of funds from the government compensation will be implemented. Works can only start after confirmation of compensation.
22	Compensation must be done accordingly. Value of properties should be real.	Properties will be valued as per market price and not otherwise
23	Make sure the project is implemented, don't end here and make it fast.	That is the intention of the Government
24	Valuation to be done in USD ($) not in TZS	The PAPs will be given a cheque and sometimes assisted to open a bank account. According to the national laws compensation will be done in TZS, details of the approach will be provided in RAP.
25	Sufficient time should be given for preparation for migration.	A notice of three months will be given as per National Land Act Land (Compensation Claims) Regulations 2001.
26	The present market value of our properties must be considered	Valuation will be done according to the market value
27	Use good procedure for resettlement, don't involve forces.	The affected persons will be involved and participate in the valuation, compensation and resettlement process in line with RAP.
28	This project is good. If everything is Ok, the construction activities can start as early as possible provided the contractor is available.	This is the early stage of doing environmental and social impact assessment; such other stages will follow after this.
29	When is the project construction expected to start?	The project is still in design stage and will be completed in 2016; may be in

		2017 phase 3 may have started i.e. once the detailed engineering designs and preparation of tender documents are completed, tenders can be floated.
30	All sides of the roads should be involved, don't lie on one side only. Buildings should be demolished on equal basis without discrimination of the poor people.	Technical design will determine on the sides to be affected based on the road alignment. However, all sides of the road will be affected.
31	The compensation should be effected immediately after valuation of affected properties to enable affected community to acquire and develop new plots.	It is the intention of the government to implement compensation immediately after approval of the Valuation Report.
32	The DART Agency should pay compensation as early as possible; the government has the tendency of paying late, till the facility concerned devalues.	It is the intention of the government to implement compensation immediately after approval of the Valuation Report. In case of an unanticipated delay calculations will be done to reflect market value.
33	They requested for compensation to be done according to the current market value.	It is the intention of the government to implement compensation immediately after approval of the Valuation Report. In case of an unanticipated delay calculations will be done to reflect market value.
34	Why is the government still issuing building permits if they have such a plan?	The concerned management will be informed and find the way to resolve that.
35	There is empty space opposite to Mchikichini Market area; that area can be used instead of disrupting that important market.	The road designers will work on that.
36	Kariakoo area has very high land value, DART will have to be fair in case of compensation, multi-storey buildings should be well considered.	Valuation processes will be done accordingly taking into account the value of the property in various areas.

Concerns from Ilala and Temeke Municipal Offices

During stakeholder consultation in the Ilala and Temeke municipal offices, the main point taken from their offices was that compensation for land and properties should be done according to the law, and they required not to hear any complaint from the residents relating to relocation or compensation.

Ilala and Temeke Municipal Directors were consulted directly through invitation letters to consultation but unfortunately they were both represented by their representatives in the consultation meetings held on 13th September 2010 in their

respective areas and their views were generally included.

Concerns received during public participation process, the main issues were;

- Compensation for land, commercial activities and buildings at market price
- The width and alignment of the proposed road,
- Time frame for the project and time for moving the properties from the road reserve,
- Employment to local communities especially during construction, Safety while crossing the road especially students/pupils,
- Contractors who will be familiar and respect with community's views,
- Openness in valuation exercise,
- Use most of empty spaces instead of built ones.

Comments from people with positive altitudes to the BRT project

- This is the best project which may bring incomparable development in Tanzania and East Africa,
- The construction can start as early as possible, the problem is only lateness in paying compensation,
- This is among the best ideas our government had never thought before.

Comments from people with negative altitudes

- DART is nothing, they are just TANROADS; In Swahili language they said that
- "*DART ni TANROADS wamejivua tu gamba*".
- This project will not be implemented because the government has no money
- DART will not touch rich people along the road for resettlement
- Implementation of this project will start to operate when everybody who is alive now is died, they will end up talking i.e. it will take many, many years to come.

Comments on positive impacts of the project

- If the project is implemented, people will go early at work
- It will increase income of individuals
- The government will earn more tax
- Pupils will reach at school early
- Patients will get treatments as early as possible
- Employments in the project to be provided to natives

6.0 IDENTIFICATION, ASSESSMENT OF IMPACTS AND PROJECT ALTERNATIVES

6.1 Introduction

The EIA procedure stipulates that an environmental investigation needs to identify main project alternatives for the proposed development. Therefore, it is required that a number of possible proposals and alternatives for accomplishing the dame objectives be considered. In principle, these should include an analysis of the technology, location, timing input and design alternatives as well as the do-nothing option. The objective of the project is to improve the transport infrastructure in the region under consideration.

In view of the above requirement, it should be noted, however that during the detailed environmental impact assessment, and the investigation on site location alternatives, and it was limited to be along the existing road in Dar es Salaam city due to inadequate space and compensation consequences.

6.2 Potential Impacts

6.2.1 Impacts during Pre-Construction Phase

- **Positive Impacts**

Creation of Employment Opportunities

The BRT project will create employment opportunities to various professionals directly or indirectly linked to the project. The proposed project roads during pre-construction phase have created employment to the following teams:

- Environmental Engineering, Social and wildlife studies teams to carry out Environmental and Social Impact Assessment.
- Land surveying and materials team to conduct topographical surveys along the proposed project road.

- **Negative Impacts**

Displacement of people for Land Acquisition

The immediate implication of construction of Nyerere, Uhuru, Bibi Titi, and Azikiwe roads is on the recovery or attaining of the right of way. Therefore the roads will require demolishing and relocating some of the structures within the working width or the right of way. This will be pronounced in almost all wards along the project roads. In total the project will affect 578 assets on Phase III. Details of Project Affected People and associated properties and infrastructure and proposed mitigation measures have been covered in section 3 of the Resettlement Action Plan (RAP), which has been prepared to address social issues as identified during the ESIA study. Affected assets are likely to include residential and commercial structures, graves and annex structures. The types of these structures are indicated on Tables 22 below.

Table 24: Assets to be affected by the proposed BRT project Phase 3

Area	Number of PAPs	Number of affected structures	Type of affected structure
Gongo la Mboto - Guruka Kwalala (Bus terminal and Deport	242	246	Land and buildings (Residential and commercial)
Ukonga (Nyerere Road)	04	04	Land and fence
			Shop frame
			Building
			Land and fence
Gongo la Mboto (Nyerere road)	02	02	Building
			Building
Uwanja wa Ndege (Nyerere road)	03	03	Part of garage building
			Shop building
			Mosque
Ilala	01	01	Regional Commissioner's fence

Source: Kyong Dong Engineering Co., Ltd. in association with Ambicon Engineering (T) Limited, 2014 and Independent consultants, 2016

Affected public infrastructures, other properties and tenants

Type of infrastructure/Properties	Number of affected infrastructure	Ownership
Mtaa office	01	Guruka Kwalala Mtaa
Bore holes	16	**02** owned by Guruka Kwalala Mtaa – currently serving the community
		14 owned by individuals but serving the community
Bill boards	16	Owned by individuals/companies and NGOs but for public use
ATM machine	01	Akiba Commercial Bank
Underground water pipes and Sewerage systems	-	DAWASA
Underground water pipes	-	Mwembe Madafu Development Organization. The pipes are located close to graves that will be removed at Ukonga – Mwembe Madafu Mtaa

Power distribution lines and poles	-	TANESCO
Graves	10	Individuals
Permanent crops and Trees	Different varieties of crops and trees	Owned by individual PAPs
		Owned by Ilala Municipal, TANROAD, and other institutions for Shelter and food trees planted on way leave
Residential tenants	244	Individuals PAPs
Commercial tenants	37	Individual PAPs

Vegetation Clearance and Impacts on Cultural Resources during Preliminary Design

Presently the proposed site has a few patches of vegetation and greenery areas along the existing roads that blend very well with the surroundings as shown in Figure 14. Some of these good trees will be cleared to improve sighting distance and provide space for construction-camps and placing of road furniture and thus losing the familiar aesthetic view of the area. Impacts from trees and vegetation loss can be mitigated through replanting in appropriate areas during construction. Since most of the construction will be carried out along the existing road and built environment, the road project is not expected to impact any of the cultural heritage and tourist features along the area. Nevertheless, the study has revealed that under the current design, apart from graves at Gongolamboto area there will be no cultural heritage neither tourist feature to be affected by this project Some of the graves that are located near the right of way may need to be relocated. Detailed analysis and measures to address potential relocation have been outlined in a Resettlement Action Plan (RAP), which is a separated report. However, guidance on handling and management and unforeseen or potential 'chance finds' of Physical Cultural Resources during construction has been provided in the ESMP and in Annex VII.

Figure 16: Vegetation along existing roads Uhuru road near Ilala Ward office

6.2.2 Impacts during Construction Phase

- **Positive Impacts**

(a) Employment Opportunities

Construction of the project road will create employment or monitoring opportunities to, among others, the following staff directly or indirectly linked to the project

- Supervising Engineering team
- Contractors staff (Managerial, skilled and unskilled labour force)
- Suppliers of plants, machinery, materials, and other essential services
- Construction monitoring personnel from various government institutions (TANROADS, DART, NEMC, ERB, CRB, OSHA, IET etc).

(b) Impact on the socio-economy

The restrictions imposed by the traffic jam in the city daily basis, affects the social-economy of the community profoundly. Therefore leaving the roads in the present status will keep on holding back development to the city, thus hindering activities that would result in advancement from continuous development.

BRT project is likely to give employment to local community, improve/enhance market access to various commercial areas creating more economic and business opportunities as well as other benefits that go along with urbanization. Most of the unskilled labour will be sourced from the local community while skilled labour may be sourced from outside or local community.

- **Negative Impacts**

a) **Relocation of infrastructure and Disruption resulting from relocation**

The project will require demolishing and relocating some of the structures within the ROW such as water supply pipes, drainage structures, electrical cables/poles and communication cables thus disturbing other development plan for the residents.

b) **Disturbance, particularly land scaring at borrow sites or sources of construction materials** (sand, aggregates, stones,)

Borrow materials to be used for BRT roads construction will be collected from sources far from the construction site. As indicated before the borrow materials will be purchased from private companies operating the borrow pits. The immediate impact of borrow areas/sites is land scarring in the course of sourcing materials.

c) **Contamination of water from leakages (oil and grease) of fuels and lubricants from the construction equipment and workshops**

Ground water (e.g. through water wells) and surface water (such as Msimbazi River) contamination may also occur if the contractors do not follow pollution control measures. Ground water can be contaminated through leaching of contaminated soil both during construction and operation phases of the BRT project.

d) **Poor air quality from dust and emissions around the construction site and material hauling routes**

The potential impacts on air quality will occur mostly in the excavation and demolition areas and other equipment used at construction area. Re-suspension of dust may occur as a result of land cleaning, demolitions, formation of pavement base and sub-base, paving and circulation of vehicles on non-paved roads, either next to the working faces or in the way to support areas. This is likely to happen when these activities are developed within relatively long terms under dry weather conditions.
Atmospheric pollution due to fuel combustion during construction may also occur as a consequence of the flow of vehicles and equipment on work, operation of industrial facilities (i.e. asphalt plants and concrete mixing plants) which may be implemented or outsourced to supply material input to the project, and due to increase of vehicular emissions associated with temporary mean speed reduction on the roads directly affected and in the surrounding road network.

e) **Generation and poor disposal of solid and liquid wastes**

Both solid and liquid wastes can be generated during construction phase of the project, different waste including food scraps, packaging, buildings and demolition rubbish, latrine waste would be generated at the camp site. Hazardous waste, sand and gravel that will not be used, general garbage resulting from workshop (i.e. asphalt plants and concrete mixing plants), and metal scrap from vehicles would be produced during the construction of the BRT project.

The construction workshop will require sanitation facilities to serve the occupants of those workshop. These facilities need to be well designed in terms of location, construction style, number of toilets and bathroom units in accordance with the number of users.

Improper sanitation facilities can cause contamination of ground and surface water especially during rain. It can also cause outbreak of diseases such as diarrhoea, cholera and typhoid. However, these camps will be demolished during demobilization phase i.e., when road construction is almost over and the wastes that will be generated from the same will be treated accordingly.

f) **Soil erosion and flooding**

Soil erosion is likely to occur from increased run-off due to clearance of vegetation, hard surfacing and channelling of floodwater. This may lead into local flooding in the City streets such as Kariakoo where most of the land is built, paved and flat. Soil erosion may also be caused by poor design and inadequate sites and cuttings on hilly slopes.

g) **Impacts from the Interaction With Local Community and Construction Workers**

During the construction phase it is estimated that about 500 workers for both skilled and unskilled labour will be engaged in this project. The Contractor will establish a camp for managing the works only, as most of these workers are not expected to live in a camp. The assumption is that the contractor will borrow experience from construction of BRT 1, which hired workers residing within the city, hence a camp was not necessary. Since workers will be coming to construction sites in the morning and moving back to their residents after work hours, it is expected this project will not result into a significant increase in interactions or cause unwanted interactions with local communities. In most cases such interactions lead into conflicts due to negative social behaviour such as theft, harassment and even spread of diseases such as STDs especially HIV/AIDS.

Therefore, cases of sexual interactions among workers and local communities, unplanned pregnancies and divorce among families are also expected to be low in the absence of workers camps and influx of an outside labor force.

h) **Increased noise pollution**

Continuous noise generated by machinery can result in heating loss, interference with communication, effects on rest and sleep, effects on performance and behaviour, auditory health effects and irritation and annoyance. Road construction will cause some noise from pneumatic hammers, air compressors, bulldozers, loaders, grades, dump trucks and rollers.

i) **Vibrations due to compaction on drive way area**

During project construction, compaction activities carried out near residence or business places may have high intensity noise that may disturb the people around.

j) **Traffic Interference during Road Construction**

During construction there will be heavy duty vehicles that come from the quarry site to construction site to deliver various construction materials. In addition, the activities of demolition and paving on the BRT roads will affect the cross street traffic by the adjustment specified for the intersections. This will increase congestion and long traffic jams from the increasing number of vehicles in the project area and where the construction vehicles cross.

k) **Impact of air pollution, water slurry, and sound pollution from batching plant and asphate plant**

The batching plants and asphate plant will be constructed within the main contractor's camp and during operation of these plants it is expected to cause air pollution from machinery, water slurry from cement, concrete and bitumen works that can lead to land and water pollution

l) **Increase in traffic accidents and delays to traffic**

During construction phase there will be possibility of accident occurrences between the operation vehicles and other road users i.e. cyclic. Also there will be delays to traffic caused by construction activities as the project construction activities is expected to be conducted within the existing road and therefore it is expected to experience the issue of close and open to traffic incidents.

6.2.3 Impacts during Operation Phase of the BRT Project Roads

Positive Impacts

a) Improved City and National Transport

The main inexpensive transport system in Dar es Salaam is public transport. Transportation of passengers to the city Centre such as Kariakoo, New Post Office area and on the outskirts of the city such as Gongolamboto area will certainly be eased. Thus BRT roads will have a major positive impact in the population working and living along the project area and those going further inland and beyond.

There will be sufficient infrastructure that will result into reliable transport services, lower costs of life, comfortable public transport system at reasonable cost to the users and yet profitable to the operators. Other significant positive impacts expected from the project roads will be increased employment opportunities to both operators and other social service providers.

b) Improved Air quality

Introduction of newer BRT buses which are capable of carrying about 140 passengers and on trunk roads and 80 passengers on feeder roads will result into removal of private public transport "*Daladala"* trips in phases as shown on table 23 below.

Table 25: Calculations for cleaner air quality as the result of proposed newer BRT buses

Number of "Daladala's" trips to		
	Phase	Total
per hour	**822**	**822**
per day	**13,152**	**13,152**
Note: Day operation is 16		
Number of BRT Buses to be introduced per day		
No. BRT Buses on trunk	**1280**	**1280**
No. of busses in Feeder Roads	**2208**	**2208**
Average maximum power of	**110**	

"Daladala" buses (kW)		
Maximum power of new BRT Buses (kW)	**180**	
NOX Emissions as per Euro III Standards (kWh) of a heavy	**5**	
Emissions (tons) for Daladala (5kWh x Power x hrs x number of buses)	**115.74**	**115.74**
Emissions (tons) for Newer BRT buses	**50.23**	**50.23**

The proposed removal of "*Daladala*" buses will have a significant reduction in emission in many different ways.

1. The newer buses will be emitting lower emissions as per Euro III Emission Standards compared to the existing fleet of "Daladala" with age ranging between 10 to 25 years of operational age. Also, calculating the amount of NO_X emitted by the "Daladala" fleet in phase 3, a total of about 115.74 Metric tons of pollutant will be emitted per day compared to 50.23 metric tons of pollutant emitted by BRT buses per day. This in itself is a great achievement as conservative estimated values of emissions for old Daladala buses and newer buses amounting to 5g/kWh (table 24 below) have been used. The fact that older Daladala buses are emitting more than the standards shown below is evident.

Table 20: EU- Emission standard for heavy duty vehicles

	NOx (g/kWh)		THC [1] (g/kWh)	NMHC [2] (g/kWh)	PM (mg/kWh)		PN (#/kWh)	
	Diesel	Gas/Petrol	Diesel	Gas/Petrol	Diesel	Gas/Petrol	Diesel	Gas/Petrol
Euro I 1992	8.0	-	1.23	-	360/612	-	-	-
Euro II a 1996.10	7.0	-	1.1	-	250	-	-	-
Euro II b1998.10	7.0	-	1.1	-	150	-	-	-
Euro III 2000.10	5.0 [3]	5.0	0.66 [4]	0.78	100/160 [5]	-	-	-
Euro IV 2005.10	3.5 [3]	3.5	0.46 [4]	0.55	20/30 [5]	-	-	-
Euro V 2008.10	2.0 [3]	2.0	0.46 [4]	0.55	20/30 [5]	30	-	-
Euro VI 2013.01	0.4/0.46 [6]	0.46	0.13/0.16 [6]	0.16	10/10 [6]	10	$6x10^{11}/8x10^{11}$ [6]	-

[1] Total hydrocarbons (methane included); [2] Non-methane hydrocarbons; [3] Both ESC and ETC test cycle; [4] ESC test cycle only; [5] ESC and ETC test cycle respectively; [6] WHTC and WHSC test cycle respectively

2. The trips which normally take about 60 minutes from Gongo la mboto to the City Centre are normally associated with frequent application of brakes engagement of higher gears due to the traffic jams which all lead into emissions of more pollutants. The fact that all new passenger vehicles must meet minimum EU emission standards gives the proposed project a credit to cleaner air quality

   Oxides of nitrogen (**NOx)** react in the atmosphere to form nitrogen dioxide (NO_2) which can have adverse effects on health, particularly among people with respiratory illness. High levels of exposure have been linked with increased hospital admissions due to respiratory problems, while long term exposure may affect lung function and increase the response to allergens in sensitive people. NOx also contributes to smog formation, acid rain, can damage vegetation, contributes to ground level ozone formation and can react in the atmosphere to form fine particles (‘secondary particles’).

   Therefore if reductions expected from proposed new buses were to be translated into money saved from fewer admissions in hospitals, then there will be 61.5% savings in costs related to respiratory illnesses.

   Potential Adverse Impacts during Operation

   During the operation phase, adverse impacts similar to the environmental problems observed on the existing project road will continue to be manifested if mitigation measured are not implemented and work camps and sites are not reinstated after completion of the construction and defects liability period. These impacts include

- Soil erosion on slopes and embankments cut and built up during construction phase
- Landscape scars at un-rehabilitated quarries and borrow sites

- Reduced air quality due to increase in traffic flows – but this may be possibly offset by the reduction in the use of private vehicles if the BRT proves to be ideal for most of the people in Dar es Salaam especially those using private vehicles
- There will be also potential problems from traffic congestion caused by buses entering and leaving the depot pollution from exhaust fumes and excessive noise from the vehicles themselves and from other workshop activities.
- Increase in HIV AIDs cases
- Increased risks of traffic accidents involving buses.
- Increased noise due to increased traffic movement
- Encroachment on the road reserve
- Increased flooding cases in area with poor drainage system
- Generation of liquid and solid wastes at deports and workshops. Sold wastes include used spare parts and written off on worn-out buses
- Less visible but often more serious, is environmental damage caused by waste oil or spilled fuel entering the drainage system or polluting nearby rivers. Bus workshops will generate considerable quantities of waste oil and if this is not disposed of properly it can cause serious pollution to soils and ground water.

Potential Adverse Impacts during demobilization

The stage will be accompanied by generation of solid wastes from tiding up and packaging materials wood and steel crates, cardboard, wrapping materials, boxes, sacks, drums, cans and chemical containers and any other unused materials. During demobilization such kind of wastes need proper management otherwise it may turn out to be a nuisance in the camp area and they can even cause diseases to neighboring residents. However, all useful materials are moved from site. The wastes generated in this phase will receive the same treatment as the previous phases.

Option Analysis for the Proposed BRT Project

The EIA procedure stipulates that an environmental investigation needs to identify main project alternatives of possible proposals or alternatives for accomplishing the same objectives be considered. In principle, these should include an analysis of the location, timing, input and design alternatives as well as the Do-nothing option.

The objectives of the BRT project are:

- ✓ To meet the continuous increase of travel demand of the city,
- ✓ To have a comfortable public transport system at reasonable cost to the users and yet profitable to the operators, using quality high capacity buses which meet international service standards, environmentally friendly operation on exclusive lanes at less travelling time.
- ✓ To increase the level of mobility of the majority of residents enhancing their participation in wide range of economic and social activities.

- ✓ To facilitate the use of Non-Motorised Transport (NMT) by improving service roads and implementing parallel bicycle routes allowing for integration of bicycles and the bus system and for reduction of congestion in the carriage way.

6.3.1 Analysis of Alternative for Project route

The important aspect of this project road is that it is envisaged to follow the existing alignment. Most of the other routes that may be considered as alternative for the project are either very narrow or are occupied for other development activities. Since the proposed Dar es Salaam roads are gazetted as either regional or trunk roads, for example Nyerere road is a trunk road, and has been in use for many years then it leaves no any or few other alternatives for the project routes. Since people are also familiar with the ongoing phase one of BRT project, therefore the alternatives to the project route become limited.

Instead, supplementary or additional routes can be added to the proposed BRT system to ease the traffic in existing roads. For example, the first phase of BRT ends at Kimara Mwisho, thereafter Morogoro Roads becomes a two lane highway and congestion of traffic starts here towards Mbezi Mwisho. This segment is always congested but if it was to be extended to Mbezi Mwisho then the traffic can be eased further towards Kibaha.

