



AFRICAN DEVELOPMENT
BANK GROUP

PROJECT: DAR ES SALAAM BUS RAPID TRANSIT PROJECT

COUNTRY: TANZANIA

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY

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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)

SUMMARY

Project Title: Dar es Salaam Bus Rapid Transit Infrastructure Project

Project Number: P-TZ-DB0-021

Country: Tanzania

Department: OITC

Division: OITC.2

Project Category: Category 1

1. INTRODUCTION

The Government of Tanzania intends to establish, operate and manage a Bus Rapid Transit (BRT) system, which is a 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 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, along Nyerere road and part of Mikocheni Area. These areas constitute Phase 1,2 and 3 of the BRT System. Phase 1, Morogoro Road BRT infrastructure has been completed with financing from the World Bank and the Government of Tanzania.

In order to facilitate the implementation of Phase 2 and 3 of the Dar es Salaam BRT System, the Dar es Salaam Rapid Transit (DART) Agency commissioned M/s Kyong Dong Engineering Co. Ltd of Korea in joint venture with M/s AMBICON Engineering Limited of Tanzania to carry out an Environmental and Social Impact Assessment (ESIA), Detailed Engineering Design and preparation of Tender Documents for Phase 2 and 3 of the BRT. Since the ESIA has to be carried out by the firms registered by the National Environment Management Council (NEMC), the joint venture commissioned M/s Environmental BENCHMARK Consulting Engineers to carry out the Environmental and Social Impact Assessment.

According to AfDB's initial environmental screening guidelines, projects involving major rehabilitation of urban roads, that are likely to result in significant displacement of the population 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 compliance with the Environmental Impact Assessment and Audit Regulations 2005, Part III – Regulation 5, a Project Brief was prepared to facilitate registration of the project. NEMC's screening decision indicated that the Environmental Impact Assessment is required.

An ESIA was therefore carried out in fulfilment of these requirements. The ESIA was submitted to the National Environment Management Council in February 2015 for review and disclosure to the general public in accordance with the EIA and Audit regulations, 2005. Although the ESIA has covered Phase 2 and 3 of the BRT System, the Government of Tanzania has requested AfDB to finance the construction of Phase 2. Phase 2 of the BRT, planned to be constructed along Kilwa Road and Kawawa Road and is the focus of this ESIA and RAP Summary. This ESIA Summary has been prepared from the project documents in accordance with AfDB's Environmental and Social Assessment Procedures (ESAP). In addition, over 200 persons will be involuntarily displaced by the project. A full Resettlement Action Plan (RAP) has been prepared and is included as Annex 1.

2. POLICY LEGAL AND ADMINISTRATIVE FRAMEWORK

The Environmental Management Act No 20, which was established in 2004 governs environmental management issues including Environmental Impact Assessment (EIA) requirements in the country. The Act stipulates that any developer of a project to which EIA is required to made by the law shall undertake at his own cost EIA before commencing the project.

As far as the direct area of influence of the BRT project is concerned, the principal legislation is the Town and Country Planning Ordinance, cap.378. A number of other laws support this ordinance, including: (i) The Public Recreation Grounds Ordinance cap 320; (ii) The Township Building Rules cap 101; (iii) The Land Acquisition Act No 47 of 1967; (iv) The National Investment Act No.10 of 1990; (v) The National Land use Planning Commission Act No.3 of 1984; (vi) The Local Government (Urban Authorities) Act No. 8 of 1982; (vii) The Land Act No. 4 of 1999.

Local authorities are the most important actors in implementation of urban development projects, as mandated by the Local Government (Urban Authorities) Act No 8 of 1982. Other stakeholder institutions in the planning process include: Ward leadership and Mtaa leadership, utility companies like the Tanzania Telecommunication Company (TTCL), Dar Es Salaam Water and sanitation Company (DAWASCO), The Tanzania Roads Agency (TANROADS), The Municipal Councils of Temeke, Ilala and Kinondoni, the Ministry of Lands and Human Settlements Development and the Ministry of Labour's Department of Occupational Health and Safety Services.

Land Acquisition and Expropriation: The legal framework for resettlement is first and foremost based on the following articles of the Constitution of the United Republic of Tanzania (1977): Article 24 (1): Subject to provisions of the relevant laws of the land, every person is entitled to own property, and has a right to the protection of his property held in accordance with law. Article 24 (2): It shall be unlawful for any person to be deprived of property for the purposes of nationalization or any other purposes without the authority of law which makes provision for fair and adequate compensation. Therefore, payment of compensation is both a legal and constitutional right under Article 24 of the Constitution.

The Land Acquisition Act N° 47 of 1967, Land Act No 4 of 1999 and Village Land Act N° 5 of 1999, establish among other aspects, the conditions under which expropriation and resettlement for public infrastructure projects will take place. As applicable to the DAR BRT project, expropriation under these legal instruments will be a responsibility of the Dar Es Salaam City Council that must proceed with valuation of properties eligible for compensation and must establish the value of complementary allowances for affected peoples, making the necessary budgetary allocations.

Property valuation must be carried out by certified valuers that must be accompanied by municipal valuers. The city's Chief Valuer is responsible for approving the Property Valuation and Complementary Allowance Schedule. The City Council will monitor and supervise land acquisition and resettlement activities as deemed pertinent. Council responsibilities include planning, coordination of field implementation, financial control, information exchange, inter-agency liaison and day-today monitoring.

The African Development Bank's Integrated Safeguards System has been reviewed and shall be considered in the implementation of the BRT Phase 2 project.

3. PROJECT DESCRIPTION AND JUSTIFICATION

Current Transport System: The Tanzania transport regulator, Surface and Marine Transport Regulatory Authority (SUMATRA) undertook a study in 2014 on demand and supply of public commuter buses also known as *Daladala* in the city. According to the study, the road network in Dar es Salaam city is 2,094.4Km. The city road network managed by TANROADS is 494.3km (24%) and 1,600.1Km are managed by the municipalities. The current population of Dar city of approximately 4.4million inhabitants are served by approximately 6,820 registered *Daladalas*. The registered *daladala* owners are 3,700 and the licenced routes for public transport are 362.

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 *daladala* which has attempted to address the transport challenges in the city. The *Dalala* System, has several challenges; vehicles operating without control, no transport schedules at all, long waiting times in the middle of the route, absence of services during some hours in some areas, especially at late hours in the evening overcrowding in vehicles, bottlenecks generated in some stops due to the concentration of vehicles competing for passengers to fill the vehicles before they move, congestion of road ways and lack of safe road infrastructures that endanger both motorized and non-motorized transport users including pedestrians. In places like Kariakoo, Buguruni and TAZARA, it is common to see huge congestion, before the *daladala* stops and clear streets or free flowing traffic after the bus stops.

To address this problem, the Government of Tanzania established the Dar Rapid Transit Agency (DART) under the Prime Minister's Office, Regional Administration and Local Government through the Ministerial Advisory Board. The aim was to create an agency that would establish and operate a Bus Rapid Transit (BRT) system in Dar es Salaam City to add to the City efforts to enhance mobility, safety, comfort and clean environment. DART Agency came fully into force on 16th June 2008, established by GN. No. 120 of 25th May 2007, under the Executive Agency Act, No. 30 of 1997.

The main objective of the project is to ensure orderly flow of traffic on the city streets and roads by increasing the level of mobility, improving public urban transport, 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. In addition, DART system intends to generate jobs to residents by inviting people to invest in the DART bus operations, fund management and fare collection companies.

BRT is a bus-based mass transit system that essentially follows the performance and characteristics of a modern rail-based transit system but at a fraction of the cost. It consists of a corridor of exclusive and segregated lanes, high capacity articulated buses and high performance boarding with central platform for level boarding and large closed stations that allow fare payment outside the trunk vehicles. The proposed system can reach average speeds of 25 km/h.

The Dar BRT System comprises six phases as illustrated in Table 1 and Figure 1. Phase 1 infrastructure construction has been completed with financing from the World Bank and the Government of Tanzania. The operationalization of Phase 1 is under development with an Interim Service Provider set to commence services in the second half of 2015.

