

**THE UNITED REPUBLIC OF TANZANIA**

**PRIME MINISTER'S OFFICE REGIONAL ADMINISTRATION &  
LOCAL GOVERNMENT ( PMO – RALG), DODOMA, TANZANIA**



**LOCAL GOVERNMENT SUPPORT PROJECT  
(IDA CREDIT No. 4003-1-TA)**

**ENVIRONMENTAL IMPACT ASSESSMENT(EIA)  
FINAL REPORT  
FOR  
TANZANIA STRATEGIC CITIES PROJECT – Investment Sub-Projects**

**DODOMA MUNICIPAL COUNCIL AND CAPITAL  
DEVELOPMENT AUTHORITY**

**MARCH 2010**



**SMEC INTERNATIONAL PTY LIMITED, AUSTRALIA**

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## LIST OF ABBREVIATIONS

<b>BP</b>	World Bank Procedures
<b>CDA</b>	Capital Development Authority
<b>CDO</b>	Community Development Officers
<b>CSO</b>	Civil Society Organization
<b>DONET</b>	Dodoma Networking for Environment Tanzania
<b>DUWASA</b>	Dodoma Urban Water Supply and Sewerage
<b>EIA</b>	Environmental Impact Assessment
<b>EIS</b>	Environmental Impact Statement
<b>EMA</b>	Environmental Management Act, 2004
<b>ESMP</b>	Environmental and Social Management Plan
<b>ESIA</b>	Environmental and Social Impact Assessment
<b>HIV/AIDS</b>	Human Immunodeficiency Virus /Acquired Immune Deficiency Syndrome
<b>IAPs</b>	Interested and Affected Parties
<b>IUCN</b>	International Union for Conservation of Nature
<b>LGA</b>	Local Government Authority
<b>LGSP</b>	Local Government Support Project
<b>DMC</b>	Dodoma Municipal Council
<b>NEMC</b>	National Environment Management Council
<b>NGO</b>	Non Governmental Organisation
<b>OP</b>	Operational Policy of the World Bank
<b>PAPs</b>	Project Affected People
<b>PMO-RALG</b>	Prime Minister's Office - Regional Administration and Local Government
<b>RFP</b>	Request for Proposals
<b>RoW</b>	Right of Way
<b>SIA</b>	Social Impact Assessment
<b>SMP</b>	Social Monitoring Plan
<b>SPSS</b>	Statistical Package for Social Sciences
<b>STI</b>	Sexual Transmitted Infections
<b>TANESCO</b>	Tanzania Electric Supply Company
<b>ToR</b>	Terms of Reference

<b>TSCP</b>	Tanzania Strategic Cities Project
<b>VEO</b>	Village Executive officers
<b>VETA</b>	Vocational Education and Training Authority
<b>WB</b>	World Bank
<b>WEO</b>	Ward Executive officers

# EXECUTIVE SUMMARY

## 1.0. INTRODUCTION

Following competitive tender, M/s SMEC International Pty Ltd in association with Proper-Consult (T) Ltd (the consortium is further referred to as ‘Consultant’), were selected by the Prime Minister’s Office - Regional Administration and Local Government (PMO-RALG) to provide the following consulting services: Provision of Consultancy Services for Preparation of Preliminary and Detailed Engineering Designs, Cost Estimates and Bidding Documents, and Environmental and Social Impact Assessments for the Investment Sub-Projects for Dodoma MC and CDA in Dodoma Municipality under the proposed Tanzania Strategic Cities Project.

The purpose of these investment sub-projects for Dodoma MC and CDA in Dodoma municipality is to: (i) upgrade/ rehabilitate 65 km urban roads and drainage, including associated structures such as drainage ditches, culverts/bridges, footpaths and street lighting; (ii) strengthen liquid and solid waste management including collection, transportation and disposal; (iii) upgrade community infrastructure; and (iv) improve local infrastructure such as bus stands and lorry stands/parking areas.

The investment sub-projects are economically and socially justified because most of the community infrastructures including roads in Dodoma present serious economic development constraints, health and safety risks to Capital City dwellers and other communities living in the close proximity. The development will no doubt improve the quality of life of the population living at and around the sub-project areas, besides inducing sustainable development in the entire Capital City.

However, before implementing the investment sub-projects, it was found necessary to carry out an Environmental and Social Impact Assessment (ESIA) study. The need to conduct an ESIA study emanates from the requirements of the Government of Tanzania’s Environmental Management Act (EMA, 2004) and Environmental Impacts and Audit Regulations of 2005, which stipulate that an environmental impact assessment shall be carried out for all projects under mandatory list (type A projects). Moreover, the regulations stipulate that, without limitations, at the minimum, the assessment process has to address itself to the following: Describe the baseline environment of the relevant project area; Identify the anticipated environmental and social impacts of the project and the scale of the impacts; Identify and analyze alternatives to the proposed projects; Prepare mitigation measures to be taken during and after the implementation of the project; and; Develop an environmental management plan with mechanisms for monitoring and evaluating the compliance and environmental performance.



## 2. 0. FINDINGS

### 2.1. THE EXISTING CONDITIONS

The transport network within Dodoma that provides internal access and circulation for all land-use elements in the capital city, such as residential communities in Chang’ombe -Chamwino and Kikuyu Community areas is critically poor and inadequate for the growing traffic. Yet, the transport sector forms a good source of employment in and outside town. The town commuter buses prominently known as “*Daladala*” are a substantial means of transport for the population of Dodoma Municipality and a source of employment to many young people.

The presence of high density houses in the municipality, water supply & other public utilities, and few trees very close to the existing road alignment is a common feature in many sub-project areas. No wildlife of biological significance has been recorded in all sub-project areas.

The important implication with this finding is that most people in the proximity to the RoW, few common trees and public utilities will be negatively affected during the implementation of these sub-project investments in one way or another.

### 2.2. POTENTIAL IMPACTS AND MITIGATION MEASURES

The identified negative impacts of the proposed investment sub-projects as well as proposed mitigation measures are summarized below.

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
1.Noise Pollution	<ul style="list-style-type: none"> <li>i. All project machinery to comply with International noise emission limits.</li> <li>ii. Contractor to ensure that project equipment &amp; machinery are regularly serviced and maintained.</li> <li>iii. Use of silenced/ muffled engines.</li> <li>iv. Project workers, in close proximity to noise emitting machinery/ equipment to be provided with adequate hearing protection devices and facilities (e.g. ear plugs)</li> <li>v. Limit works to daylight hours. Stop noisy construction during the night hours (18.00 – 6.00).</li> </ul>	<p>Construction Contractor</p> <p>(supervised by Resident Engineer supported by Site Agent and a qualified EMO )</p> <p>Supervising Consultant</p>	<p>DMC/Municipal Environment Management Officer (MEMO)</p> <p>CDA (Directorate of Environment)</p> <p>NEMC (National Oversight)</p> <p>PMO-RALG</p>

	vi. Contractor must follow Tanzanian procedures for noise abatement as prescribed in the standard specifications for road works (section 1709)		
2. Ground vibrations	<p>i. Careful planning, checking, execution &amp; monitoring of each vehicle operation</p> <p>ii. Free faces shall be sufficiently cleared of any loose material before burden.</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising consultant</p>	<p>D MC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
3. Chemical Spillage	<p>i. To mitigate this problem the contractor has to ensure concrete works and oil refuelling activities are done in a containment to avoid spillage to the environment and water watercourses; Protective gears should be provided to workers to avoid bodily harm.</p> <p>ii. Regular monitoring of ground water table to avoid groundwater pollution</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
4. Underground Water Pollution	<p>i. The Contractor to carry out cross-drainage works during the dry season</p> <p>ii. Proper storage and handling of storm water and hazardous substances</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
5. Air Pollution (Dust)	<p>i. Workers should be provided with dust protection masks during construction to prevent inhaling dust.</p> <p>ii. All machines must be switched off when not in uses to minimize exhaust fumes entering the air.</p> <p>iii. Spray all exposed working</p>	<p>Construction Contractor</p> <p>RE</p>	<p>DMC/MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>

	<p>areas that can generate dust with water (water sprinkling)</p> <ul style="list-style-type: none"> <li>i. Concrete mixing equipment should be well sealed, and vibrating equipment should be equipped with dust removal devices. Fine particle materials on site should be enclosed and covered</li> <li>ii. Wheel washing facilities shall be installed and used by all vehicles leaving the site; and;</li> <li>iii. At the end of the works, all bare surface to be re-vegetated as soon as possible</li> </ul>	Supervising Consultant	
6. Soil erosion	<ul style="list-style-type: none"> <li>i. Provide appropriate road drainage structures, such as culverts and other cross-drainage facilities such as roadside drainage. Raising road section where ground level is low can also help to mitigate the problem of flooding.</li> <li>ii. Construction activities should be undertaken with care and in line with specifications of road works requirement regulations (section 1703 of Standard Specification for road works in Tanzania 2000).</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>
7. Borrow pits And Quarry Sites	<ul style="list-style-type: none"> <li>i. Borrow pits and quarry sites must be reinstated back to their original state by landscaping, spreading of topsoil as necessary.</li> <li>ii. Quarries sites should be fenced to avoid people and animal falling into the pits.</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA NEMC PMO-RALG</p>

8. Loss of Vegetation	i. The contractors' to make sure that vegetation loss is minimal, and that clearing shall be limited to work areas only.	Construction Contractor Resident Engineer Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
9. Erosion: Mass soil movements caused by project activity	i. Provide drainage works as needed to reduce erosion risk	Construction Contractor Resident Engineer Supervising Consultant	DMC/ MEMO CDA NEMC PMO-RALG
10. Liquid and solid waste disposal	i. Ensure that the contractor abides to Road Specifications ii. Provide solid waste/ garbage collection tanks and sanitation facilities at all construction sites iii. Liquid and Solid waste must be handled as prescribed in the Standard Specification for Road Works (Section 1713)	Construction Contractor Resident Engineer Supervising Consultant	DMC/ MEMO CDA NEMC PMO-RALG
11. Community Access	i. Provide alternative access routes and notify communities of the changes in good time	Construction Contractor Resident Engineer	DMC/ DMC/ MEMO CDA NEMC PMO-RALG
12. Removal of tree along the existing RoW	i. Assist re-forestation efforts by communities	Works/ Construction Contractor Resident Engineer Supervising Consultant	DMC/ MEMO CDA NEMC PMO-RALG

13 Occupational Health & Safety	<ul style="list-style-type: none"> <li>i. Provision of ear muffs, helmets, boots, dust masks, etc. to employees</li> <li>ii. Safe procedure for storage and handling the explosives shall be developed</li> <li>iii. Adequate training shall be provided to the staff</li> <li>iv. Regular medical check up of workers</li> </ul>	<p>Works/ Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>
14. Barrier /road diversions and Disturbance by traffic jams.	<ul style="list-style-type: none"> <li>i. Work within time frame and consider traffic counting</li> </ul>	<p>Construction Contractor</p> <p>(supervised by Resident Engineer supported by Site Agent and a qualified EMO )</p> <p>Supervising Consultant</p>	<p>DMC/Municipal Environment Management Officer (MEMO)</p> <p>CDA (Directorate of Environment)</p> <p>NEMC (National Oversight)</p> <p>PMO-RALG</p>
15. Spread of HIV and other communicable diseases	<ul style="list-style-type: none"> <li>i. Supply of condoms and sustainable community awareness on safer sex and HIV voluntary testing as well as the importance of using ARVs for those tested positive.</li> </ul>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising consultant</p>	<p>D MC/ MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>
16. Destruction of sewage systems and clean water pipes and electrical poles	<ul style="list-style-type: none"> <li>i. Confirming with DUWASA on where to locate the pipe ducts.</li> <li>ii. Informing TANESCO about the electrical poles and transformer located at Chan'gombe community road.</li> </ul>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>
17. Increase road accidents due to speed	<ul style="list-style-type: none"> <li>i. Community awareness of road use and providing road signs and humps</li> </ul>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>

18. Children will be attracted to pick dangerous wastes from the dump	i. Fencing the dump and provide security guards	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
19. Employment opportunities	i. Local communities should be given priority on the existing job opportunities during and after project. Priority should be provided to youth and women	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
20. Attraction of wild animals at the Landfill facility/Dumpsite	i. Quality fence, security guards and modernized dump will not attract wild animals like Hyena	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG

### Waste Management Sub-plan

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
Liquid and solid waste disposal	<ul style="list-style-type: none"> <li>Ensure that the contractor abides to Road Specifications</li> <li>Provide solid waste/ garbage collection tanks and sanitation facilities at all construction sites</li> <li>Liquid and Solid waste must be handled as prescribed in the Standard Specification for Road (Section 1713)</li> <li>Management of stormwater is via the existing stormwater drainage system;</li> <li>Management of sewage is via the existing system Works</li> </ul>	Construction Contractor RE Supervising Consultant	DMC/ MEMO CDA NEMC PMO-RALG
Pollution of Solid waste at source	<ul style="list-style-type: none"> <li>All hazardous and non-hazardous waste that may be generated in the target area will be stored and disposed of in a manner that minimises the impacts of the waste on the environment, including appropriate segregation for storage and separate disposal.</li> <li>Non-hazardous waste (e.g. sand/ gravel,</li> </ul>	Construction Contractor  RE  Supervising	DMC/ MEMO  CDA NEMC  PMO-RALG

	<p>paper, plastic, food waste) will be segregated at source from hazardous waste (e.g. waste oils, oil filters, used absorbent, old chemical/ paint/ fuel, batteries, acids, and used tyres) and separate recyclable material; •</p> <ul style="list-style-type: none"> <li>• Recyclable wastes will be transferred to an appropriate recycling facility where possible;</li> <li>• Waste will be stored neatly in appropriate bins or stockpiles, with hazardous wastes stored in such a manner that stormwater run-off does not come into contact with the waste;</li> <li>• Soil contaminated by fuel or oil will be managed as hazardous waste;</li> <li>• All contractors and sub-contractors working on the site would be informed of their responsibility to reduce waste where possible. -All personnel would receive instruction on what waste materials can be recycled and where the appropriate bins are located.</li> <li>• Secure lids would be fitted to bins that store food waste to prevent scavenging by birds and animals;</li> <li>• Complaints will be investigated promptly and appropriate action initiated to reduce impact.</li> </ul>	Consultant	
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<p>Pollution at the Chidaya landfill facility</p>	<ul style="list-style-type: none"> <li>• on-site protection of soil and groundwater aquifer through storm water control, leachate management by installing groundwater protection works, such as a synthetic liner and collection systems;</li> <li>• installation of fencing to control access to, and movement within the site and provide litter control;</li> <li>• refuse covering with impermeable soils to reduce odour, control flies and rodents, reduce spreading of litter and discourage scavenging;</li> <li>• Screening – planting of vegetation around the landfill provides wind barriers to help control dust and minimize blowing litter; operation of small waste cells and litter screens reduces litter impacts</li> <li>• Site design should include venting and landfill gas monitoring.</li> <li>• Use collection (perforated pipes) under each of the geotechnical barriers detect leachates early;</li> <li>• Leachate ponds should be treated to suppress disease vectors (e.g. mosquitoes) and access by birds and migratory wildlife prevented.</li> </ul>	<p>Construction Contractor RE Supervising Consultant</p>	<p>DMC/ MEMO CDA NEMC PMO-RALG</p>
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### Regional Bus and Lorry terminal Sub-plan

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
Air Quality	i. Adopt proper dust control measures, compliance with the Air Pollution Control (Construction Dust) Regulation at the work site	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
Noise	i. use of quiet machines (e.g. use of silencers, etc.) and good site practices ii. conduct construction noise checks to assure compliance	Supervising Consultant Construction Contractor RE	DMC/ MEMO CDA NEMC PMO-RALG
Land Contamination	i. Adopt appropriate operational practices (including inspection and monitoring arrangements and, reporting and recording of	Construction Contractor RE	DMC/ MEMO CDA NEMC PMO-RALG



	<p>incidents), material and waste management strategies and precautionary measures for prevention of contamination problems</p> <p>ii. Conduct training activities to prevent and minimise the potential for spills and the subsequent contamination</p>	Supervising Consultant	
Waste Management	<p>i. use good practices to ensure that adverse environmental impacts are prevented and that opportunities for waste minimisation and recycling are followed</p> <p>ii. the storage, handling, collection, transport and disposal of wastes should comply with regulatory requirements and no unacceptable environmental impacts should occur</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
Hazard	<p>i. designate safe evacuation routes/ exit doors for people to evacuate in case of emergency fires at refueling area due to diesel spills</p>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Consultant</p>	<p>DMC/MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>

### **An Environmental and Social Management Sub-plan for the Chinangali public park**

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
Air Quality	<p>i. Adopt proper dust control measures onsite</p>	<p>Construction Contractor</p> <p>RE</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
Noise	<p>i. Regular service of construction machinery and good site practices</p> <p>ii. conduct construction noise checks to assure compliance</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
Waste Management	<p>i. use good practices to ensure that adverse environmental impacts are prevented and that</p>	<p>Construction Contractor</p>	<p>DMC/ MEMO</p> <p>CDA</p>

	<p>opportunities for waste minimization and recycling are followed</p> <p>ii. the storage, handling, collection, transport and disposal of wastes should comply with regulatory requirements</p>	<p>RE</p> <p>Supervising Consultant</p>	<p>NEMC</p> <p>PMO-RALG</p>
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### **An Environmental Management Sub-plan for the DMC Workshop**

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
Air Quality	<p>i. Adopt proper dust control measures onsite during construction</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
Noise	<p>i. Regular service of machinery and good workshop practices</p> <p>ii. conduct construction noise checks to assure compliance</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
Waste Management	<p>i. use good practices to ensure that adverse environmental impacts are prevented</p> <p>ii. the storage, handling, collection, transport and disposal of wastes should comply with regulatory requirements</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
Soil and underground water contamination	<p>i. Adopt appropriate operational practices, material and waste management strategies and precautionary measures for prevention of contamination problems</p>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
Hazards	<p>i. Adopt good operational practices in refueling areas to avoid fuel spills</p> <p>ii. Prepare and enforce fire management plan to guard against emergency fires in the workshop</p>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Consultant</p>	<p>DM/MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>

### 3.0. CONCLUSION AND RECOMMENDATIONS

A total of 23 mitigated impacts have been considered in this ESIA. There are no impacts of **VERY HIGH** or **HIGH** significance. The majority of impacts are of **LOW** environmental significance (91.3%) with a small proportion of **MODERATE** significance (8.7%). The ESIA study clearly demonstrates that with relatively easy and cost effective mitigation strategies, social and environmental impacts can all be kept to a **LOW** significance. The construction impacts of noise and dust pollution are largely short term and therefore of **LOW** significance. The few **MODERATE** impacts are related to the potential for permanent damage to the environment by landfill pollution. However, the ESIA report identifies feasible and cost effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. With standard waste management practices in place, the risk of landfill pollution is significantly reduced. The impact assessment has observed that there are minor resettlement issues that will trigger World Bank's resettlement policy (OP 4.12) in the proposed Chidaya landfill site. The sub-projects will therefore cause minor loss of assets or access to assets, loss of income sources or means of livelihood. Thus, with careful planning of the construction activity and negotiation, the issue of resettlement and compensation, is manageable.

In view of the foregoing, and mindful of the greater socio-economic significance of these sub-projects, their successful implementation will no doubt improve the quality of life of the population living at and around the sub-project areas, besides inducing sustainable development in the entire Dodoma municipality. For instance economic analysis indicates that following roads and community infrastructure upgrading in Dodoma, the municipal revenue earnings is expected to rise by almost 10 times. It is therefore recommended that the project be implemented taking into account the mitigation of the social and environmental measures and a close monitoring of these measures.

The environmental sustainability of the investment sub-projects in Dodoma is highly dependent on the institutional capability at all levels (i.e. staffing, training, and provision of other necessary support services) to carry out the associated ESMP implementation work. Thus, we further recommend that a focused training program should be designed for various role players coupled with a strategic institutional capacity building exercise to enhance the ESMP implementation capacity.

# 1. INTRODUCTION

## 1.1. BACKGROUND

The Government of the United Republic of Tanzania (GoT) has received a credit from the International Development Association (IDA) towards the cost of the Local Government Support Project (LGSP). It is intended that part of the proceeds of the credit will be used to cover eligible payments under the contract for the Provision of Consultancy Services for Preparation of Preliminary and Detailed Engineering Designs, Cost Estimates and Bidding Documents, and Environmental and Social Impact Assessments for the Investment Sub-Projects in Dodoma Municipal Council (MC) and Dodoma capital Development Authority (CDA) under the proposed Tanzania Strategic Cities Project (TSCP).



**Figure 1. Location Plan**

The overall objective of the TSCP is to: (i) improve basic urban infrastructure and services in selected urban LGAs; and (ii) strengthen the management and fiscal capacity of those urban LGAs for improved operations, maintenance and infrastructure development. The Prime Minister’s Office, Regional Administration and Local Government (PMO-RALG) is the Implementing Agency (IA) for the Project.

Following competitive tender, M/s SMEC International Pty Ltd in association with Brisbane City Enterprises Pty Ltd (the consortium is further referred to as ‘Consultant’), were selected by the Prime Minister’s Office - Regional Administration and Local Government (PMO-RALG) to provide the following consulting services: Provision of Consultancy Services for Preparation of Preliminary and Detailed Engineering Designs, Cost Estimates and Bidding Documents, and Environmental and Social Impact Assessments for the Investment Sub-Projects for Dodoma MC and CDA in Dodoma Municipality under the proposed Tanzania Strategic Cities Project.

The Terms of Reference are attached at Annex 1.

This document reports the findings of the Environmental and Social Impact Assessment (ESIA) study of all sub-project investments.

## **1.2: OBJECTIVES AND SCOPE OF THE STUDY**

The overall scope of this sub-consultancy assignment comprises the preparation of environmental and social impact assessment, preparation of environmental and social management plan and, where necessary, resettlement plan and indigenous peoples development plans, for the Kisasa Community Road investment sub-project proposed by the Dodoma Municipal Council and the Capital Development Authority (CDA) in Dodoma Municipality for financing under the core urban infrastructure sub-component of the TSCP.

Environmental and Social Impact Assessment (ESIA) is a detailed and rigorous process with a number of sequential and interrelated steps. The overall objective of the ESIA is to ensure that any adverse environmental impacts arising from the infrastructure development (construction and operation) are identified and, where possible, eliminated or minimized through early response to issues. Another major objective is to provide a mechanism for stakeholder participation and information dissemination. The ESIA will also propose feasible both enhancement as well as mitigation measures to the identified impacts and also establish a comprehensive monitoring and management plan.

The need to conduct an ESIA study emanates from the requirements of the Government of Tanzania's environmental impacts and audit regulations of 2005, which stipulate that an environmental impact assessment shall be carried out for all projects under mandatory list. Moreover, the regulations stipulate that, without limitations, at the minimum, the assessment process has to address itself to the following:-

- Describe the baseline environment of the relevant project area
- Identify the anticipated environmental and social impacts of the project and the scale of the impacts
- Identify and analyze alternatives to the proposed projects
- Prepare mitigation measures to be taken during and after the implementation of the project; and
- Develop an environmental management plan with mechanisms for monitoring and evaluating the compliance and environmental performance.

### **1.3: ESIA STUDY APPROACH AND METHODOLOGY**

#### **1.3.1 Objectives of the ESIA study task**

The aim of the assignment is to carry out an ESIA to identify potential environmental impacts of the proposed investment sub-projects at Dodoma under the core urban infrastructure sub-component. This ESIA report provides guidance to project decision makers on the environmental acceptability of the project activities and permits planning and investment decisions to be made on a comprehensive understanding of the anticipated project impacts.

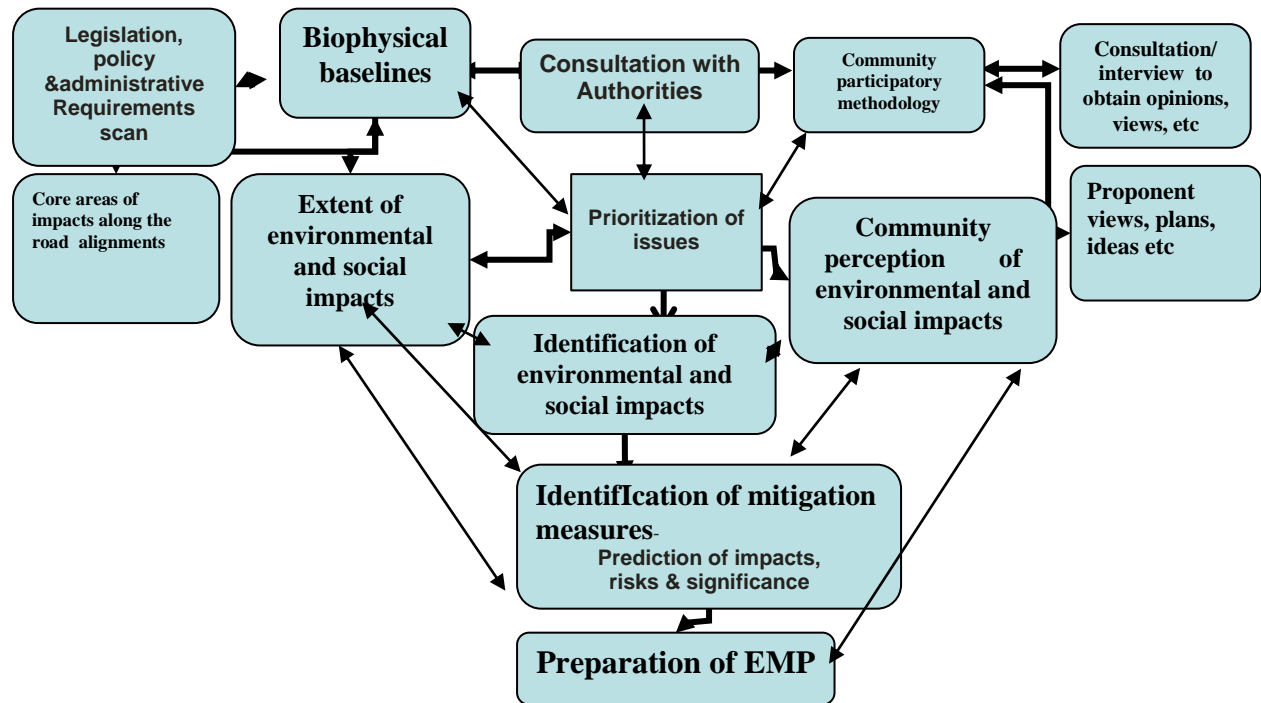
#### **1.3.2 Approach and methodology of the EIA study task**

The ESIA report has been prepared and developed with consideration of the following sources of information:

- Terms of Reference for the Study.
- Draft Environmental Profile for Dodoma Municipality
- Available maps, field survey reports, and other secondary sources;
- Field surveys designed specifically for this study; and
- Consultations with key stakeholders including decision makers and project affected groups including local residents in and around the proposed sub-projects.