If an additional gravel/earth road route that joins Mbezi Mwisho and Gongo la mboto through Kinyerezi was upgraded and added into the present system, this link could minimize significantly the number of heavily loaded trucks to and from the harbour. These heavy trucks are now using Nelson Mandela road then to Morogoro road joining the ever increasing traffic between Ubungo and Kibaha weighbridge station

6.3.2 Analysis of Alternative for Material Sources

Gravel for road bedding material will be extracted from existing borrow pits as described in section 2.5.2 above, which are currently used for regular maintenance of roads in Dar es Salaam. Opening new pits (following soil samples analyses) will require liaising with respective communities, and approval from Regional and District Authorities. New borrow pits shall also be subjected to ESIA, which will cover assessment of impacts from the source and transportation of the materials to the construction site.

Sand will also be extracted from existing pits as described in section 2.5.3, no new pits will be opened unless the existing ones are completely used.

Water for construction will be sourced from DAWASCO piped water supply and boreholes. Surface water sources like Msimbazi and Kizinga rivers will also be considered as a source of water for construction.

6.3.3 Analysis of Alternative for BRT Project

The proposed BRT project will be aims at using the existing road corridor as much as possible. The design priority is to fit the BRT lane within the existing and only available corridor e for traffic from the central business district to the airport. Therefore, modifications have been considered to minimize impacts on the existing environment. Geometric design has been improved to accommodate safety and stability measures.

In order to ensure efficient operation of BRT system and for safety reasons three feasible design alternatives were considered: (i) *Opening Median* - provision of open space in the media, which means that BRT lane is divided with mixed traffic by a separator; (ii) *Opening Separator* – provision of open space in the outer separator, which means BRT lane is mixed with mixed traffic in case of emergency; and (iii) *Opening Median at Station* – provision of open space close by station, implying that BRT lane is divided with mixed traffic by a separator.

For efficient operation of BRT system, the most recommended option is the first alternative, which has dedicated lanes while installation of median and separation are strongly recommended for safety reasons.

A part from designing zebra crossing, road humps and side walk ways for pedestrian safety management, the design has considered installing pedestrian flyovers in practicable areas with high pedestrian crossing traffic within the existing road reserves without demolishing of buildings and private properties.

The alternative to the existing roads would be railway transport, air and water ways. Looking at the way Dar es Salaam is built and continue to expand, it is evident that most of the housing structures continue to follow these old roads and also developing towns are clustered along these roads that connect the city to other major towns such as Morogoro, Bagamoyo, Mkuranga, Kisarawe etc. These alternatives include:

(i) Railway Lines

The existing railway line is very limited in Dar es Salaam City and it is mainly constructed along one of the major roads, Nyerere Road. Another existing railway line is a link that comes from Nyerere Road connecting to Morogoro Road next to Mandela and Morogoro Road Junction. Any new railway infrastructure may have to be freshly constructed thus triggering significant impacts of involuntary resettlement. Negative effects to Dar es Salaam communities may be immense if this was to be considered as an alternative.

(ii) Water Transport

Also linking to the way Dar es Salaam is constructed, only a few houses estimated to 25% are erected closer to the water body, the Indian Ocean, where the water transport can be considered for use. Only Kilwa Road and Ali Hassan Mwinyi Roads that run parallel to the beaches are likely to the benefit from water transport. But the major roads of Morogoro and Nyerere that have the estimated remaining 75% of the housing are not closer to this water body and therefore they cannot benefit from this alternative. Therefore existing road network still seem plausible to be improved to cater for the ever growing number of population in Dar es Salaam city.

(iii) Air transport

The alternative was not considered for analysis due to limitations of transporting a few people and the infrastructure required.6.3.4 Impact of "No project" Scenario

Analysis of the situation which would exist without the project is hereby presented. In this case, construction of the BRT roads will not be done and the existing roads will continue to play the same role as at present situation.

Overall the impact of no improvement is considered to be significant in hampering development in terms of local and regional transport development. If it were decided that the BRT project roads are not constructed, then the situation would stay much the same as it is today in social terms.

The problem of slow mobility will persist and worsen with time: the local communities would continue to suffer from wastage of time on roads due to inadequate transport opportunities.

- The sick and pregnant would continue shouldering the same difficulties while on transit to health facilities.
- Pupils and workers would reach at their respective schools and offices very late.
- Motor cyclists will continue causing road accidents
- The cost of transport will increase more and more.

6.4 Analysis of Environmental and Social Impacts

An overview of the construction of the project roads has been presented in the previous sections. The potential impacts of the proposed project have been listed under section 6.2. These impacts are now analyzed into different categories based on the stakeholders' vies and perceptions, the consultants and experience gained on other linear projects of a similar nature.

The approach used to assess the significance of the potential impacts and later assess the effectiveness of the mitigation or enhancement measures is to apply significant rating to each impact based on objective criteria, such as magnitude, extent and duration of that impact, to yield a final evaluation of the significance of impacts before and after mitigation.

The application of significance rating reduces the number of variables which need to be considered by the decision maker, whist providing pertinent information about the implications of the proposed roads project. The assessment criteria are given in Table 25 below.

6.5. Analysis of Cumulative Impacts

Cumulative impacts discussed is limited to those new impacts, or enhancements of existing impacts, that are likely to occur only because of the interaction of the construction and operation of the proposed BRT 3 with “other” projects and plans. Potential cumulative impacts that may result from the construction and operation of the proposed BRT 3, and in combination with other proposed and completed road developments are described in Section 1.1. It is predicted that significant cumulative impacts could only occur during the construction phase if the construction of other nearby projects coincides with that of the proposed BRT 3. However, based on the fact that the proposed BRT 3, which will be confined to the existing road corridor and that implementation of the other road development projects will not take place simultaneously, it is anticipated that cumulative impacts will be minimal. It is predicted that although some alteration to traffic flow could be necessary during the on-going construction of the TAZARA intersection, which is within the same corridor as the proposed BTR 3, and assuming adequate mitigation is provided under each project, these impacts will not be significant. Overall cumulative impact during operation phases of all the road development project is anticipated to be mainly positive, particularly by reducing traffic congestion, improving air quality, reducing noise from vehicles, improving health and quality of life and reducing transport costs and stimulate economic growth.

Table 26: First assessment criteria for evaluation of impacts

First Step Criterion	Categories
Extent or Spatial influence of Impact	Local/Site specific; Regional ; National; International
Magnitude of Impact at the spatial scale	High: natural and/or social functions and/or processes are severely altered Medium: natural and/or social functions and/or processes are notably altered Low: natural and/or social functions and/or processes are negligibly or minimally altered
Duration of Impact	Short Term (ST): 0-5 years; Medium Term 9MT) 5-10 years; Long Term (LT): 15+years

Source: 1 Brown and Willemse (1996)

Also other important criteria considered to evaluate whether or not adverse impacts are significant include:

- Environmental loss and deterioration;
- Social impacts resulting directly from environmental change;
- Non-conformity with environmental standards, objectives and guidelines; and
- Likelihood and acceptance of risk.

Criteria to evaluate adverse impacts on natural resources, ecological functions or designated areas include:

- Reductions in species diversity;
- Depletion or fragmentation on plant and animal habitat;
- Loss of threatened, rare or endangered species;
- Impairment of ecological integrity, resilience or health e.g.
- Disruption of food chains;
- Decline in species population;
- Alteration in predator-prey relationships.

Criteria to evaluate the significance of adverse social impacts that result from biophysical changes include:

- Displacement of people e.g. by roads, dams and reservoirs;
- Threats to human health and safety e.g. from release of persistent and/or toxic additives, thickeners or flocculants;

- Decline in commercially valuable or locally important species or resources e.g. fish, forests and farmland
- Loss of areas or environment components that have cultural, recreational or aesthetic value;
- Disruption of communities by influx of a workforce e.g. during project construction; and
- Pressures on services, transportation and infrastructure.

Environmental standards, objectives and targets to evaluate significance include:

- prescribed limits on waste/emission discharges and/or concentrations;
- ambient air and water quality standards established by low or regulations;
- environmental objectives and targets contained in policy and strategy; and
- Approved or statutory plans that protect areas or allocate, zone or regulate the use of land and natural resources.

The summary of impacts is made on table 26. They have been subdivided into direct, indirect and cumulative impacts. Furthermore a statement is made on whether or not the impact is considered to be slight, moderate or significant.

Table 21: Analysis of Environmental and Social Impacts

Environmental and Social Impact	**Analysis of Environment and Social Impact**											
					Duration					**Extent or Spatial influence**		**significance**
Description of Impacts	**Direct**	**Indirect**	**Primary**	**Secondary**	**Short term**	**Medium**	**Long term**	**Reversible**	**Irreversible**	**Local;**	**Regional**	
POSITIVE IMPACTS												
During Project Mobilization Phase												
Direction of short and long term employment opportunities	√		√		√						√	Medium
During Project Construction												
Improved government revenue in terms of taxes/purchases	√			√			√	√			√	Medium
Employment opportunity	√		√		√						√	Medium
During Project Operation												
Improved City and National Transport System e.g.	√		√				√				√	Hig

reduced costs and time of transport												h
Improved business opportunity within the project area e.g. enhanced marked access, service provision	√			√			√				√	Hig h
Improved air Quality as a result of reduction in pollutants leading to Improved health.	√		√				√					med ium
NEGATIVE IMPACTS												
During Project Mobilization Phase												
Vegetation Clearance for input to Preliminary Engineering Design	√		√		√				√	√		Med ium
During Project Construction												
Displacement of people for Land Acquisition	√		√		√				√	√		Hig h
Relocation of Infrastructures and Disruption resulting from relocation	√		√		√				√	√		Hig h
Disturbance, particularly land scarring at borrow sites or sources of construction materials (sand, aggregates, stones,)	√		√		√			√		√		Med ium
Contamination of water from leakages (oil and grease) of fuels and lubricants from the construction equipment and plants	√		√				√	√			√	Med ium
Poor air quality from dust and emissions around the construction site and material hauling routes	√		√		√			√			√	Med ium
Generation and poor disposal of solid and liquid wastes	√		√				√	√		√		Med ium
Soil erosion and flooding	√			√			√	√		√		Med ium
Vibrations due to compaction	√		√		√			√		√		Med ium
Traffic accidents and	√		√		√			√			√	Hig

interference during Road Construction												h
Air and noise pollution from construction activities e.g batching and asphate plants	√		√		√			√			√	Medium
Employees health and safety impacts from camp operations	√		√		√			√		√		Low
Social impacts from sitting of construction camps and interactions with workers												
During Project Operation												
Soil erosion on slopes and embankments	√		√				√	√		√		Medium
Increased flooding cases in areas with poor drainage system	√			√			√	√		√		Medium
Encroachment on the road reserve	√			√				√			√	Low
Increased traffic accidents involving buses vehicles	√			√			√	√		√		Medium
Landscape scars at un-rehabilitated quarries and borrow sites	√			√			√	√			√	Medium
Increase in HIV/AIDs flows	√		√		√			√		√		Medium
Reduced air quality due to increase in traffic flows	√			√			√	√			√	Medium
Impacts During Demobilization												
Generation of solid waste	√			√			√	√		√		Medium

Table 22: Impact Assessment Matrix

Activity / Impact	Mobilization phase			Construction phase					operation phase	Demobilization phase
Description of Impacts based on project environmental and social components	Land	Relocation of infrastructures	Labour force	Transportation of construction	Site/land	Diversion/deto	Worker's camp construction	BRT roads	Road use and maintenance	Labour force hire, demobilization of structure, restoration of
Displacement of people and properties currently on the ROW	-3	-3	0	0	-1	-1	-1	-3	0	0
Disruption resulting from relocation of infrastructures	0	-3	0	0	0	0	-1	-3	0	0
Improvement in the economy of the communities along the BRT roads	0		+2	0	0	0	0	+3	0	+2
Landscape scarring especially at material borrow sites	0	0	0	-2	0	-2	0	-3	0	0
Loss of urban vegetation through clearance	0	0	0	0	-3	-2	-1	-3	0	0
Impacts from workers' Camps establishment	0	0	0	0	0	0	-1	-3	0	-3
Poor air quality – emissions and dust	0	-1	0	-3	-2	-2	-1	-3	-1	-2
Air and noise pollution	0	-1	0	-2	-2	-2	-1	-3	-1	-2
Pollution due to Solid and Liquid waste generation	0	-1	0	-1	-1	-2	-2	-3	-3	-
Public health and safety impacts from work camps operations	0	0	0	-1	-1	-2	-2	-2	0	-2
Depletion and pollution of water resources	0	-2	0	-1	-1	-2	-1	-3	-1	-2
Soil contamination	0	-1	0	0	-1	-2	-2	-3	-1	-2

Increase in traffic accidents during construction phase	0	0	0		-2	-1	-3	-1	-3	-3	-2
Soil erosion on slopes and embankments	0	-2	0		-2	-3	-2	-1	-3	0	-2
Increase in HIV/AIDs cases	0	-2	0		-2	-2	-2	-2	-3	-3	-3
Increase of Road carnage	0	-1	0		-2	-1	-1	-1	-3	-3	-2
Encroachment into road reserve	0	0	0		0	0	0	0	-2	-2	0

Key:

+3 = major positive impact -1 = minor adverse impact 0 = no impact
+2 = moderate positive impact -2 = moderate adverse impact
+1 = minor positive impact -3 = major adverse impact

7.0 ENVIRONMENTAL AND SOCIAL MITIGATION MEASURES

7.1 Introduction

Construction related activities over the world, generally cause some alteration to the bio-physical and social environment. The proposed BRT project roads is not an exception and will involve land preparation in form of vegetation clearance, cut and fill in the area to receive permanent carriage way, then construction of the road structure and supporting drainage facilities and later road furniture. In the previous section, a thorough understanding of the scope of potential environmental and social impacts from the proposed project roads has been developed and therefore effective management strategies are presented in this section.

The mitigation measures for the impacts likely to be caused by the proposed project will focus on key potential impacts identified in section 6 according to the project implementation phases as follows:

- Displacement of people and properties currently on the right of way(ROW)
- Relocation of infrastructure and disruption resulting from such relocations
- Interference on drainage patterns
- Tree and vegetation loss
- Soil erosion and sedimentation of water courses
- Impacts from improperly located worker's camps (theft, harassment, unwanted pregnancies, divorces, sexually transmitted diseases (HIV/ AIDs, STIs)
- Poor air quality due to emissions and dust during construction (movement of vehicles, extraction of materials, transportation of materials from borrow pits to the construction site) and operation phased of the project
- Noise pollution
- Pollution due to solid and liquid wastes generation
- Depletion and pollution of water resources
- Traffic nuisance during construction and increase of traffic accidents
- Accidents and incidents occurrence
- Public health impacts from work operations
- Water and soil contamination from solid and liquid wastes generated at the bus depots and workshops
- Social-cultural

During the works the measures set out in both the generic and the relevant sector specific World Bank Group Environmental, Health and Safety Guidelines will be applied, in order to mitigate impacts. In addition, the mitigation measures set out in this section shall also be applied.

7.2 Mitigation Measures for Negative Impacts during Pre- Construction Phase

Table 23: Mitigation measures during pre-construction phase

Impact	Mitigation measures
Displacement of people and properties currently on the ROW	- Valuation and compensation in place where properties cannot be avoided or left intact – Reference should be made on RAP report for detail of valuation and compensation - The proposed project will be implemented following much of existing roads with minor widening of the road to avoid affecting and relocating many properties -
Relocation of infrastructures and disruption resulting from relocation (e.g. Water pipes)	- Communities within the project area shall be informed in advance regarding storages of water when their utilities are about to be relocated to pave the way for road works. Utilities Authorities should be notified in a timely manner and commit to restore the service immediately after construction works. - Water pipes located /crossing in the right of way (road reserve) may be moved slightly away from the road or provision of service duct may be considered- TANROADS in collaboration with DAWASA will be responsible for relocation of the underground water utilities and this will be done at a minimum time as possible.

7.3 Mitigation Measures for Negatives Impacts during Construction Phase

Table 24: Mitigation measures during construction phase

Interference on drainage patterns	- Enhance storm water channels directing water to the Indian ocean by constructing drainages with de-silting facilities - Box culverts or long span bridge should be provided where necessary to avoid obstruction of storm water flow towards natural drainages.
Landscape scarring especially at material borrow sites	- Borrow pit areas will be located outside the ROW as per requirement of Road act 2007.The excavation and restoration of the borrow pits and their surroundings, shall be carried out in an environmentally sound manner to the satisfaction of the Resident Engineer, and in a compliance with Government regulations particularly the Environmental Assessment and Management Regulations for Road Sector and the Code of Practice for Road Works. Before final acceptance and payment under the terms of the contract all the borrow areas no longer in use shall be properly restored. The side slops shall be stabilized with vegetation and proper drainage provided.
Loss of vegetation through clearance to improve access (Though the project	- Temporary project's infrastructure (access roads, road upgrading camps, stockpiling areas) should avoid woodlands and wetlands. - Vegetation clearance for temporary infrastructure should be

located in the urban setting, there are few trees and vegetation cover)	limited to the minimum. Areas cleared of vegetation should be re –vegetated to prevent soil erosion. However, plants and grasses for re-vegetation should be sourced within the project area to avoid introduction of exotic species - Re- vegetation is only possible given suitable ground conditions (soils, slopes, drainage) moisture, and protection from destruction. - Clearance of the vegetation should be limited to the core area of the project, meaning permanent works and the minimum necessary for any temporary works. - The topsoil and cut trees removed during construction of the pavement of the roads should be stored and be used later to rehabilitate temporary acquired areas, so as to allow the natural vegetation to re-colonize the area. - All road diversions should be closed when they are no longer in use, and reinstated to allow the vegetation to recover. - Landscaping and planting of vegetation should be done to all disturbed surfaces.
Impact on Physical and Cultural Resources (PCRs)	Physical cultural resources shall be avoided and protected with wall and/ or fencing and, where possible avoided by adjustment of alignment; Chance find should be approached through protection and treatment of discovered archaeological artefacts in accordance with the country requirement. Inform respective Government entity as soon as the discovery is made. Consultant contracts shall include clause on how to address chance finds of PCRs during excavation or construction.(see Guidelines for chance Find Procedures in Annex VII)
Soil erosion and blockage of storm Water channels	- Earthworks should be controlled so that land not required for road works is not excavated or disturbed - Carry out most of works during the dry seasons and install measures within construction sites to prevent soil from being washed away by rain. - Excavated materials to be kept at a designated dumping places - Drainage structures should be properly installed to avoid scouring embankments with flat growing grass that will reduce erosion and enhance soil stability especially on embankments. - Areas cleared for improving sight distances should be replanted with grass to control erosion
Impacts from Construction Camps establishment	- Construction camp site/location shall be purchased from individuals or local authorities and be approved by TANROADS to minimize impact to the resident community - Along with project implementation, measures to reduce such conflicts must be introduced e.g. training, information, strengthening of ward/institutional organization structures etc. - Adoption by the contractor of a sanctioned Code of Conduct to

	limit and regulate interaction of workers with local community
Poor Air quality due to emission and dust	- Water sprinkling to reduce to reduce the dust at construction site and near settlements. Sprinkle water as necessary (at least twice a day) when visual inspection indicates excessive dust and during heavy traffic - Use of dust masks to operators and those working in dusty areas. - Use of goggles for operators - Construction machines/ equipment shall be well maintained to manufacturers' requirements to ensure total fuel combustion. All the vehicles shall be frequently checked and serviced during the whole construction period so that the level of exhaust emissions is reduced - Movement of vehicles should be kept to minimum necessary for completing the job - Cover all trucks hauling materials particularly sand - Limit the speed of the vehicles to 20kmph or by placing speed bumps especially in busy areas.
Ambient Air and noise pollution	- Where the noise levels is beyond 85 Db (A), ear muffs or plugs shall be provided to all those working within the construction equipment area including the operators. - Equipment shall be well maintained in accordance with manufactures' specifications and fitted with noise silencers (such as muffler) and emission controls. - Select a site for static machinery (including generators, pumps etc.) away from residential premises and other sensitive receptors including schools, hospitals and places of worship - During construction at site, the contractor should only work during the normal hours which is from 8.00AM to 16.30PM (especially activities involving noise) so that the residents living along the project road are not disturbed during sleeping and resting hours. - Undertake regular noise monitoring and request feedback from communities at sensitive sites and halt works that exceed limit values until revised methods of working are in place. - Spraying water in the road construction section to suppress dust - Use of Personal Protection Equipment - Control the construction vehicle speed to suppress emission of noise and dust

Pollution due to solid and Liquid waste generation	- Dispose the spoil materials into the numerous borrow pits located along the project road before they are restored (however, it has to be ensured that they are in suitable condition i.e. not contaminated). - Sort wastes according to their type and quality, recycle and dispose is designated damping sites/landfills. Recyclable materials and worn-out construction equipment and spare parts can be sent to foundries where mental scraps are melted to produce other materials such as reinforcing mental bars, hoes, machetes etc. - Encourage and reward employees who show good practice of solid waste management. - No refuelling or repairing the machinery except in designated areas that have an impermeable surface to enable proper and effective clean-up of any spills. Spill kits with suitable absorbent and adsorbent materials and equipment shall be present to ensure timely and appropriate clean-up of any spills. - Use drip pans underneath standing machinery/generators to prevent contamination of the ground. - Ensure all waste water is collected and treated to meet the discharge limits
Public health and Safety impacts from Work camps operations	- Contractor to prepare a waste management plan for work sites - Prepare workers and public health, safety and occupational hazards management plan in accordance with Environmental Health and Safety (EHS) Guidelines - Fencing of construction camps and provision of road signs for safety. - For general health of labours in the work camps, a contractor to arrange for a central canteen as waste can be easily managed and general hygiene can be easily monitored - Contractor to initiate STD and HIV/AIDs awareness campaigns at the labour camps and settlements along the project roads. Local NGOs can be engaged to carry out such activities on behalf of the contractor. - Contractor to arrange for facilities for games and other recreation activities after labour work. Such activities shall include soccer, basketball, interesting TV show etc. - Pit latrines, if necessary shall be well located to avoid contaminating ground water facilities - Ablution units connected to septic tanks and soak-away pits shall be used to minimise pollution and maintain a healthy environment - Workmen shall be provided with all necessary personal protective equipment (PPE) - The contractor should adhere to occupational health and safety authority (OSHA) and EHS guidelines and WBG EHSG in work sites including prevention and reporting injuries.