Table 1: Dar es Salaam BRT System

BRT Phases	Road Corridor	Length (Km)
Phase 1	Morogoro, Kawawa North, Msimbazi Street, Kivukoni Front	20.9
Phase 2	Kilwa, Kawawa South	19.3
Phase 3	Uhuru Street, Nyerere, Bibi Titi na Azikiwe Street	23.6
Phase 4	Bagamoyo and Sam Nujoma	16.1
Phase 5	Mandela Road	22.8
Phase 6	Bagamoyo Road	27.6

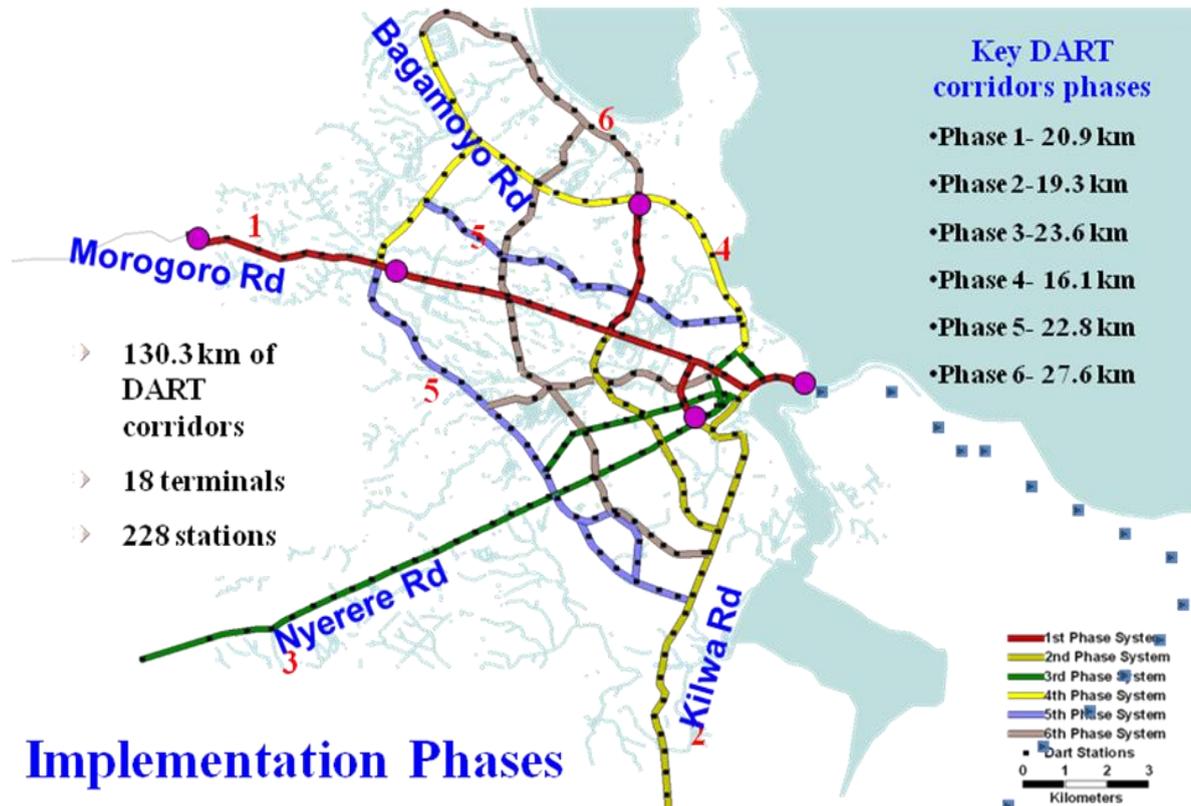


Figure 1: Map of the DAR BRT System

In order to distinguish itself from the current public urban transport system, the daladala, the DART system proposes to acquire and use quality high capacity buses which meet international service standards, environmentally friendly, operating on exclusive lanes, at less travelling time while ensuring safe, reliable, efficient transport that will guarantee user satisfaction.

The DAR BRT project will also improve the quality of public transport by providing: (i) Closed, clean and spacious stations and terminals; (ii) Modern and efficient bus depots; (iii) Modern vehicles, preferably based on low emission engines according to international standards. Additionally, the new urban landscape will considerably improve with the application of new concepts of use of urban space, since it will promote changes predominantly in the Direct Area of Influence. Businesses can be reorganized and gain scale with the new service. Stations and terminals, and the new landscape design, will bring safety and comfort not only for those who use the system, but for all local population, once it allows free sidewalk and a better organized public space.

Phase 2 of the BRT System is designed to be along Kilwa, Kawawa South and Chang’ombe Roads, Gerezani, Sokoine Drive and Bandari Streets with a total of 19.3 km from the city centre to Mbagala area. (Figure 2). Construction is scheduled to commence in 2017.



Figure 2: Location of Phase 2 BRT System

Standard cross sections have been established for the DART project for two situations: cross section along the corridor, and standard cross section at bus stations. Basic design guidelines adopted in each case are the following:

Standard cross section along the corridor: (i) The Road shall have dual carriage way of four lanes (2 x 2) for mixed traffic and two lanes (1 x 1) for BRT vehicles; (ii) The minimum width of mixed traffic lanes will be 3.0 m and minimum width of BRT vehicle lanes will be 3.3 m; (iii) Sidewalk and bicycle lanes shall be provided in both directions whenever possible, with 2.5 m minimum width for sidewalks and 1.5 m wide bicycle lanes.

Standard cross section at bus stations will include additionally: (i) 5.0 m wide station at the centre of the cross section; (ii) Two (1 x 1) additional lanes for BRT overtaking vehicles; (iii) 0.3 m wide median between bus lanes and private cars.

The Phase 2 BRT system is similar to Phase 1 in configuration with the system running in the middle of the road corridor. The difference is that BRT Phase 2 bus lanes will be constructed with flexible pavement as opposed to Phase 1 which comprised rigid pavement. The Non-Motorized Traffic (NMT) facilities include bicycle and pedestrian paths, pedestrian overpasses. There are 24 planned trunk stations along the BRT System and a terminal and depot at Mbagala. There are 2 Feeder Stations at Mtoni and Mtoni Kijichi. The stations will include elements like access area, fare collection area, platforms and circulation. The Bus Depot will include elements like access area, maneuver, fuelling, washing, and maintenance, parking and necessary buildings such as for maintenance.

4. DESCRIPTION OF THE PROJECT ENVIRONMENT

Administrative Context: The proposed project is located in Temeke and Ilala Municipalities with a small portion of Kawawa Road in Kinondoni Municipality. Temeke Municipal Council is located in the south of Dar es Salaam City, borders Coast Region in the South, Ilala Municipality in the north and west while in the east it stretches by the coastal line of the Indian Ocean. The land size of Kinondoni, Temeke and Ilala are 531 km², 786.5 km² and 273 km² respectively.

Land Use and Topography: The area along Kilwa road is relatively upper land and the residents have occupied a large proportion due to continuing urbanization process. Land Use includes physical development activities such as industrial, commercial and on-going infrastructure development; as a result it has become the most preferred area for construction in Temeke, for example Mbagala and Miburani. Kizinga River, which is used as an intake for water supply to the community by DAWASA, crosses Kilwa road at Mtongani area. In Ilala Municipality, Phase 2 of the BRT is mainly in the urban lowland area.

Climate: There are two main rainy seasons; a short rainy season from October to December and a long rainy 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°C. The hottest season is from October/November to March during which temperatures can raise up to 35°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°C.

Soils: The soil type in the project areas consists of sand, clay and loam properties. The main type of soil is a mixture of rock-sandy soil and coral stones.

Air Quality: In 2005, 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. These are general indicative values.

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. A wide variety of plant species such as Palm trees, peacock flower, bougainvillea, neem (*Azadirachta indica*), yellow cassia and varieties of grass species are present in the project road corridor.