The overall ESIA process is set out in Figure 1- 2 below.

**Figure 1-2: Adopted approaches to the ESIA study of sub-project investments**



This ESIA report has been prepared in accordance with the following guidelines and requirements:

- National EIA and Audit regulations
- Recognized international policy and guidelines including the World Bank Operational Policy/Bank Procedures/Good Practice (OP/BP/GP 4.01)

Key activities of the ESIA study task will therefore involve the following:-

- Mobilization, co -ordination, initiations
- Reconnaissance surveying to identify key issues of concern for the project and for the ESIA study task.
- Literature Review

An extensive review of reports available will be carried out in accordance to the activity schedule indicated in a table below.

The ESIA study activity schedule is depicted in table 1 below.

Table 1. The ESIA study schedule

TASK	WEEKS									
	1	2	3	4	5	6	7	8	9	10
1 Mobilization, Organization and initial coordination	→									
2 ESIA process: Data collection	→									
3 ESIA process: Impact assessment and mitigation measures			→							
4 ESIA process: Environmental and social management plan			→							
5 Draft ESIA report						→				
6 Final ESIA report										
7 NEMC/WB review and provisional approval										

The review would provide lesson and will help to clarify the baseline social conditions and environment in which the project is being conducted. Literature review involved compilation and review of existing literature on similar projects.

(d) Participatory Tools

Use of participatory tools (e.g. stakeholder consultations, interview, focused group discussions, questionnaire surveys) will be at the center of methodology in the determination of environment and socio-economic data.

Some of the tools to be applied include:-

(i) Quantitative survey

A questionnaire based sample survey was carried out to collect environment and socio-economic data.



(ii) Qualitative survey

A qualitative survey was conducted to substantiate and verify the results from the qualitative survey by applying focus group discussions

(e) Field investigations

As per the TOR requirements baseline data information will be generated through field investigation. Visits were made to the project area to enable geographic positioning of the sub-project and consult the local residents who resides along the road.

(f) Data Analysis

Data analysis was carried out using Statistical Package for Social Sciences (SPSS) and other windows based statistical tools. The SPSS, which is a windows based statistical package, was used to analyze qualitative data related to socio-economic and other fields and maps were used to visualize various possible behavior and relationship among factors that are considered for impact analysis.

#### **1.4. Report Structure**

This ESIA report is structured in fourteen sections including the executive summary. An executive summary provides an overview of significant findings and recommended actions. Section 1 introduces the road sub-project and the ESIA study, while Section 2 briefly describes the project area, the proposed project features and justifications for the investment sub-projects. Section 3 provides a brief description of the main physical, biological and socio-economic conditions prevailing in the road project area. Section 4 summarizes the policy, legal and administrative framework within which the ESIA was carried out, including the environmental and social impact assessment requirements of the World Bank, whereas Section 5 presents the stakeholders and public consultations conducted during the course of the ESIA and outlines the main findings of the consultations discusses. Section 6 discusses the alternatives considered to achieve the project objectives. On the basis of evaluation of the baseline environmental condition and the proposed project activities, Section 7 presents the analysis of potential positive and negative environmental impacts of the road upgrading project whereas section 8 outlines the proposed mitigation measures for the adverse impacts. Section 9 discusses Waste Management options in the municipality whereas section 10 provides the Environmental and Social Management Plan considered in the ESIA. Section 11 presents the results of capacity needs assessment for various ESMP players. Section 12 is a Monitoring Plan that will be implemented to verify the conclusions of this ESIA and to allow refinement of future mitigation. The ESIA report concludes with Section 13, which presents the conclusions drawn from the ESIA study including the environmental and social acceptability of the proposed road and community infrastructure upgrading project.

## 1.5. Assumptions and Limitations

This ESIA report assumes that:

- Information provided by stakeholders/informants and the proponent is accurate;
- The interested and project affected communities were consulted during the preparation of and/the selection of the sub-project sites;
- The CDA and DMC internal evaluation of sites and existing facilities was valid and their information regarding resettlement and compensation issues is accurate and fair;
- The CDA and DMC have an adequate technical and financial capacity to effectively implement the proposed Environmental and Social Management Framework in a sustainable manner.

The main limitation of this ESIA study was constraints in time and limited availability of biophysical and socio-economic data and information that was necessary to undertake a more thorough and complete evaluation and prediction of environmental costs and benefits.

## 2.0: DESCRIPTION OF THE PROPOSED SUB-PROJECTS

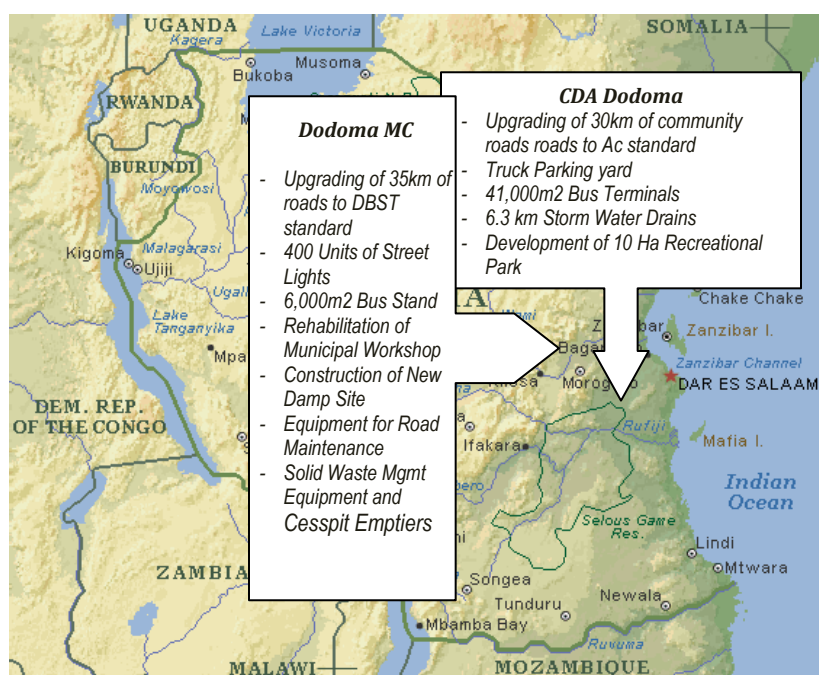
### 2.1: Project Description

The investment sub-projects for Dodoma MC and CDA in Dodoma municipality will support: (i) urban roads and drainage, including associated structures such as drainage ditches, culverts/bridges, footpaths and street lighting; (ii) liquid and solid waste management including collection, transportation and disposal; (iii) community infrastructure upgrading; and (iv) local infrastructure such as bus stands and lorry stands/parking areas.

The scope of works for the Dodoma Municipal Council is as follows:

- Upgrading/rehabilitation of approximately 35 km of existing roads to double surface dressing (bitumen surfacing); including vertical and horizontal alignments, pavement design, drainage structures, street lights etc.
- Provision of street lights at various points (approximately 400 units) along existing municipal roads

**Figure 1-3. The Scope of Works for MDC and CDA**



- Reconstruction of two (2) town bus stands (approximately 6,000 m<sup>2</sup>); including pavement design, concrete interlocking paving block surfacing, lighting, drainage, buildings and other associated structures.
- Rehabilitation of existing municipal workshop; including buildings, pavement and drainage and other structures and provision of tools
- Acquisition of a package of light road maintenance equipment (road sweeper, concrete mixer, concrete vibrator with poker, asphalt cutter, air compressor, pedestrian roller, plate compactor, bitumen boiler/sprayer, hand pump bitumen sprayer, tipper/trucks

etc)

- Development of a dumpsite for controlled solid waste disposal; including creation of cells, construction of inner and access roads, storm water drains and leachate discharge facilities, dumpsite building/guard house and town waste collection centres; all to meet environmental requirements with necessary mitigation measures.
- Acquisition of a package of solid waste management equipment (skip loaders, skip buckets, tipper/trucks, tractors/trailers, wheel loader, weighbridge etc)
- Acquisition of cesspit emptiers and accessories for liquid waste collection

The indicative scope of works for the CDA is as follows:

- Construction/upgrading of approximately 30 km of community roads to bitumen standard (double surface dressing); including vertical and horizontal alignments, pavement design, drainage structures, street lights etc.
- Construction of new regional bus stand/terminal (reserved area = 41 ha, to cater also as terminal for rural and town buses) and new on-transit lorry parking area (reserved area = 9.3 ha); including pavement design, concrete interlocking paving block surfacing, lighting, drainage and other associated structures.
- Construction/rehabilitation of approximately 6.3 km of storm water drains (lined with stone pitching); including alignment and structural designs etc.
- Development of a recreational park at Chinangali (reserved area = 10 ha)

Once construction commences it will involve a lot of civil works including clearing of vegetation in the existing road alignment, excavation and leveling of soil, offsite mining of gravel and quarry, transportation of materials, water abstraction, compaction of sub-base material, road sealing, construction of road related infrastructure such as foot-bridges and drainage systems, road furniture and others. The contractor will use different types of equipment during the implementation of this project including heavy excavators, earth moving equipment, compactors and other lighter equipment and hazardous substances like bitumen/asphalt, fuel and oils. It is envisaged that these activities will cause significant environmental and social impacts that may be reversible depending on their magnitude and mitigation measures to be put in place.

## 2.2. Description of Sub-projects

The sub-projects consist of roads, dump site, bus stands and public park sub projects. The roads sub projects have a total 65 of kms of roads for both Dodoma and CDA. The DMC road sub-projects are 18 covering a total of 35 Km while the community road sub-projects under CDA are 13 covering 30 km. All these sub projects are **Residential cu commercial** and located in 15 wards of Dodoma Municipal Council. These include; Hazina, Chamwino, Makole, Dodoma Makulu, Kilimani, Kiwanja cha ndege, Viwandani, Kizota, Nala, Tambukareli, Madukani, Uhuru, Majengo, Kikuyu south and north. Below is a brief description of each sub project:

**Table 2. Description of Dodoma MC and CDA Sub-Projects**

S. No	Description of Sub-Project	Current Status	Description Features and justification
<b>PHASE 1</b>			
<b>DODOMA MUNICIPAL COUNCIL</b>			
1	Mwanza Road (0.9 km)	Gravel surface	The road is located at Uhuru and Viwandani wards, the population of these wards are 4044 and 4342 respectively, this road is of high density traffic due to socio-economic activities and public services available in the area such as garages, shops, restaurants, bars e.g. Mwanga and Saturnight also has town commuter buses (Daladala) routes from Jamatini to Mipango, Chang`ombe to Maili mbili. There are various institutions such as NBC Bank, Ministry of finance and Central Secondary School. Water and energy supply is sufficient
2	Kondoa Road (0,5 km)	Gravel surface	This road will be upgraded to double surface dressing complete with appropriate storm water drains, road furniture and Walkways.  The road is located at Uhuru ward which has a population of 4044 people. The administrative set up of this ward starts from WEO, MEO and VEO. The road is characterized by residential areas with few numbers of economic activities such as motorcycle garage and carpenter. The institution of Central school, Jamhuri stadium and Gaddafi mosque are located alongside the road. The daladala route from Jamatini to Mipango, Chang`ombe to Maili mbili do across this road.
3	Hosp Rd-independence square and Mwangaza Rd (1.3 km)	Worn out bituminous surface	This road shall be upgraded to double surface dressing complete with storm water drains, road furniture and walkways.  This road is located at Uhuru and Madukani wards, the total number of people are 4044 and 2796 respectively and administrative set up starts from WEO, MEO and VEO. This area has a provision of general hospital, water and energy supply is well sufficient. Most people in this area use Daladala and some use private cars and taxis. It is a busy road due to existence of regional hospital, shops, and market and guest house located along the road.

S. No	Description of Sub-Project	Current Status	Description Features and justification
4	<ul style="list-style-type: none"> <li>• Siasa Road (0.4 km)</li> <li>• Daima Street (0.5 km)</li> </ul>	Worn gravel surface	<p>The roads will be Upgrade to double surface dressing complete with storm water drains, road furniture and walkways</p> <p>The facilities of Shops, restaurant, guest houses are located on these roads. Administrative set up from WEO, MEO, VEO and the total number of people are 4044 of Uhuru ward. This area has enough water and energy supply for the users.</p>
5	<ul style="list-style-type: none"> <li>• Sixth Road (0.35 km)</li> <li>• Seventh Road (0.44 km)</li> <li>• Eighth Road (0.44 km)</li> <li>• Ninth Road (0.45 km)</li> <li>• Tenth Road (0.45 km)</li> <li>• Eleventh Road (0.48 km)</li> </ul>	Worn out gravel surface	<p>These roads will be upgrade to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>These roads are located at Uhuru and Madukani ward. These are busy roads due to business activities such as shops, cars parks, residential areas and a lot of traffic movements along the road</p>
6	<ul style="list-style-type: none"> <li>• Mtendeni Street (0.75 km)</li> <li>• Market Street (0.7 km)</li> </ul>	Worn out gravel surface	<p>These roads will be upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>These roads are located at viwandani ward with a total population of 4342. This ward has administrative centre surrounded with few shops and other economic activities. There is a recreation centre called Nyerere square and also residential areas along the road. Most of people use private cars as common means of transport.</p>
7	Tembo Avenue (0.65 km)	Worn out gravel surface	<p>The road shall be upgrade to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>The road is located at Madukani ward has a total number of 2796 people. There is shopping centre and residential areas</p>

S. No	Description of Sub-Project	Current Status	Description Features and justification
			and also various institutions like; Barclays Bank, mosque and Voda house. Water and energy supply are sufficient.
8	Tabora Avenue (0.5 km)	Worn out gravel surface	<p>This road shall be upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>The road is located at Viwandani ward has a total number of 4342 people. There are business centres at Sabasaba ground and some of vendors and hawker also few shops and offices such as Mohammed trans office.</p>
9	Nkuhungu Roads (5.0 km)	Worn out bituminous surface	<p>These roads shall be upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>These roads are located at Kizota ward. This ward has a total of 16,432 people. The area has a lot of trees along the roads. Most of people use private cars and daladala as means of transport.</p>
10	Area 'D' Roads (3.2 km)	Worn out bituminous surface	<p>There shall be the rehabilitation of roads to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>The roads are located at Makole ward, with the total population of 19,417. Most of people in this ward use private cars, taxi and public transport (Daladala) as means of transport Chadulu primary school is also located along these roads. Water and energy supply are sufficient.</p>
11	Chamwino - Chang'ombe (2.40 km)	Worn out gravel surface	<p>There shall be the rehabilitation of roads to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>The road is located at Chamwino ward. This is the most densely populated area in Dodoma Municipal with total number of 67,581 people. The highest population stay at Chilewa street. In this street electrical poles are located within the road reserve</p>
12	Surface of bus stands (2)	Gravel surfacing worn out	<p>These will be upgraded to cement pavement blocks, complete with storm water drains and up stand islands.</p> <p>These bus stands are categorised into regional and</p>

S. No	Description of Sub-Project	Current Status	Description Features and justification
	Terminals)		daladala stand. They are both busy. The regional stand, buses are coming and going out of Dodoma, while the commuters stand the daladala are shunting around the streets of Dodoma Municipal.  There are business activities going on in each stand a lot of people are roaming around the areas.
13	Workshop improvement	Gravel/eath surface	This will be upgraded to concrete paving blocks with drainage and service areas.
14	Solid waste management (60 Ha)	Earth surface	The plan was to construct dumpsite facilities and skip pads provision of solid waste collection and dumping equipment at Nala ward with the coverage area of 60 Ha. However, this site was found to be unsuitable and instead another site was identified and assessed at Chidaya covering 20 Ha.
<b>PHASE 2</b>			
<b>DODOMA MUNICIPAL COUNCIL SUB PROJECTS</b>			
15	Area 'C Roads (4.0 km)	Worn out bituminous surface	The roads shall be rehabilitated to double surface dressing side drains and pedestrian walkways.  These roads are located at Kiwanja cha ndege ward, the total population is 11,833 respectively. The roads pass along people's residence, it also passes along Kiwanja cha ndege Secondary school.
16	Central Business Park (CBP) Roads (2.50 km)	Worn out bituminous surface	The roads shall be rehabilitated to double surface dressing side drains and pedestrian walkways.  These roads are located at Tambukareli ward, with the total population of 10,816. The roads pass along Secondary school, VETA, Scandinavia Dodoma bus stand, CBE and National Parliament building. The roads are surrounded by business areas, offices and people's residence at Reli street. Water and energy supply are sufficient.
17	Vice Presidents Road (2 km)	Worn out gravel surface	The roads shall be rehabilitated to double surface dressing side drains and pedestrian walkways.  This road is surrounded with human settlement facilities. Most of the people use private cars as means of transport. Presently, there is no provision of public transport which



S. No	Description of Sub-Project	Current Status	Description Features and justification
			links Vice president road. Water and energy supply are sufficient
18	Boma Road (0.5 km)	Gravel surface	<p>The road shall be upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>This road is surrounded with human settlement facilities. Most of people use private cars as means of transport. Water and energy supply are sufficient</p>
19	Zuzu Road (0.8 km)	Worn out gravel surface	<p>The road shall be Upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>This road is located at Kikuyu north ward with the total population of 12,325. There are human settlement facilities and provision of institutions such as Huruma girls Secondary School, Catholic church and Police station along this road. Water and energy supply are sufficient.</p>
20	Biringi Avenue/ Farahani Road (2 km)	Worn out gravel surface	<p>The road shall be Upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>This road is located at Kilimani ward with the total population of 4280. This area is a residential area with provision of institution such as Water aid and DONET NGO. Many people use private cars as means of transport. Water and energy supply are sufficient.</p>
21	Kikuyu Avenue (0.9 km)	Gravel surface	<p>The road shall be upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>This road is located at Kilimani ward. Residential areas are located along this road and most people uses private cars as means of transport. Water and energy supply are sufficient.</p>
22	Swala Road (0.9 km)	Worn out gravel surface	<p>The road shall be upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>This road is located at Majengo ward, with the total population of 8096. There is business centres located in</p>

S. No	Description of Sub-Project	Current Status	Description Features and justification
			this area such as shops and market also there is human settlement facilities.
23	Ndovu Road (2.0 km)	Worn out gravel surface	<p>The road shall be Upgraded to double surface dressing complete with storm water drains, road furniture and walkways.</p> <p>The road is located at Majengo (8096 people) and Hazina (2796 people) wards. This road is highly density area due to existence of business such as garages, shops, human settlement facilities, restaurants, bus stand and mini market. The water and energy supply are sufficient.</p>
<b>PHASE 1</b>			
<b>CDA PROPOSED SUB PROJECTS</b>			
24	Kisasa Community Road (10.9 km)	Some gravel and other in earth surface.	<p>The roads shall be upgraded to tarmac road complete with storm water drains and road furniture.</p> <p>The roads are located at Dodoma Makulu ward with the total population of 14,424. These roads are surrounded by residential areas. There is Secondary and Primary schools located along the road. Many people use town commuter buses as means of transport and some use private transport. Water and energy supply are sufficient.</p>
25	Regional Bus Terminal (41 Ha)	Earth surface	<p>The bus terminal shall be upgraded to tarmac road and cement pavement blocks, complete with drainage system, street light and up stand islands.</p> <p>In this sub project there exists a grave yard, natural trees, mango tree and other vegetation covers the earth surface.</p>
26	Chang'ombe Community Road (2.9 km)	Earth surface	<p>The roads shall be upgraded to double surface dressing complete with storm water drains.</p> <p>The road located at Chamwino ward is linked with Nkuhungu road through Chang'ombe juu street. The road is surrounded by residential structures, Chang'ombe Primary and Secondary schools. Water and energy supply are sufficient.</p>

S. No	Description of Sub-Project	Current Status	Description Features and justification
<b>PHASE 2</b>			
<b>CDA SUB PROJECTS</b>			
27	Area "A" Community Road (5.7 km)	Some gravel surface and other in Earth surface	The roads will be upgraded to tarmac road complete with storm water drains and road furniture. The roads pass through residential structures, City Secondary school, Churches and Mosques. Water and energy supply are sufficient.
28	Kikuyu Community Road (6.3 km)	Some gravel and other in Earth surface.	The roads will be upgraded to double surface dressing complete with storm water drains. The road is located at Kikuyu South and North with the population of 12,325. The roads pass at residential areas i.e. Kikuyu flats and make ring rounding St. John University. Many people use public transport (daladala) as means of transport. In this area they have health centre at Kikuyu North. Water and energy supply are sufficient.
29	On transit lorry parking (9.3Ha)	Earth surface	Lorry parking will be upgraded to cement pavement blocks, complete with storm water drains and upstand islands. The park is located at Nala ward and it is close to the Nala wheigh bridge.
30	Chinangali public park and six (6) footbridge (10 Ha)	Planted vegetation	The plan is to construct hard landscape; garden furniture bore hole and footbridge in 10 Ha.

### 2.3: Project Justification

The current projected population of Dodoma municipality is 441,450 based on the Population and Housing Census conducted in 2002. The demographic number is growing very fast as a result of: influx of large masses of population from the rural areas and other towns seeking wealth, employment and supposed better quality of life; the increased number of higher learning institutions established and the various Government Ministries and departments that have shifted to Dodoma, and; a growing industrial base. A critical concern is the lack of infrastructure development, to keep up with the pace of urban sprawl and densification. This has resulted in significant pressure on the existing infrastructure base. Though there has been progress in development of national infrastructure linking with Dodoma, the field investigations have shown that the existing road networks linking different parts of Dodoma municipality have narrow carriage width (e.g. 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup> and 11<sup>th</sup> roads, etc.) and most portions of the roads are badly deteriorated (e.g. Chang'ombe-Chamwino roads, Kikuyu community roads, etc.). The existing road networks currently provide viable but poor routes for traffic heading towards the urban center and its neighborhoods. The low lying nature of some sections of the current roads, for example some sections of Area A roads, makes them flood-prone and un-motorable after heavy downpour. This affects the movement of people and traffic flow. Furthermore, the condition of the surface of existing bus stands, municipal workshop and regional bus terminal are in bad shape. As such, the proposed investment sub-projects including road rehabilitation and upgrading, from the economic standpoint and social considerations, will generate the following socio-economic benefits:

- i) Improved access of 65km roads within the capital city which will lead to better provision and easier management of urban goods and services to about 60% of urban dwellers;
- ii) Boost in economic activities in the project area contributing to socio-economic transformation and poverty alleviation to about 70% of the target population;
- iii) Enhanced development and improvement in housing and other amenities;
- iv) Improvement in drainage and improved landscape aesthetics;
- v) Reduced flooding of premises and businesses; and
- vi) Improvement in the value of property and higher class status of the communities and surroundings;
- vii) Improvement of roads will lead to significant savings on fuel consumption and reduction in CO<sub>2</sub> emissions favoring the fight against climate change. The other benefits better urban roads include reduced travel-time, vehicular wear and tear and lower maintenance and operational costs.
- viii) The implementation of the sub-projects will provide a boost to tourism with its resultant benefits to the local communities and the nation as a whole.

The need and justification for the project is therefore hinged on a driving urge to improve the urban infrastructure of this nation's capital to make it more business-friendly. This is in accordance with Tanzania's vision 2025 which provides that construction of better road is one of infrastructural enablers of the three (3) development pillars, namely the economic, social and political aspects. In

addition, the current transport sector policy objectives in Tanzania emphasize the need for sustainable socio-economic development while protecting and conserving the environment.

Ultimately, the social and economic transformation obtained from this project is expected to be significant. This ESIA study concluded that there are no environmental or social grounds for not proceeding to the implementation of the investments sub-projects provided that the recommended environmental and social mitigation measures are properly implemented and monitored.

### 3. DESCRIPTION OF ENVIRONMENTAL SETTING

This chapter describes the existing environmental and socio-economic setting within the project area, with a special focus on those conditions that may be impacted by, or have a direct impact on, the proposed sub-project construction and operations as stipulated in the Environmental Impact Assessment (EIA) and Audit Regulations (2005).

The following is a detailed description of the project baseline information, based on physical, biological, socio-economic and cultural characteristics.

#### 3.1. PHYSICAL ENVIRONMENT

##### 3.1.1. Climate and meteorology:

The minimum average temperatures vary from 10°C in July to 20°C in November. July is the coldest month whereas November is the hottest month, with mid-day temperatures exceeding 30°C.

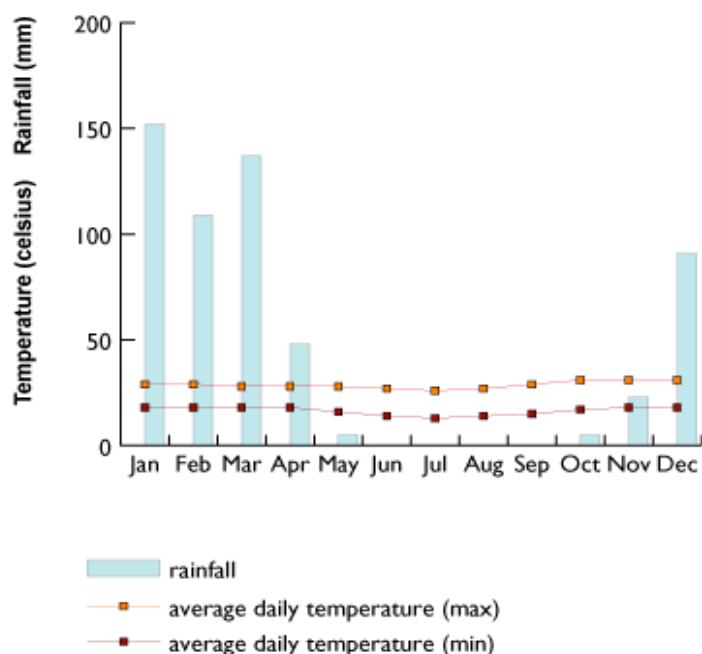
The area has a dry savannah type of climate, which is characterized by a spell of long dry season lasting between late April to early December and a short single wet season lasting from late December to early April. Annual rain distribution ranges between 550mm – 600mm, raining between December and April each year.