	- The contractor should have a dedicated medical facility for the contractor staff within the camp. This health facility should have a full time qualified medical practitioner trained in emergency response and aid. Special cases will be referred to big hospitals in the city
Depletion and pollution of water resources	- The contractor is responsible for identifying his water sources for construction requirement on the project area. - No works should be undertaken within 10m of a watercourse unless part of the permanent design. - Use of water from pipe system instead of extracting water from the river; - Avoid using the 75m protection zone along the water course with machinery (pumps and tankers) - Dismantle piping system and restore the site (swampy areas) immediately after completion of the work in the area. - Avoid washing construction equipment at the intake or near the water source. - Any wastewater contaminated with oils, fuels, bitumen, chemicals or any other hazardous compounds should be collected and disposed of at a proper water treatment facility - Repair all construction equipment to avoid fuel and oil leakage - Ensure adequate spill kits containing as a minimum absorbent matts, adsorbent materials, booms, and other equipment necessary to contain and clear up any spills to ground or water courses are provided at suitable and regular locations on site - Ensure that personnel are trained in the use of spill kits - Contractor to prepare and obtain approval from the client on emergency response procedure. - Washing of construction equipment and machinery shall only be permitted in agreed areas, with an impermeable base and suitable system for the collection of washwater for treatment prior to its disposal. -
Increase in traffic accidents and delays to traffic	- During pre-construction stage the contractor shall prepare a traffic management plan that will be implemented to ensure the protection of the public and road users during the works. The plan should set out where and how diversions will be created and details of where warning signs, traffic controls and speed bumps etc. will be installed. Traffic Management Plan to be prepared in collaboration with traffic police and approved by the supervision organisation. - Install speed humps at pedestrian crossing sections along the project roads - Conduct information and education campaign for drivers and the communities along the project roads - Traffic police from traffic police station should perform regular patrols at different locations along the project roads during the

	construction and operation phase to check speeds and the effectiveness of the road safety campaigns - Prepare and implement Traffic Management Plan in collaboration with traffic police

7.4 Mitigation Measures for Negative Impacts during Operation phase

Table 25: Mitigation Measure during operation phase

Impact	Mitigation measures
Soil erosion on slopes and embankments	- Soil control measures on the slopes such as re-vegetation with flat growing grass of local provenance species or introduced species such as Vetiver grass, which`has proved successful in controlling soil erosion thus ideal for protecting the embankments.
Reduced air quality from increase in traffic	- Exhaust emissions must be controlled by maintaining vehicles in accordance with manufacturers' requirements for vehicles that shuttle the project road - Edges, trees must be planted along the roads to assist in capturing emissions (particularly carbon dioxide) -
Increase in HIV/AIDs cases	- Enhanced health care, proper sensitization targeting drivers and the whole community. - The contractor should deploy an HIV/AIDS service provider (trainer) who will make sure that condoms are available and located in the strategic locations in the camps, community sensitization, training of the contractor and the Resident engineer's staff and Voluntary Testing - Condoms (both male and female) should be distributed adequately and placed in a strategic location like Toilets - A full time sociologist should be employed for both contractor and resident engineer's side to monitor the day to day activities at the site and monitor the HIV/AIDS service provider
Road carnage	- Traffic police should be spread and all places for control of speed - Speed humps at all strategic places including all busy places. - Enforce speed limits - Road signs properly installed and maintained - Traffic rules sensitization in schools and communications along the road.
Generation of solid wastes in depots and workshops	- These environmental problems can be minimized with good design of the waste collection facilities, proper maintenance and good discipline among employees and good housekeeping. - Sort waste according to their types and quality and dumping at designated site/landfills Recyclable materials can be sent to the recycling stations such as used spare parts and written off or worn-

	out buses can be sent to foundries where mental scraps are melted to produce other materials such as reinforcing metal bars, hoes, machetes etc.
Generation of liquid wastes in depots and workshops	- Good design of in-site waste water treatment facilities including oil skimming tanks - For oil spills and contaminants on the ground washed by rain water, ensure works at depots and workshops are on impermeable surfaces with defined water collection, treatment and emergency response measures - From oil and fuel changes, degreasing, washing, etc. collect, store and dispose in designated areas. - Ensure proper storage facilities for chemicals, hydrocarbons, etc., that will be used at depots and workshops - Ensure discharge permit are obtained from the Basin Water Office prior to any discharge and conditions for monitoring and clearly compliance spelt out.
Environmental pollution especially by passengers travelling by bus along the road	- Construction of toilets(e.g. septic tank system) at stations, terminals and depots to avoid pollution of water and danger to road users - Introduction of dust bins within the DART buses in order to prevent improper garbage disposal and solid waste resulting from 'take away' habit disposal along the roads - Design a proper program for ensuring cleanness of roads e.g. sweeping and in water channels
Failure to carry school pupils to and from school	- Design the BRT operation procedure that is fair to school pupils in terms of transport charge and care i.e. they are supposed to receive preferential treatment

8.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

8.1 Introduction

The objectives of this Environment and Social Management Plan (ESMP) are to describe;

- The legislative and administrative frame works in the country on Environmental Impact Assessment Management,
- Implementation arrangements for the ESMP,
- The environmental monitoring programme and reporting arrangements and
- Design consideration regarding environmental, health and safety and social impacts.

In Tanzania the Environmental Assessment framework is guided by the following two key national legislations:

- The Environmental Management Act (EMA) No. 20 (Cap 191) of 2004
- The Environmental Impact Assessment and Audit Regulations, 2005

Environmental and Social Impact Assessment for any development project is administered and approved by the Minister responsible for Environment in the Vice President's Office, Therefore, for the environmental assessment for the proposed project, the responsible institutions are:

- Minister responsible for Environment who approves the EIA and issues the environmental permit,
- NEMC, who recommends to the Minister regarding approval of EIAs, undertakes enforcement, compliance, review and monitoring of EIA.

8.2 Implementation Arrangement of the ESMP

The Environmental and Social Management Plan (ESMP) presents the implementation schedule of the proposed mitigation measures, roles of various authorities and associated costs for the implementation of the mitigation measures. The supervision of the construction works and implementation of Environmental and Social Management Plan for Phase 3 will be carried out by TANROADS.

To minimize potential environmental and social negative impacts, the project will require the support of various institutions in the implementation of ESMP. For the proposed phase 3 activities, its ESMP has been summarized in the given Table 31. The organization framework for the ESMP is designed to evolve as the project progresses through pre-construction, construction and operation phases. Additional measures provided in the ESMP will enable the road project to be implemented in a more environmentally friendly manner. TANROADS has the responsibility for implementation of mitigation measures, other key stakeholders are also required to be involved in the implementation of the mitigation measures, these include TANROADS, Construction Contractor, the Resident Engineer, Local Governments of Dar es Salaam region,

Environmental Authorities, Occupational Safety and Health Authority (OSHA), local communities, and NGOs/CBOs.

This ESMP and the environmental measures incorporated in the detailed engineering design is part of the Contract Documents.

An environmental supervisor or expert shall be appointed to assist the Resident Engineer, in order to make sure that the environmental measures recommended in this report are effectively complied with and timely adjusted whenever necessary. The expert will be familiar with the scientific measurement of environmental impacts and remedies. He/she will work on a part-time basis and may be selected, by the firm in-charge of supervision works, from the roster of national environmental experts. He will liaise with the relevant public agencies and will carry out the training scheme associated to his assignment.

The ESMP indicates how the mitigation measures described in the ESIA will be implemented during the works and operation, as well as how the requirements of the permits/consents for the works will be complied with. It attempts to cover typical mitigation approaches to common low-risk activities with minimal temporary localized impacts. It is anticipated that this format provides the key elements of an Environmental and Social Management Plan (ESMP) to meet World Bank Environmental Assessment requirements under World Bank safeguard policies OP 4.01 and OP 4.12 as the one triggered in this project. Also environmental and social protection clauses for contracts and specifications provided as (annex v) to support implementation of mitigations.

During Pre-Construction and Mobilization, the Contractor will review the ESMP and develop Specific Environmental and Social Management actions for implementation of specific proposed mitigation measures.

Table 26: Environmental and Social Management Plan

Environmental and Social Impact	Indicator-mitigation target	Responsible for implementation of mitigation measure	Responsible for supervision of implementation	Contractor responsibility of Reporting to	Time Frame	Estimated Cost (TZS000)	Remarks
Pre-construction							
Displacement of people due to land acquisition for BRT infrastructure	Properties identified and compensation effected	Infrastructure relocation contractor/ District Valuer	TANROADS/Supervising Engineer	TANROADS and information shared by: ○ Municipal Community Development Office	Before project roads construction	Phase III Along Nyerere Road. The total compensation costs that will be provided is Tshs. **24,688,181,527.83.00,**	Details are contained in the RAP report
Relocation of infrastructures	Infrastructural service relocation and noted service interruption	Infrastructure relocation Contractor	Supervising Engineer/	TANROADS and information shared by: ○ DAWASA ○ DAWASCO ○ T.T.C.L, ○ T.C.R.A, ○ TANESCO	Before project roads construction	Budget for infrastructure to be relocated as per RAP report is estimated at Tshs **6,420,132,164.93** to be paid to the institutions (Annex VI) TANESCO, DAWASA, TCRA and TTCL.	Details are contained in the RAP report
Construction							
Landscape scarring at borrow sites	Close supervision to make sure that materials	Road contractor	Supervising Engineer	TANROADS and information shared by:	During construction phase	Part of the main BOQ (section 1700 of SSRW)	Where construction materials such as gravel, sand and

	are purchased from private company			○ Municipal Council ○ Mine Office ○ Natural Resources office			stones are to be obtained from private owned lands, it will be the contractor's responsibility to arrange compensations to be paid to landowner regarding access to those materials. Also separate EIA screening will be required to check if there is any negative Impact.
Vegetation loss through clearance	Limit to areas for permanent works	Road contractor	Supervising Engineer/	TANROADS and information shared by: ○ Municipal Natural Resources Office	During pre-construction and construction phase	23,000	It is recommended that contractor should plant 10 times number of trees likely to be affected.
Soil erosion	Proper design for control measures i.e. growth of vetiver	Road Contractor	Supervising Engineer/	TANROADS and information shared by: ○ Municipal	During construction phase	Part of the main BOQ Section 1704 of SSRW)	

	grass; construction of gabions; provision of drainage			Environmental Management Office			
Impacts from workers' camp establishment	Sensitized communities and workers	Road contractor/ Community Relations Officer (CRO)	Supervising Engineer/	TANROADS and information shared by: ○ Community Development Officers	Before erection of camps	2,120	Community and workers' sensitization

Environmental and Social Impact	Indicator-mitigation target	Responsible for implementation of mitigation	Responsible for supervision	Reporting to	Time Frame	Estimated Cost (TZS000)	Remarks
Poor air quality (emissions and dust)	Water sprinkling, PPE, Speed limit implemented	Supervising Engineer/ Road contractor		TANROADS and information shared by: ○ OSHA, ○ CRB and ○ ERB	During construction phase	Part of main BOQ – Dust abatement section 1708 of SSRW	
Air, land and noise pollution from asphate and batching plants	Sound insulation Water sprinkling Provide PPE	Supervising Engineer/ Road contractor		TANROADS and information shared by OSHA	During construction phase	Main BOQ – air pollution abatement	
Solid and liquid waste generation	Good house keeping	Supervising Engineer/ Road contractor		TANROADS and information shared by: Municipal Health Officer	During construction phase	Main BOQ section 1713 of SSRW	
Poor public health from work camps	Good housekeeping at construction camps	Supervising Engineer/Road contractor		TANROADS and information shared by OSHA, ERB and CRB	During construction phase	54,750	HIV/AIDS programme, Sports Gear
Depletion and pollution of water resources including Msimbazi River	No pollution to water sources	Supervising Engineer/Road contractor		TANROADS and information shared by Municipal	During construction phase	Part of the Main BOQ Section 1706	Prevention of water pollu

				Environmental Officer, Municipal Water Engineer			
Water and soil contamination	Sound repairs for control of lubricants	Supervising Engineer/Road contractor		TANROADS and information shared by: Municipal Health Officer/ Municipal Environmental Management Officer	During construction phase	Part of the main BOQ	Prevention of soil and contamination
Increase in traffic accidents and traffic delay	Minimise accidents/ zero accidents and zero near misses –In pre-construction the contractor is required to prepare and implement Traffic Management Plan The contractor should ensure proper traffic	Supervising Engineer/Road contractor		TANROADS and information shared by Traffic Police	During construction phase	9,975	Traffic management

	management and use of diversions to avoid delays						
Delay in transportation	Minimum or no impediment to those on transit. Contractor shall prepare traffic management plan that indicates how to reduce accidents and control traffic during the project works	Supervising Engineer/Road contractor		TANROADS and information shared by Traffic Police	During construction phase	4,990	Traffic management

Environmental and Social Impact	Indicator-mitigation target	Responsible for mitigation	Reporting to	Time Frame	Estimated Cost (TZS000)	Remarks
Cultural changes	Communities sensitized to accept changes to employment for all	Supervising Engineer/Road contractor/ Community Relations Officer	TANROADS and information shared by: Municipal Community Development Officer	During construction phase	1,500	Community
Soil erosion on slopes and embankments	Soil erosion controlled through properly designed measures: i.e. vetiver grass, drainage systems and gabions	Supervising Engineer/Road contractor/	TANROADS and information shared by: Municipal Environment Officer	During construction phase	TANROADS Budget	
Landscape scars at un-rehabilitated quarries and borrow sites	Re-vegetation of borrow areas	Supervising Engineer/Road contractor/	TANROADS and information shared by: Municipal Mine officer / Natural Resources Officer	During construction phase	DART Budget	
Operation						
Environmental pollution especially by	Use of toilets at stations and dust bins	Municipal Environmental/ Health officer	DART and information shared by:	During operation	1,000	Sensitization of passengers

passengers travelling by bus along the road		SUMATRA	Municipal Environmental Officer			
Reduced air quality from increase in traffic	Air Quality as per Tanzanian Standard 837:2007	Municipal Environmental/ Health officer SUMATRA	DART and information shared by OSHA, CRB and ERB, Traffic Police	During operation	Contained in the Main BOQ for works	
Increase in HIV/AIDs, UTIs cases	Community sensitized regularly	Municipal AIDS Control coordinator	DART and information shared by OSHA MACC (Municipal Aids Control coordinator)	During operation	82,500	
Environmental pollution especially by passengers travelling by bus along the road	Use of toilets at stations and dust bins	Municipal Environmental/ Health officer SUMATRA	DART and information shared by Municipal Environmental Office	During operation	1,000	Sensitization of passengers and Bus operators

Environmental and Social Impact	Indicator-mitigation target	Responsible for mitigation	Reporting to	Time Frame	Estimated Cost (TZS000)	Remarks
Road carnage (pedestrian)	Minimum accidents	Regional/District Traffic Police District Agricultural and Livestock	DART and information shared by Traffic Police	During Operation	12,370	

		Development Officer				
Encroachment into road reserve	No encroachment	TANROADS / Municipal Land Officer	TANROADS	During Operation	1,200	

9.0 ENVIRONMENTAL AND SOCIAL MONITORING PLAN

9.1 Introduction

The overall monitoring of the project implementation during pre-construction, construction and operation phases falls under the responsibility of TANROADS. However during operation the responsibility of monitoring depend the nature of the impacts and it is cross cutting issues among several government institutions e.g. monitoring of traffic accidents will be under police force. TANROADS authority is well organized with qualified and experienced professionals. TANROADS will assign a project Manager under the BRT Unit to coordinate and close follow up and timely response to correspondences forwarded from the Consultants and Contractor. The Authority will attend tripartite monthly progress meetings and conduct site visits to discuss and address issues related to progress of works. TANROADS shall also be responsible for monitoring the Result Based Logical Framework in consultation with appropriate institutions. The monitoring of environmental and social mitigation measures will lie in the annual budget for monitoring from Safety and Environmental Department of TANROADS and DART Agency respectively and the National Environment Management Council (NEMC) mandated by the Law to ensure compliance.

The Consultant in collaboration with TANROADS will supervise and monitor implementation of the environmental and social management plans. The budget for monitoring is to the tune of TZS 95,680,000 during pre-construction, construction and operational phases.

Key stakeholders will have different monitoring roles to play at different stages of the project implementation ranging from Municipal levels, TANROADS, DART, Contractor, and Supervising Consultant. The regulatory authorities at the National and Municipal level have to see to it that the commitments made by the project proponent through mitigation measures are complied with and that is the essence of this Environmental and Social Monitoring Plan as presented on Table 32 below:

Mobilization phase

- Appointment of the Health, Safety and Environment (HSE) Officer
- Maintenance and checking of construction equipment ready for transportation to site and during the actual construction works;
- Training and sensitization of the staff on safety and environmental issues;
- Initiation of HIV/AIDS sensitization campaign;
- Collection and analysis of baseline data on air and water quality, and noise levels.
-

Construction phase

- Implementation of all mitigation measures as described under section 7;
- Implementation of HIV/AIDs sensitization campaign;
- Occupational health and safety measures (conditions at materials storage places, borrow sites, equipment, personal protective equipment (PPE), etc.,).
- Conditions at workmen's' camps (accommodation, sanitation facilities, hygiene, water availability etc.,)

TANROADS and Municipal Environmental Officers will be responsible for monitoring environmental impacts after construction of project in respective areas of their jurisdiction. Municipal Community Development Officers and Municipal Aids Control Coordinator will be equally involved in monitoring the trend in socio-economic status and HIV/AIDs patterns respectively.

Therefore, among other issues, TANROADS, Municipal Environmental Officers, Community Development Officers and Municipal Aids Control Coordinator, should deal with,

- Monitoring water pollution from various pollutants from construction equipment such as oil spills;
- Soil erosion and degradation control measures during construction;
- Water quality monitoring;
- Changes in socio-economic status of Project Affected Persons as part of RAP;
- HIV/AIDs trends

9.2 Reporting Arrangements

Contractors' appointees to deal with environmental management will cooperate with TANROADS and provide environmental reports on the project implementation as part of the progress reports and annual environmental monitoring reports.

Since the proposed BRT project involves the construction and operation of the roads, the project proponent, TANROADS, has developed a thorough understanding of the scope of potential environmental impacts of the project road, and will set effective monitoring strategies matching those existing in other roads.

Table 32 below presents the preliminary costs for BRT project on Environmental and Social Monitoring plan. The plan outlines the parameters that will require monitoring during construction and later operation of the road, indicators for monitoring, assigns responsibilities and states the means and frequency of monitoring. Costs estimated for monitoring activities are also presented.

9.3 Environmental and Social Monitoring Plan

The regulatory authorities at all levels have to see to it that the commitments made by the project proponent through mitigation measures are implemented incompliance the Environmental Management Act. Specific responsibilities and monitoring indicators and parameters and provided in Environmental and Social Monitoring Plan in Table 32 below.

Table 27: Environmental and Social Monitoring Plan

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
During Project Road Pre-construction phase					
Displacement of people due to land acquisition	Compensation	TANROADS and information shared by Municipal Lands Officer	Once during ng	Along the BRT project roads	3, 600
Relocation of infrastructures (water pipelines, electric cables)	No service interruption	TANROADS and information shared by Utility Companies (TANESCO, TTCL, DAWASCO etc), Municipal Water Engineer. It is expected that the contactor and supervision consultant will be handled over the site by TANROADS after all the relocation of the infrastructure is being done.	Onceduring initial preparation	Along the BRT project roads	3, 600

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
Air quality	(SOx)- Daily Av of hourly values≤0.1mg/kg or 0.5mg/Nm^3 for 10min. CO- A maximum permitted exposure of 100mg/Nm^3 for a period not exceeding 15min. Black smoke and suspended PM – Daily av. Of hourly values≤0.10µg/Nm^3 NOx - ≤150 µg/Nm^3 for 24 hrs -1≤20 µg/Nm^3 for 8 hrs Hydrocarbon (as total organic C) ≤20 mg/Nm^3	TANROADS and information shared by Supervising Consultant, Contractor and , Municipal Environmental Officer	Once during mobilization/ pre-construction phase	Residence near the project road	6,000
Noise and vibrations	Intensity of vibration within 100m of residence -≤25mm/s in residential -≤50mm/s near water supply well.	TANROADS and information shared by Supervising Consultant, Contractor and , Municipal Environmental Officer	Once every month during construction phase	Houses near the BRT project roads	1,000
During project construction phase					

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
Environmental and Social Parameter	**Indicator- mitigation target**	**Management Method (Responsibility for monitoring)**	**Time Frame**	**Sampling area**	**Estimated Cost (TZS'000)**
Landscape scarring at borrow sites	Landscaping	TANROADS and information shared by Supervising Consultant, Contractor and , Municipal Council Environmental Officer Municipal Natural Resources Officer and Municipal Mining Officer	Once every months	Borrow sites	2,400
Loss of Vegetation through clearance to improve access	Minimum vegetation Clearance. In case ornamental trees are removed there is need to replace them by planting suitable species.	TANROADS and information shared by Supervising Consultant, Contractor and, Municipal Environmental . Officer Municipal Natural Resources Officer	Once every 3 months for 3 years	Access roads	2,400
Soil erosion	Soil erosion control measures i.e. growth of vetiver grass; Operating gabions, drainage systems systems	TANROADS and information shared by Supervising Consultant, Contractor and , Municipal Environmental Office	Once every 3 months for 3 years	Along project road	2,400
Impacts from establishment of workers' Camps	Sensitized communities and workers Knowledge by workers of code of conduct requirements	TANROADS and information shared by Supervising Consultant, Contractor and , Municipal Land Office	Once every 3 months for 3 years	Community	2,400

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
Poor air Quality- Emissions and dust	(SOx)-Daily Av of hourly values≤ 0.1mg/kg or 0.5 mg/Nm^3 for 10min. CO- A maximum permitted exposure of 100mg/Nm^3 for a period not exceeding 15min. Black smoke and suspended PM – Daily av. Of hourly values≤0.10µg/Nm^3 NOx - ≤150 µg/Nm^3 for 24 hrs -1≤20 µg/Nm^3 for 8 hrs Hydrocarbon (as total	TANROADS and information shared by Contractor, Supervising Consultant and, Municipal Environmental Officer	Once every 3 months for 3 years	Residence near the project roads	12,000
Vibrations and noise pollution	Intensity of vibration within 100m of residence - ≤25mm/s in residential - ≤50mm/snear water supply well	TANROADS (Supervising Consultant), Municipal Environmental Officer	Once every 3 months for 3 years		3,000