Fauna: The project road corridor being in a densely populated urban area has few livestock as pigs, cattle, chicken, and other types of birds. Birds are found in flood plains, tree groves and along the river banks.

Population: 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%.

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 %.

Many of the informal businesses in the city do not have official designated area for their activities thus frustrating municipal efforts in keeping the environment clean and road reserves free of encroachment. 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 vendors.

Trade, Industry and Manufacturing: 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.

Public Transport System: Data collected from 10,000 commuters in a Dar es Salaam Transport Master-plan study funded by JICA (2007) found that: (i) 80% dissatisfaction with the overall present transport arrangements, long waiting time, no comfort and poor safety standards. (ii) 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. (iii) Traffic speeds are in the order of 10-12 km/hr (peak times).

Solid Waste Management: In 2010, the amount of domestic solid waste produced in Temeke municipality was 743 tons per day while 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. Due to the poor resources for waste management and collection by the municipalities, it is common to find heaps of waste on the road reserves. The ESIA recommended set up of waste collection sites along the project roads.

Poor Drainage: Storm water is 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. Due to inadequate allocation of budget by the councils, flooding is common at

some locations during rainy seasons due to several reasons like lack of sufficient drainage infrastructure, blockage of drainage network, limited maintenance and unplanned settlements. 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 maintenance of infrastructure and properties.

5. PROJECT ALTERNATIVES

No Project Alternative: 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.

Analysis of Alternative Routes: Definition of which streets are to be used for the BRT has been based primarily on two criteria: demand and availability of space. Most of the other routes that may be considered as alternatives 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 Kilwa road is a trunk road, and has been in use for many years then it leaves no alternatives for the project routes.

Technology Alternatives: The main technological alternatives regarding urban mass transit are the following: (i) Bus Rapid Transit (BRT); (ii) Elevated Rail; (iii) Light Rail Transit; (iv) Monorail; (iv) Metro Rail (subway or surface). The ITDP BRT Planning Manual considers that "*the choice of transit technology should be based on a range of considerations, with performance and cost being amongst the most important*". The manual further points out that for most developing cities, the infrastructure costs will be a pre-eminent decision-making factor. Developing cities often face a borrowing cap which acts as a ceiling to the total amount of borrowing that is possible.

ITDP provides data on comparative costs of alternative mass transit technologies: "*BRT systems are typically in the range of US\$ 500,000 per kilometre to US\$ 15 million per kilometre, with most systems being delivered for under US\$ 5 million per kilometre. By comparison, at-grade trains and light rail transit (LRT) systems appear to be in the range of US\$ 13 million to US\$ 40 million per kilometre. Elevated systems can range from US\$ 40 million per kilometre to US\$ 100 million per kilometre. Finally, underground metro systems seem to range from US\$ 45 million per kilometre to as high as US\$ 320 million per kilometre. The significant size of the various ranges again indicates the local nature of costing. Additionally, the range depends upon the individual features sought within each system (e.g., quality of stations, separation from traffic, etc.)*".

6. POTENTIAL IMPACTS

Positive Impacts

Direct and Indirect Employment Generation: It is expected that the works will last between 24 and 36 months with a workforce of roughly 600 - 800 during the peak season. Phase 1 BRT had a workforce of 800 at the peak of construction. This peak period is estimated to last approximately eight months. Out of the total staff, 70% will be direct and 30% indirect workforce. It is also

estimated that up to 20% of the job positions may be filled by expatriate workers, coming from the country of origin of the company that wins the bid for the works. In spite of the fact that the positive impact will cease after the end of works, it will provide a direct benefit to the families of all engaged workers.

Improved Air Quality and reduction in emissions: The proposed removal of *daladala* buses along the corridor will have a significant reduction in emissions. 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. Calculating the amount of NOX emitted by the *daladala* fleet in phase 2, a total of about 160.23 metric tons of pollutants will be emitted per day compared to 55.987 metric tons of pollutant emitted by BRT buses per day.

Increase in tax revenue during construction and operation: The implementation of BRT Phase 2 will demand an investment in the order of U\$ 100 million. Tax revenues will be generated from the construction contracts won by the building contractors. Complementary tax revenues will come out of the local acquisition of building materials, goods and services. During operations, tax revenues will also be generated from the operators and sub-contractors of the System.

Improved Safety for Students and improved education standards: School pupils' attending public schools in Dar es Salaam use the *daladala* system whereas pupils in private schools use private transport. The *daladala* system has been discriminatory to school pupils due to the low transport fares for pupils and students. The student transport fare (is 150 – 200 TZS) compared to adult passengers who pay more (minimum of 300 - 700 TZS). *Daladala* operators during peak hours do not permit unaccompanied students to board the buses due to the fare differential. This leads to poor education performance as students arrive late at schools and thus most of them don't attend morning classes. Thus, the BRT project shall improve the situation as there is no discrimination of school pupils/students.

Improved Drainage and traffic flow: The project designs have made provisions for drainage systems along the project road and cross drainage structures at locations like Mzingira creek where streams cross the road. To enhance the BRT System performance, the Urban Development Department in Dar es Salaam has partnered with the World Bank to undertake construction of major drainage channels and improve selected feeder roads to serve Phase 1 and Phase 2 BRT corridors. The drainage works will reduce flooding which is frequent on some roads and the feeder roads will improve transfer of passengers from the settlements.

Improved Street Lighting, Signaling and Safety: The BRT System design includes street lighting along the entire corridor and traffic lights and signaling that will ensure safety along the corridor. The maintenance of the street lighting and signaling for the corridor shall be included in the operator's performance contract. DART plans to recruit Traffic Wardens who will provide security along the system and at stations.

Negative Impacts

Land Take and Resettlement: Kilwa Road was rehabilitated over 10 years ago and the road reserve was largely cleared at the time. A wide median to accommodate future BRT or mass transport system was allowed for in the design and the median exists. Hence minimal resettlement is anticipated along the main trunk at locations where stations will be established. The current width of the road reserve is 45m. The BRT shall require 21m for road construction and 25.5m at stations,

requiring 51m at stations (or additional 6m land take). Land Take is also required at Mbagala Depot and Terminal locations and at the Feeder Stations at Mtoni and Mtoni Kijichi.

Changombe and Kawawa Roads which are part of Phase 2 are currently two lane roads and will be widened to six lanes to accommodate the BRT System. The Changombe and Kawawa Corridor, the Mbagala Depot/ terminal and the Feeder stations land take shall result in affecting a total of 387 compensable assets that include residential structures, graves and annexes to structures, public infrastructure, community assets, and crops. The project shall affect approximately 679 persons (project affected persons (PAPs)) in 194 households.

Loss of employment in adjacent commercial facilities: The businesses facing the corridor shall be temporarily and negatively affected during the construction, especially when the road construction works impose access difficulties. If the reduction in their income level is significant, it may produce the dismissal of some workers. In case interferences produced by the road construction works compel the temporary closure of a business, the dismissal of all workers will be a possibility. There are some businesses that will be permanently affected. The RAP has estimated 115 businesses and 42 premises that serve as a dual commercial and business premises.

Disruption of Transportation: The public transportation services along Kilwa Road, Changombe Road, Kawawa Road will be affected during construction and operation phases and this may impact other roads whose accesses are facilitated by these roads. During the construction works there is likely to be congestion and sometimes complete closure of some road sections. During operation, there will be a relocation of the *daladala* services from the Phase 2 corridor with the introduction of new buses with high capacity and the rationalization of the whole operating system (trunk lines and feeder services).

Disruption of Utility Service Provision: Public utilities along the Phase 2 project road corridor such as water, sewerage, electricity, telecommunications, etc shall be temporarily interrupted during construction as the utilities are relocated.

Poor Air Quality along the corridor: Dust will be generated as a result of land clearing, demolitions, formation of pavement base and sub-base, paving and circulation of vehicles on non-paved roads, either next to the working areas or along haulage routes. Atmospheric pollution due to fuel combustion from increased presence of construction equipment during construction may also occur further compromising the air quality along the corridor.