The climate of the all the sub-project areas are identical to the overall climate of the Dodoma municipality. The average air temperature ranges from 16<sup>0</sup>C (lowest) in June/July to 36<sup>0</sup>C (highest) in November. The following table and bar chart shows the years average weather condition readings covering rain, average maximum daily temperature and average minimum temperature for Dodoma.

##### Weather data for Dodoma

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
<b>Record high</b> °C (°F)	35 (95)	36 (97)	34 (93)	33 (91)	33 (91)	32 (90)	31 (88)	34 (93)	33 (91)	36 (97)	36 (97)	36 (97)	36 (97)
<b>Average high</b> °C (°F)	29 (84)	29 (84)	28 (82)	28 (82)	28 (82)	27 (81)	26 (79)	27 (81)	29 (84)	31 (88)	31 (88)	31 (88)	29 (84)
<b>Average low</b> °C (°F)	18 (64)	18 (64)	18 (64)	18 (64)	16 (61)	14 (57)	13 (55)	14 (57)	15 (59)	17 (63)	18 (64)	18 (64)	16 (61)
<b>Record low</b> °C (°F)	16 (61)	13 (55)	15 (59)	15 (59)	11 (52)	9 (48)	8 (46)	9 (48)	11 (52)	13 (55)	14 (57)	14 (57)	8 (46)
<b>Precipitation</b> mm (inches)	152 (5.98)	109 (4.29)	137 (5.39)	48 (1.89)	5 (0.2)	0 (0)	0 (0)	0 (0)	0 (0)	5 (0.2)	23 (0.91)	91 (3.58)	570 (22.44)

Source: BBC Weather <sup>[2]</sup> 2009-08-23



### 3.1.2: Topography

The project area stands on a broad upland plateau with an altitude ranging between 900 – 1000 above sea level. Physiographically and topographically, the sub-projects’ roads falls in the flat central zone of Dodoma that lies between latitude 6.00<sup>0</sup> and 6.30<sup>0</sup> South and longitude 35.30<sup>0</sup> and 36.020<sup>0</sup> East. The sub-project stands on broad upland plateau with an altitude ranging between 900 – 1000 above sea level.

The area covered by this ESIA exercise encompasses approximately 30 square kilometers and extends from Imagi (Kilimani) and the linear hill chain in the south to Mlimwa and Nala and the gently undulating plains in the north. The ground slopes vary from gentle to flat and present no problems for sub-project investments.

### 3.1.3. Geology

The basic geologic structure of the project area dates to pre-cambrian times and essentially consists of a granitic batholith forms that in places penetrates the overlying alluvial deposits in the plains to create massive and spectacular hills or inselbergs, isolated rock outcrops. The depth to weathered bedrock varies considerably over the area, but generally in the range of 1 to 5 meters.

### 3.1.4. Soils

The majority of soils would be classified as silty-sandy mixes with a trace of clay, very dense, compacted, lightly permeable and no-plastic. There are a few deposits of sandy silty clays and in some areas pure cracking clay deposits can be found. The permeability of the soil exhibits great local variations depending mainly on the clay content.

### **3.1.5. Surface and Ground water Hydrology:**

The project area has no rivers or wetland areas. The ground water level is usually well in excess of 2 metres deep and consequently should present no problem for road construction. It should, however, be noted that the proposed investment sub-project roads which is rehabilitate and upgrade of the existing roadway does not traverse or come close to any major water sources.

It worth noting that, Nala dumpsite proposal for waste management was discarded because the site is located close to Makutupora wellfield which is the main source of water for Dodoma town. The Nala is within three sub-basins: the Makutupora, Zuzu and Nzuguni depressions. Ecologically Nala site is located in the divide between Makutupora and Bahi Depression and that a recent (2007) hydrogeological study by JAICA has established that the Makutupora basin is recharged not only by precipitation in its catchment area but also by the Bahi depression through underground faults (underground flows). It follows therefore that there could be underground water seepage linking the proposed Nala site with the Makutupora basin.

Two other alternative dumpsite locations at Michese and Chidaya were evaluated. Chidaya was found to be more suitable site due to its good potential for wind shelter, its low permeability silty-clay soils and underlying bedrock that provides a perfect structural integrity for the landfill. Much as Chidaya is away from the seismic impact zone, its proximity to wetlands and prolific aquifers makes it unsafe for human health and environment unless suitable mitigation measures are effectively implemented. The area is surrounded by hills and supports dense woody thickets which have low conservation value.

## **3.2. BIOLOGICAL ENVIRONMENT**

### **3.2.1. Ecosystem**

Dodoma municipality is an urbanized ecological system without marked aquatic or semi aquatic ecosystems. The review of primary and secondary literature and interviews have indicated that the area to be covered by these investment sub-projects have neither protected areas no endangered species. Some of the sub-project areas are surrounded by bush thickets, grasses and a few short trees 'Miti Maji' of the family *Trichilla (Trichilla emetica)*.

### **3.2.2. Land Use**

The existing Land-use types in the project area include residential communities and neighborhoods, urban centre, urban open space and recreation, government offices and institutions. In the area away from the urbanized center, in the Bahi and Chamwino districts, the land use types are characterized by conservation and afforestation, arable lands, grazing land, institutional use and urban areas.

### **3.2.3. Conservation Areas**

The sub-project investment areas have no forest reserves, no National Parks or any form of conservation area as defined in the National Wildlife Policy.

### **3.2.4. Vegetation**

The sub-project area has scanty vegetation due to unreliable rainfall. The natural vegetation in the vicinity of the road sub-projects consists mainly of bush thickets mixed with annual herbs, grasses



and short trees, mostly Miti Maji *Trichilla emetica*. Asked whether the project will have a negative impact on the vegetation most respondents said there will be no impacts at all.

### **3.2.5. Fauna**

The sub-project areas and their vicinity are poorly endowed with wildlife resources. Most of the proposed sub-projects are situated in areas which have no wildlife resources of conservation interest. At the urbanized municipal center there virtually no game species whereas there are reports that migratory leopards, hyenas and elephants are occasionally seen in the peripheral areas such as Ntyuka and Chidaya. The ecological setting of the larger part of the municipality does not allow for wildlife game species to flourish.

### **3.2.6. Rare and Endangered Species**

Based on the available information, there are no known rare or endangered species in Dodoma municipality and its vicinity (e.g. by IUCN categories). However, there is unconfirmed information that there are few elephants, hyena and leopards which are periodically seen at Chidaya and Ntyuka areas along the Dodoma – Mvumi road.

## **3.3. SOCIO-CULTURAL ENVIRONMENT**

### **3.3.1: Population and Administration**

Administratively the district has 4 divisions, 30 wards, 40 villages, 70 streets and 249 hamlets. The population of Dodoma Municipal was 324,347 in 2002 census; the 2009 projection is 441,450 people among them 216,905 are male and 224,545 female. Average increase population rate is 4.0%.

The Urban Division has 17 wards with a total area of 426 km<sup>2</sup> and total population of 183,650 inhabitants.

### **3.3.2. Economic Conditions**

Dodoma Municipality is situated in an economically depressed area. Although it has rich agricultural land, it is affected by harsh semi-arid climatic conditions, and rather traditional agricultural methods are still predominating.

In the urban areas the main activities of the residents are commerce, urban farming and civil service employment while in the rural areas, crop farming and livestock keeping are the prime means of existence.

### **3.3.3. Industries**

The industry sector in the Municipality to date is still improvising due to the fact that there is no major industrial investment that may term the council areas as industrial one.

However, in the recent years the industrial investment trend in the Municipality has fairly changed following the implementation of various strategic plans/programmes. These plans/programmes include, MKUKUTA, ASDP, DADPs, DIDF, TASAF fight hunger in Dodoma etc. Following the implementation of these programmes, the severity of food shortage problem in the region has been reduced tremendously. Cash crops have been rejuvenated and its production raised especially grape farming.

New wine factory (CETAWICO) has been opened after the defunct “DOWICO” that stopped its function in late 80’S. Good number of grape farmers has emerged and it is estimated that there are **900** grape farmers with total **1104** ha. In the 2007/2008 season, **524** ha of grape were cultivated and it is estimated that **3,930** tons were produced worth **2** billion at a rate of **500/kg**. It is also estimated that wine industry has provided for more than **2,000** employment opportunities. The future expansion of wine industry is promising.

There is also a modern abattoir at Kizota area that slaughter about **170** cattle per day. The main aim of constructing the abattoir was to become a leading meat industry actor in the country and possibly in Africa. The plant also has opened the sheep market after Arabian businessmen started to slaughter **500** sheep per day for oversea market.

The Municipality also has concrete and ceramic industries at Nyankali and Zuzu areas respectively. These industries are especially for material supply to construction works mainly roads and to some extent buildings.

#### **3.3.4. Financial Status /Revenues**

Major source of Council’s revenue is derived from government transfers and revenue collected from own sources.

Despite the abolition of the so called nuisance taxes, still the Council’s trend of revenue collection from own sources has substantially been improved year after year.

The actual collection for the past three years reveals that there is an increase of 41% since 2007/2008 year. In 2007/2008, the Council has managed to collect Tshs. **740,339,457.00** equals to **95%** of the planned target of Tshs. **778,682,500.00**. In the previous financial year, the Council’s target was to collect Tshs.**1, 192,323,808.00** Major sources of revenue from own source for 2008/2009

#### **3.3.5. Ethnic groups:**

The sub-project area is populated by the people of different ethnic groups although the original ethnicity groups are the Gogo, Rangi and Sandawe. The area has no Asians such as Arabs and Indians.

#### **3.3.6. Education:**

There are many educational facilities, government, religious, and privately owned. Such facilities include nursery schools, several primary and secondary schools, colleges and two universities in Dodoma: St Johns University of Tanzania, owned by the Anglican Church of Tanzania, and University of Dodoma, currently with 6,000 students. It is projected to have a total of 40,000 students in three to four years time. Both Universities were officially opened in 2007.

#### **3.3.7. Health and HIV/Aids prevalence**

Following trade liberalization, health facilities including dispensaries, health centres and hospitals, as well as government and private facilities, have increased substantially in number. Despite the increased number of the health facilities water borne/related diseases are still prevalent in Dodoma Municipality. The health facilities are government, religious and privately owned.

The status of HIV/AIDS in the Municipality is alarming; the prevalence of the disease for the past three years is as shown below (in percentages)

- 2005/06- 6.7%
- 2006/07- 5.4%
- 2007/08- 4.5%

The number of people infected by HIV/AIDS in the urban is 305 for male and 615 are females and this is for the year 2006. The most affected age group is between 30 -34 years which are 8.3%.

### **3.3.8. Economic Activities:**

Given the fact that employment in the formal sector has been drastically reduced through the retrenchment exercise many interviewees who responded to our questionnaires in the project area indicated that few people were salaried employees. The income generating activities of a bigger part of the municipal population is mainly through petty businesses and farming activities, hence, a majority of the municipal population has low income. as established by the household survey.

### **3.3.9. Housing Conditions**

There are three types of housing structures in Dodoma: (1) cement bricks with iron sheet /or tiles (few houses); (2) stone walls with iron sheet/tiles roofing; and (3) mud or timber walls with roof from iron sheet roofing or grass thatch. While most of the houses in the centre of the town; are constructed by brick and corrugated iron-sheets, many government offices; and few individual houses; are constructed by bricks and the roofing is by tiles. Kiwanja Ndege ward, has houses of high quality indicating that residents and owners of houses in this part of town are of high-income category. New big expensive hotels are also located in this ward; new expensive houses and big hotels are also being constructed in this area meaning that this area is an attraction to medium and high -income people. Whereas the low-income people own/rent mud, wood and iron /grass thatched houses. These are mostly located in the squatter areas or in the outskirts of the municipality.

Housing density distribution varies from one area to the other by being determined by kind of activities taking place in that particular ward/area. The central part of municipality has high-density houses because it is the commercial/business area, offices, as well as residential.

### **3.3.10. Transport and Transportation**

The Dar-es-Salaam to Dodoma road was surfaced in the 1980s. In 2005, the Government started improving to tarmac level the remaining portion of east west trunk road, feasibility studies for construction of the north south trunk road is in advanced stage. Also, the study and design of the new airport for Dodoma is in progress. However, the transport network within Dodoma that provides internal access and circulation for all land-use elements in the capital city, such as residential communities and industrial areas is critically poor and inadequate for the growing traffic. Yet, the transport sector forms a good source of employment in and outside town. The town commuter buses prominently known as “*Daladala*” are a substantial means of transport for the population of Dodoma Municipality and a source of employment to young people. Another kind of transport are the inter-regional buses and lorries to southern, northern, western, and to the lake zone parts of the country which also constitute a source of employment to many people as well as transportation of goods to and outside Dodoma.

### **3.3.11. Utilities and Services:**

There is a network of water supply connections and sanitation services composed of a central sewer system and septic tank system which empties their septic tanks using Municipal Sludge emptier.

Other houses are not connected to the main sewer and do not have flush toilets with septic tanks; these houses use pit latrines. During the site investigations it was observed that most sub-project roads are passing through human developments with notable above ground and underground public utilities along the roads such as water supply pipes, telephone lines, electricity poles and transformers, etc.

Excavation operations during construction phase without consulting existing utility maps may result in accidental damage to existing utilities causing inconvenience to the public. Therefore a good coordination between different utility departments (e.g. TANESCO, DUWASA) should be maintained to get the details of existing underground utilities before starting of the rehabilitation and upgrading activity. Provision should be made on early restoration/replacement to avoid social disturbance.

### **3.3.12. Water Supply**

Dodoma Urban District (Dodoma Municipality) is endowed with underground water resources and geological data reports reveal that the water table is fairly high in most parts of the Municipality which is 6 meters below the ground level.

Makutupora artesian basin supplies water for the entire Dodoma urban residents and this water source is part of the famous Great Rift Valley basin extending eastwards and connected with lower Ruvu water Basin emptying its water into the Indian Ocean. The main water sources in the Municipality include:

- Deep wells
- Shallow wells
- Springs
- Dams

## **4. POLICY AND LEGAL FRAMEWORKS.**

### **4.1. Overview of national policy, legal and Administrative frameworks**

The ESIA study has been guided by the NEMC's EIA Guidelines (March 2002), MOW's Environmental Guidelines for the Road Sector (December 2004), the World Bank's Policies on Environment and Involuntary Resettlement, and the World Bank's Operational Policies on Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Forests (OP 4.36), Involuntary Resettlement (OP 4.12) and Cultural Property (OP 11.03).

The administrative authority for environmental assessment and monitoring at national level is vested in the office of the vice-president. Part III of EMA, 2004 provides details of Administrative and institutional framework for environmental management in Tanzania. Specifically:

- The Minister responsible for Environment (VPO) has overall responsibility for matters related to environment, including the approval of the EIA reports;
- The Division of Environment (DoE) deals with the development of Environmental policy and co-ordination of its implementation. It also plays an advisory role to the Government on all matters pertaining to environmental management;
- The National Environmental Management Council (NEMC) has the overall responsibility of undertaking enforcement, compliance, review and monitoring of Environmental Impact Assessment and in this regard facilitates public participation in environmental decision-making.
- Road Sector Environmental Section (RS-ES) under the Ministry of Infrastructure Development. The RS-ES oversees management of environment within the road sector and the preparation / implementation of EIA required in the road sector.
- The Local Governments including City, Municipal and District Councils ensures the enforcement of EMA, 2004 at the respective local level. Among other things, they are involved with monitoring the preparation, review and approval of EIAs for local investments;
- Village Development Committee (VDC). The VDC is responsible for the proper management of environment at the village level.

National policies on environment, land, transport, wildlife, forests, water, occupational health, mining and local government relevant to this project have been considered, as also various international treaties and conventions on natural resources that Tanzania has ratified. The main legal instruments applicable to environmental management with respect to this particular road project are also summarized.

## **4.1.1 National Policy Framework**

### **4.1.1.1. The National Environmental Policy (NEP, 1997)**

This is the major policy document which outlines environmental problems and gives guidance to environmental management and projection in Tanzania. The policy seeks to promote the economy and livelihoods of people while promoting sustainable utilization of natural resources in the country. The policy provides the framework for the formulation of plans, programmes and guidelines for the achievement of sustainable development. Key objectives of this policy with regards the road rehabilitation and upgrading projects are to:

- Ensure sustainability, security and equity in the use of resources;
- Prevent and control degradation of life supporting land, water, vegetation and air;
- Conserve and enhance natural and man-made heritage;

The policy promotes the use of EIA's as a planning tool that integrates environmental issues into the planning process. The policy also stipulates the use of numerous approaches in environmental management in Tanzania.

### **4.1.1.2. National Mining Policy, 1997**

The Mineral Policy covers all activities regarding extraction from the ground. This includes minerals and material such as that for construction. The policy however, promotes private sector led mineral development relegating the role of the government to regulation, promotion and facilitation. The responsibilities of the government include monitoring of mining activities, collection and maintenance of geo-technical data for promotional purposes and administration and inspection of mining activities, and environmental management with regards to mining. The project sourcing for materials shall be guided under this policy as extraction of sand, gravel and stone are considered as mining.

### **4.1.1.3. Transport Policy, 2002**

The main Policy objective in the transport sector is to enhance transport and promote environmental protection. Environmental problems created by the transport sector are pollution and safety. Emission into the environment from vehicles is beginning to take its toll in Tanzania. The majority of fuel is leaded and a lot of the vehicles are in poor condition. Furthermore, improper disposal of oils, fuels, and other pollutants from garages and petrol stations may contaminate soils and water sources.

The implementation of this ESIA process will take aboard all these issues as appropriate.

### **4.1.1.4. Tanzania Wildlife Policy, 1998**

The aim of the policy and regulatory framework is to involve a broader section of the society in wildlife protection, utilization, management and development of protected areas. The wildlife sector mandate is sustainable utilization of the wildlife resources. Anti-poaching activities have been intensified resulting in the decrease of poaching incidences. The wildlife policy and legislation focuses on peoples' participation in the conservation and protection of the resources. The policy has facilitated improvement in performance of the sector in attaining the overall goal of effective conservation and sustainable utilization of the wildlife resources. However, the road upgrading project is not close to any protected area ecosystem. The sub-project areas are poorly endowed with

game species and there are no any expectation/concerns for wildlife crossing the ROW in the Dodoma urban setting.

#### **4.1.1.5. National Water Policy, 2002**

Three components from the National Water Policy have a bearing on the road upgrading project. These address proper use, conservation and protection for human consumption and the environment.

(i) *Socio-Economic and Water Allocation:* Water is a basic need and its use is to be determined by and have consistence in the legislation, the allocation system should distinguish and separate water use permit from land titles and a sufficient supply of water and an adequate means of sanitation are prioritised.

(ii) *Protection and Conservation of Water Resources:* The "polluter pays principle" shall apply and water conservation for all aspects of water use are to be enforced. "Demand management" is to be used in conjunction with water supply provision.

(iii) *Water and the Environment:* Water related activities should aim to enhance or to cause least detrimental effect on the natural environment. Furthermore the allocation and consumption of water for environmental purposes shall be recognized and given appropriate considerations, water for the environment shall be determined based on scientific information available considering both the temporal and spatial water requirements to maintain the health and viability of riverine and estuary eco-systems.

The design and implementation of this ESIA process will take into consideration the provisions of water policy especially those related to pollution of surface and underground water resources.

#### **4.1.1.6. National Forest Policy (1988)**

The Policy goal is to enhance the contribution of the forest sector to the sustainable development of the nation and the conservation and management of natural resources for the benefit of present and future generations. To attain this goal the policy focuses on four main areas; land management, forest based industries and products, ecosystem conservation and management and institutions and human resources. The national forest policy has three key statements pertaining to the proposed project:

*Policy statement (1):* To ensure sustainable supply of the forest products and services and environmental conservation, all types of forest reserves will be managed for production and/or protection based on sustainable management objectives defined for each forest reserve. The management of all types of forest reserves will be based on forest management plans.

*Policy statement (5):* To enable sustainable management of forests on public lands, clear ownership for all forests and trees on those lands will be defined.

The allocation of forests and their management responsibility to villages, private individuals or to government will be promoted. Central, local and village governments may demarcate and establish new forest reserves.

*Policy statement (15):* New forest reserves for biodiversity conservation will be established in areas of high biodiversity value. Forest reserves with protection objectives of a national strategic importance may be declared as nature reserves.

This statement allows for local governments to enforce protection on locally determined areas of importance for conservation or production.

The proposed road rehabilitation and upgrading will occur in the existing alignment and no forests will be disturbed. The ESIA process will take on board the provisions of the forest policy.

#### **4.1.2. National Legal Framework**

##### **4.1.2.1. Environmental Management Act of 2004**

The Act provides a legal and institutional framework for the sustainable management of the environment. It outlines the principles for management, impact and risk assessments, the prevention and control of pollution, waste management, environmental quality standards, public participation, compliance and enforcement. It provides the basis for the implementation of international instruments on the environment and the National Environmental Policy. All project activities must be planned in order to comply with the provisions of Part VI (EIA) Studies, Part VIII (Pollution Prevention and Control), Part IX (Waste Management), Part X (Environmental Quality Standards) and Part XI. Specifically, section 81(1) EMA 2004 states that each developer has to carry out an Environmental Impact Assessment (EIA). The implementation of sub-project investments and this ESIA process will be in full compliance with the Act.

##### **4.1.2.2. The Wildlife Conservation Act (1974)**

This legislation was enacted to protect and ensure the conservation of wildlife species. The Act operates in accordance with the requirements of the Convention on International Trade in Endangered Species (CITES), the National Park Ordinance and other related legislations. Though there are no conservation area and fauna of conservation interest, the ESIA process and the sub-project investments will observe the provisions of this Act.

##### **4.1.2.3. Occupational Health and Safety Act No. 5 of 2003**

This Act make provisions for safety, health and welfare for persons at work in factories and other places of work; 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. Proposed road rehabilitation and upgrading operations will entail the employment of both skilled and unskilled laborers, and as such will comply with this Act.

Occupational health and safety are key aspects in the operations. First aid and appropriate personal protective equipment will be provided to employees and maintained by the contractor during the period of construction.

##### **4.1.2.4. Local Government Act (District and Urban Authorities) of 1982**

This Act provides for detailed responsibility for urban and district councils in the administration of their day-to-day activities. EIA and waste management is pointed out as one of the activities to be managed by both district and urban authorities. Accordingly, the proposed investment sub-project activities including this ESIA process will seek to liaise closely with Dodoma Municipal Council and CDA authorities.

##### **4.1.2.5. Land Act No. 4 and Village Land Act No. 5 of 1999**

The Land Act seeks to control land use and clarify issues pertaining to ownership of land and land-based resources, transactions on land and land administration. This act identifies three categories of



land — village, public and general, and distinguishes protected or restricted land (e.g. national parks, forest reserves, etc), and ensures that tenure and rights of legitimate land users are considered and respected. Land sensitivity and potential environment impacts of the proposed road works shall be considered in order to ensure that the land is not polluted and to allow for natural and rapid restoration of cleared vegetation or disturbed land.

The Village Land Act provides for legal framework for the management and administration of land in villages. The Act empowers the Village institution or Council to manage all village land. It is important therefore that there should be close consultations and consideration of views of local authorities over any matter, e.g. compensation of damaged properties, as a result of the implementation of investment sub-projects along the existing road alignments.

The design and implementation of this ESIA process is consistent with both legislations.

#### **4.1.2.6. Water Acts of 1974 and 1981**

The Water Act no. 42 of 1974 and Act no. 10 of 1981, principally seek to ensure that water is utilized without sectoral conflicts and without causing pollution. They were enacted to control and protect water resources, and place a regime of water rights to govern access to water use. Pollution control norms and standards are embodied in the water rights.

Apart from incorporating pollution control and having prevention conditionality in the water rights, the Act goes a step further by putting in place a regime in consent with discharge of effluent. Under Section 15 A (1) of the Act, no person may discharge effluent from any commercial, industrial or other trade waste systems into receiving waters without a consent duly granted by a Water Officer. The Act also contains two schedules, which set standards for receiving waters and effluent. The ESIA process will see to it that all relevant adverse impacts from the proposed road works are properly mitigated to avoid any potential pollution problem in the project area.

#### **4.1.2.7. Mining Act, No. 17 of 1980, as amended**

The Act sets out government policy on all forms of mining and is supported by various regulations covering claims, prospecting rights, mining rights and royalties. Mining license applicants are required to submit plans for environmental protection. Each industry is required to establish realistic resource recovery standards and to adhere to them. Mining plans are required to be presented before operations begin.

The implementation of investment sub-projects will take on board all the relevant provisions of the mining act.

#### **4.1.2.8. The Roads Act, 2007**

Road transport in Tanzania is legally governed by the following Acts: Tanzania's Road Traffic Act of 1973, and the Transport Licensing Act of 1973. The Roads Act (2007) was passed by Parliament in April 2007, and published in August 2007. This Act covers all aspects related to road construction, development and upgrade. Of particular relevance for undertaking the EIA for this road are the following sections: With regards to acquiring land, Part IV, 19 – (1) which states: “The road authority may, with necessary vehicles and equipment after consultation with relevant authorities, enter upon the land owned by any person in place not less than fifty meters from any dwelling-house, and on, through and over such land construct a passage way for such vehicles, and may collect from such land any stones, sand, earth, gravel or other material which may be required for the purpose of opening, making or repairing any public road in the vicinity”. With regards to

quarrying, Part IV, 19 – (2) states: “The road authority may acquire quarries for the purpose of developing and maintaining road in any area under its jurisdiction and the Minister responsible for finance after consultation with the Minister responsible for minerals may exempt the road authority from paying any levy, royalty and fees for licence.” Part IV, 19 – (3) continues to state: “In exercising the powers vested under this section, the Road authority shall give the owner of such land notice in writing at least fourteen days before entry on such land”. With regards to protection of the environment, Part IV, 30 states: “The road authority entrusted with the duties of developing, managing and maintaining the public roads under its jurisdiction, shall comply with the prescribed guidelines, regulations or any other written law relating to environmental protection and waste disposal”. Regarding Safety, Part V, 33 – (1) states: “The road authority shall ensure to the safety of road users during the design, construction, maintenance and operation of a public road by providing side walks, overhead bridges, zebra crossings and other matters related thereto”. All these sections are of particular importance in undertaking this EIA, because it involves cross cutting issues regarding land acquisition, environmental protection, and road safety, all of which are addressed by sectoral legislation, but which are also referred to within the Roads Act, and are addressed in this document.