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
Noise	For residential, institutional, educational settings (One Hour LAeq(dBa)): 55 during daytime (7am-10pm); 45 during nighttime (22pm-7am) For industrial, commercial settings (One Hour LAeq(dBa)): 70 during daytime (7am-10pm); 70 during nighttime (22pm-7am) (per WBG EHSG)	TANROADS (Supervising Consultant), Municipal Environmental Officer	Once every 3 months for 3 years		
Pollution due to Solid and liquid waste generation	Clean environment	TANROADS and information shared by Municipal Environmental Officer	Once every 3 months	Along the project road	2,400
Public health and safety impacts from camp operations	PPE and Good housekeeping at construction camps	TANROADS and information shared by, OSHA, Municipal Environmental Officer and Municipal Health Officer	Once every three	Community	2,400
Depletion and pollution of water resources	Limit use of water resource and note Pollutants in water, TSS, Target not > 20mg/Nm^3	TANROADS and information shared by, Municipal Water Engineer	Once every 3 months	Rivers/stream and shallow wells (e.g. Kizinga River)	2,400

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
Water and soil contamination	Pollution control Pollutants in water, TSS, Target not >20mg/Nm^3	TANROADS and information shared by Municipal Environmental Officer	Once every 3 months fo duration	Rivers/stream and shallow wells Along the project roads	2,400
Increase in traffic accidents	Target Zero or (Quantity of reduced accidents) Minimum accidents	TANROADS and information shared byTraffic Police	As per traffic regulations	Municipal/Regional traffic office	3,000
Delays in Transport	Traffic management	TANROADS and information shared bySUMATRA/ Traffic Police	Once a week during Construct	Along the BRT project roads	3,000
Social – cultural changes	Communities are protected	TANROADS and information shared byMunicipalCommunity Development Officer	Once every 3 months for 3	Community	2,400
Total Cost During Construction Phase					**42,600**
Project Road Operation Phase					
Environmental and Social Parameter	**Indicator- mitigation target**	**Management Method (Responsibility for monitoring)**	**Time Frame**	**Sampling area**	**EstimatedCost (TZS'000)**

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
Soil erosion on slopes and embankments	Erosion control measures in place	DART, Municipal Environmental Officer	Twice a year or immediately following rain season for 3 years	Along the project roads	1,200
Reduced air quality due to increase in traffic	(SOx)-Daily Av ohourly values≤ 0.1mg/kg or 0.5mg/Nm^3 for 10min.CO- A maximum permitted exposure of 100mg/Nm^3 for a period not exceeding15min. Black smoke and suspended PM – Daily av. Of hourly values≤0.10µg/Nm^3 NOx - ≤150 µg/Nm^3 for 24 hrs -1≤20 µg/Nm^3 for 8 hrs Hydrocarbon (as total organic C) ≤20 mg/Nm^3	DART, TANROADS, Municipal Environmental Officer	Once a year to assess the situation	Residence near the project roads	4,500
Increase in HIV/AIDs cases	Lower incidents of Sickness	TANROADS, Municipal Aids Control Coordinators	Once a year for 3 years	Community	7,200
Road carnage	Traffic accidents reduced	DART and Traffic Police,	Regularly as per Traffic routines	Municipal /regional traffic office	15,000

Environmental or Social Impact (parameter)	Indicator or Mitigation Target	Management Method (Responsibility for monitoring)	Monitoring Time Frame/frequency	Sampling area	Estimated monitoring Cost (TZS'000)
Encroachment into road reserve	No one constructs in the Road reserve	TANROADS and information shared by, Municipal Land Office	One year after project roads completion	Along the roads	1,500
Environmental pollution especially by passengers travelling by BRT buses along the roads	Minimum or Zero pollution along the road and within the depots and the buses	DART and information shared by, Municipal Environmental Health officer, SUMATRA.	Monthly	Along the project roads	1,500
Total during operation phase					**38,880**
Grand total					**95,680,000**

10. COST BENEFIT ANALYSIS

10.1 Introduction

Cost Benefit Analysis is a tool used either to rank projects or to choose the most appropriate option. The ranking or decision-making is based on the expected economic costs and benefits. The general rule is that the project should be undertaken if the expected lifetime benefits, both environmentally and socially, exceed all expected environmental and social costs.

The aim of Environmental and Social Cost Benefit Analysis (ESCBA) is to present the lifetime costs and benefits of a project as a single number that can be compared to either the interest rate prevailing or the costs and benefits of environment. To get this indication, the stream of net benefits (benefits minus costs) is discounted.

The process of conducting the environmental cost benefit analysis involves:

- Description of the project and corresponding capital costs.
- Identification of the project consequences in time frame order and obtain their monetary values.
- Determination of the type of Environmental and Social Cost Benefit Analysis In the following sections, the environmental cost benefit analysis of the project are presented.

10.2 Environmental and Social Costs

As presented under Section 7, the project negative impacts will include displacement of people due to land acquisition, relocation of infrastructures and disruption resulting from relocation of infrastructures (water pipelines, sewerage and drainage systems, electric reticulation facilities etc.) vegetation loss through clearance, soil erosion and improper location of workers' camps, poor air quality- emissions and dust, noise pollution, solid and liquid waste generation, impacts on public health and safety from work camp operations, depletion and pollution of water sources, water and soil contamination, increase in traffic accidents for pedestrians, delays in transportation, socio-economic changes and disturbance to cultural and historical sites.

During operation of the BRT project roads, the impacts were noted to be soil erosion on slopes and embankments, landscape scars at un-rehabilitated quarries and borrow sites, increase in road carnage, reduced air quality from increase in traffic, increase in HIV/AIDs cases, production of solid wastes, and encroachment into road reserve.

If each one of these negative impacts is assigned a monetary value at current market value, based on a combination of market value methods and one's willingness-to-pay

methods for the damage or impact caused, or based on cost for a remedy such as water sprinkling to control dust or provision of PPE, all these impacts (including the monitoring costs estimated under Chapter 9) all are worth about a million dollars.

The market prices or monetary values of environmental negative impacts are very difficult to obtain. They cannot be easily calculated as we can do for the project costs. The estimates on environmental costs are based on the assumption that the environmental cost may be equated to the cost of prevention or remedy in terms of providing PPE or health insurance as per common practice.

10.3 Intangible Costs of other Environmental and Social Impacts

In environmental-economic analysis, one of the challenges is that environmental impacts can hardly be quantified in monetary terms. The fact that cost-benefit-analysis seeks to translate all relevant considerations into monetary terms makes the whole analysis complex. In cost–benefit analysis, both the cost of, say, putting a dripping pan under the leaking grader or a front-wheel loader to reduce ground water pollution and the benefits of doing so including saving the human lives and prevention of debilitating and painful cancer diseases from consuming carcinogenic substances, are presented in terms of dollars.

10.4 Environmental and Social Benefits

BRT roads construction will open up many opportunities to the City especially along the project roads and other neighboring centers, regions and nation at large. The BRT system will allow more vehicles to reach the city center within the short time, thus commercial activities will be performed within short times and more benefits will be gained.

Roadwork activities will have offered some short-term employments to local community such as construction laborers, security personnel, contractors, Engineers, Environmental and Social Impact Assessment teams, etc. Many more benefits ranging from taxes on construction materials, availability of good infrastructure in the City, etc. will be realized. Overall, the BRT project will have great benefits economically and environmentally compared to current status of the City transport system. Therefore the benefits to be realized from the BRT project surpass the envisaged environmental and social costs within the lifetime of the project.

10.5 Conclusion on Cost Benefit Analysis

As a conclusion on the proposed BRT Phase 3 project, the environmental and social costs are relatively lower in value and are thus outweighed by the benefits to be realized

from the project. The consideration of “No-Project” or “Do-Nothing” option is dismissed as an alternative due to the need and desirability of the BRT system to solve transport problems in Dar es Salaam City. Therefore, the country at large stands to benefit significantly in terms of a thousand million dollars saved, in time and money, if the project is implemented.

11. DECOMMISSIONING

Decommissioning is the final phase in the life cycle of the project after locating the site, design, construction, commissioning and operation for the design life. Most often, it is a process involving operations such as dismantling and demolition of structures, and management of resulting demolished materials. All these activities have to take into account of the environmental health and safety requirements for the operating personnel, the general public, and any implications for the environment.

The transport infrastructure such as a road between two locations is not like a manufacturing facility or machinery whereby the methods used to manufacture some products are increasingly replaced by modern technology or process! The design life of the project road will be about 20 years or so based on associated infrastructures such as bridges and culverts or depots and workshops. The letter may operate for 50 years or so depending on the materials used to construct them.

As long as the residences along the project roads are on continuous expansion especially by replacement of small and old housing or building structures by multi-storey structures and modern ones and more development is coming rapidly, there will always be a need for even a better road between them. Therefore decommissioning of the proposed project should be thought in terms of upgrading the roads from the present status to the next higher stage depending on the transport demand at that time.

If at any one time, the constructed roads become ineffective such that an upgrade is required, then according to the first schedule of the Environmental Impact Assessment and Audit Regulations of 2005, the project will be falling under the list of projects requiring a fresh Environmental Impact Assessment.

However, on the completion of road construction, the excavation and restoration of the borrow pits and their surroundings, shall be carried out in an environmentally sound manner to the satisfaction of the Resident Engineer, and in a compliance with Government regulations particularly the Environmental Assessment and Management Regulations for Road Sector and the Code of Practice for Road Works. Before final acceptance and payment under the terms of the contract all the borrow areas no longer in use shall be properly restored. The side slops shall be stabilized with vegetation and proper drainage provided.

12. SUMMARY AND RECOMMENDATIONS

12.1 Summary

The Environmental and Social Impact Assessment Study has been completed in accordance with the Tanzanian Legislations including the Environmental Management Act (2004), the Environmental Impact Assessment and Audit Regulations (2005) and the Environmental Assessment (EA) and Management Guidelines for Road Sector (2004). The Environmental and Social Studies Team has carried out field surveys to collect the environmental and some social data and also discussed with the local authorities concerning the environmental and social impacts of the project roads and proposed mitigation measures. The environmental and social team also carried out consultation with the representatives of local communities along the project area to integrate their requirements in the project. This consultation enabled the Consulting team to have a physical feeling of the local conditions around the project site.

The construction of BRT system is essential for the development of the economy of the whole of Dar es Salaam and the country at large. In the absence of reliable transport system in the Dar es Salaam City, respective communities have been struggling to use alternative routes that even take longer time or other means of transport such as motor cycles and the so called *Bajaj* (tri-cycles), which are dangerous (accidents) due to carelessness of most of the drivers and narrowness of the existing roads. However, these alternative means of transport are more expensive to reach planned destinations. The BRT system will improve the economy and access to social and health services not only to the population located immediately along the project road, but also for those within a larger area even beyond boarders of the city. The project roads will significantly contribute to lessening of poverty level in Dar es Salaam, if the negative impacts identified are adequately mitigated.

Education and health services shall greatly benefit from the project roads. On the other hand, the project road may cause serious negative impacts that must be mitigated if the projects benefits are to be realised in a permanent and sustainable way. These environmental and social impacts are related to displacement of people due to land acquisition, relocation of infrastructures and disruption resulting from relocation of infrastructures (water pipelines and electric facilities along the project roads) interference on drainage and sewerage patterns, landscape scarring especially at borrow sites, vegetation loss through clearance, soil erosion, impacts from improperly located construction camps, poor air quality- emissions and dust, noise pollution, solid and liquid waste generation, impacts on public health and safety from work camp operations, depletion and pollution of water sources, water and soil contamination, increase in traffic accidents for pedestrians, delays in transportation, and socio-economic changes.

Most of the project negative impacts can be mitigated with appropriate measures. Constant involvement of DART Agency, the Contractor and all the Dar es Salaam City authorities, as well as ward government authorities and the local communities in the project area will be required to implement and monitor the mitigation measures. Monitoring of environmental and social impacts will be important in ensuring sustainable development of the City.

One of the most significant sociological impacts that will result from the roads project will be the issue of resettlement and compensation due to permanent loss of land and property as the result of trying to recover and/or acquire the right of way required for construction of the BRT system. The good point here is that there will be no major realignment and therefore the number of people that will be displaced will be minimized. But the resettlement process, however small, will involve considerable upheavals to those few displaced and possibly give the area a new face after clearing the trees and vegetation.

The spread of HIV/AIDs, STIs associated with roads construction workforce, sitting of the construction camps and later the presence of truck drivers that will use the project roads were mentioned to be a major social impact of the project. This was a major concern and was highlighted during public consultations and the measures to be taken by the Contractor were mentioned to the respective communities consulted.

12.2 Mitigation Measures to be Implemented

The mitigation measures set out here will be in part implemented through compliance with the Standard Specification for Road-Works as produced by the then Ministry of Works in 2000. The details of some environmental protection and waste disposal issues are under Series 1000, Section 1700. In summary, the mitigation will focus on the following key issues:

- The whole process of compensation and resettlement has to be done with great care and systematic, procedures involved should be clear and open.
- Limit removal of vegetation cover to the area necessary for permanent works along the project roads. Camps for workforce, material storage, access roads can be located in areas with minimum vegetation or no vegetation at all.
    - Limit unsupervised construction activities near the river bank and water courses
- Apply soil cover and slope protection techniques to control soil erosion, degradation. Works during the wet season may aggravate the soil erosion problem; therefore such seasons shall be avoided for earthworks.
    - Reinstate borrow pits upon completion of the roads works
- Recruit local people for them to realize direct benefits of the project through employment.
- Provide personal protective equipment (PPE) to all workmen and ensure proper use of the PPE.
    - Conduct HIV/AIDs/ STIs/STDs awareness campaign

- Conduct education and awareness to communities in relation to child labour and truancy.
- Provide traffic management to avoid or minimize accidents for pedestrians.
- Install warning signs and awareness to all dangers
- Provide adequate solid waste disposal and sanitation facilities and the workmen's/Contractors Camps.

Diligence on the part of the contractor is critical for ensuring that environmental and social issues/impacts are minimized. The Contractor will be required to appoint a dedicated Health Safety and Environment Officer among his staff, responsible for ensuring that the Environmental and Social Management Plan is adhered to, reviewed, updated and implemented in collaboration with the TANROADS, Wards and Sub-wards governments.

Regular check-up of the project roads to carry out necessary maintenance and monitoring of the key impacts will serve to check adverse impacts during the operation life of the roads. This will be undertaken by the Supervising Engineer and TANROADS' environment and social staff.

The mitigation actions set out in the Environmental Management Plan (EMP) are binding for the construction and operation of the project roads. This will ensure that environmental impacts are minimized and properly monitored during construction and operation and that unnecessary incidents are avoided.

Furthermore, in order to ensure that the construction of this proposed development does not result in to potential negative impacts on site and in the surrounding areas, a Community Liaison Office (CLO) will be established and must comprise of the following key stakeholders:

- Local community along the project roads
- Environmental Liaison Officer (ELO) in consultation with the Municipal Environmental Management Officers of all municipalities or the Regional Environmental Management Expert
- Project Contractor(s)

During detailed engineering design, later construction and operational phases, the community committee will continue to function to ensure that complains regarding non-compliance of ESMP are dealt with. This committee will also be responsible for any issues associated with the proposed development.

12.3 Relocation of Services

Like any other road projects, the public services along the project roads such as water supply pipes and electric reticulation facilities which were observed to be on the road reserve should be relocated early and without interrupting the supply to respective

communities. The summary of estimated costs for relocation of the utilities is shown in table 33 below:

Table 28: Summary of the costs for relocation of the utilities

SN	Service Provider	Phase 3
1	DAWASCO	Tshs. 25,839,332.00
2	TTCL	Tshs.
3	TANESCO	Tshs. 2,287,681346.50
	Grand TOTAL	**Tshs. 6,420,132,164.93**

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31. United Republic of Tanzania, Land Use Planning Act No. 6 of 2007
32. United Republic of Tanzania, Urban Planning Act No. 8 of 2007

33. United Republic of Tanzania; Protected Public Places and Recreation Areas Act No. 38 of 1969
34. United Republic of Tanzania, Forest Act No. 14 of 2002
35. United Republic of Tanzania, The Mining Act No. 5 of 1998
36. United Republic of Tanzania, Explosives Act No. 56 (1963)
37. United Republic of Tanzania, HIV and AIDS (prevention and control) Act No. 28 of 2008
38. United Republic of Tanzania, Employment and Labour Relations Act (2004)
39. United Republic of Tanzania, The Roads Act No. 13 of 2007.
40. United Republic of Tanzania, The Water Utilization Act No. 42 of 1974 and Amendment No. 10 of 1981
41. United Republic of Tanzania, The Occupational Health and Safety Act No. 5 of 2003
42. United Republic of Tanzania, The Architects and Quantity Surveyors Act No. 16 of 1997
43. United Republic of Tanzania, The Engineers Registration Act No. 15 of 1997
44. United Republic of Tanzania, The Contractors Registration Act No. 17 of 1997
45. United Republic of Tanzania, Ministry of Works - Standard Specification for Road work 2000
46. United Republic of Tanzania, Ministry of Works, Road Sector Compensation and Resettlement Guidelines (February 2009).
47. The convention on the prevention of Marine Pollution by dumping of Wastes and other wastes, London, (1972)
48. The convention on the prevention of Marine Pollution from ships (MARPOL) (1973)
49. United Nations convention on the Law of the sea, Montego Bay, (1982)
50. Convention of Biological Diversity, (1992) ratified by Tanzania in 1996)
51. Convention to combat, desertification, particular Africa, Paris 1994
52. The Cartagena Protocol on Bio safety to the convention on Biological Diversity (2000)
53. The convention on International Trade and Endangered species of Wild Fauna and Flora (CITES), Washington (1973)
54. The convention concerning the Protection of World Cultural and Natural Heritage, Paris, (1972)
55. The convention of Wetlands of International Importance especially as water fowl Habitat (The Ramsar Convention) (1971) ratified by Tanzania in 1998)
56. The United Nations Framework convention on climatic change (1992)
57. Kyoto Protocol (1997)
58. Basel convention on the control of Trans boundary movements of Hazardous Waste and their Disposal, 1989
59. The Montreal protocol on substances that deplete the ozone layer, Montreal, 1987
60. Protocol on Liability and compensation on Damage resulting from Trans boundary movement of Hazardous waste and their disposal, 2000
61. The Convention on the conservation of Nature and Natural Resources, 1968 Algiers, (1968)
62. The Bamako convention on the Ban of the import into Africa and the control of Trans boundary movement of Hazardous Wastes within Africa, 1990
63. Nairobi Convention for the protection, management and development of the Marine and Coastal environment of Eastern African Region, 1985 and the related protocols.

64. Lusaka Agreement on cooperative enforcement operations Directed at illegal Trade in Wild Fauna and Flora (1994).

ANNEXES

Annex i: TERMS OF REFERENCE FOR REVIEW OF ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR BUS RAPID TRANSPORT (PHASE 3) IN DAR ES SALAAM

1.0 INTRODUCTION

The Government of Tanzania requested the assistance from African Development Bank to support the implementation of Bus Rapid Transit (BRT) system for phase 2 and 3. The assistance will support to establish, operate and manage the Bus Rapid Transit (BRT) system, which is the cost effective sustainable transportation system for Dar es Salaam City to ensure fast and orderly flow of traffic on urban streets and roads.

In order to implement the proposed project, DART Agency commissioned M/s Kyong Dong Engineering Co. Ltd of Korea in Joint Venture with M/s AMBICON Engineering Ltd of Tanzania to carry out an Environmental and Social Impact Assessment, Detailed Engineering Design and Preparation of Tender Documents for BRT Phase 2 and 3.

The proposed BRT phase 2 and 3 roads project is envisaged to be constructed in Dar es Salaam City in Ilala and Temeke municipalities. The Second and Third Phase of BRT system plan, whose detailed engineering designs is in progress, intends to cover infrastructural design and the associated trunk and feeder network plans. The second phase of BRT corridor is designed to be along Kilwa Road with a total of 19.3km from the City Centre to Mbagala area. The third phase of BRT corridor covers Uhuru and Nyerere roads from GongolaMboto to Kariakoo area with a total of 23km where it connects with other routes.

The Environmental and Social Impact Assessment (ESIA) has been conducted in accordance with the requirements of the Environmental Management Act No. 20 of 2004 and Environmental Impact Assessment and Audit Regulations (2005) and applicable ADB Safeguard policies. Other important legal provisions, which provide guidance on environmental issues pertaining to road sector have been consulted such as the Road Act (2007), Environmental Code of Practice for Road Works (2009), and Environmental Assessment and Management Guidelines in the Road Sector (2011).

Currently the World Bank has shown interests to fund the construction of Phase 3. In this regard, among others, the World Bank has reviewed the Environmental and Social Impact Assessment Report and found that:

- The ESIA has been prepared as part of the consulting services for the design of 42.9 kms of the BRT system commissioned to Kyong Dong Engineering Co., Ltd in association with AMBICON Engineering (T) Limited.
- The ESIA makes no reference to Environmental and Social Safeguard Policies of the World Bank
- In accordance with the World Bank Safeguards Policies, the main project – Second Central Transport Corridor Project has been rated as a Category in terms of environmental risk assessment. This implies that projects is envisaged to generate adverse environmental and social impacts and requires full ESIA. Preparation of ESIA for Category A projects has to be carried out independently from the feasibility and/or design consultant.
- In situations where ESIA been prepared under the same contract as the detailed design, and independent review of the ESIA ought to be done.

As it was agreed, the supervision for finalizing the detailed design, environmental and social impact assessment as well as supervision of the construction works for phase 3 of

the BRT will be done by TANROADS. In this regard, among others, TANROADS intends to engage an Independent Consultant to review the Environmental and Social Impact Assessment to be consistent with the World Bank requirements.

2.0 OBJECTIVE

The main objective of the assignment is to review the Environmental and Social Impact Assessment for BRT Phase 3 for consistency with the Tanzanian and World Bank requirements.

3.0 SCOPE OF THE ASSIGNMENT

- Verify the baseline data collected during the undertaking of ESIA;
- Review relevant policies particularly the world Bank safeguard policies which were not covered before;
- Elaborate on the management plans to address potential impacts from transportation or transfer of gravel, sand other materials to the construction site;
- Provide more and specific information of assessment and management plans including decommissioning of borrow pits and other sources of earth materials;
- Review the Environmental and Social Management Plan as well as monitoring plan

4.0 CONTRACT DURATION

Duration of the assignment is 20 working days after signing the Contract.