Soil erosion and flooding: Soil erosion is likely to occur from increased run-off due to demolition, clearance of vegetation in the corridor, earthworks and channeling of floodwater. This may lead to local flooding in the City streets. Soil erosion may also be caused by poor design and inadequate placement of culverts or from earth-moving activities at construction sites and cuttings on hilly slopes.

Impacts from Construction Camps: Construction camps located near settlements or schools can at times cause unwanted interaction with local communities or disruption of learning activities. In most cases this leads into conflicts due to negative social behaviour such as theft, harassment and even spread of diseases such as STDs especially HIV/AIDS and noise for educational institutions. Care should also be taken that the contractor does not set up a camp within Mzinga Creek along the project road due to the “perceived free land” along the corridor as this is the main drainage channel along the project road.

Impacts of Material Sourcing: The Materials Report proposes sourcing of hardstone and aggregate from Lugoba and Msolwa Quarries. Phase 1 BRT System also sourced aggregates from Lugoba area where there are approved commercial quarries. The approved sources for gravel are in Boko area about 25-30Km from Dar es Salaam. Sand sources are usually from Mpiji River. There is pit sand in Mbagala area but the mining of sand in Mbagala was reportedly stopped by NEMC. Water for construction is proposed to be sourced from rivers in Kizinga River in Temeke and Msimbazi River in Ilala and DAWASCO supplies in Kinondoni. With the exception of water sources which are within the project area, the impacts of material sources will be felt off-site at locations where the quarries and borrow sites are located.

Risk of Soil contamination from oils and fuels: During the construction, there may be accidents with vehicles and equipment on duty, followed by fuel or lubricant oil leakages. This risk will exist all through the project cycle, but it is of low intensity. There is a petrol station near Mtoni Kijichi and some stations along Changombe and Kawawa that are likely to be affected by the project. Removal of petrol stations and underground fuel tanks presents a risk of contamination of soils or transfer of contaminant liabilities to the road works.

7. MITIGATION MEASURES AND COMPLIMENTARY INITIATIVES

Mitigation for Land Take and Resettlement: The Phase 2 BRT System follows the existing road alignment at all road sections. The main trunk along Kilwa road will result in minimal resettlement. A Resettlement Action Plan has been prepared and a summary of the Plan is included as an Annex to this ESIA Summary. DART will work with the municipality valuation committees to ensure smooth, prompt, fair and just implementation of the RAP prior to commencement of civil works.

Mitigation for Disruption of Traffic: The Project Design documents have also included a Traffic Management Plan providing alternative routes to divert traffic during construction phase. During Phase 1 implementation, the number of vehicles along Morogoro Road had doubled between design and commencement of construction. This presented a challenge during implementation. The Supervising Consultant shall review and update the Traffic Management Plan prior to commencement of works. The plan shall include a Contingency Plan, alternative routes at Mbagala area where there is a huge bus terminus, a Communication Strategy for the public and corridor users and an Memorandum of Understanding with key stakeholders such as Traffic Police to ensure enforcement of traffic rules and construction diversions throughout the construction phase.

Mitigation for Utilities Relocation: From Phase 1 experience which set up a Project Steering Committee, Phase 2 a project steering committee and include a Utility Working Group comprising of Heads of the various utility bodies including TANESCO, DAWASA, TTCL, etc. who will meet on a weekly basis on site to resolve issues relating to the relocation of utilities. During pre-construction, a Land Acquisition Plan for utilities shall be prepared by DART and the Supervising Consultant. Communities shall be informed in advance regarding storage of water when their utilities are about to be relocated to pave the way for road works. Water pipes located in the construction corridor or crossing in the right of way (road reserve) will be moved slightly away from the road and provision of service ducts crossing the road shall be considered.

Mitigation for Impacts of Dust and Emissions: The Contractor shall prepare a Dust Management Plan; The Contractor shall ensure routine watering of exposed surfaces of the road way being trafficked and haulage routes. The crushing plant shall be fitted with sprinklers to reduce dust

emissions. All contractor equipment shall be maintained in accordance with the manufacturer's specifications. All construction staff shall be provided with dust masks.

Mitigation for Soil Erosion: Earthworks should be controlled so that land not required for road works is not disturbed; Earthworks shall be carried out during the dry season to prevent soil from being washed away by rain; Excavated materials to be kept at appropriate locations away from the streams, river banks and away from Mzinga Creek; Drainage structures shall be properly installed to avoid scouring; The Contractor shall adhere to specified cut and fill gradients and replant embankments with grass that will reduce erosion and enhance soil stability especially on embankments.

Mitigation for Poor Siting of Construction Camps: The Contractor shall consult the municipality authorities and settlements when camp site locations are identified. An Environmental Impact Assessment Report shall be prepared along with an ESMP for Camp Site Management. These shall be approved by NEMC prior to setting out and construction of the camp.

Mitigation for Impacts on Material Sourcing: Borrow materials shall be collected from existing approved borrow areas currently used for road construction. If new areas are to be opened, these shall be done in agreement with the respective communities. All borrow areas shall be reinstated. This can be done using spoil material and by ensuring excavated slopes are not too steep. Steep edges of the pits will be smoothed to avoid posing risks to neighbouring community. Also borrow pits sides will be landscaped after work completion. In case respective communities request that these pits are left to collect storm water runoff for other uses, then some works on the edges to obtain less steep slopes shall be carried out in agreement with the community.

Mitigation for Contamination from oils and fuels: All fueling yards for the Contractor shall be constructed with hard standing and maintenance yards provided with drip trays. Construction equipment service bays shall be provided with berms to avoid spills from being washed away into the environment. The drainage system shall be fitted with oil interceptors. No refueling or washing of construction equipment shall be carried out within 100 m of the water sources.

For the petrol stations, if the removal of petrol stations fuel installations and the resulting risks are the entrepreneur's responsibility, the remedy for the likely environmental liabilities is the service station owner's responsibility. Dar es Salaam City Council will formalize agreements with the owners in order to carry out the removal of contaminated soil and the remedy for the existing liabilities. It must be observed that the removal of soils will be carried out within the schedule of works, but the remedy for liabilities shall be subject to another schedule, longer than the former, and independent from the DART execution term. It is known that, at the present time, there is no suitable place in Tanzania for the disposal of fuel or lubricant residues, so it will be necessary to provide a place for the encapsulation, according to international technical and environmental standards.

COMPLIMENTARY INITIATIVES

Improving Feeder Roads and Alternative Routes for Daladala operators: The Dar es Salaam Metropolitan Development Project financed by the World Bank proposes to improve feeder roads in the catchment areas serving the Dar BRT System. Approximately 23Km of roads in Temeke Municipality shall be paved to support Phase II operations. Discussions were held with DART and SUMATRA to the possibility of paving some feeder roads to improve the catchment of the BRT system and also offer alternative routes to *Daladala* operators who will be removed from the

BRT route. These roads will serve communities which are currently underserved as operators tend to shun away from unpaved roads. Since there are only about 10 female owned *Daladala* operators in Phase 1 and Phase 2, the women *daladala* owners will be given preference in route re-allocation.

Provision of Solid Waste Management Facilities along BRT corridor: The project will provide for the design of Solid Waste Disposal Facilities at strategic locations along the corridor. Sensitization and awareness campaigns will also be essential for behavioral change of corridor users. This will ensure solid waste generated by passengers and residents along the corridor are collected at Strategic Locations prior to final disposal at the designated Dar es Salaam City dumpsite.

Communicable Diseases Control (Health and Hygiene): The project will conduct health and hygiene sensitization campaigns to the workers during construction and communities living within the immediate zone of influence. The sensitization activities to be carried out by a specialized service provider shall include awareness and prevention of the spread of HIV/AIDS and TB (in collaboration with TACAIDS); the dangers of people loitering on the footbridges which exposes them to carbon emissions from motor vehicles, let alone being a safety issue; and encouraging communities to use designated areas/facilities for dumping rubbish.