## **4.2. International Legislations/Regulatory Frameworks**

The most appropriate international legal frameworks are:

### **4.2.1 The United Nations Convention on Biological Diversity**

This Convention, which calls for the sustainable use of biological diversity, was ratified by Tanzania in 1996. Dodoma Municipality, where the sub-projects will be implemented has a very low diversity of both flora and fauna. However, best practices of flora and fauna protection will be observed by contactors.

### **4.2.2. Convention on Protection of Workers against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration.**

This Convention, ratified by Tanzania in 1984, provides the framework for ensuring a safe working environment for workers. The implementation of infrastructural sub-projects will ensure that it prevents the exposure of its workers and the public from any occupational hazards by providing appropriate security and safety equipment.

### **4.2.3. The World Bank’s Safeguard Policies**

This EIA has been designed so that all investments under this contract will comply with all the Environmental laws of the United Republic of Tanzania and the Environmental and Social Safeguard Policies of the World Bank. In this chapter, the Bank’s safeguards policies and their applicability is discussed.

The World Bank Safeguard Policies are;

1. Environmental Assessment (OP4.01, BP 4.01, GP 4.01)
2. Natural Habitats (OP 4.04, BP 4.04, GP 4.04)
3. Forestry (OP 4.36, GP 4.36)
4. Pest Management (OP 4.09)
5. Physical Cultural Resources (OP 4.11)

6. Indigenous Peoples (OP 4.10)
7. Involuntary Resettlement (OP/BP 4.12)
8. Safety of Dams (OP 4.37, BP 4.37)
9. Projects on International Waters (OP 7.50, BP 7.50, GP 7.50)
10. Projects in Disputed Areas (OP 7.60, BP 7.60, GP 7.60)

In light of the type and location of the future sub-projects investments planned vis-à-vis the baseline data presented in Chapter 4 against the requirements of the Bank Safeguard policies, the following Bank operational policies will /may apply.

OP 4.01 Environmental Assessment

OP 4.12 Involuntary Resettlement

#### **4.2.4. Environmental Assessment (OP4.01, BP 4.01, GP 4.01)**

This policy requires environmental assessment (EA) of projects/programs proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus to improve decision making. The EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the sub projects under the core urban infrastructure (Dodoma) component. The EA process takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and cultural property) and trans-boundary and global environmental aspects.

The environmental and social impacts will come from the implementation of sub projects activities of the contractor. The EA process calls for the GoT to prepare an Environmental and Social Management Framework (ESMF) report which will establish a mechanism to determine and assess future potential environmental and social impacts during implementation of the sub project, and then to set out mitigation, monitoring and institutional measures to be taken during operations of these activities, to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels.

OP 4.01 further requires that the ESIA report must be disclosed as a separate and stand alone document by the Government of Tanzania and the World Bank as a condition for bank Appraisal. The disclosure should be both in Tanzania where it can be accessed by the general public and local communities and at the Infoshop of the World Bank and the date for disclosure must precede the date for appraisal of the program.

The policy further calls for the project as a whole to be environmentally screened to determine the extent and type of the EA process. This infrastructural project has thus been screened and assigned an EA Category B. This category of projects/programs is defined as follows.

Category B projects are likely to have potential adverse environmental impacts on human populations or environmentally important areas – including wetlands, forests, grasslands, and other natural habitats – and are less adverse than those of category A projects. These impacts are site specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects. The EA process for category B projects examines the potential negative and positive environmental impacts and recommends any measures needed to

prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.

Therefore, this EIA sets out to establish the EA process to be undertaken for implementation of program activities in the proposed infrastructural subprojects when they are being identified and implemented.

This process requires the use of the screening form and checklist contained in Annexes 3.0 and 4.0 respectively, to identify potential adverse impacts of the construction and operation of sub-projects and thereby determine the corresponding mitigation measures to incorporate into their planned activities. Section 9.0 sets the relevant process and requirements for environmental and social management.

#### **4.2.5 Involuntary Resettlement (OP/BP 4.12)**

Significant efforts are to be made in the design and screening stages of sub-projects to avoid impacts on people, land, property, including people's access to natural and other economic resources, as far as possible. Notwithstanding, land acquisition, compensation and resettlement of people seems inevitable for certain type of sub projects located in certain areas. This social issue is of crucial concern to the Government of Tanzania and the Bank, as its impact on poverty, if left unmitigated, is negative, immediate and widespread. Thus, OP 4.12 will be triggered in those cases. Thus a Resettlement Policy Framework (RPF) has been prepared by the government and approved by the Bank in compliance with OP 4.12. The RPF sets the guidelines for the Resettlement and compensation Action Plans (RAPs) that would have to be prepared when any program investment triggers this policy. The RAPs would be prepared by the sub project contractors and would have to be submitted to the respective District Executive Director for approval but would also have to be approved by the World Bank before sub project investments are financed.

This policy would be triggered when a sub-project causes the involuntary taking of land and other assets resulting in: (a) relocation or loss of shelter, (b) loss of assets or access to assets (c) loss of income sources or means of livelihood, whether or not the affected persons must move to another location.

The World Bank Safeguard policy OP 4.12, in most cases, is triggered because the program activity causes land acquisition, whereby a physical piece of land is needed and people may be affected because they are cultivating on that land, they may have buildings on the land, they maybe using the land for water and grazing of animals or they may otherwise access the land economically, spiritually or any other way which may not be possible during and after the sub project is implemented. Therefore, people are in most cases compensated for their loss (of land, property or access) either in kind or in cash or both.

The resettlement policy applies to all displaced persons regardless of the total number affected, the severity of the impact and whether or not they have legal title to the land. Particular attention should be paid to the needs of vulnerable groups among those displaced. The policy also requires that the implementation of the resettlement plans are a pre-requisite for the implementation/start of the construction to ensure that displacement or restriction of access does not occur before necessary measures for resettlement and compensation are in place. For chosen sites involving land acquisition, it is further required that these measures include provision of compensation and of other assistance required for relocation, prior to displacement, and preparation and provision of resettlement sites with adequate facilities, where required. In particular, the taking of land and

related assets may take place only after compensation has been paid, and where applicable, resettlement sites, new homes, related infrastructure and moving allowances have been provided to displaced persons. For program activities requiring relocation or loss of shelter, the policy further requires that measures to assist the displaced persons are implemented in accordance with the project resettlement plans of action. The policy aims to have the displaced persons perceive the process to be fair and transparent.

Where there is a conflict between the Laws of Tanzania and the Bank OP4.12, the latter must take precedence if the Bank is to fund this project.

OP 4.12 requires the RPF to be disclosed both in Tanzania and at the Bank before appraisal.

## 5. PUBLIC CONSULTATION

The overall aim of the consultation process is to ensure that all stakeholders have adequate opportunity to provide input into the process. More specifically the objectives of public consultation are to:

- Identify stakeholders and inform them about the proposed development sub-projects;
- Provide stakeholders with the opportunity to identify issues and concerns associated with the proposed sub-project investments; and
- Identify mitigation and management options to address potential environmental issues.

The first ESIA activity undertaken during the consultation process was stakeholder identification and zoning/grouping which was conducted with the help of counterpart staff from the DMC and CDA. Secondly stakeholder analysis was undertaken with a view to building a stakeholder engagement strategy/framework. Formal as well as informal discussions were made with Ward and Village Executive Officers during the field visits along the identified sub-projects. Other key tasks performed include: field investigations; preparation of structured questionnaire and their distribution to key stakeholders with a view to collecting important primary environmental and social data; carrying out consultative meetings with government authorities, and; data collection through face to face interviews and review of existing reports and documents (e.g. project design documents, ToR, policy and legal documents, etc.) and available relevant literatures. A total of 102 questionnaires were distributed, views collected and analysed; 13 structured and random interviews were held; three (3) focus group meeting held, and; four (4) meetings with key informants were held. Consultations were also held with the utility organizations operating in Dodoma such as TANESCO and DUWASA to deliberate and find the best way forward for construction impacts minimization.

Generally, interested and affected stakeholders have raised a number of issues and concerns as well as provided a number of suggestions on mitigations. The main findings of the stakeholders and public consultations include the following:

- The proposed road sub-projects are the only major outlet routes and therefore, upgrading of the roads will be critically important for the local economy and improvement of the socio-economic status of the local population.
- Most portion of the CDA roads are badly deteriorated, dusty and requires major maintenance or upgrading. In addition, the existing carriage width is narrow.
- The road construction activities may cause a number of minor impacts including removal of few trees, disruption of social utilities, dust and air pollution, spillage of hydrocarbons, destruction of burial sites and demolition of two mud houses along the existing ROW at Kikuyu community roads. Therefore, mitigation or compensation measures are required to reduce the above indicated and other potential impacts of the road construction activities.
- The key stakeholders and local people expressed their willingness to contribute what necessary from them to facilitate the project implementation and the project was highly accepted by the consulted groups.

- Upgrading of the road is seen to facilitate public and commodities transportation and promote trade, create more conducive environment for economic and social development activities, and promote the development of local as well as national economy.
- It was recommended that the road is upgraded following the existing route and efforts made to reduce social disturbance during construction. However, improvements as per the required design standards are accepted.
- The socio-economic benefits of the sub-project investments far outweigh the limited and site-specific social and environmental costs, when enhancements/ mitigation measures are effectively and timely undertaken;
- The choice of site for the construction of dumpsite facilities and skip pads provision of solid waste collection and dumping equipment (60 acres) at Nala Village in the Dodoma Municipal council was resisted due to feared health and land tenure grounds. The villagers and their leadership had indicated that they would prefer an alternative site to be selected. After subsequent consultative meetings, the CDA and Dodoma Municipal Council leadership have agreed to locate the waste disposal site at Chidaya. The choice of this site has been guided by the following criteria: the area should not be sited in a wetland, floodplain or an unstable, seismically active site and proximity to prolific underground water aquifers close to Makutupora basin.

## **6. SELECTION OF ALTERNATIVES**

In the course of developing the proposed road sub-projects in the existing routes, various alternatives were compared in terms of potential environmental and social impacts; capital and operating costs, and; suitability under local conditions. It was imperative to examine and review different project sitting, design, construction alternatives. Three options were considered:

- No project option
- Using the existing road and ROW throughout
- Routing the roads through the urbanized municipality.

### **6.1. ‘No sub-project’ option**

This investment sub-project for CDA in Dodoma Municipality under the proposed Tanzania Strategic Cities Project (TSCP) is expected to: (i) improve basic infrastructure and services in the area and (ii) improved operations, maintenance and infrastructure development. The existing road networks provide viable but poor routes for traffic heading towards the urban center and its neighborhoods. If the ‘no project’ option was chosen, from the economic standpoint and motor traffic and social considerations, the following benefits will be foregone: i) improved access roads; ii) boost in economic activities in the area; iii) enhanced development and improvement in housing and other amenities; iv) improvement in drainage and aesthetics; v) reduced flooding; and vi) improvement in the value of property and higher class status of the communities and surroundings. For this project, the alternative of “no-project” would exacerbate current traffic situation resulting in traffic congestion and further delay in travel time, air pollution and further deterioration of economics as well as environmental and social conditions.

The ‘no sub-project’ option is therefore not a viable alternative.

### **6.2. Using the existing road and ROW throughout**

The sub-project investment will comprise the upgrading of approximately 65 km of the existing gravel and earth surface to tarmac road complete with storm water drains and road furniture. These routes are the only road connections that exist and therefore there are no available alternative routes to be considered and the existing routes were considered to be the only viable alternative.

### **6.3. Routing the roads through the urbanized municipality.**

This option will entail a new alignment through the built environment. The area has a large number of permanent structures and community facilities. The availability of developed permanent structures provides an unsuitable alternative for this investment sub-project. New alignment through the human settlements is considered more environmentally and socially unfriendly and very costly option. Other reasons that make this option ‘not a viable alternative’ are:

- Maximum property loss along this new ROW;
- Less flexibility and freedom in selecting and maintaining a direct (straight) road corridor; and;
- More litigation from contending property owners and tenants.



## 7. IDENTIFICATION, ASSESSMENT AND ANALYSIS OF IMPACTS

### 7. 1. Overview

This section is focused on identifying and assessing the impacts of the proposed investment sub-projects. It should be noted that the project is to rehabilitate and upgrade existing gravel and earth surface roads to tarmac road complete with storm water drains and road furniture within the existing right of way (ROW). Also, the project seeks to improve other community infrastructures such as terminal bus and lorry parking areas, mechanical workshop, solid and liquid waste management, and Chinangali public park. In general terms an environmental assessment evaluation for this project was based on the standard ESIA methodology i.e., field observations, consultation and reference to relevant secondary information, collection of data, analysis and interpretation of this data, and; identification of significant environmental impacts and corresponding mitigation measures. Expert judgment provided the basis of the analysis of the significance of the individual impacts and for each a brief assessment is presented.

The project sub-components,, a number of key potential impacts (positive and negative) were assessed and presented in the following 5 clusters: i) Residential/Commercial roads; ii) Solid Waste Management project; iii) Bus and Lorry terminal; Chinangali Public Park, and; mechanical workshop improvement.. Positive and negative impacts are clearly listed and briefly described in this section. In the following section, a description of corresponding mitigation measures that seeks to mitigate, reduce the levels and significance of adverse impacts, avoid, compensate, remediate or enhance positive impacts is given.

#### Types of Impacts

The impacts are classified into direct short term (immediate), direct long term, indirect and cumulative impacts:

**Direct Impacts:** These are caused by specific site action or alternatives and occur at the same time and location as the action. Examples include vegetation clearance along the existing road alignments during construction.

#### Direct short-term impacts

These are impacts that are short lived caused by road preparation and construction activities such as noise and dust pollution.

#### Direct long-term impacts

Direct impacts are those that appear after the construction works have been completed such as redesign of road alignment and construction of new road furniture.

#### Indirect Impacts

These are caused by the action and are later in time or farther removed in distance, but can be reasonably foreseen. Indirect impacts may include effects related to induced changes in the pattern of land use, population density or socio-economic growth rate, and related effects on air and water and other natural systems, including ecosystems;

## Cumulative Impacts

These result from the incremental impact of the action when added to other past, present, and/or reasonably foreseen future actions, regardless of the organization (public or private) or person who undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The following are the impacts identified during site visit, literature reviews and consultations. The environmental impacts have been addressed from both localized and holistic approach to be able to capture impacts in close proximity to each sub-project area as well as the entire project area.

### 7.2. Positive Impacts

Implementation of the sub-project will bring number of important positive impacts if appropriate mitigation and enhancement measures are sufficiently integrated in the design and execution of the road project. The main potential positive environmental impacts of the envisaged road upgrading project include the following:

#### i. Economic development and poverty alleviation

- The upgraded/rehabilitated road sub-projects will greatly improve the transportation conditions of the project area. For instance currently from the urban centre to the Chag'ombe- Chamwino area will take 10-15 minutes while when the Chan'gombe-Chamwino road is upgraded this trip will only take about 5-6 minutes. The greatly improved transportation conditions will help transfer of goods and services out to the urban centers, contributing to local economic development. In addition, the greatly improved transportation conditions will help attract outside investment to Dodoma contributing further economic development. As poor transportation infrastructures and relative isolation is one of the major causes of the under development and urban poverty in the municipality, the sub-projects will help the poverty reduction effort and improve the standard of living of about 441,450 people who are living in the municipality due to improved access to the urban services and resources;
- Increase in the value of properties located along the RoW as well as other major Dodoma urban properties, thus raising income of property owners and revenue collection by the municipal council – all this leading to increased poverty alleviation. For instance, it is estimated that the total revenue collection based on property tax will increase by 145% rising from the current Tshs. 429,277,000 to Tshs. 621,655, 000 after project implementation. In addition, annual revenue collection from waste management is estimated to rise by 10 times in the long run.

#### ii. Health and Safety

- The upgraded road will be with better geometry and smoother surfaces, which will facilitate traffic flows at the design speed and enhance safety.

- The project is expected to improve or widen the existing carriageway and right-of-way. This will provide a better sight distance to drivers and reduce the danger to pedestrians and animals.
- The road upgrading project is expected to reclaim the existing gully erosion along some sections of the road. Some of these gully formations are presenting risks and obstructions to movement of people and animals in the area.

### **iii. Business improvement over time including Tourism**

- The upgraded/rehabilitated roads with increased carriage width, smoothed surfaces, and efficient drainage structures, will likely improve traffic conditions and accelerate commerce and trade in the municipality. In addition, there will likely be reduced vehicle-operating costs, saving the need for imports of spare parts, and savings in travel time. As a result of improved business condition the development of the local as well as national economy will be enhanced over time;
- The upgraded/rehabilitated road sub-projects will greatly improve the accessibility to the local tourist destinations and as a result, more visitors are expected to visit local tourist attractions such as Hills/mountains (eg. Imagi, Isanga and Mlimwa); green belt ecosystem; Hombolo dam -where fishing is conducted by using dug out canoes, and; Gogo culture – dancing, food and their traditional houses which are roofed with soil (matembe)

### **iv Employment Opportunities**

- It is anticipated that the local communities will benefit directly by being employed particularly during construction time. Moreover, both women and youth may benefit indirectly by initiating petty businesses such as selling of foods stuff to serve the project workers onsite. Employment opportunity is direct impact, short term, reversible and temporal for the project.

### **7.3. Potential Adverse Impacts**

For the activities of the proposed road works, the ESIA identifies the aspects that can potentially impact the environmental resources and socio-economic receptors. The following resources and receptors are considered:

- Soil, water and groundwater resources
- Biological resources (terrestrial fauna and flora),
- Socio-economic receptors (land use, economic activities, cultural sites, visual resources);
- Air Quality;
- Ambient Noise Level;

## **i. Noise Impacts and Vibrations**

### **Construction Phase**

The roaming of various equipment and machinery will lead to an elevation of ambient noise levels in the immediate project area. Noise and vibrations will also be produced by construction equipment and trucks during extraction (borrowing), transport, and delivery of construction materials to the project site due to increased traffic movements. The problem may be eminent if the equipment and trucks are poorly maintained. The increased traffic movement along the proposed road projects is also likely to cause considerable noise and vibrations. There would be a significant noise impacts if construction machines operate at night. In addition, residents living on both sides of access roads will be impacted by the higher noise levels from increased traffic of construction transportation vehicles. This impact can be classified as medium but short lived and reversible.

### **Operation Phase**

Noise levels prediction for residents and schools which are located near the proposed road sub-projects show that the noise will be within the applicable standards during the day time and in the night time. With the increase of traffic in the next 5 to 10 years, some residential houses along the RoW will start to be exposed in higher noise.

Impacts on the underground water environment

### **Construction Phase**

Accidental releases of hazardous wastes/contaminants such as fuels, lubricating oils, organic solvents, oil paints, acid and alkali, and chemicals like asphalt during construction of the road may percolate into the soil and pollute soil, surface water and underground water at construction site and workshop yards. If these solid wastes are not properly managed, stored, transported and disposed, it will lead to serious impact to the underground aquifers. In addition, Impacts on the water environment during the construction phase include primarily discharge of sanitary sewage from the construction camps and disrupted sewage systems. These impacts are direct, reversible, temporal and short term.

### **Operation Phase**

Wastewater sources from the operation phase will include sanitary sewage from service stations and parking lots, car washing effluents and pavement runoff of the first flush in a rainfall event. The wastewater from point sources will be treated to the applicable standards before discharge so the impacts will be limited. The transportation of hazardous materials could pose a risk of water contamination from traffic accidents occurring near the bus and lorry terminal and result in major spills. Based on the frequencies of occurrence of such severe accidents, the prediction results indicate that there existing a very small probability of water contamination from this source. If they do happen, catastrophic consequence may result to water quality, aquatic life and eco-system,

### **Air Impact**

#### **Construction Phase**

Airborne dust will be a primary air contaminant during the construction phase. The sources of the dust will be unpaved access roads, Disposal areas, materials storage areas and transportation. The factors affected dust airborne will include climate conditions and type of construction activities.

The impact area can be up to 150 m from the source of dust. Another source of air emission is asphalt and concrete mixing stations. The impacted area can be up to 200 m leeward from the source. The impact can be classified as temporal, short lived, direct and reversible.

### **Operation Phase**

The various vehicles and machinery that will be used during the various stages of construction (such as tippers, pay loaders, graders, jack-hammers, etc.) will emit various gaseous pollutants such as NO<sub>2</sub>, SO<sub>2</sub>, CO, etc. which could have serious negative effects on air quality and human health. Ambient noise levels may also be elevated by these activities. However, these emissions are not expected to cause air quality in the ambient air to exceed the applicable standards, following dilution and dispersion.

## **ii. Soil erosion problems**

### **Construction Phase**

Soil erosion will occur during the Project construction phase when surface vegetation and soil are damaged. The primary area of potentially increased soil erosion includes deep cuts, high fills, earth borrow pits, construction waste/ excessive earth disposal sites, temporary construction sites, treatment of special geological conditions and other areas where surface soil will be disturbed. It is anticipated that the most severe soil erosion would occur in the areas of spoil deposit pits, main structure and bridges, which thus are considered to be the focus for soil conservation. This impact is indirect; short lived, reversible and temporal since it can be mitigated.

### **Operation phase**

Abandoned existing borrow-pits along the road as well as quarry sites may become filled with rainwater and become dangerous to children and animals. They may also create breeding sites for vectors like mosquitoes and bilharzias, when filled with rainwater. The impact is gauged to be indirect, long term, and moderate.

## **vi. Impact on land uses, game species and vegetation**

### **Construction phase**

Construction activities will be associated with vegetation clearance along the sub-project area. Except in the proposed dumpsite area and the bus and lorry terminal, impacts on vegetation in the sub-project areas will be relatively small. However, impacts on vegetation will be short termed as the slopes, open space, borrow pits, landfill and disposal sites will be landscaped and rehabilitated with trees and other vegetation. In fact, it is expected that, these re-vegetation programs will result in a net increase in vegetation coverage rate in areas along the RoW.

Loss of vegetation is direct, reversible, short lived impact which can be mitigated.

The construction of a landfill at Chidaya might interfere with the migration of wildlife including leopards, hyenas and elephants. This impact can be effectively mitigated by providing an ecological/wildlife habitat corridor for safe passage of wildlife outside the landfill fence. The impact on faunal habitat at Chidaya is gauged long-term and moderate.

### **iii. Soil and underground water contamination by landfill leachate**

#### **Operation Phase**

In general, landfills are mainly a threat to water and soil systems. Inadequately developed Landfills, will eventually pollute groundwaters by landfill leachate (garbage juice) at landfills that are hydraulically connected to underlying ground waters. In addition, landfill have the following impacts to the people in the potential impact zone: public health, economic and aesthetic aspects of surface water quality; emission (migration) of methane and other pollutants causing public health hazards, explosions and toxicity to plants; illegal roadside dumping and litter near landfill; truck traffic noise; dust and wind-blown litter odors; vectors, insects, rodents, birds; condemnation of adjacent property for future land uses; decrease in property values and; impaired view

### **iv. Impacts on Ecology**

#### **Construction Phase**

In the construction stage, the majority of ecological impacts are supposed to come from site clearance and removal of vegetation at the beginning of construction which would result in loss of habitat and vegetation for animals. However, while most sub-projects located in Dodoma urban area will have minimum impacts on wildlife habitats, a landfill sub-project at Chidaya is expected to adversely affect migratory game species of conservation value.

### **v. Community severance**

#### **Construction phase**

There are two types of public utilities, which are likely to be affected by the project. These are DUWASA domestic water supply distribution network and TANESCO power lines and transformers. It is anticipated these utilities could be disrupted by accident due to construction works. However, consultations with DUWASA and TANESCO officials have indicated that these potential impacts will be managed to make the implementation smooth and effective.

### **vi. Loss of Property – dwelling houses and farming land**

There are 3 mud houses and 20 smallholder farms located within the landfill site that are valued at Tanzania Shillings (Tshs) 27, 907,420.00 say Tanzania Shillings Twenty Seven Million Nine Hundred Thousands Seven Thousands Four Hundred Twenty Shillings Only. These properties belong to 21 households.

## **7.4. Analysis of Impacts**

The summary of relevant physical, biological and socio-economic impacts of each sub-project investment is given in Table 3 while a synthesis matrix of impacts analysis is presented in Table 4 below. The impact summary follows the CDA and DMC (LGAs) priorities and presents the sub-projects by phases: first phase I and then phase II.