5.0 MILESTONE

(i) The Draft Report shall be submitted at the 12th day after signing the Contract
(ii) The Final Report shall be submitted at the 20th day after signing the Contract

Annex ii: Minutes of the Public Meetings held different wards/streets

Hivyo mwenyekiti alisema kuwa kutakuwa na transfer Station Zitakazojengwa Mbagala na Gongolamboto ambapo watu watatolewa kwenye mabasi yaendayo kasi na kupata Usafiri Utakaowapeleka ndani Zaidi.

Hivyo kwa kila transfer Station kutakuwa na Depo kwa ajili ya kuhudumia magari. Hiyo mwenyekiti alibainisha kwa mradi Utaitaji Upatikaji wa ardhi

Mwenyekiti alibainisha kuwa Utoaji wa ardhi ndio Itakuwa athari moja kubwa.

Katika athari Zingine Siyo kubwa Ikilinganishwa na Utoaji awa ardhi. Kwa mfano kusimamisha magari kwa muda ni moja ya athari ingawa ni ndogo.

Athari Zingine ni pamoja na kuondoa mali za watu Ikiwa ni pamoja nyumba, Uzio pamoja na Mimea.

Athari Zingine ni Vumbi wakati wa kusafisha barabara kuna Uchafunzi wa Mazingira na hasa mitambo na magari yatakayotumika. Katika Ujenzi

Athari Zingine ni Usumbufu kutokana

Athari Zingine ni Magonjwa kutokana na Muingiliano wa watu kuna watu watakaotoka Mkoani kuja kuomba

KIKAO WA WADAU WA MRADI WA MAGARI YAENDAYO HARAKA (DART)

13/09/2011

MUHTASARI.

Mwenyekiti wa Kikao alianza kwa kuomba wajumbe wawepo kujitambulisha. Hivyo wajumbe mmoja mmoja alianza kujitambulisha na Mahali anapotoka.

Mwenyekiti alieleza kusudio la kupanua barabara kwa Umbali wa 19.3 Km. from City Centre mpaka Mbagala. Pia alisema Nyerere Road ipo kwenye mpango huo kutoka Kariakoo mpaka Gongolamboto kwa Km 23.6. Km.

Hivyo Mwenyekiti alibainisha kuwa ni lazima watu waelezwe ili wajue athari za Mradi kulingana na mawazo yako binafsi

Hivyo kusudio la kikao ni kujiandaa kufanya Mikutano kusudi watu waweze kuendelea vizuri kuhusu mradi na lengo hasa ni kuwataka watu waelewe kusudio la Mradi.

Suala la Kijamii na Kiuchumi

Mtaalamu wa mambo ya Kijamii na Kiuchumi alianza kueleza madhara yatakayotokana na Upanuzi wa Upana wa barabara. Hivyo kuwataka walendaji na Madiwani kuanisha maeneo ambayo barabara kwa mfano Upande wa masoko, Maduka, na kama nyumba nzima itaondoka je watu hao watakwenda wapi

Mtendaji Gongo la mboto

Upatikanaji wa Bara² ni kupatikana kwa ardhi. kwa kawaida ni Mita 30 kwa kila upande la kuna bara za kimataifa zinazidi hapo. Ardhi inayoitegemea pembeni tayari imekuwa inatumika na Wananchi, Serikali na wafanyabiashara.

Watu wa Gongo la mboto hawatujali issue ya Maningira watajali fidia. (Pesa).

Tuweke wazi mapema juu ya fidia kwa wale wote watakao pitiwa na mradi.

Kuhamisha shughuli zinazofanywa kando² ya Bara² ni Biashara, nyumba nyingi ni frem za biashara, Watakao athirika kwa ujumla ni wafanyabiashara.

Mzizi 2, kutenye msitari wa kwanza kuna kisima. Kisima cha Maji cha Dawasco.

Eneo la Jeshi

MITHANDISI KUTOKA AMBICON

Eneo la kufadhi ya barabara ni M 38 - 49 Kwa kongolambato ni m. 15 Zitakitajika. Barabara ya Ukuta itakingwa kwa maana kuna mayongo mengi na haitakuwa katika mpango wa Kulipa fidia.

Kuanzia kongolambato kuna barabara zinaelema Cation ambazo ni mita 7 zinaitajika kwa kila upande.

MITHANINI KUTOKA AMBICON

Sheria itakayotumika Kulipa ni Sheria ya ardhi ya Mwaka 1999 no 5 na no 4 Vitu vya kuzingatia ni Vitu ambavyo havigmishiki kwa mfano mayengo Aridhi yenyi mali ni lazima ilipwe fidia. Posho ya Usumbufu, Posho ya makazi (miezi 36) ambayo ni kodi ya jengo, Posho ya Upotevu wa faida. (loss of profit), Posho ya Usafiri (12 tons x 20 Kms) Organization ambazo hazipewi posho ya Usumbufu ni Misikiti, taasisi za watu binafsi na taasisi za Serikali. Mali mpingi watu huwa wanalalamikia kuwa pesa aliyolipwa ni ndogo hii ina tokana a time frame. Valuation itakuwa Valid katika kipindi cha miezi Sita.

Swali

Mjumbe alitaka kujua process nzima ya Ulipaji kwa mfano Kipiwa Valuation ilifanyika miaka kumi?

Jibu

Mtu eneo lake halitachukuliwa mpaka Ulipaji Utakapo fanyika

Mjumbe Mwingine alienga Mkono na kusisiti kuwa kunahitajika darasa la kiwa Ili kuwaelewesha wananchi

Swali

Mjumbe anauliza Mbinu zitakazotumika kuwapata watu?

Mjumbe Mwingine aliomba Vikao Vifanyika Siku za mapumziko?

Jibu

Ratiba

Mradi Una Muda wake wa Kumaliziko.

Mwenyekiti alishauri Kuandaa ratiba Upya na pia atawatafutia wajumbe.

Imeandikwa na:

Burton Ketta.

AFISA MTENDAJI WA KATA
KATA YA GONGOLAMBOTO

Annex iii: Attendances of Ward Executive officers (WEO) and Ward Councilors to the consultation meetings

MKUTANO WA DART 13/09/2011
MANZEPAA YA ILALA.
MAHUDHURIO.

JINA KAMILI	CHEO	#SIMU	SAHIHI
1. ELIZABETH B. MBANO	DIWANI - UKONGA	0713 833 998	
2. C. M. CHAMWI	WEO - UKONGA	0716 - 616670	Chamwi.
3. William GATAMBI	Meneja Uhusiano DART	0754 754902	
4. Evodi R. Katale	HRm	0713-413295	
5. Albina John	SEM	0754825653	
6. Emmanuel Leonard	WEO	0714-228668	
7. Geofrey Kitalili	VALUER	0716097403	
8. BONNAH M. KALOWA	DIWANI - KIPAWA	0754-261075	
9. Lucy Semindu	Afisa Habari	0712-058779	
10 PROTAS P. TARIMO	WEO-VINGUNGUTI	0754373742	
11 BURTON B. RUTTA	WEO-G/MBOTO	0741787866	

MKUTANO WA DART
MANISPAA YA TEMEKE

13/9/2011

MAHUDHURIO

	JINA	CHEO NA KATA	NO. YA SIMU	SAINI
1.	Mhe Agrey Rayombo	DIWANI — Mbagala	0713 232712	
2.	" Kinyaka A. Shaban	= DIWANI		
*3.	" NOEL KIPANGILE	DIWANI — CHANGOMBE	0754827926	
*4.	" Nsombo H. Shaaban		0754326604	
5.	WILFRED M. KIMATI	TEMEKE	0754283628	
6.	ABDALLAH S. KIDEGA	D. KURASINI	0754-374646	
7.	PAULINA MTAMBO	AG WEO-MTONI	0653 941494	
8.	ALEX D. HAJI	WEO KURASINI	0714-217868	
9.	MKUNGULE M. VUMBI	AG WEO KEKO	0655400329	
10.	TWAMGABO MARY	WEO-MIBURANI	0715/0753-677639	
11	FATUMA MWAFUJO	WEO-TEMEKE	0712-790087	
*12	JUMA Abdallah	HRO	0754 201198	
13.	Magdalena Marunda	TEMEKE	0653863982	
14.	Mh. Salama Masoud	ORW	0718493083	
15.	Benaya L. Kapinga	Diwani	0718535853	
16.	F. Mfawa	WEO - Mbagala	0715822721	
17	Mhe Juma Nkenga	DIWANI Diwani Miburani	0715.248491 0754-269527	
18.	HULDA J. UZOMI	WEO-CHANG'OMBE	0655 707048	
19	Mhe Judith Magenda	Diwani Maalum Mtoni	0784883647	

Minutes and List of Participants Ilala ward

29.9.2011

MKUTANO WA WADAU WA MRADI WA
MABASI YAENDAYO HARAKA
KATA YA ILALA
MUHTASARI

Mkutano ulifunguliwa na Afisa Mtendaji/Mkiti.
Saa 11:50 asb.
Baada ya mkutano kufunguliwa kilichofuatia utambulisho

* Mradi wa Mabasi yaendayo speed
Mtaalam alieleza Madhumuni ya Serikali ni kuondoa kadhia Mabasi yaendayo kasi mabasi yatakuwa katika barabara ya Uhuru kupanuliwa na kuwa ya njia sita kwa maana hiyo wakazi wa pande zote kwa hivi sasa watakaoguswa tathmini ya Majengo kwa watakaoguswa katika upanuzi huu wa barabara kwa maana ya upande wa mita 25 n.k

* Mhandisi:
Barabara ya Uhuru upanuzi wake utaanzia Mnazi Mmoja na itaishia Ilala Bungoni, wameeleza upana wa barabara utakuwa mita 50 kwa maana ya mita 25 kila upande.

* FIDIA
- Posho ya kupatiwa kiwanja
- Fidia ya ardhi
- Hela ya kusafirisha mizigo.
- Posho ya kuhamia makazi
-
-

Maswali
* Nyumba za Ilala zitalipwaje?
- Kutegemea na bei ya soko ikiwezekana kwa pamoja na thamani ya nyumba husika na wadau wote watashirikishwa kama Mtendaji, M/kiti, balozi n.k
- Baada ya wakazi kuongelea tathmini yake

kulipa hapo Mamani ya nyumba walima
kufanikisha na hali ya upatikanaji Gini maajipang
nipi kama hilo?
— Kama kawaida valuation inaleta wateja
wakikumbuka kuwa hivi sasa serikali
imeshitambua hilo na kuleta ya malipo kufanya
ukaguzi na sasa kama mwekezaji huo.
* Zoezi litaanza lini?
— Design tayari imekamilika na kuna [illegible]
na tayari na Mradi [illegible] unatarajiwa kuanza
2012/2013
* Mwekezaji wa barabara atakuwaje kama
vile barabara ya upana wa mita 50 ni [illegible]
sana
— Barabara hiyo itakuwa na sehemu
maalum za kuweka na sikuta mahali.
* Je hiyo inaweza kuleta ya ujenzi kama sasa
tunajenga hizo?
— Mradi kama umefafanulia na wakati huu
na tayari [illegible] kazi na sehemu [illegible]
kama ilivyo hivi vile valuation haijafanyika
sitawezi kusema ujenzi utaanza
* Kama upana ni mita 50/60 hamuoni
nyumba za watu nyingi zitabomolewa?
— Hiyo itategemea na upimaji kama italazimika
kupitia nyumba itabomolewa kutokana na [illegible]
* Je kama vile viwanja vitafanyiwa [illegible]
hata kwa upimaji utafanyika kuanzia [illegible]
kwa [illegible] na Zamani [illegible] kama
ki kipande kinachobaki?
— Kipande ambacho kitakuwa cha ya Mradi kit
lipwa kama [illegible]
Maoni.
Wananchi walioongea wamekubaliana na [illegible]
kwa kama serikali wasiyoweka valuation
ya [illegible] hali [illegible] kwa [illegible]
[illegible] kama nyumba ni mali [illegible]

* Taarifa za Mkutano hazikumafikia wadau wa wote wa nyumba zitakazopitiwa na Mradi

Mkutano ulifungwa 7:10 Mchana

Imethibitishwa

AFISA MTENDAJI KATA
KATA YA ILALA
29/09/11
WEO - ILALA

29.09.2011

MKUTANO WA WADAU WA MRADI WA MABASI YAENDAYO HARAKA JIJINI DAR-ES-SALAAM.

KATA YA ILALA.

MAHUDHURIO.

NO.	JINA	MTAA ATOKAO	SAHIHI
1.	OMARI RAJABU PAZI	UHURU STIRIT	[signature]
2.	MWINYIPEMBE KIBIKI	—do—	[signature]
3.	FATILIMA RAMADHANI MKAKIL	—do—	F.R.
4.	MWAMINI ZABRON UBWE	—do—	[signature]
5.	SALAMA RAMADHANI KIRUNDU	—do—	[signature]
6.	GHALIB ALLY SALUM	—do—	[signature]
7.	AWADH - D. AWADH	—do—	[signature]
8.	YAHYA - S. AHMED	—do—	[signature]
9.	SHEKHA . Z	—do—	[signature]
10.	EDDY JOHN SHIRIMA MAX BAR	—do—	[signature]
11	ABU KIRUNDU	—DO—	Abu Kirundu
12	LEONARD MADAHA	MEO - KASULU	[signature]
13	SAM W SWILA	WEO - Ilala	[signature]

29/09/11
AFISA MTENDAJI KATA
KATA YA ILALA

Minutes and List of Participants Kariakoo ward

28.09.2011

MKUTANO WA WADAU WA MRADI WA MABASI YAENDAYO HARAKA JIJINI DAR-ES-SALAAM KATIKA YA KARIAKOO.

MUHUTASARI

Ajenda za Kikao:

1. Kufungua Kikao
2. Taarifa ya Mradi wa Mabasi yaendayo Kasi
3. Mrejesho kwa Idhini ya Mwenyekiti
4. Kufunga Kikao

MWENSHIRI NA.1. Kufungua Kikao Mwenyekiti, ambaye ni Afisa Mtendaji Kata, alifungua kikao saa 4:30 asubuhi tayari kumkaribisha Mtendaji wa Mradi wa Mabasi yaendayo Kasi

AFISA MTENDAJI KATA YA KARIAKOO

Mtendaji Kutoka Mradi wa Mabasi yaendayo Kwa Kasi, alisema Kuwa lengo la Kikao hiki ni Kutoa habari Kuhusu Mabasi yaendayo haraka, ni mradi Ulobuniwa na serikali yetu ili Ku boresha Usafiri wa Umma

Utakamilega baadhi ya barabara ze nye Mahitaji makubwa Kama Mo rogoro road, Kilwa road, Nyerere roc Kawawa road na nyingine zitaa ndele a kutafutwa

Ujenzi wa huo ni hawamu 7 lakini hawa wanadili na hawamu ya pili na ya 3, mbayo zaa emu ya pili inaanza pasta ya gana ni kuvenda Mbagala rangi 3, pia Mgurani Katika barabara ya Kawawa.

pia awamu ya 3 itaanzia posta ya Ziwani kuelekea gongo la mboto pamoja na ya Uhuru tembayo ita anzia mnazi mmoja.

Kinacholetanywa na wao ni kuthumini ya Mradi athari pande zote mbili, Mazungira pia na jamii kwa Ujumla kwa upande wa Mazingira athari zitakazo jitokeza wakati wa Ujenzi wa barabara, Uharibifu wa Miundo Mbinu ya maji, Umeme, Kelele na Vumbi, wakati wa Ujenzi huo

19

Na kwa upande wa jamii, Madhara ya Ujenzi ni Usalama kwa watu hasi, na pia kutakuwa na upungufu wa ghafla za Usafiri watoto wa Shule watawahi Shule na wajanyakazi watawahi Majumba

Kwa Upande wa Fizia kwa wale watakaovunjiwa nyumba zao ni kuambiwa watalipwa kwa thamani ya eneo lililovunjwa na kwa thamani ya wakati huo.

Mwundo wa Barabara Utakuwa hivi, Zitapita kati ya barabara Inginakuwa na Upana wa Mita 9-12 pia kuna barabara za nyongeza kwa wapita kwa miguu na baiskeli, na kuna Maeneo yatatengwa kwa ajili ya kupitisha Mkongo wa Mawasiliano, Maji taka na Maji taka.

Athari zitakazo angaliwa ni za Kiujumla Kama/Mfano taasisi Mbalimbali na Pia na gharama
Athari zitakazolipwa
- Ardhi
jengo
Biashara
Usafirishaji Km 20.
· upotevu wa faida
Usumbufu

Wakati wa tathimini Viongozi wa Serikali ya Mtaa pamoja na mjumbe na mmiliki wa jengo husika watakuwepo kwenye nyumba hiyo kwa ajili ya Kusimamia tathmini halisi.
Kwa eneo la Msimbazi zoezi hilo litafanyika ndani ya Mwaka hu 2011, Lakini kwa barabara ya Uhuru ni mwishoni mwa Mwaka 2012, Lakini Kati ya Mwezi 10-12 watna na tathmini ila watatoa Taarifa.
~~Mradi huo~~
Na wote watakao lipwa lazima wapewe namba na baada ya Kulipwa Kabisa ndipo Mwenye nyumba atahondoka.
Na wataka taka Kuhama Kabisa pia wataangaliwa, Mfano toka Dar mpaka Mbeya.

Mtendaji wa Kata, alifunga Kikao Saa 6:20 Saa Sita Mchana na dk 20.
- Nathibitisha Muhtasari
[signature]
AFISA MTENDAJI KATA
KATA YA KARIAKOO
[illegible]

28.09.2011

MKUTANO WA WADAU WA MRADI WA ~~M~~MABOJI YAENDAYO HARAKA.

KATA YA KARIAKOO

MAUDHURIO

NO	JINA	MTAA	SAHIHI
1.	Alphonce Mbenduki	KATA YA KARIAKOO	~~AM~~
2.	Ubwe · S. WATUTA	KARIAKOO/MAGHARIBI	~~OM~~A.
3	JAME S. KAZIMOTO	Xlea / Kagharibi	~~JSK~~
4	Mohamed Kaiji	Ulumi / Msimbazi	KANJI
5	Shabi Kaiji	Ulumi	KANJI
6	MAHDI ~~AADI~~ MAHFUDH	MCHIKICHI / MSIMBAZI	Mhekalagha.

28/09/2011

AFISA MTENDAJI KATA
KATA YA KARIAKOO

Afisa Mtendaji Kata

Minutes of the meeting and List of Participants Gerezani ward

26.9.2011

MKUTANO WA WADAU WA MRADI WA MABASI YAENDAYO HARAKA

KATA YA GEREZANI

MUHTASARI

Kuntafuta wakala ~~DATAS~~ DART.
Ambiciana Engineering. atafanya tathmini ya Athari za mazingira.
Maoni ya Wadau yanatakiwa
Washauri kuhusu Mradi
Mradi Mzima una na matokeo/athari yatakayotajwa katika... kwenda zina zonadi.
Lakini kwa hili matokeo yatakuwepo.
Usumbufu utakuwepo.
Usumbufu kwa jamii
Usumbufu kwa mazingira
Kutakuwa na ubinu za kusimamisha usumbufu usitokee.
- Kuepusha Vumbi
- Kuepusha Kelele.
- Lazima Kutakuwepo na uvunjaji wa nyumba
- Huu mradi utakapofika utakuwa na faida kubwa sana.
- Foleni Itapungua
- Uzalishaji mali utaongezeka.
- Ajira zitakuwepo.
- Uchimbaji wa Vifaa Vya Ujenzi kama Kokoto, mchanga n.k

Majadiliano

1 Usanifu wa barabara na Mabadiliko yake utategemea hali ya barabara kuonyesha ugawanyiko 2 group/awamu mbili.
Posta ya Zamani kutoka Kiwanda ...

Mara mmoja round about ya Kilwa road - -
- Maoni haya ni kwa ajili ya magari yaendayo haraka.
- Kujatengwa barabara maalum.
- Magari ya kawaida yatapita pembeni
- Kutokuwa na Gurey road siyo kama sasa.
- Pia 4 zitakuwepo kulingana na taratibu zitakavyo kuwepo.
- Utengenezaji unafuata kanuni za ujenzi wa barabara. Maeneo yatakayo gusiwa kiasi ila yenye upungufu wa mita zinazohitajika
- Sehemu zitakazo adhirika utaratibu wa malipo utafanyika.
- upotevu wa mali
- Upotevu wa biashara
- Usumbufu

Maoni

Ndugu Mlole:

1 Kikao chenu kilikuwa kinahitajika, wakina nani? Wageni mmekuwa wengi zaidi
- Wengi tulipo ni wale tunaotoka gerezani

2 Katika utendaji kwa unashangaa vipi na Tan Road. Kwani Tan Roads na wao wali kuwa na mazungumzo kama yenu. Kwa upande wa Gerezani mmekusudia kujenga Barabara ngapi? .
- Kwani Tan Roads tulipowauliza hawajapata jibu kamili: Kwani sisi ndiyo waathirika. Tunaongea na nani ile kumaliza bahu ya kujenga barabara zote hizo?
- Kwani tunavyoelewa zoezi hili litachukua upande mmoja.

Jibu Tulikuwa tunahitaji ujenzi wa kati ya Gerezani. Kuanzia round About mpaka eneo la round about ya Kilwa.
- Kwa vile maeneo mengine tayari, Mradi wa JICA ulikuwa umeshaanza ujenzi maeneo mengi na; Hata hivyo upana utakaokuwa unafidiwa ni ulele wa road reserved.
- Mradi unapokuwepo KtK eneo huwa mara nyingi wanaangalia ni taasisi gani ya kuacha ili kutokuleta madhara kwa jamii.
- Kutakuwa na nyongeza za Lamalama kwa pande zote mbili kwaji ya wenda kwa miguu, Baiskeli, mikonga ya simu na mengine yo.
2 Ushirikiano upo kati ya Dats na Tanro ada kwani Lamalama zote zipo chini ya Tan Roads. Dats ipo chini ya jiji kila kinachofanyika Tan Roads Dats wanayo taarifa. Swali
- Evromental Process huwa inafanyika wa kati wa Desiner?
Jibu bado tupo kwenye desiner stage hat ya kufanya valuation, itawezekana ni valuation ya JICA.
- KtK eneo la Gerezani tunataliwa tuongee na JICA kuhusu Designer.

Salum
- Sisi wananchi tulipata taarifa mda oro ulopo umekwenda zigzag.
- Lakini itaishaonekana mchoro ulio po unagusa, wandoe Taasisi zilizopo wa
daka Kwa mfano - Mahakama ya Kariakoo, DEi
- Je Mradi huu unahusu watoa wa eneo gani? Uhuru, Nyerere road.