Gender Mainstreaming: Women *daladala* owners revealed that most of the female operators needed support in capacity building and sensitization workshops to enable them make decisions on either acquiring shares in the BRT System or opting out and seeking alternative routes to continue with their transport business. As part of the sensitization component of the project, some funds will be allocated for conducting the sensitization workshops to women *daladala* owners and interpretation of the operational modalities of BRT System.

8. RESIDUAL EFFECTS AND ENVIRONMENTAL HAZARD MANAGEMENT

During the operation phase, adverse impacts similar to the environmental problems observed on the existing project road will continue to be manifested if mitigation measures are not implemented and work camps and sites are not reinstated after completion of the construction and defects liability period. These impacts include: (i) Soil erosion on slopes and embankments cut and built up during construction phase; (ii) Landscape scars at un-rehabilitated quarries and borrow sites; (iii) 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 using private vehicles; (iv) There will also be 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. (v) Encroachment on the road reserve if there is no strict surveillance by the municipalities as businesses and vendors set up on footpaths, stations and road reserves; (vi) Generation of liquid and solid waste at depots and workshops. Solid wastes include used spare parts and written off or worn-out buses. (vii) 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. (viii) Loss of Employment to Daladala bus operators in some routes and businesses affected by temporary or permanent disruption.

Measures to reduce residual impacts include: Provide concrete bollards or similar at 200 m intervals along the project road to demarcate the road reserve; Conduct awareness meetings and regular presentations about the road reserve; Introduction of dust bin within the DART buses and stations in order to prevent improper garbage disposal and solid waste; Design a proper program

for ensuring cleanness of roads e.g. sweeping and cleaning water channels. Road Safety campaigns and sensitization in schools and communities along the road.

9. MONITORING PROGRAM

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 Coordinators will be equally involved in monitoring the trend in socio-economic status and HIV/AIDS pattern respectively. Therefore, among other issues, Municipal Environmental Officers, Community Development Officers and Municipal Aids Control Coordinator, should deal with, (i) monitoring pollution from various pollutants from the construction sites; (ii) Soil erosion and degradation control measures during construction; (iii) Water quality monitoring; (iv) Changes in socio-economic status; (v) HIV/AIDS trends. The detailed Environmental and Social Monitoring Program with indicators, timeframes and frequency of monitoring is provided in the ESIA Report. The estimated cost of monitoring is TZ Shs 95.68 million.

10. PUBLIC CONSULTATION AND DISCLOSURE

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 Mbagala, Mtoni, Temeke 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 of invitation were used to inform the community to attend the public meetings.

In connection with the requirement that displaced persons be meaningfully consulted, consultations were made through meetings and interviews involving stakeholders at National, Regional, District, Ward and Village levels that operate in the project area. The main objective of the public participation was to enable stakeholders learn about the project, its impacts and how they will be mitigated. Another objective is to inform them about the compensations and resettlement procedures and to secure their cooperation. Consultations with Project Affected Persons were done in 2014 and February 2015.

The main issues raised during consultations were; (i) Compensation for land, commercial activities and buildings at market price; (ii) The width and alignment of the proposed road, (iii) Time frame for the project and time for moving the properties from the road reserve; (iv) Compensation complaints for previous TANROADS/ JICA rehabilitation project along Kilwa road; (v) Punctuality in paying compensation; (vi) Employment to local communities especially during construction; (iv) Safety while crossing the road especially students/pupils; (ix) Contractors who will be familiar and respect community's culture; (x) Openness in valuation exercise; (xi) Use of empty spaces along the road corridor instead of built up areas.

The positive comments from some stakeholders included (i) Reduced travel times to and from the Central Business District; (ii) Increased incomes of individuals with shares in the system, those operating on feeder roads and other business indirectly favored by improved accessibility gains; (iii) The government will earn more tax and hence increase revenue; (iv) Safe and efficient transport for pupils enabling them to arrive early at school and early return home; (v) Employment of the host communities during construction and operation.

11. ESMP

Implementation Arrangements for the ESMP: The project proponent and the executing agency of the project is DART Agency who will recruit an Environmental Officer to provide oversight role and co-ordination with respective municipality Environmental Officers in the implementation of the ESMP. TANROADS shall be the Project Manager. ESMP implementation is the responsibility of the Contractor. The Contractor will be expected to recruit a full time Environmental and Health and Safety Officer for the day to day implementation and monitoring of the Construction ESMP (CESMP), the Health and Safety Plan (HASP) and the Traffic Management Plan (TMP). The Supervision Consultants shall recruit an Environmental and Social Officer on a part-time basis to oversee the implementation of the ESMP and RAP and prepare and submit Quarterly implementation reports to DART. For RAP implementation, DART has already recruited a RAP Expert to co-ordinate with municipal valuers on the RAP implementation. The organizational framework for the ESMP is designed to evolve as the project progresses through pre-construction, construction and operation phases.

Reporting Arrangements for ESMP: Upon engagement, the Contractor will prepare a Construction ESMP (CESMP), the Health and Safety Plan (HASP) and the Traffic Management Plan (TMP). The Environmental and RAP Officers from DART Agency will co-operate with other experts in all municipalities of Dar es Salaam Region (Ilala, Temeke and Kinondoni) such as Municipal Land Officers, Municipal Land and Property Valuers, Community Development Officers and Municipal Environmental Officers to provide the Regional Environmental Management Experts with environmental reports of the project implementation as part of the progress reports and annual environmental monitoring reports. The Regional Management Expert is the link person between the region and the Director of Environment as well as the Director General of NEMC.

A summary of the key ESMP activities and estimated costs are provided below;

Table 2: ESMP activities and estimated cost

No	Description	Estimated Cost
1	RAP Implementation and Monitoring	112,000,000*
2	Tree Planting, Beautification of the corridor	25,500,000
3	Sensitization of communities	3,620,000
4	Occupational Health and Safety Programs	54,750,000
5	Traffic Management Activities	27,335,000
6	Sanitation and Waste Management Facilities on the corridor	3,880,000
7	HIV/AIDs Sensitization	82,500,000
8	Prevention of encroachment	1,200,000
	Total	310,785,000

*RAP Implementation costs excludes the compensation costs – provided in RAP Annex.

12. INSTITUTIONAL CAPACITY AND STRENGTHENING PLAN

The institutional set-up for environmental management from national level to village level includes: (i) National Environmental Advisory Committee; (ii) Minister responsible for Environment; (iii) Director of Environment (DOE); (iv) National Environmental Management Council (NEMC); (v) Sectoral Ministries; (vi) Regional Secretariats; (vii) Local Government Authorities [City, Municipal, District, and Town Councils; (viii) Township; Hamlet (Kitongoji); Ward; Street (Mtaa); and Village].

The DOE and the NEMC are the main regulatory bodies for environmental management in Tanzania. However, other sectoral ministries and agencies / institutions, have an important role in implementing environmental policy objectives. For the BRT Project the key officers will be NEMC's Regional Environmental Management Expert; DART Environmental and RAP Officer; Directorate of Occupational Health and Safety Officer and the respective Municipal Environmental Officers. Of these key institutions, DART does not have an Environmental Officer. A recommendation has been made for recruitment of the officer. The regulators environmental officers shall be supported by the Supervising Engineer's Environmental and Social Officer.

13. CONCLUSION

The construction of the BRT system is essential for the development of the economy of Dar es Salaam and the country at large. In the absence of a safe and reliable transport system in Dar es Salaam City, communities have been struggling to use alternative routes to get in and out of to the CBD or different means of transport such as motor cycles and the *Bajaj* (tri-cycles), which are dangerous due to carelessness of most of the drivers and narrowness of the existing roads. However, these alternative means of transport are more expensive and result in longer travel times to reach planned destinations. The BRT system will improve travel times, the economy and access to social and health services not only to the population located immediately along the project road, but also for those in the outskirts 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 proposed project and the BRT System as a whole. On the other hand, the project road may cause serious negative impacts that must be mitigated if the project benefits are to be realized in a permanent and sustainable way. These environmental and social impacts are related to displacement of people due to land acquisition, disruption resulting from relocation of utilities (water pipelines, sewers and electricity lines along the project road) interference with drainage 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, and delays in transportation during construction.