**Table 3. Summary of potential environmental and social impacts reflecting the LGAs priorities**

PROPOSED SUB-PROJECT	PHYSICAL ENVIRONMENT			BIOLOGICAL ENVIRONMENT				SOCIO-ECONOMIC ENVIRONMENT			
	Air (noise & dust pollution)	soil erosion / Water pollution (underground)	Vibration	Fauna	Flora	Rare species	Ecologically Important habitats	Damage to existing utilities	Employment	Improved services	Attitude To the project
<b>DODOMA MUNICIPAL COUNCIL – PHASE I SUB-PROJECTS</b>											
Mwanza Road	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Kondoa Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Hosp Rd-Indep sq & Mwangaza Rd	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Siasa Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Daima Street	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Sixth Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Seventh Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Eighth Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Ninth Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++

Tenth Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Eleventh Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Mtendeni Street	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Market Street											
Tembo Avenue	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Tabora Avenue	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Nkuhungu Roads	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Area 'D' Roads	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Chamwino Chang'ombe Rd	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Surface of existing bus stands	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Solid waste management	--	-	<b>O</b>	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++
Workshop Improvement	-	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
Liquid waste management	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++



Proposed Sub-project	PHYSICAL ENVIRONMENT			BIOLOGICAL ENVIRONMENT				SOCIO-ECONOMIC ENVIRONMENT			
	Air pollution (noise & dust)	Soil erosion / underground Water pollution	Vibration	Fauna	Flora	Rare species	Ecologically Important habitats	Damage to Existing utilities	Employment	Improved services	Attitude to the project
<b>DODOMA MUNICIPAL COUNCIL: PHASE II SUB-PROJECTS</b>											
Area 'C Roads	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++
Central Business Park (CBP) Roads	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++
Vice Presidents Road	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Boma Road	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Zuzu Road	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Biringi Avenue/ Farahani Rd	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Kikuyu Avenue	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Swala Road											
Ndovu Road	--	-	-	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	-	++	+++	+++
<b>CDA – PHASE 1</b>											

Kisasa Community Rd	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++
Regional Bus terminal	--	-	<b>O</b>	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++
Chang'omb Community Road	--	-	--	<b>O</b>	-	<b>O</b>	<b>O</b>	--	++	+++	+++
<b>CDA – PHASE 2</b>											
Area "A" Community Road	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Kikuyu Community Road	--	-	-	<b>O</b>	-	<b>O</b>	<b>O</b>	-	++	+++	+++
Storm water drains	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++
On transit lorry parking	--	-	<b>O</b>	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++
Chinangali public park and six (6) footbridge	--	-	<b>O</b>	<b>O</b>	-	<b>O</b>	<b>O</b>	<b>O</b>	++	+++	+++

### Interpretation: Impact Significance

+++	High positive impact		---	High negative impact
++	Medium positive impact		--	Medium negative impact
+	Small positive impact		-	Small negative impact
<b>O</b>	Negligible (or no) impact		<b>O</b>	Negligible (or no) impact

**Table 4: A Synthesis of Impact Analysis**

Environmental Parameters	Intensity of impact	Magnitude	Duration/ frequency	Project Phase where impact(s) most significant
<b>BIOPHYSICAL ENVIRONMENT</b>				
1 <b>Air Pollution</b> (dust) from vehicle and machinery operation, along the ROW particularly in settled rural areas	-2	Local (the effect is felt inside the RoW or very close to the project site)	Temporary (short-term)	Construction
2 <b>Air Pollution</b> (noise) Noise emission from increased traffic	-2	Local	Temporary (short-term)	Construction and operation
3. <b>Vibration</b> from machinery and quarry blasting	-2	Local	Temporary (short-term)	Construction
4. <b>Erosion</b> Mass movements in road cuts erosion at construction sites	-2	Local	Temporary (short-term)	Construction
5 <b>Water resources</b> Potential underground contamination of the water resources, esp. at the Nala dumpsite	-2	Regional (the effect is felt far from the project site. The repercussions affects the 'Region')	intermittent	Construction and operation
6. Ecology: <b>Wildlife</b> Interruption of migratory routes and road kill by higher traffic volumes	0	-	-	Construction and operation

<b>Environmental Parameters</b>	Intensity of impact	Magnitude	Duration/ frequency	Project Phase where impact(s) most significant
7. <b>Poor/ lack of rehabilitation of borrow pits</b> and quarries leads to health hazards	-2	Local	intermediate	Construction and operation
8. <b>Natural resources:</b> removal of vegetation	-1	Local	intermittent	Construction
<b>SOCIAL ECONOMIC ENVIRONMENT</b>				
9. <b>Road maintenance:</b> Cost of road maintenance will be reduced	+3	Local	intermediate	Operation
10 <b>Community access:</b> Temporary disturbance in access to important services such as schools, health centres, etc., increasing travel times	-2	Local	Temporary	Construction
11. <b>Access to markets:</b> Improved access to from the town centre, attraction to investors and improved transportation	+3	Regional	intermediate	operation
13. <b>Job creation</b>	+3		Temporary	construction

### Interpretation:

- +3** Highly Positive Impact – Impact with national or international benefits
- +2** Moderately Positive Impact – Likely to impact on quality of life within the project area
- +1** Light Positive impact – Minor impact but of significant local benefit
- 0** No Impact
- 1** Light Negative Impact – Minor negative impact at the local level
- 2** Moderate Negative Impact – A negative impact likely to adversely affect the environment or quality of life in project area if not mitigated
- 3** Severe negative impact with national or international implications

**Pollution (dust and noise)** from vehicle and machinery operation, along the ROW particularly densely settled rural areas may lead to increased levels of respiratory diseases. Lack of communication prior to project activities such as blasting close to settlements could lead to risks of heart attacks and shock related problems. Likewise, the vibrations caused by the machines may affect houses/ structures.

It must be noted that dust and noise from machinery operation will be generated during construction and therefore considered temporary. After completion of the project, upgraded road will be with bituminous surfaced dressing which may produce noise through the life of the project.

Dust on the gravel road/earth road is relatively high but will cease when the road is upgraded to bituminous standard.

**Erosion:** The project activity will only serve to aggravate the movement of particles from one area to another.

**Livelihood/petty business:** Improved access to trading places will promote livelihoods of the families and dependants.

**Employment:** It is anticipated that jobs will be available during construction. The downside of this is that it may increase in child labour and contribute to increased primary school dropout.

**Road maintenance costs:** reduced road maintenance cost will be realised with an upgraded road.

**Gender:** Awareness and inequality remains low among community members, despite of gender analysis and sex disaggregated data found in the planning documents. The National Gender Policy (NGP) will be adhered during addressing potential issues with regards to work force, resettlement and compensation of properties. This should apply for all phases of this project.

### **Road Safety:**

Road signs will be improved as much as possible to provide smoother and safer driving. Necessary safety measures including warning signs, safety barriers and speed control will be considered during the design

**Loss of Vegetation:** Limited loss of vegetation will occur along the sub-project alignment sections.

**Generation of solids and liquid wastes:** Both domestic and construction associated wastes will add to the overall pollution load in the area during construction phases of the project.

## **8. MITIGATION MEASURES**

Mitigation measures are described for each potential impact. Mitigations typically include strategies or design changes and improvement that prevent, avoid, minimize, restore or compensate impacts. The various mitigation measures can have been built into the design or are recommended to minimize the occurrence or/and the magnitude of these potential impacts and unplanned events. The impacts of the proposed road works and community infrastructure development on the environment and on local people are described in Chapter 7 of this ESIA Report.

Following the overall assessment, all mitigation measures for the potential negative impacts of the proposed investment sub-projects are summarized in table 5 below.

**Table 5. Proposed Mitigation Measures for the Identified Impacts**

S/NO	POTENTIAL NEGATIVE IMPACTS	SUGGESTED MITIGATION MEASURE(S)
1	Noise Pollution	<ul style="list-style-type: none"> <li>• Project proponent will ensure that all project machinery comply with International emission limits.</li> <li>• The contractor should adhere to Occupational Health and safety Act No. 5 of 2003 by ensuring that project equipment &amp; machinery are regularly serviced and maintained. This may be achieved by the use of silenced/muffled engines.</li> <li>• Project workers, especially those who have to work in close proximity to noise emitting machinery/equipment shall be provided with adequate hearing protection devices and facilities.</li> <li>• Contractor must follow procedures for noise abatement as prescribed in the standard specifications for road works (section 1709)</li> </ul>
2	Ground vibrations	<ul style="list-style-type: none"> <li>• Careful planning, checking, execution &amp; monitoring of each vehicle operation</li> <li>• Free faces shall be sufficiently cleared of any loose material before burden.</li> </ul>
3	Chemical spillage	<p>To mitigate this problem the contractor has to ensure concrete works and oil refuelling activities is done in a containment to avoid spillage to the environment and water watercourses; Protective gears should be provided to workers to avoid bodily harm.</p> <p>Regular monitoring of ground water table to avoid groundwater pollution</p>
4	Air Pollution (Dust)	<p>Workers should be provided with masks during construction to prevent inhaling dust.</p> <p>All machines must be switched off when not in uses to minimize exhaust fumes entering the air.</p> <p>Spray all exposed working areas that can generate dust with water (water sprinkling)</p>

		<p>Concrete mixing equipment should be well sealed, and vibrating equipment should be equipped with dust removal devices. Fine particle materials on site should be enclosed and properly covered</p> <p>Wheel washing facilities shall be installed and used by all vehicles leaving the site; and</p> <p>At the end of the works, all bare surface to be re-vegetated as soon as possible</p>
5	Air Pollution (noise) from vehicle and machinery operation, along the ROW	<ul style="list-style-type: none"> <li>• Use appropriate mode of operation to produce less noise (e.g. mufflers on equipment)</li> <li>• Where appropriate (e.g. quarry site) a buffer zone should be considered</li> <li>• Due notification to communities and staff when blasting is to be done</li> <li>• Limit works to daylight hours</li> </ul>
6	<b>Soil erosion</b>	<ul style="list-style-type: none"> <li>• This problem can be mitigated by upgrading of the road structures, such as culverts and other cross-drainage facilities such as roadside drainage. Raising road section where ground level is low can also help to mitigate the problem of flooding. The provision of appropriate drainage structures will also help to alleviate this problem. Further, construction activities should be undertaken with care and in line with specifications of road works requirement regulations (section 1703 of Standard Specification for road works in Tanzania 2000). Overall, the hydrology and drainage of the road will be improved once road structured are constructed properly.</li> </ul>
7	<b>Borrow pits and Quarry sites</b>	<ul style="list-style-type: none"> <li>• To mitigate this problem borrow pits and quarry sites must be reinstated back to their original state by landscaping, spreading of topsoil as necessary. Quarries sites can be fenced to avoid people and animal falling in.</li> </ul>
8	<b>Loss of Vegetation</b>	<ul style="list-style-type: none"> <li>• The contractors' should make sure that vegetation loss is minimal, and that clearing shall be limited to work areas only.</li> </ul>
9	<b>Erosion: Mass soil movements caused by project activity</b>	<ul style="list-style-type: none"> <li>• Provide drainage works as needed to reduce erosion risk</li> </ul>
10	<b>Liquid and Waste Disposal</b>	<ul style="list-style-type: none"> <li>• Ensure that the contractor abides to Road</li> </ul>



		Specifications; waste separation & recycling
11	Community Access	<ul style="list-style-type: none"> <li>• Provide alternative access routes and notify communities of the changes in good time</li> </ul>
12	Natural Resources: Removal of tree along the RoW	<ul style="list-style-type: none"> <li>• Assist afforestation efforts by communities</li> </ul>
13	Occupational Health & Safety	<ul style="list-style-type: none"> <li>• Provision of ear muffs, helmets, boots, dust masks, etc. to employees</li> <li>• Safe procedure for storage and handling the explosives shall be developed</li> <li>• Adequate training shall be provided to the staff</li> <li>• Regular medical check up of workers</li> </ul>
14	Barrier /road diversions and Disturbance by traffic jams.	Work within time frame and consider traffic counting
15	Spread of HIV and other communicable diseases	Supply of condoms and sustainable community awareness on safer sex and HIV voluntary testing as well as the importance of using ARVs for those tested positive.
16	Destruction of sewage systems and clean water pipes and electrical poles	Confirming with DUWASA on where to locate the pipe ducts; Informing TANESCO about the electrical poles and transformer located at Chan'gombe community road.
17	Increase road accidents due to speed	Community awareness of road use and providing road signs and humps
18	Children will be attracted to pick dangerous wastes from the dump	Fencing the dump and provide security guards
19	Employment opportunities	Local communities should be given priority on the existing job opportunities during and after project. Priority should be provided to youth and women
20	Attraction of wild animals at the Landfill facility/Dumpsite	Quality fence, security guards and modernized dump will not attract wild animals like Hyena
21	Loss of Property (houses & farms)	Arrange to make appropriate compensations in accordance to the Tanzanian and World Bank Resettlement Policy framework

## 9. WASTE MANEGEMENT

### 9.1: Existing Situation

Cleaner cities attract people and investment. Cleanness is an indicator of good urban management. Poor solid waste management affects the health and amenity of the urban areas in many ways: by transmitting diseases to residents, by clogging drains and sewers, through contaminated leaching, through smell and visual impacts. This section describes the existing situation regarding the generation and management solid and liquid waste in the Dodoma municipality. In the sections below the existing municipal solid and liquid waste management is briefly examined and then the potential impacts of the proposed sub-projects and corresponding mitigation measures summarized. The chapter then provides a range of mitigation measures for the efficient management of the proposed landfill site and concludes by presenting a suite of organization measures that are needed to ensure efficient collection and disposal of municipal waste.

#### 9.1.1. Solid Waste

The present municipal waste production in Dodoma is approximately 350 tonnes per day (Dodoma Urban area generates 100.3 tons per day) while the current capacity of the Council to remove solid waste is 65 tonnes out of 100.3 tons per day. The remaining waste which is 35.3 tonnes daily may be directly or indirectly be associated with disease and health risks. The growth assumption of 4.5% (economic growth) plus 1% of collection efficiency will result in major expansion of waste. Thus, the quantity of waste to be produced during the next 15 years (i.e. 2024) in Dodoma urban alone will be between 224 and 965 tonnes per day; this amount would have to be landfilled. However, if the existing collection efficiency of 65% continues, a minimum of 35% of the municipal refuse or over 78 tonnes per day will be left uncollected.

The challenge for solid waste management is to adopt an integrated approach, which includes avoidance, recycling, minimisation, treatment and disposal. This approach advocates that disposal of waste to landfill should only be undertaken as a last resort. However, despite the many successful waste minimization efforts and the growing viability of recycling, landfilling is still the only practicable method for dealing with many wastes.

After a landfilling decision was made by both the CDA and DMC, CDA which is in charge of deciding on the waste disposal site dedicated Chidaya to be a landfill site. This site which covers over 20 acre has enough capacity for receiving the type and amount of waste that has to be expected from the growing Dodoma in the next 15 – 20 years..

#### 9.1.2. Liquid waste management

The present situation of liquid waste management in Dodoma Municipality is as follows:

S/N	PERCENTAGE (%)	DESCRIPTION	RESPONSIBLE PARTY
1	15	Waste water connected to the main sewer	DUWASA
2	50	Waste water on site sanitation requiring the services of Cesspit Emptier	Dodoma MC
3	35	Wastewater used on Pit Latrine, which need to be	Dodoma MC

		emptied when full.	
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DUWASA (*Dodoma Urban Water and Sewerage Authority*)

## 9.2. Sub -Project Impacts

There are two main categories of potential impacts which are expected to arise from the implementation of these investment sub-projects:

- a) Construction and demolition waste
- b) Landfill leachate

a) Construction and demolition waste covers a wide range of materials. The most obvious are:

- waste arising from total or partial demolition of the existing roads and other civil infrastructure;
- waste arising from construction of civil infrastructure and road maintenance activities including damaged materials, excess materials left over at the end of the job, packaging waste; and;
- Soil, rocks, etc. arising from land levelling, civil works and/or general foundations. Some of the produced waste requires special attention and handling as the waste is of hazardous or potentially hazardous character. This includes solvent-based concrete additives, damp roofing chemicals, adhesives, tarbased emulsions, asbestos-based materials, mineral fibres, some paints and coatings, treated timber, resins, empty or part empty gas bottles from cutting/welding, etc.

b) Landfill leachate

This covers all kind of substances released during the decomposition of landfill contents including hazardous compounds that are harmful to humans as well as wildlife.

## 9.3. Proposed Mitigation Measures

The objective is to prevent or minimise any adverse environmental impacts from wastes during the construction and operational phases of the Project and to minimise their generation, to maximise their reuse and recycling, and to ensure safe disposal of all waste.

### 9.3.1. Mitigation measures for the management of construction and demolition waste

All proposed mitigation measures for the management of construction and demolition waste can be summed up in the usually used hierarchy of waste management

- (i) Prevention or reduction;
- (ii) Re-use;
- (iii) Recycling or materials recovery;
- (iv) Disposal in a safe manner.

During construction mainly organizational measures by the contractors on site have to be taken for prevention and reduction of waste, for recovery of materials and for potential re-use. Facilities which allow separation and intermediate storage of different types of waste have to be provided and the workforce needs to be instructed accordingly.

### 9.3.2. Mitigation measures for the management of Landfill related impacts

Mitigation measures are related to the proper selection of a landfill site, Landfill Design, operation and Management. Landfill sitting requires detailed investigation. Factors that need to be addressed include: site capacity; hydrology; local topography and soils; adjacent land uses; climate; local flora and fauna; and road access. Chidaya site located between the Dodoma town centre and Mvumi was judged to be the best option to locate a landfill facility because its technical specifications are the best of those visited and there are no significant difficulties anticipated with regard to compensation or livelihood constrained. This selected site is located at a distance of about 13 km south-east from town center. The site area is about 10 ha which is sufficient to allow waste disposal for at least 20 years.

The key-negative impacts of the proposed landfill development have been identified as underground water contamination with leachate and severance of wildlife migratory routes which are considered to be of 'moderate' significance. These potential negative impacts can be minimized during landfill design and through good operational practice. In order to reduced all the social and environmental safeguard issues identified to acceptable levels the following should be observed:

- The conceptual site design takes into account the potential impact of contamination of water resources as a result of leachate emissions. A high standard of leachate containment and management is a fundamental aspect of the proposed site design;
- The risk of exposure to/explosion of landfill gas are minimized through site design which should include passive venting and landfill gas monitoring. Given the location of the site the potential impact can be effectively mitigated;
- The potential impact from noise, dust and odor at the site can be minimized through site design and good operational practice which should be strictly enforced;
- Litter impacts can be greatly minimized by mitigation measures which include the operation of small waste cells and litter screens, as necessary.
- As most of the potential impacts above are such that they will be felt by the local community in the vicinity of the site it is considered necessary that further public consultation and discussion be carried out to involve them in the project implementation process. The benefits of increased active public participation include: to further explain the operational aspects of land filling and the advantages this method of waste disposal will have on environment; to help determine the community's perspective on possible mitigation measures; and to explain to the Chidaya residents the likely method of on-going liaison between themselves and the authority responsible for waste disposal at the new landfill site.
- Because the proposed site is close to a prominent Chituli seasonal river channel (the only source of water for the communities), the base foundation should be designed in a way that includes multiple barriers that can ensure containment of the leachates even at the worst conditions of liner failure due to any reason such as earth quakes or base unpredictable settlements. However, the design in its consideration should be based on the highest loads and the worst assumed risks taking place.
- The design should include to enable early detection of any leachate leak
- The design should include a provision for wildlife migration. It has been explained by the local residents that a family of elephants (4-5) uses the proposed site in their annual migration movements.
- Options for leachates treatment should be studied in a natural way such as using anaerobic-aerobic configuration or using wetlands.

- The designer should think about options to suppress disease vectors such as mosquitoes because the leachates pond is an open water surface system. Even the birds and migratory wildlife may be at high risk of direct drinking from the leachates pond.
- Because the groundwater level is deep under the site, the designer should consider using collection method (perforated pipes under each of the geotechnical barriers). This will enable leak detection and will help to guide to the puncture (at what barrier happened) and repairing it.
- The authorities should think of privatizing waste separation and management.

Other public health, environmental, social and economic mitigation measures are provided in a waste management sub-plan (EMP) table below:

### A Waste Management Sub-Plan

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
<b>Liquid and solid waste disposal</b>	<ul style="list-style-type: none"> <li>• Ensure that the contractor abides to Road Specifications</li> <li>• Provide solid waste/ garbage collection tanks and sanitation facilities at all construction sites</li> <li>• Liquid and Solid waste must be handled as prescribed in the Standard Specification for Road (Section 1713)</li> <li>• Management of stormwater is via the existing stormwater drainage system;</li> <li>• Management of sewage is via the existing system Works</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
<b>Pollution of Solid waste at source</b>	<ul style="list-style-type: none"> <li>• All hazardous and non-hazardous waste that may be generated in the target area will be stored and disposed of in a manner that minimises the impacts of the waste on the environment, including appropriate segregation for storage and separate disposal.</li> <li>• Non-hazardous waste (e.g. sand/ gravel, paper, plastic, food waste) will be segregated at source from hazardous waste (e.g. waste oils, oil filters, used absorbent, old chemical/ paint/ fuel, batteries,</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>

	<p>acids, and used tyres) and separate recyclable material; •</p> <ul style="list-style-type: none"> <li>• Recyclable wastes will be recycled where possible;</li> <li>• Waste will be stored neatly in appropriate bins or stockpiles, with hazardous wastes stored in such a manner that stormwater run-off does not come into contact with the waste;</li> <li>• Soil contaminated by fuel or oil will be managed as hazardous waste;</li> <li>• All contractors and sub-contractors working on the site would be informed of their responsibility to reduce waste where possible. -All personnel would receive instruction on what waste materials can be recycled and where the appropriate bins are located.</li> <li>• Secure lids would be fitted to bins that store food waste to prevent scavenging by birds and animals;</li> <li>• Complaints will be investigated promptly and appropriate action initiated to reduce impact.</li> </ul>	Engineer	
<p><b>Pollution at the Chidaya landfill facility (Dumpsite)</b></p>	<ul style="list-style-type: none"> <li>• on-site protection of soil and groundwater aquifer through storm water control, leachate management by installing groundwater protection works, such as a synthetic liner and collection systems;</li> <li>• installation of fencing to control access to, and movement within the site and provide litter control;</li> <li>• refuse covering with impermeable soils to reduce odour, control flies and rodents, reduce spreading of litter and discourage scavenging;</li> <li>• Screening – planting of vegetation around the landfill provides wind</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>

	barriers to help control dust and minimize blowing litter.		
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It important to note that waste reduction through the recovery of recyclable and reusable materials can conserve resources, significantly extend the life of a landfill facility and may reduce pollution.

#### **9.4. Conclusion**

Appropriate organizational measures by the contractors during construction and the selective demolition method are the recipe of success to effectively prevent, reduce, re-use or recycle as much of the construction and demolition waste as reasonably possible. All waste that cannot be re-used or recycled has to be disposed at suitable and safe sites.

Therefore enforced and time-bound improvements in collection efficiency and solid waste disposal practices as well effective containment of the landfill leachate at Chidaya will reduce the risk of health damage to both human and wildlife and ensure better amenities of the growing Dodoma town.

## **10. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)**

### **10.1. Overview**

The purpose of the ESMP is to describe in details, the possible actions that must be taken to ensure that the identified impacts will be mitigated as much as possible. Where impacts cannot be mitigated, compensation programs will be designed, as well as any environmental enhancement activity that will be required to offset, where possible, those impacts that cannot be mitigated.

This plan will also provide an estimation of compensation costs where feasible and a schedule for the implementation activities. The responsibility for implementing the ESMP during construction will be of CDA and Dodoma Municipal Council. During operation and maintenance of the sub-projects the responsibility will lie solely under the Municipal Council.

To a considerable degree, construction contractors will be responsible for implementing mitigation measures but, in any case, the ultimate responsibility for ensuring that environmental and social protection elements are being carried out properly is of CDA and DMC. Most of the impacts which occur during the construction phase can be reduced or avoided through the application of sound construction management guidelines. Construction contracts will require all qualified bidders to include environmental management plans as a part of their submitted bids. The additional costs of these plans cannot be predicted at this time, but they are considered an integral part of total project costs.

The ESMP, outlined below, takes into account the impacts identified and described in the previous chapters. A series of environmental management sub plans detailed below have been prepared which specify the environmental requirements and safeguards for construction activity in 5 (five) clusters. These sub-plans are provided at Sections 10.2.1 to 10.2.5.

### **10.2. Environmental and Social Management Plans**

#### **10.2.1. Residential and Commercial roads sub-plan**

##### **10.2.1.1. Physical Environment Impacts**

In order to minimize the impacts on physical environment the following measures should be taken into consideration:

- The construction of access and maintenance roads should be reduced to the minimum necessary level. These roads should be temporary as much as possible;
- The extent and duration of land clearing and levelling should be reduced to minimum. Where clearing of land is required, re-vegetate the area with native flora and/or crops.
- Tree cutting for access roads should be reduced to the minimum. Tree cutting should be limited, if and where necessary, for line construction and /or maintenance activities;
- The area of shrub and bush lands lost due to access roads construction should be compensated by a proper reforestation program, in order to restore the lost woody biomass;
- After construction access roads should be maintained only if strictly necessary for line's maintenance activities and/or when necessary or useful to local dwellers, otherwise land previous conditions should be restored;



- During construction of access roads, care should be taken to avoid significant erosion problems in these areas;

### **10.2.1.2. Biological Environment Impacts**

The clearing of trees and shrubs during the construction period may negatively affect the floral landscape in the project area. In order to reduce the damages on natural vegetation, tree cutting should be carefully evaluated one by one. In order to minimize the adverse effect on flora and maintain the ecosystem, re-vegetation activities should be practiced on disturbed and open areas.

The tree planting along the rehabilitated/ upgraded roads under this project should be realized using fast growing indigenous species of plants. The cost of re-vegetation programme should be included in the total project cost and re-vegetation activity should be handled by the households under the leadership and support of the LGA (CDA and MC).

### **10.2.1.3. Socio-economic impacts**

#### Dust and Noise

These impacts can be mitigated through the provision and use of proper hearing equipment for workers and warnings provided well in advance in order that local people will be prepared. The impact of dust on local people can be limited through watering the roads and controlling speed of road traffic. The contractors will be required to address these issues in their environmental management plan when they submit their contract proposals. In addition CDA and MC in Dodoma will monitor contractor's compliance with environmental protection standards in the contracts.

#### Public Safety

All construction sites must be well marked, warning both workers and general public of danger to their safety. Project related vehicle will be required to abide by good driving conduct, obey speed limits and generally follow the rules of safe driving. All vehicles will be equipped with properly maintained lights and audio warning systems. Night driving must be minimal and strictly controlled.

#### Occupational health

Comprehensive occupational health standards established by the GoT should be followed and the contractors will be considered responsible for full implementation.