AFISA MTENDAJI KATA GEREZANI

Mwinjuma : Hali ilivyo mkutano huu utakuwa hautuhusu sisi. Tulijua kwa mba mnakuja kutufahamisha kuhusu msuguano wetu na Tan Roads. Kumbe ni mkutano wa wakazi wa Landlord na DATS:

- Na tunavyoelewa designer huwa wa mekwepa Landlord ya watu. Mduma, Msomali:
- Jibu : Sisi tunavyoelewa Dats haitenyi kitu chochote bila kufanya mawasiliano na Tan Roads.
- Lazima kila kitu kuwekwe wazi

Salum

Mmeshapata kuona hiyo michoro iliyo~~fanyika~~ chorwa?

- Hapana hatujaona. Na mradi unaoendelea ni kwa ajili ya ujenzi wa awamu ya 2 na 3.
- Hata kama designer ameshapita la kini pakahitajika ongezeko lingine la eneo basi utaongezewa.
- Pia sisi hapa tupo hapa kukusanya maoni ili makosa yaliyofanyika na Tan Roads yasitokee tena.

Saidi Mwinjuma

Maoni - hatuna Shule, Hospital tuna Choona pale ni utanuzi wa barabara kama inahitajika mt 60. Basi kila upande ugawe. Siyo kuongeza eneo moja.

Mzee Mwinjuma

Kufuatana na uzoefu wetu watu wa Mlagala wana zaidi ya miaka 5 hawaja lipwa. Kwa eneo hili tunaomba malipo yafanyike mapema ila tutashika mapanga

AFISA MTENDAJI KATA
KATA YA GEREZANI

Mdhamini Geofrey Kitalile:

- Ardhi ni eneo la Serikali. Kama Serikali ita kitaji eneo lako kwa ajili ya maendeleo.
- fidia Itafanyika.
- Mmiliki halali wa eneo husika.
- Ardhi inalipwa fidia
Maendeleo yatalipwa fidia. Majengo, na majengo ya Liasbora.
- Kama kuna mazao ya Kudumu yatalipwa
- Kuna posho kwa wale waliodhurika.
- Posho ya Usumbufu.
- Posho kwa ajili ya makazi. dhamani ya Nyumba X 36.
- Posho ya usafiri (Vifaa vya ndani
- Posho ya upotevu wa faida. 1 X 36. faida ya kila mwezi mara miaka 3.
Kuringatia tunahitaji Taarifa Sahihi.
① Anayemiliki, tupeni nafasi ya kupata taarifa za kila kitoka kwenu.
② Lengo Si kukufanya uwe masikini bali ni kukufanya wewe upate maendeleo na kupata haki yako ya Kimsingi

Mwinyume

1. Tunaposamini eneo tunalipa kwa rate gani?

Jibu: Dhamani ya mali inapimwa kwa three face.
① Dhamani zinazotolewa na Serikali husika.
② Kudhamini kwa Soko lililopo kwa wakati ule (Comperative Method)
③ Kuna kikao cha kupekelesha rates linafanyika ulingo Plaza.

AFISA MTENDAJI KATA
KATA YA GEREZANI

Saidi Mwinjuma Katika Kudhamini mtaji mpya kwa mwezi umenufaika kwa au ndogo ?

Jibu Tutapitia kwanza faida zako za biashara na kuweza kupata faida zako za mauzo. Na hii ni kwa biashara na zinatotambulika.

Mwenyekiti alimaliza kikao kwa kuwashukuru wote waliohudhuria. Tunaomba siku nyingine muda uzingatiwe Kikao kimefungwa saa 18.04

AFISA MTENDAJI KATA
KATA YA GEREZANI

MKUTANO WA WADAU WA MRADI WA MABADI YAENDAYO HARAKA
KATA YA GEREZANI

MAHUDHURIO

26.9.2011

	JINA	MTAA	SAHIHI
1.	Tabian S. Mlole	Gerezani	[signature]
2	C.N. RUBALEMA	—"—	[signature]
3.	MOHAMED SANIM	—"—	[signature]
4	ELIZABETH.C. MWALUSAMBA	—"—	Mwalusamba
5.	Mrs Jane Mwalusamba	—"—	Msamba
6	Arif Yusuf ali	—"—	[signature]
7.	SALIM MWINJUMA	—"—	Salim
8.	ZAINAB N. JENGA	—"—	[signature]
9.	John Eliezer Kanyenye	—"—	[signature]
10	EMMANUEL MWITA	—"—	[signature]
11	Janeth Shepe	"	Shepe
12.	Shaban Ullaya	WEO	[signature]

AFISA MTENDAJI KATA
KATA YA GEREZANI

Minutes of the meeting and List of Participants Buguruni ward

USAFIRI WA HARAKA
KATA YA BUGURUNI

MUHTASARI

Agenda

Kufungua Kikao

AFISA MTENDAJI KATA
KATA YA BUGURUNI

Utambulisho

Mada Kuu.

Kufunga.

- Kikao Kilifunguliwa saa 10:30
- Utambulisho ulifanyika kwa pande zote
- Mada Kuu.
  - Mradi wa mabasi yaendayo kasi - kwenye barabara ya Uhuru -
  - TAM - EIA. lazima ifanyike kwa sababu [illegible] kutakuwa [illegible]. Patakuwa na barabara mbili za kwenda na kurudi (rapid buses) Eneo litakalotumika 50 mtrs from each side.
  - Road reserve inatakiwa iwe mita 60;
  - Kutakuwa na [illegible] kutakuwa na [illegible]
  - Ajali zitaongezeka [illegible] watumiaji hawatakuwa makini.
  - Faida - (1) Kupunguza foleni
    (2) Ajira za muda mfupi.
    (3) [illegible]
    (4) Kutumika [illegible] through evaluation - compensation.

Mhandisi: Mradi una barabara zake sita -
(1) Barabara za magari ya kasi.
(2) Barabara za magari kawaida.
(3) Waenda kwa miguu
(4) Barabara za byskel
(5) Simu/umeme.

Upana unahitajika ni mita 60, (Regional Rd Trunk Rd Village Rd or Rural road DSM kwa Urban rds.

AFISA MTENDAJI KATA
KATA YA BUGURUNI

Poor planning kwenye, Infrastructure [illegible]

1 Amendment kadhaa zinafanyika.
- Ukweli ya Rds itakuwa mengi katika kampeni karibu.
Katika mpango huu pikipiki kuingizwa
Maeneo yanayohusika katika barabara ya Uhuru.
hata hivyo kipaumbele kwenye upangaji
wa 8 TANROADS lakini hata hivyo itakuwa
kwenye barabara za Dar Rapid..
- Compensation itafanyika kwa kuzingatia Sheria
- Mradi tayari upo katika hatua
mingi na sasa hivi upo kwenye phase ya
yake design. — Feb. 2012 documentation
zitakuwa tayari - baada ya hapo
valuation itafanyika na compensation.
Compensation — itafanyika
Sheria ya Ardhi no 4 ya 1999,
No 4 - Surveyed and 5 Mkoa wa
tarehe, lakini lakini malipo ni
1 Malipo ni kwa Structure, (materials
yaliyotumika. eg. matofali mbao etc.)
2 Vitu vingine vilivyopo kwenye eneo eg miti
Uzio, fence, parking, electricity.
3 Malipo ya Compensation, itakuwa na
various allowances eg. loss of business
disturbance three years consecutively)
Evaluation itafanyika kwa uwazi —
Thamani za valuation zinaexpire baada
ya miezi sita 6 kwa valuation makini
Ardhi kila mwezi itafanyika adjustment
factor. under current or market value
Je kama maeneo
Hashim Mzakashi alitaka je Valuation
Imangalia prime area?
Elimini Itaangalia Prime area
John Alapee Madonne. Bei halisi ni bei ya
soko inatumika? Eg. majengo
kama Bar, Guest House, Frame za

KATA YA BUGURUNI

Je mfuko gani utakaotumika ili mweye nyumba asikokaike.
- Madalali watakaotumika kunaliza beijstanwani. Endapo nyumba ina biashara kama allowances za loss of businesses, uta be compensated kwa miezi 3.
Je pesa hii 3x2x2 ya Ohuu ilia upunguzi.

Jackson Chitinge ee plot yangu unataka 30 na kwa plot itaathirika mita 10, je nitalipwa mita 30, au 10,
Jibu itabidi ulipwe mita 10.
Tunige Robert (Surveyor) kupanda kodi kitakacho baki kitabaki kimoja pekee sababu au utakalolipa litakuwa on your convenient.

Madomo: Nyumba nyingi pembezoni UK zinaingizwa Elimu ya kodi badoni finyu.
Ulozaji wa kodi (duty back taxation system)
Mradi huu wa Dar Rapid ni shirikishi kwa hiyo unategemewa sana na wadau na serikali;
Patakuwapo na tax holiday kabla ya mradi kuanza.
Juma Kasi: barabara mita 60 30 left 30 right from the centre.

Mst Mases: Mtr 5 lazima zichukue kabla ya Upanzi

Mzee: Schedule ya plasmis ya kani upangili U.A ... Valuation itongolke iwe USD rate ili kuokoa na hali halisi ya soko kuwa na utandawazi;
Madonno: ... unatengezwa with ... mapuna, ili kila ... wote waone ... / ... gani ... ... ili kila

KATA

haitachukuliwa.
Ardhi ehina itolewe sawasawa na
mradi unapohitaji ardhi ili
Wananchi wapange kwa maendeleo.
Na uchaguzi huwe wa wazi na
kushirikisha mara kwa mara kabla
kila hatua.
Valuation itafanyika kwa umakini.
Ndio jibu ambalo imetolewa kwa
Opereshini na si kwa taratibu na
schedule iliyowekwa - Ardhi wananchi
watagundue kisaikolojia. Ili kuifu
wapange - o Wananchi wajue alama
mapema, ili kwenda wote ukalafati
na ukarabati.
Mada wa kupandaa utolewe mapema
ili wapewe na nyumba wapange
Mathalani miaka 3 mitatu.
Quantity Surveyor, Bodi ya uthamini anayo
miradi ya ripoti - Valuation lazima ikae
kwa CGV kwa ajili ya approval, Timeframe
ya Valuation kila kitu ataeleza schedule
ya Compensation ili ajitahidi kujiridhisha
na uthamini kwa lakini na malipo ya
Timeframe ya kulipa fidia ni miezi sita 6
(prompt payment of the compensation)
Ulipaji ufanyike miezi 6, Compound interest ya
mabenki ya biashara itafuata.
Madonna: Je valuation itafanyika kulingana na
market price - Answer, itafanyika kwa research
na italipa itakavyokuwa current Market Value

[illegible]

[illegible]

MKUTANO WA WADAU WA MRADI WA USAFIRI WA HARAKA 24.9.2021

KATA YA BUGURUNI

MAHUDHURIO

	JINA	MTAA	SAHIHI
1.	REGINA FOYA	KISIWANI-MEO	
2.	ANNAMAGRETH MANYAKA	MADENGE-MEO	
3	Junco Kh. Makosi	KISIWANI	
4	Satish P. Dodia	B. Kisiwani	
5.	NENGA MAPUNDA	B/KISIWANI	
6	HASHIM MBARAKA	B/KISIWANI	
7	Jackson Chitinka	B/Kisiwani	
8	Michael Melchiar	B/Kisiwani	M. Melchiar
9.	John Masanu	B/Kisiwani	
10.	Erick Jeremiah	B/Kisiwani	
11.	GEOFREY MOSES	BUGURUNI (MW)	
12.	ULRICK A. LYAKURWA	WEO BUGURUNI	
13.	MAGINA F. LUFUNGULO	MTENDAJI KATA	

AFISA MTENDAJI KATA
KATA YA BUGURUNI

23-09-2011

MKUTANO WA WADAU WA MKADI WA MABASI YAENDAYO HARAKA

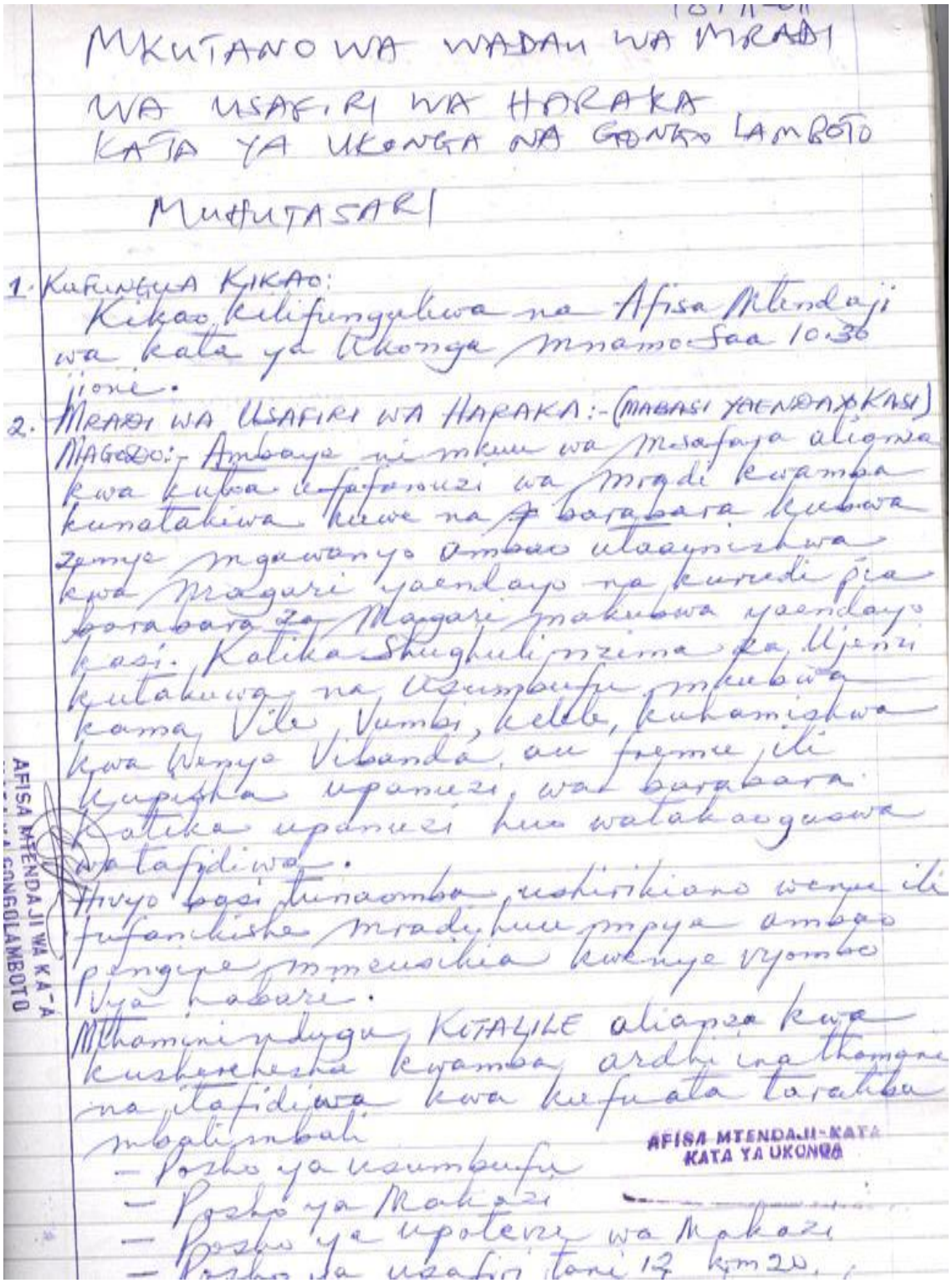
KATA YA VINGUNGUTI

	MAHUDHURIO	MTAA ATOKAO	SAHIHI
1.	SCANIA (T) LTD	VINGUNGUTI	
2.	BENEDICTA ALPHONCE KNY M/KITI	MTAKUJA	
3	AMANI BAKARI	MTAMBAN	
4.	Elvis C Bagamoyo Kny	MJUMBE	
5	RUKIA - A. MASENZA	MEO - MJUMBE	
6	ALEX G. ITATIRO	MEO	
7.	HIDAYA M MUSHONGI	CDO	
8	ALLY A. MICHOLELO	M/KITI	
9	YAH-IA HAMA DI	KOMBO	
10	RASU	INCAR THIS	VINGUNGUTI
11	MARIN		
12.	ASSIA SIMBA	- DIWANI - VINGUNGUTI	
13	PROTAS P. TARIMO	WEO	
14	MARIAM LUBAWA	M/KITI	

AFISA MTENDAJI
KATA YA
VINGUNGUTI

23/09/2011

Minutes of the meeting and List of Participants Ukonga & Gongolamboto wards



MKUTANO WA WADAU WA MRADI
WA USAFIRI WA HARAKA
KATA YA UKONGA NA GONGO LAMBOTO

MUHUTASARI

1. KUFUNGUA KIKAO:
Kikao kilifunguliwa na Afisa Mtendaji wa kata ya Ukonga mnamo saa 10:36 jioni.

2. MRADI WA USAFIRI WA HARAKA:- (MABASI YAENDAYO KASI)
MAGEUZI:- Ambayo ni mkuu wa Msafara alionza kwa kuwa elimu ya mradi kwamba kunatakiwa kuwe na barabara kubwa zenye mgawanyo ambao utaainishwa kwa magari yaendayo na kurudi pia barabara za Magari makubwa yaendayo kasi. Katika Shughuli mzima ya Ujenzi kutakuwa na Usumbufu mkubwa kama Vile Vumbi, kelele, kuhamishwa kwa Wenyo Vibanda, au fremu ili kupisha upanuzi, wa barabara. Katika upanuzi huo watakaoguswa watafidiwa.
Hivyo basi tunaomba ushirikiano wenu ili tufanikishe mradi huu mpya ambao pengine mmeusikia kwenye vyombo vya habari.
Mhamini pia KITALILE alianza kwa kusherehesha kwamba ardhi na thamani na italidiwa kwa kufuata taratibu mbalimbali
- Posho ya usumbufu
- Posho ya Makazi
- Posho ya upotevu wa Makazi
- Posho ya usafiri tani 12 km 20.

AFISA MTENDAJI WA KA-A ... GONGOLAMBOTO

AFISA MTENDAJI-KATA
KATA YA UKONGA

Mradi uhalipa ili kuepusha migogoro
mbalimbali.
Katika Uthamini ndugu KITALILE atiende
kea kusoma kwamba katika Uthamini
mthamini atatakiwa aonyeshwe
sehemu zote husika ili afanye tathimini
ifanyike kwa usahihi pasipo mtu
kupunjwa na kusababishwa malalamiko.

AFISA MTENDAJI-KATA
KATA YA UKONGA

AFISA MTENDAJI WA KATA
KATA YA GONGOLAMBOTO

Ahsante.

KATA YA UKONGA NA GONGOLAMBOTO

MAHUDHURIO

NO.	JINA	KATA AJIKAYO	SAHIHI
1.	ANNA ZEREDAYO	UKONGA	
2.	SECILIA ZEREDAYO	UKONGA	
3	MBONI KENKAMBA	UKONGA	M. K.
4	ELIZA KAPUYU	UKONGA	E. K.
5	MAGRETH BACHELA	UKONGA	M. B.
6	FATUMA MOHAMED	UKONGA	F. Moh
7	BAKARI ALLY	UKONGA	
8	STRATE RESASI	UKONGA.	
9	SAID RASTA	UKONGA	
10	JOACKIM EMMANUELLY	UKONGA	
11	SELEMANI MBOMANDOMA	UKONGA	
12	JOHN SOLOS	UKONGA	
13	GODFRY JULIAS	UKONGA	
14	MRISHO JUMA	UKONGA	
15	NELA JOSEFU	UKONGA	N. J.
16	RAPHAEL NJIKU	UKONGA	
17	TREVO BEDA	UKONGA.	
	ARFANI MGASA KIB	UK	
18	SHABANI MUHARAMI	UKONGA	
19	JUMA RAMADHANI	UKONGA	
20	JOSHUA MUHA	EMBAKASI UKONGA	J. MIHAMBI
21	SAIDI ISMAIL	MKWINDINGA	
22	MAGELEGELE SM	UKONGA.	MAGELE
23	RAMADHANI RASHIDI	UKONGA	R. Rashidi
24	HEMED A. NGACHELE	UKONGA	
25	HASSAN JUMA	UKONGA	
26	KITWANA KOMBOZA	UKONGA	
27	DAUDI HOZZA	UKONGA	
28	SIKENDO JEMUSI	UKONGA	
30	IBELELE JOHN NGUTU	UKONGA	
31	DAUDI ALBERTO MDUMKE	UK (MOMBASA)	
32	RAJABU YUSUPH	UK (MOMBASA)	

AFISA MTENDAJI-KATA KATA YA UKONGA

AFISA MTENDAJI WA K.A. KATA YA GONGOLAMBOTO

	JINA	KATA AMBAKO	SAHIHI
33	Ally Omary	Uk. Mombasa	
34	Bakoor Kikope	UK. Mombasa	
35	Elya Godwini	Uk. Mombasa	
36	Noely Nkini	Uk. Mombasa	
37	Salum Semhomba	UK. Mombasa	
38	Vuai Pandu	UK Mombasa	
39	Frank-C. Hassan	UK. Mombasa	
40	Athuman M. Pchula	Uk. Mzizi	
41	Mussa Athuman	UK Mazizini	
42	Fadhili Dugange	Uk. Mazizini	
43	Suleimani Nassolo	UK Mombasa	
44	Shafii Yusufu	Uk Mombasa	
45	Theo Lucas	UK Mombasa	
46	Nassibu Suleimani	UK Mombasa	
47	Dunia mwidau	Uk Mombasa	
48	Sabi Hassani	UK Mombasa	
49	Abdi Maaya	M/mombasa Ukoma	

AFISA MTENDAJI WA KATA
KATA YA GONGOLAMBOTO

AFISA MTENDAJI-KATA
KATA YA DKONGA

Minutes of the Meeting and List of Participants Kipawa ward

18-9-2011

MKUTANO WA WADAU WA MRADI WA USAFIRI WA HARAKA

KATA YA KIPAWA

MUHUTASARI

Mkutano umefunguliwa Saa 02:35 Mchana na Mkiti wa kitera wa Mogo.

Baada ya dua Kwa uongozi mkutano Mkiti alimtambulisha uongozi wa mtaa na Uongozi wa Kata. Baada ya hapo wengine wote walijitambulisha.