Most of the project negative impacts can be mitigated with appropriate measures. Diligence on the part of the contractor is critical for ensuring that environmental and social impacts are minimized. The Contractor must therefore 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 DART Agency, Wards and Sub-ward governments. Furthermore, it is recommended that the ESMP be made

binding for the construction and operation of the project road. This will ensure that environmental impacts are minimized and properly monitored during construction and operation and that unnecessary incidents and accidents are avoided.

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Consultancy Services for the Conceptual Design of a Long Term Integrated Dar es Salaam BRT System and Detailed Design for the Initial Corridor, Environmental and Social Impact Assessment (ESIA) by Logit, JGP and Interconsult, February 2007;

African Development Bank Dar es Salaam Bus Rapid Transit (BRT) Project-Phase 2 Appraisal Mission, 2nd - 13th February 2015 Aide Memoire;

Personal Communication with SMEC Consulting Engineers, Supervision Consultants for BRT Phase 1 Morogoro Road, February 2015.

RESETTLEMENT ACTION PLAN SUMMARY

DAR ES SALAAM BUS RAPID TRANSIT SYSTEM INFRASTRUCTURE

Project Title:	Dar es Salaam Bus Rapid Transit (BRT) System Infrastructure		
Project Number:	P-TZ-DB0-021	Country:	Tanzania
Department:	OITC	Division:	OITC.2

1. Description of the project, project area and area of influence

The project entails construction and provision of infrastructure to a Bus Rapid Transit System for Dar es Salaam. The BRT system is being constructed in six phases covering all major roads in Dar es Salaam city. The subject of this Resettlement Action Plan (RAP) summary is the Second Phase of BRT system. This Phase is designed to be along Kilwa, Kawawa South and Chang'ombe Roads, Gerezani, Sokoine Drive and Bandari Streets with a total of 19.3 km from the city centre to Mbagala area and construction is expected to start early 2017. The detailed engineering designs are being finalized and traverse Ilala, Kinondoni and Temeke municipalities.

BRT system will comprise of a two-lane to allow mixed traffic including non-motorized traffic (NMT); and one lane per direction, two way roads dedicated for buses only. The project shall include improving trunk and feeders, bicycle and pedestrian paths, pedestrian overpasses and flyovers; stations and terminals with access areas, fare collection area, platforms and circulation. Furthermore the Bus Depots will include facilities such as fuelling, washing, and maintenance, parking and offices.

The RAP summary shall cover potential impact; organizational responsibility; community participation; integration with host communities; socio-economic studies; legal, administrative and policy framework; grievance redress mechanism; institutional framework; eligibility; valuation of, and compensation for losses; implementation schedule; cost and budget; and monitoring and evaluation. Detailed information is available in the full RAP.

2. Potential Impacts

Construction of the main BRT corridor and ancillary works shall result land acquisition and relocation of properties, private and public assets and utilities. The proposed works will to a large extent follow the existing alignment but there will be an increase in the road carriage way width to accommodate the four lanes. While current width of the road reserve is 45m the BRT shall require a total of 46.5m being 21m for road construction and 25.5m at stations. This shall result in affecting a total of 387 compensable assets that include residential structures, graves and annexes to structures, public infrastructure, community assets, and crops. The project shall affect approximately 679 persons (project affected persons (PAPs) in 194 households. Out of these are 73 owned housing structures (16 owned by women) with 296 tenants. Among the tenants are 119 female heads of families. Among the affected persons are 12 vulnerable people among whom are 6 elderly, 3 chronically ill, 2 widows and 1 physically disabled person. During compensation and resettlement more attention will be paid to the vulnerable and female headed households to ensure that the project benefits are shared between and amongst family members and contribute to the welfare of the affected families and individuals.

3. Organizational Responsibility

Various Institutions will be involved in the Implementation of this RAP for the BRT Phase II, these include:

i. Dar es Salaam Rapid Transit agency (DART): The DART Agency is an executive agency created by the President's Office –Public Service Management (PO - PSM) under the Executive Agency Programme as stipulated in the Executive Agency Act No 30 of 1977. The DART Agency reports to Permanent Secretary – Prime Minister's Office – Regional Administration and Local Government (PMO- RALG). As an executive agency, the DART Agency is a semi -autonomous legal entity. The DART is charged with the responsibility to oversee the BRT system and infrastructure development.

ii. Ministry of Lands, Housing and Human Settlements: The Ministry administers the various Land Acts: (Land Acquisition Act; the Village Land Act; Land use planning; management and land delivery activities). The Commissioner of Lands administers most issues dealing with land allocation, acquisition, and registration and land management. All instances of acquisition of land for public purposes and the need for resettlement and/or compensation must be referred to the Commissioner. With regard to this RAP the Ministry of Land and Human settlement will be responsible in making sure that the amount of money paid to the PAPs is equivalent to the value of affected properties and signing of valuation reports; and

iii. Local Government Authorities (At Municipal, Ward and Mtaa level): The local Government system in Tanzania is based on the decentralization policy and is enshrined in the Local Government (District Authorities) Act No.7, 1982, the Local Government (Urban Authorities) Act No. 8, 1982, and the Regional Administration Act (1997). The project traverses three municipalities of Ilala, Kinondoni and Temeke in which case the Mtaa and ward representatives will be the main focal points of the RAP implementation activities. This include identification of PAPs and determination of actual losses; and participating in grievance redress process.

iv. Representatives of the PAPs themselves will be crucial to participate the organization process. The representatives will be both men and women and the youth.

v. In cases where the civil society is active and especially associations, these will be coopted into the organization process to represent the voiceless.

4. Community Participation

Comprehensive planning is required to assure that project implementer, relevant local government, NGOs and the affected population interact during all stages of the project implementation. RAP in linear development projects have minimal impact for one particular area, though cumulatively it might have a significant impact depending on the length of the project. The public participation process took into account particular features of the Dar es Salaam Rapid transport project. In connection with the requirement that displaced persons be meaningfully consulted, consultations were made through meetings and interviews involving stakeholders at National, Regional, District, Ward and Village levels that operate in the project area. The main objective of the public participation was to enable stakeholders learn about the project, its impacts and how they will be mitigated. Another objective is to inform them about the compensations and resettlement procedures and to secure their cooperation. Views raised by stakeholders included the following:

- i. Compensation to be paid should restore community livelihood and it should reflect the current price because Mbagala has urban characteristics where plots are competitively high like other business areas in the City; and,
- ii. Compensation should be done in a timely manner not more than six months after valuation of people's properties to mitigate against inflation.
- iii. Fear of the spread of communicable diseases such as HIV/AIDS and other sexually transmitted infections unless mitigation measures are not put in place involving households, ward and Municipal councils in waging a campaign against diseases.
- iv. PAPs should be educated on the usage of compensation money and prioritize on reconstruction of destroyed houses and rehabilitation of their livelihoods to avoid squandering the money on less important items.
- v. The mosque and graves to be relocated have a spiritual and sentimental value to the affected families around Mianzini sub-ward. The community proposed that an in-kind compensation be paid which will be through reconstruction of the mosque and allocation of a site within the municipality cemetery for re-burial.

5. Integration with Host Communities

The project road is linear and urban based. Much of the displacements will not affect a coherent group except for the mosque and cemetery at Mianzini. Affected persons opted to be cash whereby they can purchase land of their choice within the city to rebuild their homes. As for the mosque a piece of land has been identified within Mianzini and DART Agency will purchase it directly and construct the mosque. The graves will collectively be re-buried at the municipality cemetery within the ward.