To reduce the incidence of occupational accidents, adequate training and education sessions will be organized for all workers as regards to the health and safety precautions associated with such developments. Personal Protective Equipment (helmets, earmuffs, gloves, etc) shall be made available to employees and their usages enforced. Non-compliant staff will be appropriately reprimanded. As a matter of principle, the contractor will ensure that Safety First is the rule that governs all activities and operations within the camps and along the route. Safety measures such as provisions of safety signals, temporary barriers, night beacon lamps, personnel stationed for traffic control and mobility, etc. and training on road safety are envisaged with the support of relevant national institutions. The required measures relate to: i) sensitization and training of project officials and the workers; ii) rapid intervention techniques in the event of disasters; iii) safety procedures to follow in risky areas and in handling risky activities; iv) ascertaining and approving waste disposal sites, and to monitor the waste management; v) installation and supply of first aid kits; vi) sensitization of local population with regard to road safety; vi) deployment of standby vehicle and establishment of other contingency plan for emergency cases.



**Plate 1: Existing road condition at the 6<sup>th</sup> road sub-project.**

To manage environmental impacts at the road sub-projects in the residential/ commercial areas, an environmental Management Sub-plan (below) has been developed.

**Table 6: Residential cu Commercial Environmental Management Sub-Plan**

<b>Project Impact</b>	<b>Mitigation Measures</b>	<b>Implementers</b>	<b>Monitoring Responsibility</b>
1.Noise Pollution	<ul style="list-style-type: none"> <li>i. All project machinery to comply with International emission limits.</li> <li>ii. Contractor to ensure that project equipment &amp; machinery are regularly serviced and maintained.</li> <li>iii. Use of silenced/ muffled engines.</li> <li>iv. Project workers, in close proximity to noise emitting machinery/ equipment to be provided with adequate hearing protection devices and facilities (e.g. ear plugs)</li> <li>v. Limit works to daylight hours. Stop noisy construction during the night hours (18.00 – 6.00).</li> <li>vi. Contractor must follow procedures for noise abatement as prescribed in the standard specifications for road works (section 1709)</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA NEMC PMO-RALG</p>
2. Ground vibrations	<ul style="list-style-type: none"> <li>i. Careful planning, checking, execution &amp; monitoring of each vehicle operation</li> <li>ii. Free faces shall be sufficiently cleared of any loose material before burden.</li> </ul>	<p>Construction Contractor</p> <p>Resident Eng.</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA NEMC PMO-RALG</p>

3. Chemical spillage	<ul style="list-style-type: none"> <li>i. The contractor to ensure concrete works and oil refuelling activities are isolated from watercourses and protective gears are provided to workers to avoid bodily harm.</li> <li>i. Regular monitoring of ground water table to avoid groundwater pollution</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA NEMC PMO-RALG</p>
4. Air Pollution (Dust)	<ul style="list-style-type: none"> <li>i. Workers should be provided with dust protection masks during construction to prevent inhaling dust.</li> <li>ii. All machines must be switched off when not in uses to minimize exhaust fumes entering the air.</li> <li>iii. Spray all exposed working areas that can generate dust with water (water sprinkling)</li> <li>iv. Concrete mixing equipment should be well sealed, and vibrating equipment should be equipped with dust removal devices. Fine particle materials on site should be enclosed and covered</li> <li>v. Wheel washing facilities shall be installed and used by all vehicles leaving the site; and;</li> <li>vi. At the end of the works, all bare surface to be re-vegetated as soon as possible</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>
5. Soil erosion	<ul style="list-style-type: none"> <li>i. Provide appropriate road drainage structures, such as culverts and other cross-drainage facilities such as roadside drainage. Raising road section where ground level is low can also help to mitigate the problem of flooding.</li> <li>ii. Construction activities should be undertaken with care and in line with specifications of road works requirement regulations (section 1703 of Standard Specification for road works in Tanzania 2000).</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>

6. Borrow pits and Quarrysites	<ul style="list-style-type: none"> <li>i. Borrow pits and quarry sites must be reinstated back to their original state by landscaping, spreading of topsoil as necessary.</li> <li>ii. Quarries sites should be fenced to avoid people and animal falling into the pits.</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Superv Eng</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
7. Loss of Vegetation	<ul style="list-style-type: none"> <li>i. The contractors' to make sure that vegetation loss is minimal, and that clearing shall be limited to work areas only.</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
8.Erosion: Mass soil movements caused by project activity	<ul style="list-style-type: none"> <li>i. Provide drainage works as needed to reduce erosion risk</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
9.Community Access	<ul style="list-style-type: none"> <li>i. Provide alternative access routes and notify communities of the changes in good time</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
10. Removal of trees close to the RoW	<ul style="list-style-type: none"> <li>i. Assist re-forestation efforts by communities</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising</p>	<p>DMC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>

		Engineer	
11 Occupational Health & Safety	<ul style="list-style-type: none"> <li>i. Provision of ear muffs, helmets, boots, dust masks, etc. to employees</li> <li>ii. Safe procedure for storage and handling the explosives shall be developed</li> <li>iii. Adequate training shall be provided to the staff</li> <li>iv. Regular medical check up of workers</li> </ul>	<p>Construction Contractor</p> <p>Resident Engineer</p> <p>Supervising Engineer</p>	<p>DMC/ MEMO</p> <p>CDA NEMC</p> <p>PMO-RALG</p>
12. Barrier /road diversions and Disturbance by traffic jams.	<ul style="list-style-type: none"> <li>i. Work within time frame and consider traffic counting</li> </ul>	<p>Construction Contractor</p> <p>(supervised by Resident Engineer supported by Site Agent and a qualified EMO )</p> <p>Supervising Consultant</p>	<p>DMC/Municipal Environment Management Officer (MEMO)</p> <p>CDA (Directorate of Environment)</p> <p>NEMC (National Oversight)</p> <p>PMO-RALG</p>
13. Spread of HIV and other communicable diseases	<ul style="list-style-type: none"> <li>i. Supply of condoms and sustainable community awareness on safer sex and HIV voluntary testing as well as the importance of using ARVs for those tested positive.</li> </ul>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising consultant</p>	<p>D MC/ MEMO</p> <p>CDA</p> <p>NEMC</p> <p>PMO-RALG</p>
14. Destruction of sewage systems and	<ul style="list-style-type: none"> <li>i. Confirming with DUWASA on where to locate the pipe ducts.</li> <li>ii. Informing TANESCO about the electrical poles and transformer</li> </ul>	<p>Construction Contractor</p> <p>RE</p>	<p>DMC/MEMO</p> <p>CDA</p> <p>NEMC</p>

clean water pipes and electrical poles	located at Chan'gombe community road.	Supervising Consultant	PMO-RALG
15. Increase road accidents due to speed	i. Community awareness of road use and providing road signs and humps	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
16. Children will be attracted to pick dangerous wastes from the dump	i. Fencing the dump and provide security guards	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
17. Employment opportunities	i. Local communities should be given priority on the existing job opportunities during and after project. Priority should be provided to youth and women	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
18. Attraction of wild animals at the landfill facility/Dumpsite	i. Quality fence, security guards and modernized dump will not attract wild animals like Hyena	Construction Contractor RE Supervising Consultant	DMC/MEMO CDA NEMC PMO-RALG
19. Loss of Property	Arrange to make appropriate compensation in accordance to the Tanzanian and World Bank resettlement policy frameworks	Construction Contractor RE Supervising Consultant	DMC CDA

### 10.2.2. Bus and Lorry Terminal Sub-plan

The sub-project is proposed to provide a new regional bus and lorry terminal/ parking site at Kisasa area. The proposed bus and lorry terminal is located to the East of the existing bus stand and to the north-east of the existing temporary servicing/parking site. The proposed site has an area of over 50 ha and is located to the west of Dodoma Makulu road leading to the Dodoma University. Concurrent projects near the proposed site include the site across the Dodoma Makulu Road which under construction for the development of the proposed Office of the Dodoma Regional commissioner



**Plate 2. The existing condition of the proposed site for the Regional Bus Terminal**

The purpose of this ESIA Study is to evaluate the potential environmental impacts arising from the construction and operation of the proposed project and its related activities, to develop and specify measures necessary to mitigate particular adverse impacts identified.

For the period from August to September 2009, the ESIA study team in conjunction with CDA and DMC counterparts undertook bio-physical and social analysis of the proposed site for the location of the bus and lorry terminal. The analysis was informed by visual assessments and professional judgments. The key findings of the technical assessments for the new bus and lorry terminal are presented in the following sections.

The assessment of the bio-physical environment has found that the proposed site supports a diverse array of plant communities – grasses and scattered thickets and woody vegetation in the periphery of the area. This vegetation has very low conservation value as there are no rare/endangered species recorded. Further, there were no any wildlife species found using the habitat. A seasonal river is located to the East of the proposed site. Our social survey indicated that the site is surrounded by the built environment but the area is free from any human use and therefore no physical displacement of people and assets is expected.

The following environmental impacts are envisioned for both the construction and operational phases of the proposed development (see also chapter 7):

- Air Quality (noise and dust pollution);
- Liquid and solid waste Pollution;
- Oil spills and chemical pollution/Land Contamination; and
- Hazards, e.g. fire eruption.

An Environmental Management Sub-plan has been developed for the construction and operation phases of the proposed bus and lorry terminal to confirm the effectiveness of all the proposed mitigation measures in achieving satisfactory environmental performance.



## A Regional Bus and Lorry terminal Sub-plan

<b>Project Impact</b>	<b>Mitigation Measures</b>	<b>Implementers</b>	<b>Monitoring Responsibility</b>
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>Adopt proper dust control measures, compliance with the Air Pollution Control (Construction Dust) Regulation at the work site</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC PMO-RALG
<b>Noise</b>	<ul style="list-style-type: none"> <li>use of quiet machines (e.g. use of silencers, etc.) and good site practices</li> <li>conduct construction noise checks to assure compliance</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC  PMO-RALG
<b>Land Contamination</b>	<ul style="list-style-type: none"> <li>Adopt appropriate operational practices (including inspection and monitoring arrangements and, reporting and recording of incidents), material and waste management strategies and precautionary measures for prevention of contamination problems</li> <li>Conduct training activities to prevent and minimise the potential for spills and the subsequent contamination</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC PMO-RALG
<b>Waste Management</b>	<ul style="list-style-type: none"> <li>use good practices to ensure that adverse environmental impacts are prevented and that opportunities for waste minimisation and recycling are followed</li> <li>the storage, handling, collection, transport and disposal of wastes</li> </ul>	Construction Contractor  Resident Engineer	DMC/ MEMO  CDA NEMC

	should comply with regulatory requirements and no unacceptable environmental impacts should occur	Supervising Engineer	PMO-RALG
<b>Hazard</b>	<ul style="list-style-type: none"> <li>designate safe evacuation routes/ exit doors for people to evacuate in case of emergency fires at refueling area due to diesel spills</li> </ul>	Construction Contractor Resident Engineer Supervising Engineer	DMC/ MEMO CDA NEMC PMO-RALG

### 10.2.3. Chinangali Public Park Sub-plan

Sufficient green space and open areas are a major factor in the quality of life in a given part of a city. For this reason, the government of Tanzania has placed great importance on a high-quality balanced mixture of network of green, open spaces and sports grounds in creating the master plan for the Dodoma urban area. All these are intended to help residents and visitors feel comfortable. It is for this reason that the proposed Chinangali public park sub-project intends to construct a hard landscape, garden furniture, borehole and footbridge to make it a public space of high quality.

The purpose of this ESIA Study is to evaluate the potential environmental impacts arising from the construction and operation of the proposed project and its related activities, to develop and specify measures necessary to mitigate particular adverse impacts identified.



**Plate 4: Proposed Chinangali Public Park site**

The ESIA Study has taken into account the latest available information about the design, layout, construction and operation of the public park project. Results of the Study show that all of the potential environmental impacts identified are found to be minor and acceptable if mitigation measures are properly implemented. In order to further reduce and minimize these potential adverse impacts, an environmental management sub-plan during construction and operational phases are given in various areas, including, air quality, noise and waste management.

### Environmental Management Sub-plan for the Chinangali public park

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>Adopt proper dust control measures onsite</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC PMO-RALG
<b>Noise</b>	<ul style="list-style-type: none"> <li>Regular service of construction machinery and good site practices</li> <li>conduct construction noise checks to assure compliance</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC  PMO-RALG
<b>Waste Management</b>	<ul style="list-style-type: none"> <li>use good practices to ensure that adverse environmental impacts are prevented and that opportunities for waste minimisation and recycling are followed</li> <li>the storage, handling, collection, transport and disposal of wastes should comply with regulatory requirements</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO CDA NEMC PMO-RALG

It is important to note that waste reduction through the recovery of recyclable and reusable materials can conserve resources, significantly extend the life of a landfill facility and may reduce pollution.

### 10.2.4. Municipal Mechanical Workshop Sub-plan

The DMC intends to upgrade the existing gravel/Earth surface of the roads mechanical workshop to concrete paving blocks with drainage and service areas. An Environmental and Social Impact Assessment was conducted and the potential adverse impacts associated with the proposed development were identified to be: potential fire hazards caused by ignition of diesel/petrol spilled during vehicle refueling, air pollution, soil and underground water contamination and waste management.



**Plate 5: Existing conditions at the Municipal Workshop. Oil spills can be seen in the background**

In order to mitigate these impacts the following workshop environmental management sub-plan is proposed

#### Environmental Management Sub-plan for the DMC Workshop

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>Adopt proper dust control measures onsite during construction</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC PMO-RALG
<b>Noise</b>	<ul style="list-style-type: none"> <li>Regular service of machinery and good workshop practices</li> <li>conduct construction noise checks to assure compliance</li> </ul>	Construction Contractor  Resident	DMC/ MEMO  CDA

		Engineer	NEMC
		Supervising Engineer	PMO-RALG
<b>Waste Management</b>	<ul style="list-style-type: none"> <li>• use good practices to ensure that adverse environmental impacts are prevented</li> <li>• the storage, handling, collection, transport and disposal of wastes should comply with regulatory requirements</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC PMO-RALG
<b>Soil and underground water contamination</b>	<ul style="list-style-type: none"> <li>• Adopt appropriate operational practices, material and waste management strategies and precautionary measures for prevention of contamination problems</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC PMO-RALG
<b>Hazard</b>	<ul style="list-style-type: none"> <li>• Adopt good operational practices in refueling areas to avoid fuel spills</li> <li>• Prepare and enforce fire management plan to guard against emergency fires in the workshop</li> </ul>	Construction Contractor  Resident Engineer  Supervising Engineer	DMC/ MEMO  CDA NEMC PMO-RALG

### 10.2.5. Landfill Management Sub-plan

The DMC intends to develop a controlled landfill at Chidaya. An Environmental and Social Impact Assessment was conducted and the potential adverse impacts associated with the proposed Chidaya landfill were linked with potential pollution of the seasonal Chituli River and blockage of annual migratory corridors for a variety of game species (including hyenas, leopards and elephants). To mitigate these impacts, conceptual site design should include a provision for wildlife migration routes and adopt a high standard of leachate containment and management and good operational practice. Because the proposed site is close to a prominent Chituli River channel (the only source of water for the communities), the base foundation should be redesigned in a way that includes multiple barriers that can ensure containment of the leachates even at the worst conditions of liner failure due to any reason such as earth quakes or base unpredictable settlements.



**Plate 6. The existing conditions of the proposed Chidaya Landfill site**

Overall waste management plan including Chidaya landfill management is presented in a table below.

#### Landfill management Sub-Plan

Project Impact	Mitigation Measures	Implementers	Monitoring Responsibility
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<p>Pollution at the Chidaya landfill facility</p>	<ul style="list-style-type: none"> <li>• on-site protection of soil and groundwater aquifer through storm water control, leachate management by installing groundwater protection works, such as a synthetic liner and collection systems;</li> <li>• installation of fencing to control access to, and movement within the site and provide litter control;</li> <li>• refuse covering with impermeable soils to reduce odour, control flies and rodents, reduce spreading of litter and discourage scavenging;</li> <li>• Screening – planting of vegetation around the landfill provides wind barriers to help control dust and minimize blowing litter; operation of small waste cells and litter screens reduces litter impacts</li> <li>• Site design should include venting and landfill gas monitoring.</li> <li>• Use collection (perforated pipes) under each of the geotechnical barriers detect leachates early;</li> <li>• Leachate ponds should be treated to suppress disease vectors (e.g. mosquitoes) and prevent access by birds and migratory wildlife.</li> </ul>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO CDA NEMC PMO-RALG</p>
<p>Severance of Wildlife Dispersal Areas</p>	<ul style="list-style-type: none"> <li>• Provision of wildlife routes/ corridors</li> <li>• Prevent access of birds and migratory game species to the leachate ponds</li> </ul>	<p>Construction Contractor</p> <p>RE</p> <p>Supervising Consultant</p>	<p>DMC/ MEMO CDA NEMC PMO-RALG</p>

## 11. IDENTIFIED CAPACITY BUILDING REQUIREMENTS

The environmental sustainability of the investment sub-projects is highly dependent on the capacity of institutions at all levels (i.e. staffing, training, and other necessary support services) to carry out the associated ESMP implementation work. Thus, it is vital that the LGA allocates sufficient resources to training and capacity building. These efforts will not only benefit the LGA, but will also build local capacity to undertake other development initiatives funded locally or by other donors.

During this EIA study an assessment of the existing institutional capacity at all levels (Community leaders, LGA and national levels) to implement the EMP was undertaken. Much as the national institutional capacity to monitor and enforce the environmental law and other

regulatory frameworks was analyzed, the assessment mainly focused on the technical, financial and physical capability of the Community leaders, local NGOs, DMC and CDA to carry out their EMP responsibilities. The EIA team assessed, at a minimum, the adequacy of:

- the institutional **structure**, and its authorities at all relevant levels, to address environmental management issues;
- the number and qualifications of DMC and CDA staff to carry out their EMP responsibilities;
- **resources** to support staff in their work; and
- **Knowledge and experience** relevant to carrying out environmental analyses and designing mitigation measures for environmental management and monitoring.

The ESIA process has found that these different groups have different capacity building and training needs in terms of raised awareness, sensitization to the issues, and detailed technical training. The DMC and the CDA were found to have a very limited institutional capacity to implement the provisions of the ESMP, especially regarding the municipal solid waste management sub-project. Although general awareness on environmental issues exists within the municipal council and CDA professional staff, focused training and capacity building would enhance the ESMP implementation capacity substantially on their part.

It is recommended that capacity building and training should occur at all levels i.e., wards, local NGOs and CBOs, government officials, community leaders, extension teams, DMC and CDA management. The DMC’s Environmental Unit personnel should be exposed to short-term and long-term training in the management of environmental issues. The training program for various role players will include an orientation program on the ESMP, Environmental Assessment Processes, Participatory Methodologies and Project Management. The training on ESMP may be integrated with social framework and other related training program for cost effectiveness.

Adequate resources should be allocated to ensure effective implementation of the ESMP.

### Cost Estimate for Implementing the ESMP and Monitoring Program

The cost associated with implementing the ESMP is as follows:

No	ITEM DESCRIPTION	UNIT RATE (USD)	QUANTITY (YEARS)	COST (USD)
1.	Recruit Specialized Environment Consulting Firm to a) supervise and report on compliance with the EMP, b) to monitor and test underground water quality, c) carryout training programs aimed at building capacity of CDA, DMC staff, participating NGOs and SWM staff, and d) study tours to SWM schemes.	40,000/y ear	5	200,000
	Auxiliary works	10,000/year	5	30,000



2.	Workshops, seminars and capacity building study tours for waste management staff and leaders on issues such as management, separation and recycling of waste at both local and national levels	Lumpsum	5	50,000
3.	Environmental awareness/education programs and public campaigns on HIV/Aids, STDs ,etc for local communities located within 5 km of the project area. Preparation of awareness material (videos, brochures, etc.).	Lumpsum	5	20,000
4.	Purchase of Solid Waste Management and monitoring equipments (e.g. computers, leachate collection and treatment facilities, etc.) Hiring of a Landfill site manager (plus operational costs) Purchase of relevant equipments for both CDA and DMC			150,000
5	Implementation of a Monitoring Program	Lumpsum	-	50,000
	<b>TOTAL</b>			<b>300,000</b>

The total estimated cost for the various environmental and social mitigation and monitoring measures including environmental and social follow-up, capacity building, sensitization campaigns on HIV/Aids, etc and ancillary works is US \$ 300,000:

## 12. MONITORING PROGRAM

Monitoring methods include visual, observation and measurements (in case deemed necessary). The results will be recorded and analyzed. The objectives of Environmental monitoring program are:

- to monitor the effective implementation during the construction and operation phases of: proposed mitigation measures;
- to confirm compliance with environmental, public health, and safety legislation/regulations during construction;
- to control the risks and ecological/social impacts;
- to ensure best practices management as a commitment for continuous improvement in environmental performance;
- to provide environmental information to community/stakeholders;
- to provide early warning signals on potential environmental degradation for appropriate actions to be taken so as to prevent or minimize environmental consequences;

The key verifiable indicators which will be used to monitor the impacts will be: i) air quality ii) noise levels and the provision and use of working safety gears; iii) heavy metals, oil and grease prior to, during and after project construction; iv) effectiveness of the drainage system v) effectiveness of the erosion prevention measures; vi) waste disposal strategies at the pre-construction and construction phases; vii) sanitary facilities for staff/workers (including construction sites); viii) road safety measures (adherence to road signs, markings, accidents, traffic diversions and maintenance works; ix) employment opportunities for the local community members; x) rate of disruption of power and water supply and relocation of services; xi) relevant social conflicts; and xii) frequency of HIV/AIDS and STIs awareness programs.

Resident Engineer, supported by an appropriately qualified Environmental Management Officer (EMO) and an Environmental Site Agent (ESA) will be responsible for performance and other monitoring activities including: monitoring, reviewing and verifying compliance with the ESMP by the Construction Contractor (CC).

The EMO on behalf of the project developer will be responsible for monitoring of the implementation of the ESMP. The contractor will also appoint an ESA who will be responsible for the implementation of the ESMP. All contractor teams will be made aware of their obligations towards environmental controls in the ESMP. Construction workers will also be given basic health awareness training to diminish the spread of diseases.

**EMO Roles and Responsibilities** should include the following:

- working with the Resident Engineer (RE) who has day-to-day interaction through supervisory staff,
- Ordering the removal of person(s) and/or equipment not complying with the specifications;
- Verifying Environmental Compliance, the issuing of penalties for contraventions of the ESMP;
- Taking decisions in case of severe non-compliances to the ESMP are detected;
- Providing input for ongoing internal review of the ESMP;

- Stopping works in case of emergency or if significant environmental impacts are apparent or imminent.
- The EMO ensures the CC has all plans, procedures, approvals, and documentation in place to ensure ESMP compliance prior to commencement of any work.
- Monitoring and verifying that environmental impacts are kept to a minimum;
- Provide induction courses for all ESA and permanent staff
- Sampling sites and surrounding areas regularly with regard to compliance with the ESMP;
- Reporting on the environmental issues;
- Recommending the issuing of penalties (via the proponent) for contraventions of the ESMP;
- Support from the Resident Engineer through the site construction supervision staff.
- The EMO coordinates with the various Contractors and with the ESA(s) appointed by the Construction Contractors. The overall role of the EMO is to oversee and monitor adherence to, and implementation of, the ESMP by the CCs (which includes compliance with the relevant obligations contained in the ESMP).
- The EMO is assisted by the RE site supervision staff and the ESA on the CC's side, responsible for monitoring construction-related activities and implementing environmental measures on site as part of the ESMP conditions.

### **ESA Roles & Responsibilities**

The ESA(s) has the principal responsibility for observing construction activities and ensuring that those activities are in compliance with the ESMP requirements. To accomplish this, each ESA should be familiar with the ESMP and contract specifications.

The ESA:

- Is the CC's focal point for all environmental matters, and coordinates directly with the EMO and CE.
- Is routinely on-site for the duration of the construction works.
- Carries out regular inspections of the CC activities in relation to environmental issues, and provides day-to-day advice to Contractor personnel about environmental issues. Verification is provided by the EMO.

The specific responsibilities of the ESA include:

- Monitor implementation of environmental measures by CC construction staff against contractual obligations by:
  - Providing an induction courses for all CC staff on site;
  - Performing regular monitoring activities;
  - Detecting non-conformance and approving corrective action (with advice from EMO if necessary);
  - Evaluating CC environmental efforts and effectiveness; and

- Identifying circumstances requiring management decisions to evaluate variance or compliance issues.
- Compile documentation of monitoring observations by:
  - Collecting any specific data that the ESA is assigned to monitor;
  - Interface with EMO to assist in field interpretation of environmental requirements, provide advice regarding corrective actions and resolving non-compliance situations, and issue specific formal instructions to the CC workforce;
  - Interface with CC manager to help communicate requirements, obtain a hands-on view of special problems so that implementation difficulties can be communicated to the EMO to aid in problem resolution especially in situations where adjustment of compliance requirements may be necessary;
- Communicate to EMO by:
  - Interaction with EMO as needed to define corrective action recommendation for any identified non-compliance situation.
  - Implementation of environmental controls and measures specified in the ESMP, Sub-Plans.
  - Ensuring measures to protect project staff health are implemented.

The National Environmental Management Council (NEMC) will have an overall responsibility of undertaking enforcement, compliance, review and monitoring of Environmental Management and Monitoring Plan and in this regard provide national level support to the DMC ESMP implementation process. The Road Sector Environmental Section (RS-ES) under the Ministry of Infrastructure Development will oversee management of environment and the implementation of EIA aspects of the ESMP. The Municipal Council' Environmental Management Officer will be responsible to promote environmental awareness in the municipality related to the protection of the environment in the sub-project area. The Village Development Committee (VDC) will be responsible for the proper management of the ESMP at the village level.

The overall monitoring schedule is summarized in a tabular form in the following page. The monitoring costs which are embedded in the overall ESMP implementation costs ( see chapter 11, page 72, item 5) include follow up of mitigation measures by an environmental expert, sensitization campaigns and implementation of the Health & Safety programs and related training and quality control and quality.