Mwezeshaji alipata wasaa wa malalamiko ya wananchi wa Kata ya Kipawa.

Tumekuja Kuwaletea habari za Maendeleo Katika Kata yetu, Serikali imeamua Kuboresha Kuleta mradi wa magari yaendayo haraka zaidi Morogoro Road, Nyerere Road n.k Swala hili litasimamiwa na Serikali Kushirikiana na Kampuni mbalimbali zikiwa ni (1) UPIMAC Kyong Dong (2) Ambicon Eng. Magari hayo yatabeba watu 150-~~200~~ na yatapita katikati ya Barabara. Ikitokea eneo lako linahitajika ili Kupisha eneo la upanuzi wa Barabara Kuna Makubaliano yatafanyika, Katika hayo Kuna usafi wa Mazingira, Kuna miti itakatwa, nyumba zitabomolewa, Kelele n.k.

Katika utekelezaji Mambo mengi yatatokea Kuondoka na foleni, uchafuzi wa Mazingira n.k. Tumekuja Kupata maoni Kutoka Kwenu.

AFISA MTENDAJI KATA
KATA YA KIPAWA

MAMA MARYA—KWANINI TUSITUMIE REL KULIKO KUWASUMBUA WANANCHI WAFANYA BIASHARA—

JIBU—UNALOSEMA NI SAWA ILA MIENDO DELEO YAKIWEPO WAPO WATAKAO ADHILIKA NA HIYO REL ITATUMIKA PIA, NDIO MAANA KUNA MALIPO WATALIPWA NA WAFANYABIASHARA PIA.

NDIMBO JIDALI—UDHAMINI UNAFANYIKA MIAKA 2011 MALIPO YANAFANYIKA MIAKA 5 JE MTAFIDIAJE MUDA HUO? NA UKO MNAKO WAPELEKA HUDUMA ZA JAMII WATAFANYAJE.

JIBU—UDHAMINI UNADU AU NDANI YA MIEZI 6 IKIPITA UNAONGEZEWA.

HUDUMA ZA JAMII ZIPO INGAWA HAZI JAKAMILIKA.

R-CHACHA—MRADI UNAANZA LINI?

JIBU—MRADI UNAFADHILIWA NA BENKI YA DUNIA NA AWAMU YETU NI YA TATU NA SASA TUPO KWENYE USANI FU UNASHA MWAKANI MWEZI WA PILI AU WATATU. KABLA YA 2015 MLADI UNAWEZA UKAANZA.

AFISA MTENDAJI KATA
KATA YA KIPAWA

MKUTANO WA WADAU WA MRADI WA USAFIRI WA HARAKA DAR ES SALAAM

KATA YA KIPAWA

MAHUDHURIO

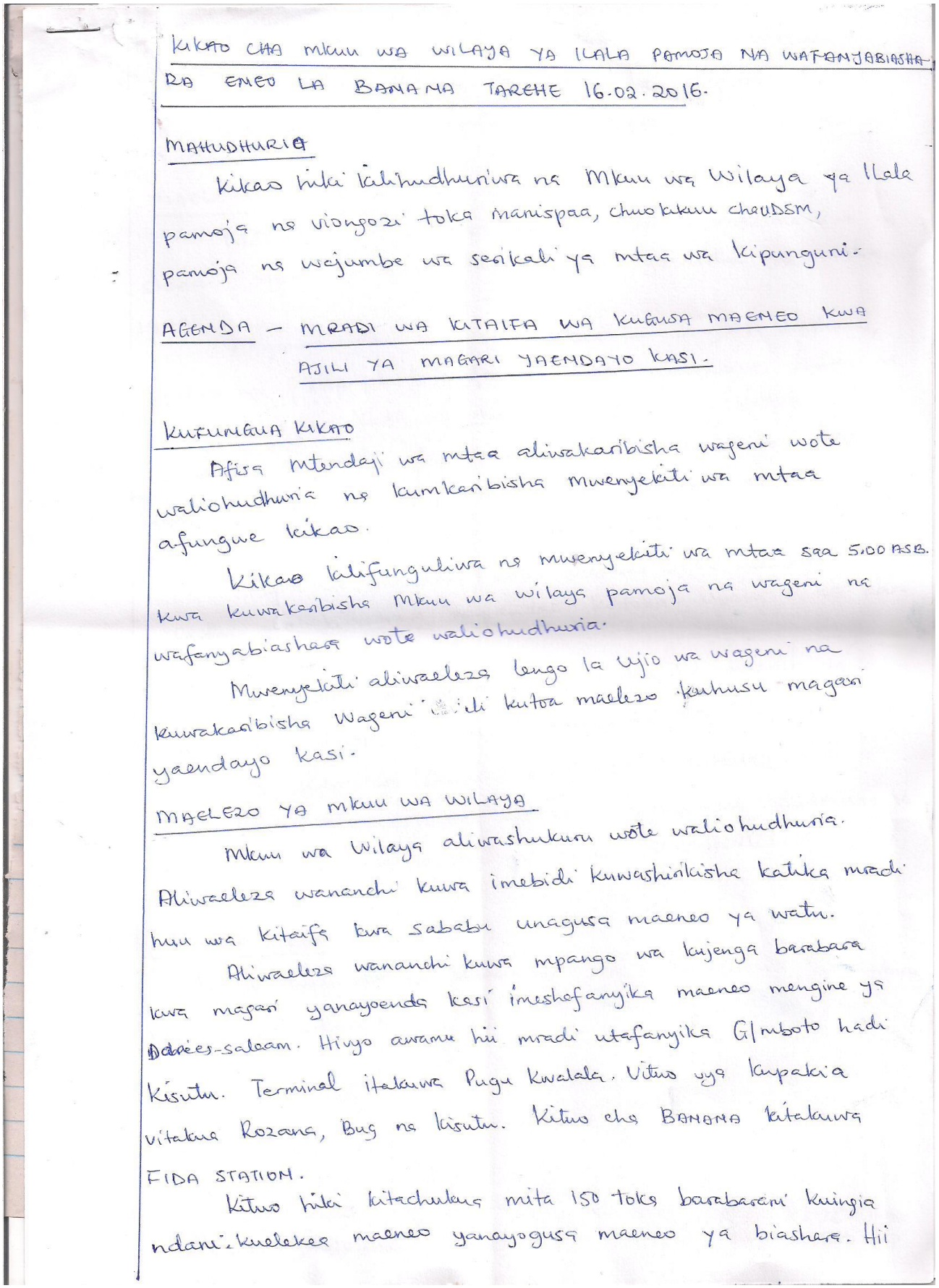
NO.	JINA	MTAA ATOKAO	SAHIHI
1.	RUBEA SULEIMANI	I WING	
2.	KASSIM ALI	SITAKISHARI	
3	SALIMA SUNA	MOGO	
4	HADIJA RASABU	MOGO	
5	yusuf Vikyalo	mogo	
6	OMARY R.MSENGWO	MOGO	
7	SIHUHU B. PONZA	MOGO	
8	Shila J. NKURU	MOGO	
9	Agripina Haule	MOGO	
10	Mama Mamboya	MOGO	
11	Selemani Saidi	MOGO	
12	EPHRAIM MSANGA	MOGO	
13	Ephraim Komina	MOGO	
14	HAMIS A KISENGO	MOGO	
15	RAMADHANI ATHUMANI	MOGO	
16	SAIDI MKUWA	MOGO	
17	LAZARO NKO	MOGO	
18	JOSEPH NANYAMBE	MOGO	
19	MPUNGA JOSEPH	MOGO	
20	THEODESIA MASELE	MOGO	
21	ERIC	MOGO	
22	ABDU LUGOGARO	MOGO	
23	SALEHE NAKAPI	MOGO	
24	HUSSEIN MKAMBA	MOGO	
25	AITIDARY NAIMRO	MOGO	
26	DIANA G MASENO	MOGO	
27	NYONI YPESIMI	MOGO	
28	Amjinile Mwakafwola	MOGO	
29	SAIDI MWISHEHE	MOGO	
30	FATUMA SEIF	MOGO	

AFISA MTENDAJI KATA
KATA YA KIPAWA

NO	JINA	MTAAATOKAO	SAHIHI
32	THABEY D. MSHANGA	MOGO	
33	HALIMA SHABANI	MOGO	
34	MBWANA HAMISSI	MOGO	
35	JACKLINE [illegible]	MOGO	
36	SWOMU NYALUEGE	MOGO	
37	[illegible]	MOGO	
38	INNOCENT LWOGA	MOGO	
39	ANNA JOSEPHATI TARIMO	LUOGO	
40	TOPHI LUHOGO	MOGO	TOFA
41	BALLACK AIHANAS	MOGO	
42	ALFRE PETER	STAKISHARI	
43	[illegible]	MOGO	
44	[illegible]	MOGO	
45	Kalista Gegetu	STAKISHARI	
46	Benedict Tamba	Mogo	
47	BONIFASI DEO	BANANA	B.DEO
48	LELLA MBOMBA	MOGO	
49	AIHANAS MUNUVE	MOGO	
50	RUCIA M. CHACHA	MOGO	
	GEORGE S. MWANGAMBA	MOGO	
52	SAIDI S. GUNDAI	MEO KIPUNGUNI	
53	MAHMOOD MUKHARATO	MOGO	
54	Isaac P. MSEMWA	MOGO	
55	ANNA MARIA WILLIAM	MOGO	
56	PILI KAUSAMBWA	MOGO	
57	MARIAM S. MKUBWA	MOGO	
58	AITHMANI SELEMANI	MOGO	AITHMAN
59	ZAINA ABDALLA	MOGO	
60	SWAFIA Ally KISASAME	MOGO	AKisasame
62	RODA [illegible]	MOGO	MJS
63	KARIM S. MKANDO	MOGO	
64	MOHAMED Y. MILONGE	MOGO	
65	KIDUPDA R. MGUNI	MOGO	
67	[illegible]	MOGO	
68	RAMADHANI MUSSA	MOGO	

AHSA MTENDAJI KATA KATA YA KIPAWA

Stakeholder consultations conducted during RAP review in 2016



KIKAO CHA MKUU WA WILAYA YA ILALA PAMOJA NA WAFANYABIASHARA ENEO LA BANANA TAREHE 16.02.2016.

MAHUDHURIA

Kikao hiki kilihudhuriwa na Mkuu wa Wilaya ya Ilala pamoja na viongozi toka manispaa, chuo kikuu cha UDSM, pamoja na wajumbe wa serikali ya mtaa wa kipunguni.

AGENDA – MRADI WA KITAIFA WA KUGUSA MAENEO KWA AJILI YA MAGARI YAENDAYO KASI.

KUFUNGUA KIKAO

Afisa mtendaji wa mtaa alivakaribisha wageni wote waliohudhuria na kumkaribisha mwenyekiti wa mtaa afungue kikao.

Kikao kilifunguliwa na mwenyekiti wa mtaa saa 5.00 ASB. kwa kuwakaribisha Mkuu wa wilaya pamoja na wageni na wafanyabiashara wote waliohudhuria.

Mwenyekiti aliwaeleza lengo la ujio wa wageni na kuwakaribisha Wageni wadi kutoa maelezo kuhusu magari yaendayo kasi.

MAELEZO YA MKUU WA WILAYA

Mkuu wa Wilaya aliwashukuru wote waliohudhuria. Aliwaeleza wananchi kuwa imebidi kuwashirikisha katika mradi huu wa kitaifa kwa sababu unagusa maeneo ya watu.

Aliwaeleza wananchi kuwa mpango wa kujenga barabara kwa magari yanayoenda kasi imeshafanyika maeneo mengine ya Dar es salaam. Hivyo awamu hii mradi utafanyika G/mboto hadi Kisutu. Terminal itakuwa Pugu Kwalala. Vituo vya kupakia vitakua Rozana, Bug na kisutu. Kituo cha BANANA kitakuwa FIDA STATION.

Kituo hiki kitachukua mita 150 toka barabarani kuingia ndani. Kuelekea maeneo yanayogusa maeneo ya biashara. Hii

ndio sababu ya kuwashirikisha. Zoezi hili litatakiwa liwe mara moja; kwa kufuata teratibu za kisheria. Ali wote kushirikiana ili kufanikisha zoezi kwa ufanis

MAELEZO YA MADHAMINI

Mdhamini aliwaeleza kuwa udhamini unasimami sheria. Sheria ya mwaka 1967. na sheria ya ardhi ya mw 1999.

Majengo yote yanafanyiwa udhamini. Jengo la biash upotevu wa faida. Hivyo wafanya biashara mnatakiwa mw kumbukumbu za kodi; mlizokuwa mnalipa TRA. Utatolewa usumbufu wa 8%. Pia kutakua na uwaidizi wa kuh kusafirisha tan I tshs 200,000/= Ceiling board inalipiwa, upotevu wa faida unalipwa kwa mwenye biashara.

Sheria ya barabara 2007 inasema watu waliopo hifadhi ya barabara wajiandae kutoka. Upana m. 4 mita 32 -

Hivyo basi wadhamini watapita kutika maeneo y biashara kila mmoja awe na kumbukumbu za TRA na maelezo ya ujenzi wa Jengo unalofanyia biashara.

Viongozi wanaohusika na zoezi waliomba ushirik wafanya biashara watoe taarifa sahihi wanapohojiwa m

KUFUNGA KIKAO

Kikao kilifungwa na mwenyekiti saa 7.30 mchana. Ali wote waliohudhuria.

Hugo

biashara kila mmoja awe na kumbukumbu za TRA n

maelezo ya ujenzi wa Jengo unalofanyia biashara.

Viongozi wanaohusika na zoezi waliomba ushir

wafanya biashara watoe taarifa sahihi wanapoulizwa

KUFUNGA KIKAO

Kikao kilifungwa na mwenyekiti saa 7.30 mchana. A

wote waliohudhuria.

MWENYEKITI
PRAXEDA MKANDARA
[signature] 16/2/2016

KATIBU
AFISA MI
MBA[illegible]A

KIKAO CHA WAFANYABIASHARA ENEO LA B
KILICHOFANYIKA TAR. 16.02.16 PAMOJA NA MHE
WILAYA YA ILALA MH. RAYMUND MUSHI.

16/02/2016

1	GEORGE LAURENT BWIRE	0659 5016
2	ZAGALO . M. ABDALA	0713 394
3	SELESTINI . F. KATO	0719 0011
4	ROBERT N. NNKO	0718 1699
5	ALLY . Y. CHILOMBO	0693 324
6	SAMWELI . K. MAFII	0714 63 5
7	MOHAMEDI . M. ABDALA	0769 747
8	SELEMANI . H. SANGOBA	0713 55 86
9	ATHUMANI . S. MWINGILANGANDA	0657 093
10	IDI . S. CHAPUNDA	0715 025
11	ADAM . S. MATOLA	0716 477
12	THOMAS . S. MWAMBOLA	0719 739
13	EMANUEL . C. JAPHETI	0716 8897
14	CRISTINI . F. MBILINTI	0716 032
15	WEBILO A. MSOKE	0718 45
16	CHRISTINA . R. CHACHA	0655 70
17	SOPHIA . S. SHOMA	0755 41
18	MATIKU . S. NYONGO	0762 406
19	JULIANA . S. MAHEMO	
20	AMIRY . J. AMIRY	0787 797
21	MAJUTO . G. MADEGE	0716 750
22	EVA . F. NGONYANI	0653 443
23	JALAMA . A. IBLAHIM	0652 959
24	MTUMWA J. MZEE	0719 488
25	SUZANA . M. GABRIEL	0652 879
26	HAPPY DAUDI	0718 4702
27	NISELA . A. NYANGULI	
28	ANA ZEFANIA	
29	FATUMA . S. TATATA	0719 572,
30	JUSTINA . P. MATOLA	0688 0026
31	ROBI . R. NKOBA	

32	ATHUMANI · OUDHAHANA	0788 3119
33	SALEO ·S· KINTOGOLI	0652 447
34	RAMADHANI ·B·	0717 122
35	FELISTA F. DANGA	0713 1147
36	BELLA ·H·	
37	NDARO ·J·	
38	HASANI ·R· BAKAL	0786142
39	SALA JULIAS CHAPI	0763 23
40	NASORO ·J· NASORI	0788 47
41	MWAJUMA ·N· NJAMA	0782 588
42	MARIA ·N· EMILIO	0716 54
43	NDATULAFA KAM ·R· KIWANGA	0656 79
44	NANCY BELA ·A· DUNIA	0716 291
45	REHEMA ·P· MTAFYA	0658 505
46	SEFU. O. ZAHANA	0675 543
47	ALLY S. JUMA	0655 706
48	ABEDI ·O·HOSMANI	0714 040
49	RAMADHANI F. MUILINDI	0784 536
50	ALLY A. ALLY	0788 83
51	ABDALA A. HASANI	0712 124
52	ENJOY ·S· NYIKO	0713 306
53	ELIAS ·P· PALANJO	0719 135
54	JOHN A. NGONYANI	0714 327
55	JOPHAS F. LYELA	0658 24
56	DASTANI ·R· PETER	0656 81
57	MONIKA ·P· LEONADI	0766 707
58	AMBROS ·A· AMOSI	0682 84
59	SHABANI ·S· DIBWINE	0654 80
60	JOSEPH ·N· NANGO	0788 88
61	FATUMA ·M· ABDALA	0657 92

62	TATU .S. MKUMBA	0719
63	NEEMA.M ISIDOLI	0674
64	ANNA .F. HAULE	0713 63
65	ALLOYS .E. KIPALA	0714 92
66	OMARY .T. BAKAL	
67	MUSA . H	
68	MASALI M. MICHAEL	0753 219
69	ADINANI .S. OTHUMANI	0676 873
70	GODFREY .D. BENEDICT	0764 72
71	MICHAEL .L. ALMASI	0783 94
72	AMINI .H. ATHUMANI	0783 80
73	JUMA .T. JUMA	0659 4
74	HEMEDI .H. ALLY	0719 48
75	ADAM .A. MUSA	6712 70
76	TITO .M. MASAI	0659 70
77	~~LEONARD~~	
78	RODINA .L. MWALTACE	0716 22
79	SADI .T. SALUM	0656 4
80	ALBAT .E. MWAWEGWA	0718 56
81	SAIDAT .A. ABDALA	0652 6
82	AGNES .D. MWITA	0714 4
83	SHABANI .A. WABI	0712 23
84	MWINTIHA .S. JUMA	0717 34
85	TADEI .B. MSUYA	0757.5
86	GIDIONI .M. MWASOMOLA	0714 165
87	SHANI .H. KUKU	0673 87
88	LEONARD .E. KENGWA	0766 68
89	ROSIMARY J. KILA	0654 0484
90	MAULI .H. KASIM	0714 1344
91	MASEKO .C. CHACHA	0766 1141

92	SAIDI M. SULAIMI	0659 738827
93	JAMALI T. HUSENI	0659 637051
94	JUMA S. ABDALA	0678 279808
95	HAMISI AMADI JUMA	0712 143603
96	SAIDI J. SAIDI	0756 736715
97	HAMIS H. SAIDI	0786 176982
98	HUSENI N. ABDALA	0653 273883
99	DICKSONI M. SEINI	0718 926257
100	NICHOLAS N. NKEBA	0712 431788
101	ASHA H. RAMADHANI	0718 409200 ~~0718 40 8900~~
102	ATHUMANI RAMADHANI	0653 92 6E00
103	BYOLE IDUBA JUMATI	0674 66 06 92
104	SHADRAKI M. HASANI	06 57628017
105	MALIWAJA I. SHUNDA	0785 112328
106	CHALES A.	0672 020452
107	MAYA S. KIVULALO	
108	IDI A JUMA	0788 461085
109	ELIREHEMA FANUEL	
110	ABDULRAHAM J. BAKALI	
111	ANA MWITA	0769760717
112	SABRINA HAMISI	0757 26747
113	CHRISTINA GEORGE	
114	ROBI M. BALE	0763 974165
115	ALLY M. ABDALLA	0784 192827
116	KIBUA CHACHA	0174 33248

AFISA MIENDA NA WA
MTAA WA KIPUNGUNI
16/02/2016

MUHTASARI WA KIKAO CHA NDANI KILICHOFANYIKA NDANI YA OFISI YA M2EE KIGUA (MMILIKI WA BANANA) TAREHE 19-02-2016

WALIOHUDHURIA

1. Kiguha Chacha – Mmiliki eneo la Banana
2. Aina Mlewa – Mtendaji.
3. FLORIN SILANGWA – MSHAURI/MWELEKEZI
4. ALEX CHAMBI – " "
5. BENADINA CEVIN – " "
6. MUSUNI KAJUNA – " "
7. MENEJA WA BANANA –
8. MLINZI WA BANANA –
9. SECRETARY –

AGENDA NO I – KUFUNGUA KIKAO.

Kikao kilifunguliwa na mkuu wa msafara ndugu kwa kuwashukuru wote waliohudhuria.

AGENDA NO 2 – MAELEZO YA MKUU WA MSAFARA KUHUSU ZOEZI LINALOENDELEA.

Mkuu wa msafara alieleza jinsi zoezi lilivyoanza kwa kuitishwa kikao na mkuu wa wilaya. Makubaliano zoezi la kupita kila eneo la biashara ilitakiwa lianze mara moja kwani maeneo (vituo) vingine mchakato ulishaanza.

Zoezi limeanza tarehe 18-02-2016 bila matatizo yoyote. Kwani wafanya biashara waliopitiwa walitoa ushirikiano. Ghafla wafanya biashara waliokua wanapitiwa siku ya tar. walianza kugoma na kudai waliowapa-ngisha amewaambia zoezi lisiendelee. Hivyo kumekua na msuguano ambao umesabisha kusitisha zoezi ili kuepusha vurugu zaidi.

Alimwomba mwenye eneo aloe maelezo kwa nini amesababisha zoezi kuendelea wakati kikao-

P.T.O

kilifanyika na hakupinga.

Mwenye eneo alitoa maelezo kama ifuatavyo:-

1. Anamiliki eneo hilo kisheria na mikataba anayo.
2. Anayo ramani ya kuendelezs eneo lake ~~kwa~~ ramani imemgharimu hela nyingi.
3. Iwapo eneo litapungua ramani/mchoro wake itabidi upya.
4. Ameshatoa eneo lingine la bababara kutoka Banana kitunda. Hivyo hawezi kutoa tena eneo lingine.

(5) Eneo la Aviation lipo wazi kwa nini wasilitumie

(6) Anawezo kutoa eneo kwa upande wake mita 10 na wa Sitakishari nao watoe.

Hata hivyo wazo hili liliipingwa kwani haiwezek kufanya hivyo.