6. Socio-economic Studies

The proposed project is located within the City of Dar es Salaam specifically in Temeke Municipal though some parts of the projects traverse in Kinondoni and Ilala Municipalities. Data on affected people show that there are 679 PAPs and 194 households with 383 affected persons and 296 affected tenant family members. According to the demographic information collected, in the 2012 Population and Housing Census, Temeke Municipal has a total of 1,368,881 people and Mianzini ward where bus terminal and bus depot will be constructed has a population of 100,649 with an average household number of 4 people. The PAPs ages range between 41-60 (44.2%), 20-40 (30.8%) and those who are above 60 years of age are 25%. Data revealed that 78.8% of heads of household are males and the remaining 21.2% are females. Most heads of the households (75%) live with their spouses while the rest could be widowed, divorced, never married or separated.

In terms of education, most heads of households have formal education with 65.4% having undertaken primary education, 13.5% secondary education and 1.9% having university education; with 19.2% who have no formal education. Within secondary and tertiary education gives PAPs opportunity to obtain wage employment (11.4%). The census also showed that most PAPs are

engaged in trading as primary economic activities (65.5%) that includes petty business with most of the activities conducted along the roads. 19.2% of PAPs are engaging on farming and 3.8% of PAPs depend on casual labor as the primary economic activity.

Most of the houses are modern built with cement floor, corrugated iron sheets and cement blocks. In Mianzini ward 92.3% of PAPs houses consist of cement floors, 5.8% with mud floors and 1.9% tiles floor. 96.2% of the houses have corrugated iron sheets while only 3.8% are of concrete. Most of the houses owned by PAPs consist 94.2 % have cement blocks walls and 5.8% have poles and mud. It is important to note that the number of rooms in the PAP's houses ranges from 2 to as many as 15, although majority are between 5 and 6. The significance of this is that a large number of them are rented out to tenants as seen in the RAP.

There are number of social services within Temeke Municipal. These include 2 government hospitals, 2 private hospitals, 5 health centers and 107 dispensaries of which 30 are privately owned. Education services available include 144 primary schools of which 100 are government owned; 70 secondary schools which 39 are government owned; and the municipal has 3 vocational training centres and number of other tertiary institutions.

7. Legal, Administrative and Policy Framework

The RAP implementation shall be guided by laws, legislation, regulations, and local rules governing the use of land and other assets in Tanzania and AfDB's Integrated Safeguards System (OS) and the Involuntary Resettlement Policy (2003). The legal and institutional framework include the following:

- (i) Property and land rights, as defined by Tanzanian law and customary practice;
- (ii) Acquisition of land and other assets, including regulations over the buying and selling of these assets;
- (iii) Rights and compensation, in particular, the accepted norms influencing peoples' basic rights to livelihood and social services; and
- (iv) Dispute resolution and grievance mechanisms, specifically the legal and institutional arrangements for filing grievances or complaints and how those grievances are addressed through formal and informal systems of dispute resolution.

The following are the specific laws and regulations relevant to the RAP implementation:

- National Land Policy, 1997
- The Land Act, 1999
- AfDB's Policy Statement on the Integrated Safeguard System (2013)
- AfDB's Involuntary Resettlement Policy (2003)
- The Graveyard removal Act (No. 9 of 1969)
- The Land Regulations, 2001
- The Land Disputes Courts Act No. 2 of 2002
- Land Use and Spatial Planning
- The Road Act 2007

A gap analysis has been performed between the Tanzanian Laws and Bank Policies. Major features

that came out include:

- Bank's recognizing encroaches as PAPs with entitlement
- Recognizing tenants to have some kind of entitlement
- Replacement value of affected properties (no depreciation)
- Providing attention to vulnerable groups
- Monitoring the performance of Involuntary Resettlement and
- Consultation of Stakeholders (including host communities if any)

8. Grievance Redress Mechanism

One of the major challenge in implementing RAP is dissatisfaction among PAPs with regards to compensation amounts. Taking into account the complexity of resolving disputes and grievances, PAPs at the project area were informed about various grievance redress procedures and of their right to appeal if not satisfied. During surveys and inventory of PAPs and their properties and during consultation processes, concerned individuals or entities became fully aware of the extent of damages to properties, crops and commercial activities that the Project would entail. Common concerns include:

- i. Amount, levels and time in which compensation is paid to PAPs;
- ii. Seizure of assets without compensation; and,
- iii. Handling and treatment of vulnerable PAPs and those without recognized ownership rights (e.g., tenants and squatters).
- iv. The Resettlement Action Plan for the proposed BRT project in the Ilala, Kinindoni and Temeke Municipal Council provides a simplified grievance redress mechanism that will enable timely settlement of grievances to the PAPs. The grievance procedures will be anchored and administered at the local level to facilitate access, flexibility and openness to all PAPs.

The committees will therefore be as follows:

- (a) One for all PAPs in Ilala Municipal Council along the road project;
- (b) One for all PAPs in Temeke Municipal Council along the road project; and,
- (c) One for all PAPs at Mianzini –for the station and depot.

Dispute resolution and grievance mechanisms, specifically the legal and institutional arrangements for filing grievances or complaints and how those grievances are addressed through formal and informal systems of dispute resolution have been laid down.

9. Institutional Framework

The compensation process and RAP implementation arrangements envisaged for this project have several steps involving various stakeholders that include PAPs, the grievance committee, DART office and its officials and local government officials at ward and Municipal level. The overall responsibility for resettlement lies with the PMO-RALG through DART, and payments will be made through the fiscal authority of DART as the project management body for this project, in accordance with its administrative and financial management rules and manuals. It is at this time that the RAP

implementation teams in particular the Community Development Office will guide PAPs on the recommended use of money for re-establishing their homes that have been demolished.

In this project, The DART will be responsible for the actual Resettlement Plan within the framework provided in this report. The arrangement is that DART will set up a steering committee for handling the Compensation Payment Procedures and Resettlement. The Committee should ideally be a high-powered unit within the Agency chaired by the DART Chief Executive with members from DART units of Financial and Audit, Information and Communication Technology, Legal Services and Procurement Management and representatives from consulting firms for the Project. Its primary function would be supervisory and should be assisted by two established technical teams, Compensation and Resettlement Units.

Compensation Team members who will be responsible for supervising compensation payment procedures, giving explanations to PAPs where necessary on matters that they may raise, represent the DART to relevant Lands Tribunal in case of litigation cases about the compensation or the land acquisition itself. The composition of members for this team apart from steering committee shall include the Temeke Municipal Council Valuer/Solicitor, Municipal Engineer Representative, Project's land acquisition/Valuer, Ward Leader for the Mianzini, Ward Executive Officer and Mianzini sub-ward (Mtaa) chairperson.

Resettlement team: this team will be responsible for offering counselling services to PAPs especially with the efficient use of compensation paid. The team will also offer guidance on land prices or rent payable so that the PAPs do not fall into the hands of unscrupulous estate agents who would want to take advantage of them. Members of the team shall also include Temeke Municipal Council Land Officer, Social Worker, a representative of the PAPs preferably a Ward Leader accompanied by a woman and man at the minimum.

10. Eligibility

Tanzanian legislation provides valuation of properties at market values for land, houses and structures affected by a project. However, since the BRT project is to be funded by AfDB, the Bank's policies and guidelines on compensation and resettlement issues are to be followed. The Bank's policies and guidelines amongst other things, favour in-kind compensation e.g. house-for-house, or alternative land. Eligibility for compensation is defined in the provisions of the Land Act and the Land Acquisition Act. According to these laws, all owners of properties located within the proposed project area at the time of inspection and valuation will be eligible for compensation. The "cut-off" date for eligibility for compensation and resettlement measures was determined by the date on which these notifications were served. In this case the cut-off date for this project was October 2014, when valuations activities were completed. However this date is only applicable for the Mbagala Bus terminal and Deport property owners and not PAPs along the road where only spot valuation has been undertaken. The owners or occupiers of the properties completed and submitted Land Form No.15 and agreed upon official valuation of their properties.