Phase	Parameter	Control/sampling point	Method	Frequency/time	Reason/objective	Responsible person
Construction	Top-soil storage. Reinstatement.  Erosion control, dust	Construction site	Supervision	Periodic (Unannounced inspections during work hours); Following completion of the works.	Assure compliance with  Legal requirements.	Works contractors;  oversight EMO, ESA
Construction	Noise levels;  (Equipment, machinery)	Construction site	Inspection; noise measuring device	Periodic;  Following complaints	Assure compliance with  Legal requirements. Complaints and disturbance reduction	Works contractors;  oversight EMO, ESA
Construction	Vibration	Construction site	Supervision	Unannounced inspections;  Following complaints	Assure compliance with  Legal requirements. Complaints and disturbance reduction	Works contractors;  oversight EMO, ESA

Construction	Dust and air pollution	At or near construction site	Visually, measurements (in case of necessity)	During, earthworks and periodically in dry periods during construction	Assure compliance with Legal requirements. Complaints and disturbance reduction	Works contractors; oversight EMO, ESA
				removed vegetation after completion of construction.		
	prevention water pollution.			inspections		
Construction	Material and waste storage, handling, use -Water and soil quality	Run off material from site; storage areas	Observation, measurements (in case of necessity)	Periodically during construction, especially	Preservation of soil and water quality	Works contractors; oversight EMO, ESA
Construction	Equipment maintenance and fuelling - Water and soil quality	Material storage areas; equipment maintenance	Observation, measurements (in	Periodic during construction	Preservation of soil and water quality	Works contractors; oversight EMO, ESA

		facilities	case of necessity)			
Construction	Waste	At or near construction site	Control	Periodic during construction	Preservation of soil and water, visual amenity	Works contractors; oversight EMO, ESA
Construction	Worker safety –Protective equipment.	Construction site	Inspection	Unannounced inspections during works	Assure compliance with legal requirements.	Works contractors; oversight EMO, ESA
Operation	Vegetation	ROW	Inspection	Periodic	Re-forestation	EMO, ESA

Table. Monitoring Plan

### 13. SUMMARY AND CONCLUSION

A total of 23 mitigated impacts have been considered in this ESIA. There are no impacts of **VERY HIGH** or **HIGH** significance. The majority of impacts are of **LOW** environmental significance (91.3%) with a small proportion of **MODERATE** significance (8.7%). The ESIA study clearly demonstrates that with relatively easy and cost effective mitigation strategies, social and environmental impacts can all be kept to a **LOW** significance. The construction impacts of noise and dust pollution are largely short term and therefore of **LOW** significance. The few **MODERATE** impacts are related to the potential for permanent damage to the environment by landfill pollution. However, the ESIA report identifies feasible and cost effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. With standard waste management practices in place, the risk of landfill pollution is significantly reduced. The impact assessment has observed that there are minor resettlement issues involving 3 mud houses and 20 smallholder farms in the project area that are estimated to cost about Tshs. 28 million. Thus, with careful planning and negotiation the inhabitants can be relocated and their land, access to their local businesses and resources compensated as appropriate.

In view of the foregoing, and mindful of the greater socio-economic significance of these sub-projects, their successful implementation will no doubt improve the quality of life of the population living at and around the sub-project areas, besides inducing sustainable development in the entire Dodoma municipality. For instance economic analysis indicates that following roads and community infrastructure upgrading in Dodoma, the municipal revenue earnings is expected to rise by almost 10 times. It is therefore recommended that the project be implemented taking into account the mitigation of the social and environmental measures and a close monitoring of these measures.

The environmental sustainability of the investment sub-projects in Dodoma is highly dependent on the institutional capability at all levels (i.e. staffing, training, and provision of other necessary support services) to carry out the associated ESMP implementation work. Thus, we further recommend that a focused training program should be designed for various role players coupled with a strategic institutional capacity building exercise to enhance the ESMP implementation capacity.



## List of References

- 1 Bahi District Council, Bahi Township Masterplan - 2009 – 2029; CDA, July 2009, 47 pp
- 2 Chamwino District Council, Chamwino Township Masterplan - 2009 – 2029; CDA, July 2009, 60 pp
- 3 Dodoma Municipal Profile mock LAAC-2009
- 4 Dodoma Regional Profile (1998)
- 5 Draft Environmental Profile for Dodoma
- 6 EIA Guidelines and Training, Environmental Resource Management (2007) [http://www.mzopu.hr/doc/TG\\_eng\\_06032007.pdf](http://www.mzopu.hr/doc/TG_eng_06032007.pdf) downloaded on April 17 12:00 pm.
- 7 United Republic of Tanzania, Capital Development Authority, August 1, 1976. National Capital City Master Plan , Dodoma (138 pp)
- 8 United Republic of Tanzania, Capital Development Authority, June, 1978. Strategic Plan for the Development of National Capital City Dodoma: Background studies on issues affecting the implementation of the 1976 Master Plan (353 pp)
- 9 Jamhuri ya Muungano wa Tanzania, 1997. Sera ya Taifa ya Mazingira. Ofisi ya Makamu wa Rais. Mpiga Chapa wa Serikali. Dar es Salaam.
- 10 Regional and District projection vol. Xii. NBS ministry of planning economy and empowerment DSM. Dec. 2006 page 70
- 11 Seureca and NETWAS (July 2003): Water Supply and Sewerage Improvements in Dodoma: Feasibility Study, Preliminary Design and Environmental Impact Assessment, Final Report.
- 12 United Republic of Tanzania, 2005. The Environmental Assessment and Audit Regulations. Dar es Salaam.
- 13 United Republic of Tanzania, Ministry of Works (July 2004): Environmental Assessment (EA) and Management Guidelines for the Road Sector. Dar es Salaam.
- 14 United Republic of Tanzania, 2004. The Environmental Management Act, 2004. Government Printer. Dar es Salaam.
- 15 United Republic of Tanzania, 2003. National Transport Policy. Ministry of Communications and Works, Dar es Salaam.
- 16 United Republic of Tanzania, 1998. National Land and Village Land Act. Ministry of Lands and Town Planning. Government Printer, Dar es Salaam.
- 17 United Republic of Tanzania, 2009. The Road Act, 2007. Government Printer, Dar es Salaam.
- 18 Morris, P and Therivel, R (1995): Methods of Environmental Impact Assessment: The Natural and Built Environment Series 2. UCL Press.378pp.

## APPENDICES

### Appendix 1: Specific Terms of Reference

#### 1 Introduction

These Terms of Reference (TOR) outline the scope of work to be carried out in preparation of the Environmental Impact Assessment (EIA) and an Environmental Management Plan (EMP) for Component 1(a): Core Urban Infrastructure of the proposed Tanzania Strategic Cities Project (TSCP). The EMP will be a compilation of information gathered through Environmental Impact Assessments (EIAs) carried out for all sub-projects to be implemented through Component 1(a) of the TSCP. The EMP will be carried out in accordance with the World Bank's Operational Policy for Environmental Assessment (OP 4.01).

Specifically the consultant shall:

- a) Carry out the Environmental Assessment works;
- b) Prepare the Environmental Management Plan;
- c) Prepare draft and final reports of Environmental Impact Assessment and Environmental Management Plan as per World Bank and NEMC standards;
- d) At all times to meet the Lead Consultant's requirement regarding programme of work, report submission and completion of tender documents assigned on;
- e) Carry out necessary environmental works related to the project as instructed by the Lead Consultant

The Environmental Management Plan to be prepared by the Consultant for the participating urban LGA under the assignment includes: (1) Environmental Overview Report for the LGA; (2) Environmental Management Plans for each sub-project proposed by the LGA, to be an integral part of the consolidated final LGA sub-projects investment proposal document and; (3) the Environmental Impact Assessment Section prepared for the LGA for incorporation in the Overall Operational Manual for the TSCP. An executive summary synthesizing the process and incorporating the findings from the above reports will also need to be prepared.

## Appendix 2: List of People met

### CONSULTATION AT NATIONAL AND REGIONAL LEVELS

S/N O	NAME	POSITION	CONTACT
1	I.A MCHALLO	DIRECTOR, EIA NEMC	0754 611333
2	ENG. MGETA S.M	SENIOR ENVIRONMENTALIST TANROADS	075 373630
3	DOBU K. BENJA	CHIEF & FOREST OFFICER, CDA	0755 377886
4	WILLIAM KIJOTI	DIRECTOR OF ENVIRONMENT – CDA	0763 533163
5	JOSIAH MSHUDA	CORDINATOR DONET	0754 458475
6	PETER A. MOKIWA	MANAGING DIRECTOR, DUWASA	0754 410279
7	DAVID PALLANGYO	TECHNICAL MANAGER DUWASA	0754 279901
8	ANTHONY SANGA	OPERATION ENG. DUWASA	0715 572808
9	KASHILIMU MAYUNGA	PLANNING ENG. DUWASA	0754 238864
10	SALIM LOSSINDILO	SEWERAGE ENG. DUWASA	786 211234
11	MSHAM MISHAKI	NATURAL RESOUCOE OFFICER	0755 464 194
12	ENG. B. LABULE	MUNICIPAL ENGINER	0755 091 000
13	SUSAN E. BIDYA	DODOMA MUNICIPALITY MD.	0754 277261
14	ENG. DOROTHY MTENGA	HEAD OF ENGINEERING UNIT	0784 345151
15	BENEDICT BAHATI	TANROAD DODOMA AG. RM- DODOMA TANESCO-DODOMA	0784 384628
16	ENG. BONEVATURA BAYA	DIRECTOR GENERAL NEMC	
17	MAHWELE CHALI	PRINCIPAL HYDROLOGIST, WATER RESOURCES DEPT. MW & I, DODOMA	0754 832082
18			

### MEETING NALA VILLAGERS – GROUP A

S/No	JINA	S/No	JINA
1	KENETH IGUO	52	MARIA MAGAWA
2	NICO SUWI	53	MUSSA THOMAS
3	STANLEY MAGAWA	54	MATHEW MAKASI
4	MASHAKA CHAMPENE	55	LOSMER PHILIPO
5	BERNARD MOGWA	56	MONICA MAGAWA
6	EMIDI MASINE	57	CATHALINA MVUTUKU
7	ANTHONY MAKASI	58	ROZA MOGWA
8	IGUO LAZARO	59	RODA RAZARO
9	JONASI LAZARO	60	MAMA JUMA
10	EMANUEL MDUMI	61	AULELYA MAKUYA
11	AGOSTINO MOGWA	62	MARTA MALYAMPA
12	SELEVESTA MTANGO	63	EMI KUSENHA
13	ELIA MALYAMPA	64	LUCIA MASINE

14	STEPHANI MLUNDI	65	ZILIPA MOGWA
15	EMANUEL CHIKOTI	66	ELIKA KUSENHA
16	ZEPHANIA MIHAMB	67	LAZARO LAZARO MTEMI
17	YOHANA NTELENKO	68	JEMIMA MHAMB
18	ANANIA KUSENHA	69	MARTA MEHO
19	YOHANA MASILA	70	FIRMINA MAKUYA
20	SAMWEL KUSENHA	71	DEBORA LAZARO
21	SAIMONI KUSENHA	72	MAIKO MKUGWA
22	EMIDI NDOLOJI	73	ILENI MTAZE
23	PETRO MSOYO	74	SUZANA LOLOLA
24	THOBIAS MAKAS	75	HILDA IGUO
25	MALEBETO IGUO	76	MELIANA NDOLJI
26	JEREMIA CHIKOTI	77	JOSEPH MALYAMPA
27	JULIUS SULUTYA	78	DAMALISI LAZARO
28	MATHIAS THOMASI	79	MUSSA NTELENKO
29	BONIPHACE HWAYA	80	DIDASI MALYAMPA
30	EDA MSOYO	81	ODILIA MAKUYA
31	JULIA MAKASI	82	NYUMA INEA
32	MAMA TOBI	83	ELIZABETH MOGWA
33	CATHALINA CHIKOTU	84	MAMA ALBERTI
34	SECILIA MTAZE	85	HELMAN MWINYI
35	ANDREA CHKOTI	86	WILLIAM MTANGO
36	MAMA BONI	87	MASINE NTELENKO
37	MAMA JULIUS	88	MAMVULA MADOLE
38	CHAUSIKU MBEHO	89	ALEX MWIMBA
39	PETER IGUO	90	REHEMA JEREMIA
40	JOYCE BWANA	91	MAMA WITI
41	STELA MAKUYA	92	SALOME TIMILA
42	YUDITH MOGWA	93	JOPHIA CHIKOTI
43	MAGAYO CHAMPENE	94	MAMA KUBO
44	MARTINA MOGWA	95	MAMA SUNDAY
45	ROBERT MWINYI	96	BAHATI LENJOLE
46	IBRAHIM MOGWA	97	SHIDA NDODOX
47	RAPHAEL MWINYI	98	YUDITH MOGWA
48	DAUDI LAZARO	99	STEPHANI MAKAJI
49	ALMASI SIMONI	100	HALINA CHIKOTI
50	KABOGO MBOGOLI	101	VAILES MSOYO
51	HERMANI MASILA	102	PETER IGUO

### 1MEETING NALA VILLAGERS – GROUP B

S/No	JINA	S/No	JINA
103	ICIENI JUMA		
104	MIKAEL SUIJI		
105	JULIANA CHIKOTI		
106	JULITA CHINYOYO		
107	JESCA CYPILIANI		
108	MIKAEL SUWA		
109	PANGRASI NYAGALU		

110	JENI ISMAELI		
111	MAKAYO		
112	JAIRO MAGAWA		
113	EZEKIEL MWINYI		
114	PAULO LAZARO		
115	MALYO MTAZE		
116	JOSEPH JABU		
117	GRAPOSI LOLOLA		
118	DORICA CHENI		
119	ISAYA MPILIMI		
120	MKWILA LOLOLA		
121	BONIPHANCE MAKUYA		
122	DONART SUNGURA		
123	MIKAELI MASILA		
124	GIRI KUSEMHA		
125	BEZALELI MTANGO		
126	MKWAWI		

S/No	NAME
1	EMANUELY MDUMA
2	PETER IGUO
3	SAMWELY KUSENHA
4	PETER LENJULE
5	JONASI LAZARO
6	GRIBERT CHINYOYO
7	BONIPHASI HAWAYA
8	SELVESTE MTANGO
9	YOHANA MASILA
10	THOBIAS MAKASI
11	SHEDRACK IGUO
12	ANTONI SIJAONA
13	JULIUSI SULUITYA
14	KENETH LAZARO
15	STEPHANO MLUNDI
16	EMIDI NDOLOJI
17	YOHANA MHELEKO
18	ELIAS MALYAMPA
19	HENERY MAGAWA
20	ZABRON KUSENHA
21	MKWAI MATENDO
22	JEREMIA CHIKOTI
23	ZEFANIA MIHAMBI
24	MATHIAS THOMAS
25	FRANSIS CRISTIANI
26	PANGALASI NYAGALU
27	EMANUEL CHIKOTI
28	PETRO MSOYO
29	STEPHANO MAKASI

30	HELENA CHIMYA
31	KRENI JUMA
32	SHIDA LAURENT
33	JOYCE BWANA
34	AGNESI MWINYI
35	KOSIMASI MAKUYA
36	YUDITH PAULO
37	STELA MAKUYA
38	THELEZIA MWALUKO
39	JENIVA MAKUYA
40	JULITHA MALODA
41	JESKA SPILIAN
42	SALA MTUNDU
43	JULIANA CHIKOTI
44	REHJEMA JEREMIA
45	SALA NESTORY
46	JENI ISIMAILI
47	SALOME TIMILA
48	EGRA MAKASI
49	REGNADO MAKUYA
50	HALIMA CHIKOTI
51	SOFIA LAZARO

## ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PROCESS

### KUMBUKUMBU YA TULIOWASILIANA NAO

S/N O	NAME	POSITION	CONTACT
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30	SALEH AHMED	MWANGAZA & RD 8	BOX 14
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32	OMMARY R. LURY	MWANGAZA	-
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#### ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT PROCESS

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4	NYASA SEFU	MWANZA/DAIMA	-
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16	PETER M. ISHEBABI	NDOVU-HAZINA MLEZI-ZUZU	0713 271215 0767 27215
17	STEPHEN G. GAMASSA	NDOVU-HAZINA MLEZI-ZUZU	0752 581873
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12	SASIA HUSSEIN	BARABARA 7	0718442101
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14	MZEE ABDULIAHMAN MWALUKO	BARABARA 9	BOX 368 DOM
15	TATU ATHUMAN	BARABARA 9	0754 742123
16	AMURU KHERI	BARABARA 10	0715 949933
17	MRS KULAYA	TEMBO/RD 10	-
18	SHEKHA M. AZIZ	BARABARA 11	BOX 2534
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## Appendix 3: Record of Public Consultations

### (a) Proceedings of Public Consultations

During consultation, Project Affected Peoples (PAPs) were briefed on the proposed project and their involvement in the EIA process. The PAPs were then allowed to voice their concerns, opinions and ask questions regarding the project.

Issues discussed were:

- Presenting the proposed sub-project
- Obtaining from the PAP their environmental and socio economic concerns and perceptions regarding the proposed RoW; and
- Discussing the possible mitigation measures

A recurring feature of the consultative process was that in all the subprojects the PAPs concerns were more or less identical. A summary of all issues raised by the PAPs are summarized below:

- Wanted to know the details of the road works to be able to know how they will be affected and the level of compensation.
- Traffic and Pedestrian disturbance during construction and the need to shorten the duration of construction
- Noise Pollution
- Dust Pollution
- Removal of trees along the RoW
- Impact on burial sites along the RoW
- Disruption of water and other public utilities along the RoW
- General pollution control
- HIV/AIDS transmission and other health issues.
- Health and Land tenure problems associated with the Nala dumpsite proposal
- People are happy with the proposed sub-project investments

The following signatures are proof of consultations at the sub-project level.

Below is the original scanned document with signatures in Swahili language

11:00-12.06.

24/09/09

~~XXXXXXXXXXXX~~ YA MATAJIRI: KIZOTA

1. JAMES A. KIDUGURU - M/KITI WAMATAJIRI Kiduguru
2. MIRIAMU Kapinga - Mjumba Mjumba
3. Mariam Chakulima - Mjumba Mjumba
4. VERONICA MASSOMBWA Mjumba Mjumba
5. ELIWARA Philipo Mjumba Mjumba
6. AHMED ASTRAF LUSSA Mjumba Mjumba
7. Ezaki R. Chale Mjumba Mjumba
8. WILLY JOSIAH Mjumba Mjumba
9. PETER MIGAYO Mjumba Mjumba
10. MUSSA MPIRUKA Mjumba Mjumba
11. MURU BAKARI Mjumba Mjumba
12. Chiku Ally Mjumba Mjumba
13. Rehema Saidi Mjumba Mjumba
14. Makidlena Januari Mjumba Mjumba
15. FATUMA HASSAN Mjumba HASSAN
16. ZAINA BOBI Mjumba BOBI

~~XXXXXXXXXXXX~~

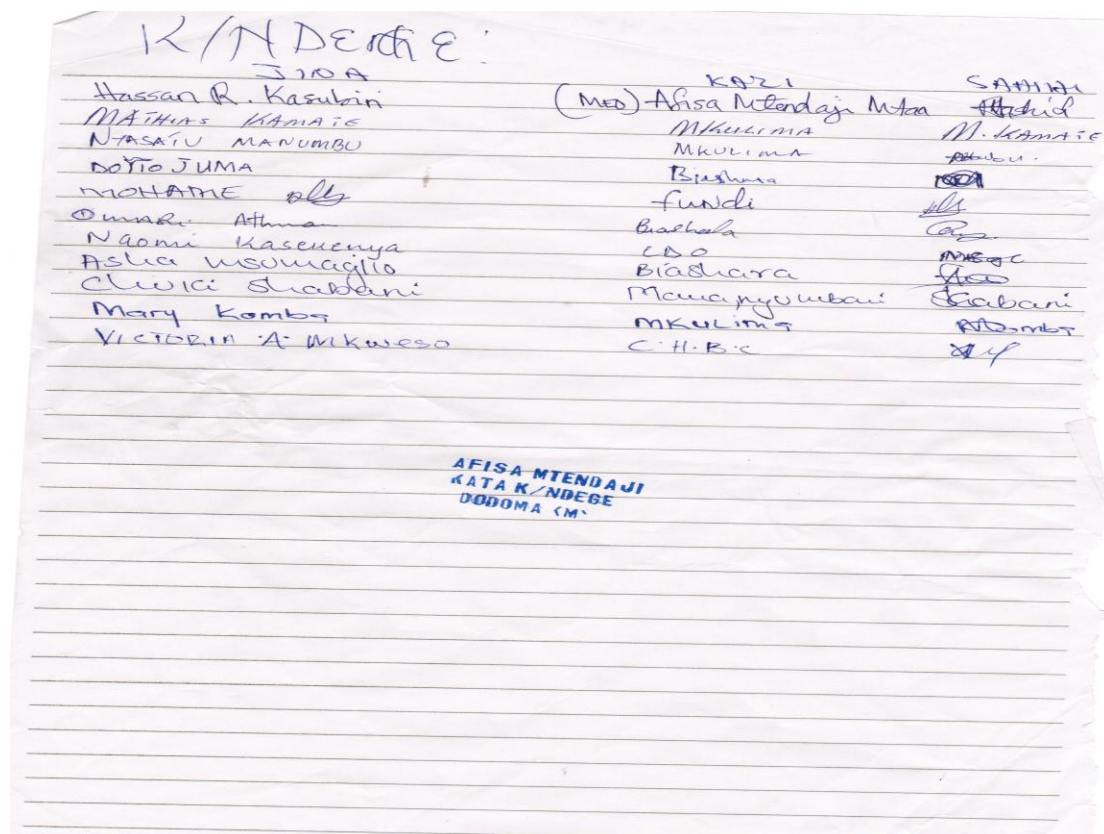
MHENYEKITIWA MATAJIRI  
SALAMA  
KATA YA KIZOTA

24/09

**PARTICIPANTS OF COMMUNITY MEETING HELD AT KIWANJA CHA NDEGE  
WARD ON 25<sup>TH</sup> SEPTEMBER 2009**

<b>S. No</b>	<b>NAME</b>	<b>PROFESSIONAL</b>	<b>SIGNATURE</b>
1.	Hassani R. Kasubiri	Mtaa Executive Officer	
2.	Mathias Kamate	Agriculture	
3.	Nyasatu Manumbu	Agriculture	
4.	Dorio Juma	Businessman	
5.	Mohamed Ally	Technician	
6.	Omary Athuman	Businessman	
7.	Naomi Kasekenya	Community Development Officer	
8	Aslia Msomagilio	Businessman	
9	Chuki Shabani	Community Member	
10	Mary Komba	Agriculture	
11	Victoria A. Mkweso	Community Home Based Care Provider	

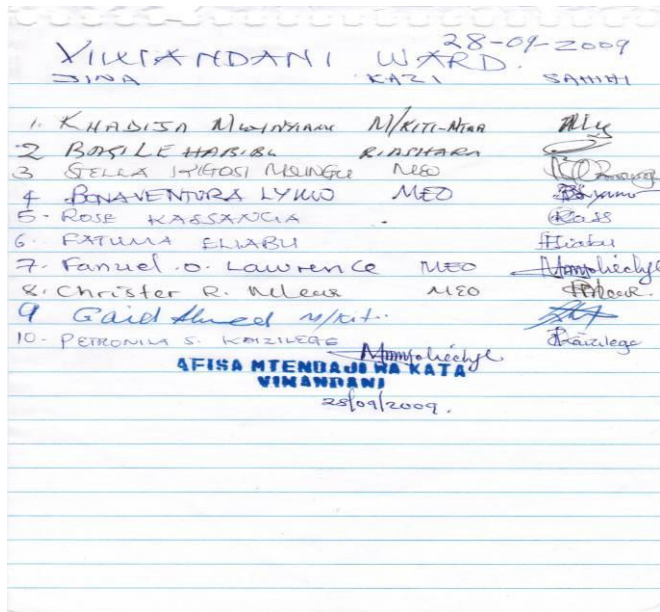
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**PARTICIPANTS OF COMMUNITY MEETING HELD AT VIWANDANI WARD ON 28/09/2009**

S. No	NAME	PROFESSIONAL	SIGNATURE
1.	Khadija Mwinyami	Chairperson	
2.	Basile Habibu	Businessman	
3.	Stella Kigosi Msungu	Nurse	
4.	Bonaventura Lymo	Mtaa Executive Officer	
5.	Rose Kassanga		
6.	Fatuma Eliabu		
7.	Fanuel O. Lawrence	Mtaa Executive Officer	
8.	Christer R. Mlewa	Mtaa Executive Officer	
9.	Gaid Ames		
10.	Petronila S. Kaizilege		

BELOW IS THE ORIGINAL SCANNED DOCUMENT WITH SIGNATURES IN SWAHILI LANGUAGE



**PARTICIPANTS OF COMMUNITY MEETING HELD AT KIKUYU KASKAZINI WARD ON 29/09/2009**

S. No	NAME	PROFESSIONAL	SIGNATURE
1.	Petro Kateketa	Street Chairperson	
2.	Merea Kusupa	Community Member	
3.	S.P Mboye	Mtaa Executive Officer	
4.	Uwesu Rajabu	Street Chairperson	
5.	Yared C. Ndoya	Ward Chairperson	
6.	Godfrey N. Madele	Street Chairperson	
7.	Mhe.J. Risasi	Councilor	