Kutokana na msisitizo huo imebidi zoezi lisiti ili lipelekwe ngazi zinazohusika kwa ufumbuzi.

KUFUNGA KIKAO

Kikao kilifungwa saa 6.30 mchana.

Mwenyekiti.

PRAXEDA MKANDARA

19/02/2016.

Katibu

Aino Mbwa

AFISA MTENDA
MTAA WA KIP

KIKAO CHA UONGOZI WA S/MTAA MWEMBE MADAFU NA WANANCHI WENYE NDUGU WALIOZIKWA KANDO YA BARABARA YA NYERERE ROAD.

MAHUDHURIO

Deus Nchimbi M/Kiti S/Mtaa Nchimbi
Annamagreth Manyara Mtendaji Mtaa
Frolian Silangwa Mshauri wa Mradi
Eva Ntanga Mjumbe
Ally Shiba Saimbia
Rashid Hamisi Kapundi
Sophia Francis Jabil
Kassim NGALUMA. 0716-895458

UJENZI WA BARABARA YA MUKIENDOKASI

- Mhadhiri wa chuo kikuu ahijitambulisha na kusema yeye ni mshauri pia wenkali mataraji kujenga barabara ya mwendo kasi kutoka Gutuka kwalaka mpaka kariakoo. Eneo la Banana wanataraji kujenga kituo kikubwa cha kuna miee atwaye chacha anaweka pinganizi. Eneo la Mombasa kuna makaburi yapatayo (17) kumi na saba wabidi yahamishwe. Je wenye makaburi wanataka yapelekwe wapi au ritumike taratibu gani kuna wenzie wameenda manispaa kuongea na wahi wa idara ya afya kuhusiana na suala la kuhamisha makaburi. Wanahitaji muda (5) tano. Wajenzi ni tanroad. Mdugu Rashid Kapundi akiulizia wana mradi gani wa maeneo mengine kuhusiana

za kimila na kidini huwa wanafanya wenye makaburi.
Mdugu Ally S. Jumbia yeye makaburi yake yakishapotea ila yapo hapo.
Je wakifukua makaburi watarenda kurika wapi?
Watarimamia watu wa Manispaa maana kuna baadhi ya watu wapya maeneo yao. Kuna taratibu za ufukuaji wa makaburi. Na ndugu lazima wajue makaburi yao yapo maeneo gani? Hawatochanganya masalia kila salia litajulikana ni la nani hivyo wasiwe na hofu.
Mwenyekiti alitaarifiwa wahanga ambao makaburi yao yanaondolewa kama wanataka kuyarikia mabaki ya miili nje ya wilaya ya Ilala? Wakijibu hawataweza kurikia nje ya wilaya ya Ilala.
Mshauri wa Mradi alisema muafaka utafikiwa wasiwe na hofu. Leo ni mshauri pa siyo mtoa maamuzi. Mabu yaa benki watatatembelea tarehe 16/9/2016.

MENGINEYO
Hapakuwa mengineyo

KUFUNGA KIKAO
Kikao kilifungwa saa (3.55) tatu na dakika kumi na tano.

30/12/2015

LIST OF STAKEHOLDERS CONSULTED DURING REVIEW OF ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR BUS RAPID TRANSPORT (PHASE 3) IN DAR ES SALAAM

S/No.	Name of Person Consulted	Institution/office Name	Addresses/Contacts	Signature
01	Mouston Mwakyoma	Ilala Municipal Council	0756116522	
02	[illegible]	[illegible]	[illegible]	
03	[illegible]	[illegible]	0713-163948	
04	[illegible]	[illegible]	0715-025461	
05	[illegible]	[illegible]	0715-820856	
06	[illegible]	[illegible]	0713-180935	
07	[illegible]	[illegible]	0714-690427	
08	Kefa D Cumbe	IMC	0713 619892	
09	Monica M. Mbambui	IMC	0717 943415	
10	Eng. Bwigane Japhary	IMC	0652242487	
11				
12				
13				

Annex iii: Copy of invitation letter to consultation meeting

HALMASHAURI YA MANISPAA YA ILALA
BARUA ZOTE ZIPELEKWE KWA AFISA MTENDAJI KATA YA KIWALANI

Ofisi ya Afisa Mtendaji
Kata ya Kiwalani
S.L.P 20950.
Dar es Salaam

0713 587139

19/09/2011.

KUMB.NA ILA/KWN/VOL 01/2011
MWANGERI MKURUGENZI
MICRONIX SYSTEM

YAH: MKUTANO WA WADAU WA MRADI WA MABASI YAENDAYO HARAKA JIJINI DAR ES SALAAM AWAMU YA TATU.

Tafadhali rejea somo tajwa hapo juu,
Serikali ya Jamhuri ya Muungano wa Tanzania kupitia kwa wakala wa usafiri wa haraka (DART) inakusudua kujenga na kuboresha barabara ili kukidhi huduma ya mfumo wa usafiri wa mabasi yaendayo haraka katika jiji la Dar es salaam.

Mradi awaamu ya 3 ambayo ni kariakoo hadi Gombo la Mboto kupitia barabara ya Nyerere km 23.6 katika kukamilisha kazi mtalamu mshauri atafanya tathimini ya athari za mradi kwa mazingira na maisha ya jamii husika.Mradi wa barabara ya mabasi yaendayo haraka una faida nyingi ikiwa ni pamoja na upatikanaji wa ajira na kupunguza msongamano wa magari jijini Dar es salaam.

Shughuli za mradi huu kwa njia moja au nyingine zinaweza kuathiri mazingira na maisha ya jamii katika maeneo husika.Kutakuwepo na kuingilia au kuhamisha makazi ya watu,kilimo na biashara zinazofanyika ndani ya hifadhiya barabara .Ni dhahiri kuwa kutakuwepo na usumbufu wa maisha ya binaadamu na athari za mazingira katika maeneo husika.

Ili kushirikisha wahusika waelewe kinachoendelea na kushiriki kikamilifu katika kutafuta ufumbuzi wa njia za kupunguza athari hizo kutakuwa na mkutano wa pamoja kati ya wadau na wananchi watakaoathirika na mradi wa barabara ya mabasi yaendayo haraka,ambao utafanyika siku ya alhamisi ya tarehe 29/09/2011 saa 8:00 mchana katika ofisi ya Afisa Mtendaji kata ya Kiwalani iliyopo karibu na shule ya msingi Kiwalani.

Ukiwa kama mdau,unaombwa kuhudhulia mkutano huu muhimu wa maendeleo .

Nakutakia kazi njema.

.....
JOHNSON KAPUFI
AFISA MTENDAJI
KATA YA KIWALANI

AFISA MTENDAJI
KATA YA KIWALANI

Annex iv: Public Consultation Program

A MPYA YA MIKUTANO YA WADAU WA MRADI WA MABASI YAENDAYO HARAKA (AWAMU YA PILI NA TATU)

MANISPAA	KATA	ENEO LAMKUTANO	SIKU	MUDA
Temeke	Mbagala	Ofisi Ya Kata	Ijumaa, 16/9/2011	Saa 8.00 Mchana
Ilala	Kipawa	Ofisi Ya Kata	J umapili, 1 8/9/ 2011	Saa 8.00 Mchana
Ilala	Gongolamboto + Ukonga	Ofisi Ya Kata	J umapili, 1 8/9/ 2011	Saa 10.00 Jioni
Ilala	Kiwalani	Ofisi Ya Kata	Jumatatu, 19/9/2010	Saa 8.00 Mchana
Temeke	Mtoni	Ofisi Ya Kota	Jurnatano, 21/912011	Saa 10.00 Jioni
Temeke	Temeke	Ofisi Ya Kata	Alhamisi, 22/9/ 2011	Saa 8.00 Mchana
Temeke	Miburani	Ofisi Ya Kata	Alhamisi 22/9/201 1	Saa 10.00 Jioni
Ilala	Vingunguti	Ofisi Ya Kota	Ijumao, 23/9/2011	Soa 8.00 Mchana
Temeke	Kurasini	Ofisi Ya Kata	Ijumaa, 23/9/2011	Saa 10.00 Jioni
Temeke	Keko	Ofisi Ya Kata	Jumamosi, 24/9/2011	Saa 8.00 Mchana
Ilala	Buguruni	Ofisi Ya Kata	Jumamosi 24/9/2010	Saa 10.00 Jioni
Temeke	Chang'ombe	Ofisi Ya Kata	Jumatatu,26/912011	Saa 8.00 Mchana
Ilala	Gerezani	Ofisi Ya Kata	Jumatatu,26/9/2011	Saa 10.00 Jioni
Ilala	Ilala	Ofisi Ya Kata	J urnanne,27/91201	Saa 8.00 Mchana
Ilala	Mchikichini	Ofisi Ya Kata	Jumanne, 27/912011	Saa 10.00 Jioni
Ilala	Kariakoo	Ofisi Ya Kata	Jumatano,28/9/	Saa 8.00 Mchana

Annex v: Environmental and Social Protection Clauses for Inclusion in the Technical Specifications of Contracts

1. General

i. The Contractor and his employees shall adhere to the mitigation measures set down and take all other measures required by the Engineer to prevent harm, and to minimize the impact of his operations on the environment.
ii. The Contractor shall not be permitted to unnecessarily strip clear the right of way. The Contractor shall only clear the minimum width required for the intended works.
iii. Remedial actions which cannot be effectively carried out during construction should be carried out on completion of each Section of the road (earthworks, pavement and drainage) and before issuance of the Taking over Certificate:
iv. To prevent dust pollution during dry periods, the Contractor shall carry out regular watering of earth and gravel haul roads and shall cover material haulage trucks with tarpaulins to prevent spillage.
v. Where noise is likely to pose a risk to the surrounding community, the contractor shall inform the site manager and shall develop a public notification and noise management plan for approval by the participating university and Regional Facilitation Unit (RFU)

2. Transport

i. The Contractor shall use selected routes to the project site, as agreed with the Engineer, and appropriately sized vehicles suitable to the class of road, and shall restrict loads to prevent damage to roads and bridges used for transportation purposes. The Contractor shall be held responsible for any damage caused to the roads and bridges due to the transportation of excessive loads, and shall be required to repair such damage to the approval of the Engineer
ii. The Contractor shall not use any vehicles, either on or off road with grossly excessive, exhaust or noise emissions. In any built up areas, noise mufflers shall be installed and maintained in good condition on all motorized equipment under the control of the Contractor.
iii. Adequate traffic control measures shall be maintained by the Contractor throughout the duration of the Contract and such measures shall be subject to prior approval of the Engineer.
iv. In cases where construction activities result in the disruption of area transportation services, including temporary loss of roadway, blockage due to deliveries and site related activities, the contractor shall provide the participating university and Regional Facilitation Unit (RFU) with a traffic management plan including a description of the anticipated service disruptions, community information plan, and traffic control strategy to be implemented so as to minimize the impact to the surrounding community. This plan shall consider time of day for planned disruptions, and shall include consideration for access to essential services such as medical, disaster evacuation, and other critical services. The plan shall be approved by the participating university and RFU.

3. Workforce

i. The Contractor shall whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.
ii. The Contractor shall install and maintain a temporary septic tank system for any residential labour camp and without causing pollution of nearby watercourses.
iii. The Contractor shall establish a method and system for storing and disposing of all solid wastes generated by the labour camp and/or base camp.
iv. The Contractor shall not allow the use of fuel wood for cooking or heating in any labour camp or base camp and provide alternate facilities using other fuels.
v. The Contractor shall ensure that site offices, depots, asphalt plants and workshops are located in appropriate areas as approved by the Engineer and not within 500 meters of existing residential settlements and not within 1,000 meters for asphalt plants.
vi. The Contractor shall ensure that site offices, depots and particularly storage areas for diesel fuel and bitumen and asphalt plants are not located within 500 meters of watercourses, and are operated so that no pollutants enter watercourses, either overland or through groundwater seepage, especially during periods of rain. This will require lubricants to be recycled and a ditch to be constructed around the area with an approved settling pond/oil trap at the outlet.
vii. The contractor shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the Works.
viii. Adoption by the contractor of a sanctioned Code of Conduct to limit and regulate interaction of workers with local community

4. Earthworks

i. Earthworks shall be properly controlled, especially during the rainy season.
ii. The Contractor shall maintain stable cut and fill slopes at all times and cause the least possible disturbance to areas outside the prescribed limits of the work.
iii. The Contractor shall complete cut and fill operations to final cross-sections at any one location as soon as possible and preferably in one continuous operation to avoid partially completed earthworks, especially during the rainy season.
iv. In order to protect any cut or fill slopes from erosion, in accordance with the drawings, cut off drains and toe-drains shall be provided at the top and bottom of slopes and be planted with grass or other plant cover. Cut off drains should be provided above high cuts to minimize water runoff and slope erosion.
v. Any excavated cut or unsuitable material shall be disposed of in designated tipping areas as agreed to by the Engineer.
vi. Tips should not be located where they can cause future slides, interfere with any other properties, or cause soil from the dump to be washed into any watercourse. Drains may need to be dug within and around the tips, as directed by the Engineer.

5. Disposal of Construction and Vehicle Waste

i. Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (e.g. as fill materials for embankments). The disposal of remaining debris shall be carried out only at sites identified and approved by the project engineer. The contractor should ensure that these sites (a) are not located within designated forest areas; (b) do not impact natural drainage courses; and (c) do not impact endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.
ii. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Supervisor/Engineer.
iii. Bentonite slurry or similar debris generated from pile driving or other construction activities shall be disposed of to avoid overflow into the surface water bodies or form mud puddles in the area.
iv. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer.
v. Vehicle/machinery and equipment operations, maintenance and refuelling shall be carried out to avoid spillage of fuels and lubricants and ground contamination. An “oil interceptor” will be provided for wash down and refuelling areas. Fuel storage shall be located in proper bounded areas.
vi. All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300m from all cross drainage structures and important water bodies or as directed by the Engineer.

6. **Use and Management of Potentially Hazardous Materials**

i. Any use hazardous materials excluding pesticides, oils, fuels and petroleum products shall conform to the proper use recommendations of the product. Waste hazardous materials and their containers shall be disposed of in a manner approved by the relevant agency. A site management plan will be developed by the contractor if the operation involves the use of these materials to include estimated quantities to be consumed in the process, storage plans, spill control plans, and waste disposal practices to be followed. This plan is subject to the approval of the participating university and RFU.

ii. Asbestos: While asbestos materials have not been identified in structures targeted for repair or reconstruction under this project, the following asbestos management procedures shall be implemented should they be discovered during the construction process. The contractor shall contact the Solid Waste Management Unit to develop an asbestos management plan. Site management shall consist of stabilizing friable asbestos and the provision of worker protection to prevent contamination with asbestos fibers. Respiratory protection together with measures to prevent the contamination of clothing and inadvertent transport of asbestos fiber off-site shall be provided to exposed

workers. The asbestos management plan shall be developed by the contractor in consultation with the Solid Waste Management Unit to include as a minimum:

- Description of the issue and extent of contamination
- Site safety measures
- Stabilization techniques to be employed
- Storage and transport plan
- Approved disposal procedure
- Worker awareness and training

This plan shall be approved by the participating university and RFU.

iii. Use of preservatives and paint substances

All paints and preservatives shall be used only with the approval of the contracting officer. Information shall be provided to the contracting officer that describes the essential components of the materials to be used so that an informed determination can be made as to the potential for environmental effects and suitability can be made. Storage, use, and disposal of excess paints and preservatives shall be managed in conformance with the manufacturers' recommendations and as approved by the contracting officer. The contractor shall provide the contracting officer with a list of materials and estimated quantities to be used, storage, spill control and waste disposal plans to be observed during the execution of the contract. This plan is subject to the approval of the participating university and RFU.

7. **Site Security**

The contractor shall be responsible for maintaining security over the construction site including preventing access of the community/pedestrians to the construction site and the protection of stored materials and equipment. In the event of severe weather, the contractor shall secure the construction site and associated equipment in such a manner as to protect the site and adjacent areas from consequential damages. This includes the management of onsite wastes, construction and sanitary, additional strengthening of erosion control and soil stabilization systems and other conditions resulting from contractor activities that may increase the potential for damage.

Annex VI: RAP Implementation Budget

The total compensation costs that will be provided under this RAP, as per Compensation Schedules for PAPs with compensable assets is Tshs. **24,332,702,473.93.00,** while **170,000,000.00** is for unforeseen impacts. Table 16 shows the breakdown of RAP update cost and the RAP conducted in November 2014:

Summary of Budget for Compensation

***ON THE MAIN ROADS			
		Building Value	280,000,000.00
Sub total			280,000,000.00
NYERERE ROAD, UHURU ROAD AND KAWAWA ROAD			
land area	3693.8sqm	land value	260,000,000.00
		Building value	380,000,000.00
		Disturbance Allowances	5,120,000.00
Sub Total			745,120,000.00
AT GONGO LA MBOTO BUS TERMINAL AND DEPOT			
Residential	249	Building Value	8,500,285,599.00
		Crop value	6,048,200.00
land area for depot	49519.68sqm	Land value	2,593,284,250.00
		Accommodation allowances	1,865,120,200.00
		Transport Allowances	23,100,000.00
		Rental income	130,230,000.00
		Disturbance Allowances	844,073,183.00
Sub Total			13,962,140,432.00
TENANTS			
Business tenants	26	Allowances (business, transport& disturbance)	19,500,000.00

Residential tenants	**356**	**Disturbance and transport allowance +notice**	**53,600,000.00**
Sub Total			**73,100,000.00**
PUBLIC UTILITIES			
Graves	**10**	**Grave removal allowances**	**8,800,000.00**
Local government's office	**01**	**Replacement cost**	**42,000,000.00**
Water, traffic lights, and electricity or telecommunication infrastructures			**6,420,132,164.93**
Sub Total			**6,470,932,164.93.00**
***WAREHOUSE AND FACTORIES- (SUNGURA TEXTILE PLOT)**			
Land area	**51,877sqm**	**Building value**	
		Crops	
		land value	**2,593,850,000.00**
		rental income allowances	**51,877.00**
		Transport Allowances	**-**
		Loss of profit	
		Disturbance Allowances(land lords)	**207,508,000.00**
Sub Total			**2,801,409,877.00**
GRAND TOTAL			**24,332,702,473.93 .00**

Source: Valuation Report and Compensation Schedule undertaken by Kyong Dong Engineering Co., Ltd. in association with Ambicon Engineering (T) Limited, 2014 and Independent consultants, 2016

*** **Likely to change due mitigation measures**

Annex VII: Guidelines for Preparing Chance Finds Procedures

Contracts for civil works involving excavations should normally incorporate procedures for dealing with situations in which buried Physical and Cultural Resources (PCR) are found unexpectedly. The final form of these procedures will depend upon the local regulatory environment, including any chance find procedures already incorporated in legislation dealing with antiquities or archaeology.

Note: The general guidance provided applies when there will be an archaeologist on call. In exceptional situations in which excavations are being carried out in PCR-rich areas such as a United Nations Educational, Scientific, and Cultural Organization World Heritage site, there will normally be an archaeologist on site to monitor the excavations and make decisions. Such cases will require a modified version of these procedures, to be agreed upon with the cultural authorities.

Chance finds procedures commonly contain the following elements.

1. PCR Definition

This section should define the types of PCR covered by the procedures. In some cases, the chance find procedure is confined to archaeological finds; more commonly it covers all types of PCR. In the absence of any other definition from the local cultural authorities, the following definition could be used: “movable or immovable objects, sites, structures or groups of structures having archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance.”

2. Ownership

This paragraph should state the identity of the owner of the artifacts found. Depending on the circumstances, the owner could typically be the state, the government, a religious institution, the landowner, or it could be left for later determination by the concerned authorities.

3. Recognition

This is the most difficult aspect to cover. As noted above, in PCR-sensitive areas, the procedure may require the contractor to be accompanied by a specialist. In other cases, the procedures may not specify how the contractor will recognize a PCR, and a clause may be requested by the contractor disclaiming liability.

4. Procedure upon Discovery

<u>Suspension of Work</u>

This paragraph may state that if a PCR is found during execution of the works, the contractor shall cease activity. However, it should specify whether *all works* should cease, or only the works immediately involved in the discovery, or, in some cases where large buried structures may be expected, all works may be stopped within a specified

distance (for example, 50 meters) of the discovery. This issue should be informed by a qualified archaeologist.

After stopping work, the contractor must immediately report the discovery to the resident engineer. The contractor may not be entitled to claim compensation for work suspension during this period.

The resident engineer may be entitled to suspend work and request that the contractor provide excavations at the contractor's expense if the Eng. thinks that a discovery was made and not reported.

Demarcation of the Discovery Site

With the approval of the resident engineer, the contractor is then required to temporarily demarcate and limit access to the site.

No Suspension of Work

The procedure upon discovery may help the resident engineer decide whether the PCR can be removed and work can continue, for example, in cases where the find is one coin.

Chance Find Report

The contractor should then, at the request of the resident engineer, and within a specified time period, complete a Chance Find Report, recording:

- Date and time of discovery;
- Location of the discovery;
- Description of the PCR;
- Estimated weight and dimensions of the PCR; and
- Temporary protection implemented.

The Chance Find Report should be submitted to the resident engineer and other concerned parties as agreed upon with the cultural authority and in accordance with national legislation. The resident engineer, or other party as agreed, is required to inform the cultural authority accordingly.

Arrival and Actions of Cultural Authority

The cultural authority ensures that a representative will arrive at the discovery site within an agreed upon time, such as 24 hours, and determines the action to be taken. Such actions may include:

- Removal of PCR deemed to be significant;
- Execution of further excavation within a specified distance of the discovery point; or
- Extension or reduction of the area demarcated by the contractor.

These actions should be taken within a specified period, for example, seven days. If the cultural authority fails to arrive within the stipulated period (for example, 24 hours), the resident engineer may have the authority to extend the period by a further stipulated time. If the cultural authority fails to arrive after the extension period, the resident engineer may have the authority to instruct the contractor to remove the PCR or

undertake other mitigating measures and resume work. Such additional works can be charged to the contract. However, the contractor may not be entitled to claim compensation for work suspension during this period.

Further Suspension of Work

During this seven-day period, the cultural authority may be entitled to request the temporary suspension of the work at or in the vicinity of the discovery site for an additional period of up to, for example, 30 days.

The contractor may or may not be entitled to claim compensation for work suspension during this period. However, the contractor will be entitled to establish an agreement with the cultural authority for additional services or resources during this further period under a separate contract with the cultural authority.