The proposed project has determined a number of cut-off dates considering its nature i.e. a liner project with urban peculiarities; similarly it should be noted that actual valuation of affected properties has only been carried for PAPs within the land to be acquired for the construction of the Mbagala bus terminal and deport. For the Mbagala bus terminal and deport, the cut-off date was set as October 2014 and communicated with each PAP during valuation. Any person who undertook any development activity in the newly demarcated project area after the cut-off date will not be eligible for compensation. It should however be noted that the implementation of the cut-off date should also

be observed by project implementer who is required to compensate the PAPs 6 months after the valuation report has been approved.

11. Valuation of, and compensation for losses

Entitlement Matrix

The entitlement matrix below summarizes the various entitlements mitigating impacts on acquisition of land, structures, loss of profit, impact on business, crops, and other properties. The table below provides additional support such as allowances:

Entitlement Matrix

Type of Loss	Unit of Entitlement	Entitlements		
		Compensation for Lost Assets	Transport Allowance	Other Assets
Loss of residential structure	Household	Compensation at replacement value of structure and affected land	Moving 12 tons of goods for a 20 km. Distance	Disturbance Allowance (calculated at 8% of total compensation cost) Accommodation allowance (36 months rates)
	Tenants	-	-	Allowance to enable them relocate (estimated at 150,000shs per tenant household) -Provide early information to tenants to allow them vacate (6 months' notice)
Loss of commercial structure	Enterprise owner	Compensation at replacement value of structure and affected land	Moving 12 tons of goods for a 20 km. Distance	Disturbance Allowance (calculated at 8% of total compensation cost) Loss of profit allowance (36months rates) Disturbance Allowance
	Tenant	-	Allowance to enable them relocate (estimated at T.shs 150,000 per tenant household)	Loss of profit allowance for Six months only
Loss of permanent crops and trees	Individual PAP	Compensation of crops at market value and value of affected land	N/A	Disturbance Allowance (calculated at 8% of total compensation cost)
	Public/Municipal Council	-	-	In Kind Compensation by DART
Public/community structure	Concerned public or private entity	Compensation at replacement value or construction of alternative structure or alternative site by agreement	Moving 12 tons of goods for a distance of 20 km.	Disturbance Allowance (calculated at 8% of total compensation cost)

	Concerned public or private entity	In-kind compensation by constructing the affected structure and in-kind for alternative land	Moving 12 tons of goods for a 20 km. Distance(a structure is involved)	-
Loss of graves	Household/ Public	500,000shs will be paid to Temeke Municipal to relocate the graves	-	PAPs will receive 300,000 T.shs as disturbance allowance
Loss of Land	Household/ Public	Compensation at Market value	N/A	Disturbance Allowance (calculated at 8% of total compensation cost)
Loss of annex structures to be relocated on the same plot.	PAP owner	Compensation at replacement value of structure and affected land	-	Loss of profit if the annex affected is a commercial property
Encroachers/ Commercial	Permanent structures	Compensation at replacement value of structure NOT land	Loss of profit of six months	
Mobile Business	-	Disturbance allowance of 100,000	Early notification to enable PAP relocate 3 months' notice	

12. Implementation Schedules

The compensation process and RAP implementation arrangements envisaged for this project have several steps involving various stakeholders that include PAPs, the grievance committee, DART office and its officials and local government officials at ward and Municipal level.

The overall responsibility for resettlement lies with the PMO-RALG through DART, and payments will be made through the fiscal authority of DART as the project management body for this project, in accordance with its administrative and financial management rules and manuals. The following Chart summarizes the various milestones to be achieved.

Implementation Schedules

	YEAR CALENDER	2014				2015							
	TIME IN MONTHS	SEPT	OCT.	NOV	DECE	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG
S/N	SCHEDULE OF ACTIVITIES												
1	Working Group / Task Team Set-up												
2	Inventory Survey (Census) for PAPs												
3	Notice & Agreement with PAPs												
4	Grievance Redress												
5	Report writing												
5	Asset Inventory / Evaluation of PAPs												
6	Implementation of Resettlements & Compensations												
7	Clearance of Road Reserve (Demolition & Levelling)												
8	Vocational Training for PAPs												
9	Monitoring (Quarterly Report to DART/GoT)												
10	Additional Budget Allocations												
11	Road Reserve Confirmation Survey												
12	Installation of Beacons												
13	Grievance Redress												

13. Costs and Budget

RAP Implementation Budget

The total compensation costs that will be provided under this RAP as per compensation schedules for PAPs with compensable assets is T.shs 26,902,493,744 including implementation and monitoring costs of T.shs 112,000,000 will be used for unforeseen impacts.

Summary of Cost for RAP

S/N	Type of Asset	Road Section/Location		Cost Tsh.
		Main Roads (Tsh.)	Mbagala Terminal & Depot (Tsh.)	
1.	Buildings/structures	650,000,000	8,682,000,000	9,332,000,000
2.	Land	1,400,000,000	10,790,537,000	12,190,537,000
3.	Loss of profit/business	450,000,000	3,213,990,000	3,663,990,000
4.	Disturbance Allowance	20,424,000	603,563,944	623,987,944
5.	Transport Allowance	300,000	63,750,000	64,050,000
6.	Mosque	0	273,562,800	273,562,800
7.	Water Infrastructure	0	36,000,000	36,000,000
8.	Graves	0	120,000,000	120,000,000
9.	Local Govt. Office Block	0	40,000,000	40,000,000
10.	Crops	0	1,946,000	1,946,000
11.	Loss of Accommodation	0	444,420,000	444,420,000
12.	Sub-total			26,790,493,744
13.	RAP Implementation and Monitoring cost			112,000,000
14.	Grand Total			26,902,493,744

14. Monitoring and Evaluation

RAP implementation will be closely monitored to provide DART an effective basis for assessing resettlement progress and to identify potential difficulties and problems. Broadly, the Monitoring and Evaluation system will involve administrative monitoring, including but not limited to: daily planning, implementation, feedback and trouble shooting, progress reporting. Monitoring the progress of RAP execution will be carried out through internal monitoring processes by DART and through external monitoring involving other agencies as may be deemed appropriate by DART. The PMO-RALG, Ministry of Housing and NEMC have a role to play motoring of the RAP implementation.

After implementing this RAP, the evaluation will be made to determine whether efforts to restore the living standards of the PAPs have been properly executed. The evaluation will also verify the results of performance monitoring and identify adjustments to the RAP packages, if required. This RAP has adopted the lessons of experience gained from the implementation of Phase I of DART project. The lessons have been highly taken into consideration while implementing the Phase II in order to avoid the occurrence of same shortcomings and make the project successful and worthy to the residents of Dar es Salaam city.

The approach taken under this project, having learned from Phase I is to have a continuous presence on site during resettlement implementation in coordination with City Authorities and those at the ward level and monitor the following specific indicators:

- Timeline: Administrative monitoring to ensure that implementation is on schedule and problems are dealt with on a timely basis.
- Specific follow-up on individual PAPs: Socio-economic monitoring during and after the relocation process to ensure that persons have been able to recover successfully and as anticipated from the relocation program.
- Administrative monitoring to ensure that relocation of graves has been adequately performed and all PAPs have been well involved in the relocation process
- Data from baseline socio-economic surveys undertaken during consultation will provide the benchmark for monitoring to assess the progress and success of RAP implementation.
 - Effectiveness of Monitoring to include communication with PAPs and documentation of reactions from PAPs and physical monitoring of progress of the RAP's implementation, including the relocation of PAPs and the affected community assets
 - Monitoring the Grievance Redress: List of complaints, number resolved, time taken to resolve, number of outstanding issues.

It is also important for DART to engage external monitoring personnel who will review all compensation tallies and ascertain whether compensation was provided correctly. The external monitor will also assess whether PAPs have regained their prior living standards in terms of income, housing, access to basic amenities, and ownership of land and material assets. It is anticipated that impact monitoring will first be carried out approximately 3 months after the PAPs have been relocated and a report submitted to PMO-RALG giving details of the evaluation and its findings.