Below is the original scanned document with signatures in Swahili language

Mtathurio wa Wafanyakazi Kwa Kikuyu Kazi  
 29/09/09

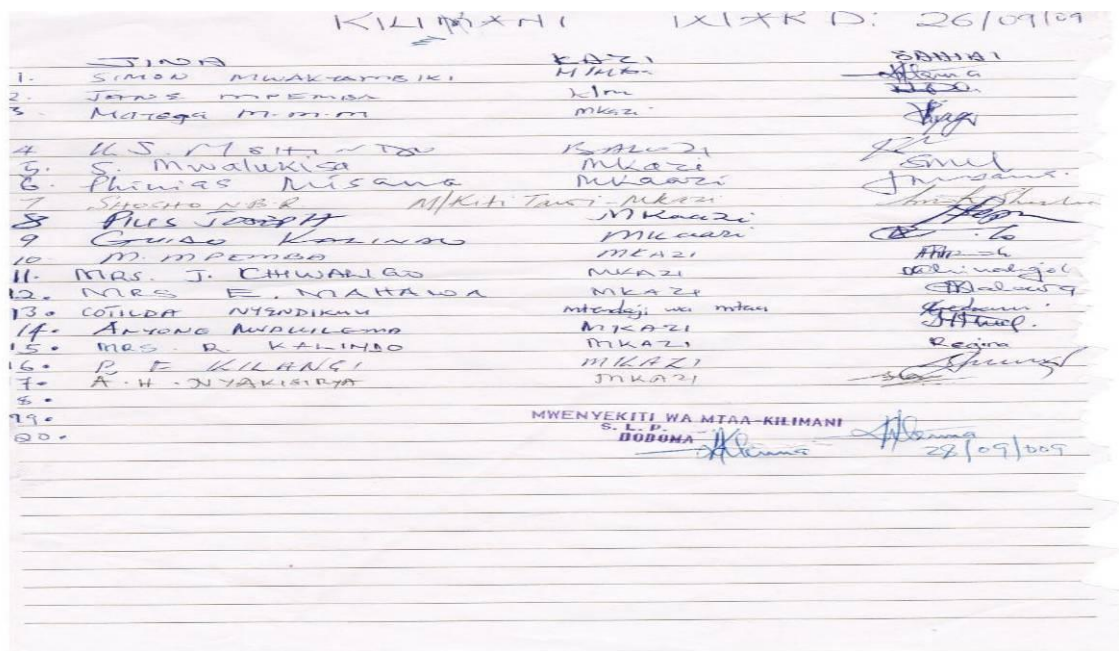
JINA	KAZI	SAAHI
1. PEARO KAREETA	M/MTAA	[Signature]
2. MERA KUSUPA	MKULIMA	M. Kudusa
3. S.P. Mbulu	MBO-Zabani	[Signature]
4. Uwezo Kijani	K/M	M. Muzi
5. YARED CHIDYO	M/KII KATI	[Signature]
6. GODFREY N. MASHA	M/KII MTA	[Signature]
7. Mhe J. Risasi	Diwani KIKAZI	[Signature]

**PARTICIPANTS OF COMMUNITY MEETING HELD AT KILIMANI WARD ON 26/09/2009**

S. No	NAME	PROFESSIONAL	SIGNATURE
1.	Simon Mwakyambika	Chairperson	
2.	Jane Mpemba	K/M	
3.	Mayega M.M.M.	Community Member	
4.	K.S. Mshindo	Street Leader	
5.	S.Mwalukisa	Community Member	
6.	Phinias Misana	Community Member	

7.	Shosho N.B.R.	Community Member	
8.	Pius Joseph	Community Member	
9.	Guido Kalindo	Community Member	
10.	M.Mpemba	Community Member	
11.	Mrs. J. Chiwaligo	Community Member	
12.	Ms E. Mahawa	Community Member	
13.	Cotilda Nyendikuu	Village Executive Officer	
14.	Anyone Mwakilema	Community Member	
15.	Mrs.R. Kalindo	Community Member	
16.	P.F. Kilangi	Community Member	
17.	A.H. Nyakisiryia	Community Member	

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**PARTICIPANTS OF COMMUNITY MEETING HELD AT DODOMA MAKULU FOR BUS STAND SUB PROJECT ON 29<sup>TH</sup> SEPTEMBER 2009**

<b>S. No</b>	<b>NAME</b>	<b>PROFESSIONAL</b>	<b>SIGNATURE</b>
1.	Moses Makutu	Agriculture	
2.	Nenes A. Ngonya	Businessman	
3.	Rogasiani Onesifdri	Businessman	
4.	Jachinda Luhanga	Ten Cell Council	
5.	Zipola Kushoka	Ten Cell Council	
6.	Salehe Y.		
7.	Limpia Rogasiani	Businessman	
8	Katherina Msisi	Ten Cell Council	
9	Simoni Sajilo	Guard	
10	John Chimbusi	Chairperson	
11	Stephen Ngogo	Street Chairperson	
12	Ally Issa Biringi	Councilor	
13	Queen Welson Mosses	Community Member	
14	Ali J. Mkombozi	Chairperson	
15	Mary G. Mbelwa	Agriculture	
16	Amana Ndamba	Agriculture	

Below is the original scanned document with signatures in Swahili language



**MKUTANO NA WADAJAMII WA DODOMA MAKULU**  
- MAHUKURIO - 29/09/2009.

JINA	KAZI	SAMATI
1/ MOSES Makutem	Mkulima	
1/ JENES. A. NGONYA	MFANYABIASHARA	Ngonyo
1/ ROBASIANI ONESIFDRI	MFANYABIASHARA	Rubasani
1/ JACHINDA LUHANGA	BALOZI	J. Luhanga
1/ ZIPOLA KUSHOKA	B. MSIDIZI	Kushoka
1/ SACEHE Y.	BILINGI	Sacehe
OLIMPIA BOGASIANI	MFANYABIASHARA	Olimpia
1/ KATHERINA MSISI	BALOZI	MSISI
1/ SIMONI SAILO	MGAMBO	Saijilo
0/ JOHN CHIMBESI	M/KITI TAWAZAM.	
11/ STEPHEN NGOLA	M/KITI MTA	
12/ ALY ISSA BIRINGI	MHE. DAWANI	Biringi
13/ Queen Nelson Mosses	Mtazi	Nelson
14/ ALI J MCOMBAZI	mweyga kiti	
15/ MARY G. MBELWA	Mtazi	Mbelwa
16/ AMANA NDAMBA	Mkubwa	Adama

**4-ISA ATANDAZI**  
**ATA YA DODOMA MAKULU**  
29-09-2009

**LIST OF PARTICIPANTS ON ESIA PRESENTATION TO CLIENT AT CDA LIBRARY ON 24/09/2009**

S. No	NAME	PROFESSIONAL	ADDRESS /CEL NO.
1.	Nelson Adamson	Environmental Planner	
2.	Napoleon Frank	Student UDSM	
3.	Deiya Mpaze	Sociologist Cons	
4.	George Samwel	Student	
5.	Kamaoni M.S	Economist	
6.	Dr. Cyrialis Mutabuni	Medical Office	
7.	Joseph Fungo	System Analyst	

8.	Joseph F. Towo	Town Planner	
9.	Yusuf Nguzo	Architect	
10.	Kilingu Y.H	Engineer	
11.	Mary Boba	Horticulturist	
12.	Oscas Gilbery	Engineer	
13.	Abeid Msangi	Economist	
14.	Suphrezia Anthony	Social Welfare	
15.	Tunu.A.Amanzi	Human Resource Officer	
16.	Msham Mmenaki	NRO	
17.	Geofrey Mkima	Student DMC	
18.	Sasehe.M. Matenya	Technician-DMC	
19.	Erick Eliaita	Student UDSM	
20.	Mollel Hophine	Student UDSM	
21.	Emaasit Daniel	Student UDSM	
22.	Eng. Hussein Rajabu	Deputy Team Leader	
23.	Dr. Wilfred Sarunday	Consultant EIA	
24.	Eng. Beda B.Labule	Municipal Engineer	

EISA. ~~LOT~~

	JINA	WADHIFA	ANUANI/SIMU BOX.
1.	Nelson Adamson	Environmental Planner	CDA-Box 913 DOM 0754-776686
2.	Napoleon Frank	Consultant	0712-266788
3.	DEIMA MPAZE	Biologist/cons	0713-256530
4.	GEORGE SAMUEL	STUDENT SMEC	0715196558
5.	Kamaoni M.S.	Economist	0754-362488
6.	Dr Cyprianis Mutabiri	Medical officer	0754307768
7.	Joseph Fungo	System Analyst	0784-434740
8.	Joseph F. Tovu	Town Planner	0732220048 / 0715220086
9.	YUSUF NGUZO	ARCHITECT	0713-513336
10.	KILUNGU Y.H.	ENGINEER	0784310350
11.	MARY BOBO	HORTICULTURIST	0713786927
12.	OSCAR GILBERT	ENGINEER	0713-599106 / 0764600722
13.	Abeid Msangi	Economist	0784416176
14.	SUPHAEUA ANTHONY	SOCIAL WELFARE	0713431878 / 0777807305
15.	TUNU A. AMANZI	HUMAN RESOURCE OFFICER	0754535764 / 026-2356552
16.	Msham Mmenaki	MRO	0755-464194
17.	GEORGEY MUMBA	STUDENT DMC	0754398627
18.	Siohe M. Mwanza	Technician-DMC	0716/0767515105
19.	ERICK ELIATA	STUDENT UJSM (SMEC)	0782392242
20.	MOLLEL HOPPING	STUDENT UJSM (SMEC)	-0713-467744
21.	EMAASIT DANIEL	STUDENT UJSM (SMEC)	-0713-983255
22.	Eng. Hussein RAJABH	DEPUTY Team Lead-SMEC	-0784329736
23.	Dr. Wilfred Sarunday	-CONSULTANT EIA	-0784489403
24.	Eng. BEDJA B LABULE	MUN. Engineer	0755091000

### (c) Minutes of the public consultations meetings

#### MINUTES FOR COMMUNITY MEETINGS

##### Muhtasari wa mkutano wa kwanza na wanakijiji cha Nala

Timu ya Tathimini ya masuala ya kijamii na kimazingira ilifika Nala na kuwapatia wanajamii madodoso ya kujaza, kisha waliyarejesha. Masuala yaliandikwa kwenye madodoso yamejumuishwa pamoja na yale ya mkutano wa hadhara uliofanyika tarehe 11/09/09 kwenye center ya kijiji cha Nala siku hiyo kuanzia saa 6 mchana chini ya mtendaji wa kata na wenyeviti wa vijiji na vitongoji na kuhudhuriwa na wananchi wengi ambao miongoni mwao ndio hao hao walijaza dodoso. Mahudhuriyo yalikuwa mazuri kwani kulikuwa na mwikio wa watu wengi wa kijijini na wapo waliochelewa kupata taarifa za mkutano pia ambao walifika wakati mkutano ukiendelea.

Majumuisho ya maoni ya wananchi yanataja kuwa mradi huu unafahamika kwao kupitia CDA na manisipaa ya Dodoma japokuwa hawafahamu kiundani zaidi maana CDA hawakuwashirikisha wananchi wakati wa kuchagua eneo hilo la kutupa taka ngumu. Baadhi ya viongozi ndiyo walionekana kufahamu japo siyo vizuri zaidi na wananchi wengi waliitaka serikali / CDA wafike kijijini kwao ili kuwaelezea vizuri juu ya mradi huo na vigezo walivyotumia katika kuchagua eneo hilo.

- Hakuna mradi mwingine ambao walisema umewahi kuja na mpango mzuri kama huu hivyo wanaipongeza serikali kwa ujumla kwa kutaka kuanzisha zoezi hilo japokuwa tatizo ni pale tu ambapo ushirikishwaji wa kuchagua eneo hilo haukuwaridhisha kabisa. Miongoni mwao walijaribu kuelezea faida na hasara ambazo zinaweza kutokea wakati wa utekezaji wa zoezi zima la mradi huu wa kutengeneza eneo la kutupa taka ngumu na wengine walielezea juu ya madhara na faida zinazoweza kuletwa na mradi huu zikiwemo barabara. Tukianza na athari za ujenzi wa dambo katika kijiji cha Nala Wajumbe walitaja maoni yao ya jumla yalioambatana na faida na athari za kijamii (kiafya) na kimazingira kwanza kama ifuatavyo:-
- Tunaishukuru sana serikali kutukumbuka kwani tunaona imefanya kitu kizuri sana kuamua kututengeneza barabara zote za Manisipaa ya Dodoma japokuwa sisi wa Nala ni dambo tu ila kama barabra mjini zatengenezwa na sisi ni wakazi wa Dodoma wote tunashukuru. Kwanza wataleta maendeleo mengi kwa jamii, “ajali zitapungua na vumbi pia. (Ngugu Gilbert M. chinyonyo) alilisisitiza kusema”
- Tunashukuru barabara zikija tunajua zitaleta maendeleo mengi na mambo mengi “mfano mzuri ni kabla ya barabara hii ya Singida kujengwa tulikuwa hatuna umeme wala mizani lakini sasahivi tumekuwa navyo na usafiri umekuwa rahisi (Jennifa)”
- Ukabila pia utaondoka kwani watu watahamia wengi baada ya kuona barabara zimejengwa kuliko kukaa wagogo peke yao hivyo ni kitu kizuri sana mwingiliano wa makabila utasaidia kubadilishana mawazo na kuleta maendeleo
- “uwepo utaratibu mzuri wa kuorodhesha majina ya watu watakaoguswa na tatizo la kuvunjiwa nyumba na kukatiwa mabomba yao ya maji kule mjini kati mfano chang’ombe walipwe haraka fidia zao na majina hayo yakishaorozeshwa yabandikwe kwenye center ya kijiji kila mtu ni rahisi kuona siyo kupeleka katika ofisi ya mtendaji au kata ambapo udanganyifu unaweza kufanyika na atimaye mtu kutopata haki yake. (Ndugu Emmanuel M) alisisitiza”

- “wale wote watakoathirika tathimini ifanywe mapema kablaya kubomoa na walipwe fidia zao mapema(Peter Igue) alitia msisitizo.”
- Wajumbe walisema kwamba wanachojua wakati wa kutengeneza dampo milipuko ya magonjwa itakuwa mingi sana hivyo kabla ya kuanza zoezi hilo waweke mikakati madhubuti itakayosaidia kukabiliana na madhara hayo mfano kutuletea wahudumu wa afya wa kutosha na vifaa na madawa kwenye zahanati zao miongoni mwao mjumbe (Ndugu Peter M.) alisisitiza juu ya hilo.
- Walisema pia mbu watazaliana sana na hivyo malaria yataongezeka hivyo wanaomba waletewe vyandarua na mradi. Pia wajumbe walisema watu watazidi kuongezeka hivyo tuletewe mradi wa maji hapa kwani hakuna maji na mtu kuishi bila maji ni shida inasababisha hata magonjwa ya milipuko kama kipindupindu kuongezeka.(Bonifas Waya.).
- Wajumbe waliendelea kuchangia, walishauri wanapochimba vifusi wakimaliza wafukie yale mashimo yao siyo kuacha wazi ni hatari wakati wa mvua maji yanajaa na kuzalisha mbu pia wanapomwaga vile vifusi vyao waache eneo la watu kujenga siyo kumaliza eneo lote kubwa.(Peter Iguo)
- Mjumbe mwingine aliongezea kwakusema hivi, watoto wetu wanaopenda kuzurura hovy wataadurika kwa kuokota mauchafu katika dampo na kula hatimaye kupata magonjwa ya kipindupindu “na hao sanasana ni watoto wanaozurura hovy lakini ni watoto wetu hatuwezi kuwaacha wadhurike.” Alisisitiza mjumbe mmoja.
- Mifugo na wanajamii watakosa maji ya kutumia kwani katika eneo hilo ndipo ambapo kuna vyanzo vya maji.Nao wajumbe wengine walichangia kwa kusema kwamba kwakuwa bwawa lao halijaboreshwa na hivyo kuwapa fursa ya kupata maji na hivyo kutegemea maji kutoka eneo hilo kwao itakuwa ni madhara makubwa
- Wajumbe awakusita kusema kuwa kutakuwepo na ongezeko la maambukizi ya VVU na magonjwa mengine ya zinaa kama wageni na wenyeji watakaokuwa wamepata ajira/ vibarua katika mradi huu hawatokuwa waaminifu kwa wenzi wao. Mjumbe mmoja alisema “ni kawaida miradi kama hii inapokuja na watu wakishalipwa hela nyingi ambazo hawakuzoea mwisho wake ni kufanya mambo ya kuwarubuni watoto wa shule na hata watu wazima kwa kuwapa pesa nyingi”.(Ndugu Emmanuel M.)
- Wajumbe awakuishia hapo na athari za kijamii ila walisema pia kutakuwepo na athari za kimazingira ka zifuatazo:
- Kwa upande wa hali ya hewa kutakuwepo na uchafuzi wa hali ya juu kwani uchafu wote utakaokuwa unamwagwa katika dampo hasa wakati wa mvua utatoa sana harufu mbaya na kusababisha maradhi mbalimbali kwa wakazi wa eneo hilo.
- Eneo lile litakuwa na ukame sana na kwakuwa ilikuwa ni mashamba ya watu na wanatumia kulima ili wajipatie mazao itakuwa vigumu hivyo tungeomba fidia itolewe mapema ili watu wanaohusika na eneo hilo wajue wapi pakukimbilia na penye udongo wenye rutuba.
- Mjumbe mwingine aliongezea kwakusema hivi, watoto wetu wanaopenda kuzurura hovy wataadurika kwa kuokota mauchafu katika dampo na kula hatimaye kupata magonjwa ya kipindupindu “na hao sanasana ni watoto wanaozurura hovy lakini ni watoto wetu hatuwezi kuwaacha wadhurike.” Alisisitiza mjumbe mmoja.
- Kuhusu maeneo muhimu ya kihistoria / kiutamduni/mambo ya kale Kama yapo yanayoweza kuathiriwa na mradi wajumbe walisema wote kuwa Hakuna kitu kama hicho katika eneo la ujenzi wa dampo hivyo hakutokuwa na tatizo la kukabiliana na suala hilo.
- Wajumbe walisema pamoja na athari mbalimbali zitakazojitokeza wakati wa mradi huo

- Pia kutakuwa na manufaa ya kiuchumi kama yafuatayo:-
- Utaalamu wa kuzitengeneza taka hizo tena na kuzifanya kuwa mbolea na hivyo wananchi kutumia kwenye mashamba yao na watazalisha zaidi na kuuza mazao na kupata hela, uchumi wao utakuwa (Peter m.)
- Uchumi utakuwepo kama tu bwawa litaboreshwa na hivyo kuwa na maji ya kutosha na wao kuweza kulima mbogamboga na kuuza dodoma mjini siyo tu kuwa na mbolea kwani bila kuwa na maji watapataje mazao ?
- Pia uchumi utakuwa kutokana na kuotesha samaki kwenye bwawa lao watakalolewa ili na wao wafaidike kula na kuuza samaki mjumbe mmoja alisisitiza kwa msemo huu “ yaani hilo ni sanga msingo” maana yake limekubalika na wananchi wote na ni kama ushanga na shingo daima vinaenda pamoja na maji na mbolea katika kuleta maendeleo ya kiuchumi kwetu vitaenda pamoja”(Gilbert)

Maoni ambayo wajumbe waliyatoa kwa ujumla ni pamoja na haya:-

- **“CDA tunashindwa kuelewa mpaka sasa kwanini bado wana kigugumizi ? tuliwaomba watupe vipeperushi vinavyoeleza vigezo walivyotumia kuvunja nyumba mbili za wakazi wa hapa Nala ambazo ziko pale karibu na ulipo mzani hadi leo hawajasema kitu leo hii wanataka kujenga dampo bila kutushirikisha kama nyie mlivyokuja leo tumefurahi sana , angalau mmetushirikisha sasa tunaomba sana waweke wazi mambo yao(Ndugu Gilbert) alisema kwa msisitizo”**
- Serikali ijitahidi kuwaletea waelimishaji juu ya swala la maambukizi ya VVU na magonjwa ya zinaa ili wazidi kuyaweka vichwani na kuzingatia .Yaani elimu ya kujikinga na maambukizi ya VVU na magonjwa ya zinaa itolewe kwenye zahanati yao mara kwa mara na kwenye mikutano ya hadhara kwa wanajamii na wageni “macontractor “ (Mama Judith na Heleni Chijo)
- **“Mradi ukiweza katika kutoa ajira ya muda uwashirikishe pia wanakijiji wa nala ili kupunguza maambukizi ya VVU kwani familia zao zitakuwepo karibu siyo rahisi kukimbia kutoka nje yaani kutembea na wageni labda kama mtu ana tabia hiyo hapo tena siwezi kusema kitu maana tabia haina dawa lakini itapunguza kwa kiasi fulani.(Emmanueli)”**

Nini matarajio/ maoni/ mapendekezo yenu juu ya mradi huu wa barabara?

- kipindi cha mvua mfereji utengenezwe (Bwawa) ili waweze kuvua samaki wa kuloa na kuuza wapate hela (Gilbert)
- Wawepo walenzi wa kulinda eneo hilo tena watoke ktk kijiji chao ili wawe wamenufaika na ajira kutokana na mradi huu.
- Wachimbiwe bwawa kwanza ndipo waanze kujenga dampo hapo kutakuwa hakuna malalamiko yoyote.
- Wawaletee pia madaktari na madawa yakutosha ili hata madhara yakitokea shida isiwepo.(Stephano makasi)
- **“Mradi utoe sapoti ya kuchangia wale wasiojiweza kwa kipato kwenye gharama za matibabu ili hata kama hilo dampo litasababisha mlipuko wa magonjwa iwe rahisi na wao kupata huduma.(Peter Linjoyi)alisisitiza”**
- Wajumbe waliendelea kutoa maoni yao juu ya kukabiliana na athari za kimazingira na kijamii kwamba:-
- Dawa za kupulizia inzi zitolewe

- Waliomba CDA wajaribu kushusha bei za miti kutoka sh. 1,000/= kwa mche mpaka 200/= ili wanunue kwa wingi na wapande katika maeneo yao wazuie vumbi
- Waliona ni kitu kizuri mradi unachotaka kufanya ila tu wajitahidi kuleta madumu ya kuwekea taka na magari yawe yanapita kukusanya taka hizo na kuzipeleka dampo(Emmanueli chikota)
- Kuwepo uzio wa seng'enge na geti ili kuzuia wenye tabia ya kuokotaokota mauchafu na kula hovyoy wasijekudhurika na hao sanasana ni watoto wanaozurura hovyoy
- Kuwepo na mkakati wa kudhibiti maji yanayotuhama wakati wa mvua yaani uwepo mkakati wa kukabiliana na hilo(Yohana)
- Watafutiwe njia mbadala ya kuwasaidia mifugo yao na wananchi kupata maji
- wasaidiwe kuliboresha bwawa lao la zamani kwanza ili wapate maji ndipo wajenge hilo dampo ili wakati wa mvua nyingi waweze kuotesha samaki na wafaidike na mradi huo.

Wajumbe hawakusita kuhoji kwamba

- Je taka zinaweza kusagwa na kutolewa mbolea?(Gilbert Chinyonyo)
- Je, tutafaidikaji na hizo taka?(Bernad Aneya Mokwa)
- Je kutakuwa na fidia yoyote juu ya uchimbaji wa eneo la mradi?(Michael Mkongwa)
- Je, tutaweza kutoa mchango /maoni wetu ili eneo libadilishwe na kupelekwa sehem nyingine(Herman Masila)
- Ramani ya hekari 60 hizo ambapo hilo dampo litajenggwa tuonyeshwe.(Ibrahim Mo)
- Lijengwe dampo la kisasa linaloepuka uchafu ili kuepuka madhara(Herman Masila)

Mkutano ulimalizika saa 8 mchana. Wajumbe na Mwenyekiti waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusisitiza

kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa.

### **Muhtasari wa mkutano wa pili wa wanakijiji cha Nala**

Timu ya Tathimini ya masuala ya kijamii na kimazingira ilifika Nala na kuwapatia wanajamii madodoso ya kujaza, kisha waliyarejesha. Masuala yaliandikwa kwenye madodoso yamejumuishwa pamoja na yale ya mkutano wa hadhara uliofanyika kwenye center ya kijiji cha Nala siku hiyo kuanzia saa 6 mchana chini ya mtendaji wa kata na wenyeviti wa vijiji na vitongoji na kuhudhuriwa na wananchi wengi (tazama mahudhurio chini) ambao miongoni mwao ndio hao hao walijaza dodoso. Mahudhurio yalikuwa mazuri kwani kulikuwa na mwikio wa watu wengi kutoka vitongoji mbalimbali.

Majumuisho ya maoni ya wananchi yanataja kuwa mradi huu unafahamika kwao tangu .... kupitia CDA na manispaa ya Dodoma japokuwa hawafahamu kiundani zaidi maana CDA hawakuwashirikisha wananchi wakati wa kuchagua eneo hilo la kutupa taka ngumu. Baadhi ya viongozi ndiyo walionekana kufahamu japo siyo vizuri zaidi na wananchi wengi waliitaka serikali / CDA wafike kijijini kwao ili kuwaelezea vizuri juu ya mradi huo na vigezo walivyotumia katika kuchagua eneo hilo.

- Mwenyekiti wa serikali ya kijiji Mzee Embakasi alifungua rasmi mkutano kwa kuwakaribisha wenyeji na kuwatambulisha pia aliendelea kwa kumkaribisha mkuu wa msafara wa timu ya tathmini ili kuwatambulisha wenzake alioambatana nao, na baada ya

hapo ndipo baadhi ya wajumbe walianza kuhoji na kutoa mapendekezo yao kbla hata ya kuanza rasmi mkutano huo.

- Yafuatayo ni miongoni mwa maswali yaliyoulizwa na wajumbe:-
  - Je taka zinaweza kusagwa na kutolewa mbolea ?(Gilbert Chinyonyo)
  - Je, tutafaidikaji na hizo taka ?(Bernad Aneya Mokwa)
  - Je kutakuwa na fidia yoyote juu ya uchimbaji wa eneo la mradi?(Michael Mkongwa)
  - Je, tutaweza kutoa mchango /maoni yetu ili eneo libadilishwe na kupelekwa sehem nyingine(Herman Masila)
  - Wajumbe walipendekeza haya yafuatayo pia :-
  - Ramani ya hekari 60 hizo ambapo hilo dampo litajengwa tuonyeshwe.(Ibrahim Mo)
  - Lijengwe dampo la kisasa linaloepuka uchafu ili kuepuka madhara(Herman Masila)

Hata hivyo wajumbe wengi hawakufurahishwa na kabisa na CDA kuchagua eneo hilo pasipo kuwashirikisha wadau ambao ndiyo walengwa na hivyo kupelekea wajumbe kutowapenda kabisa CDAna kusema kwamba mpango wao ni mzuri ila kwakutowashirikisha wadau unaonekana kuwa siyo mzuri. kuwa siyo mzuri. Japokuwa wengine hawakusita kusema kwamba utaratibu wa kukaa na wadau na kusikiliza maoni yao kwao haukuwahi kutokea wanaipongeza sana serikali kwakufanya hivyo na kuzidi kupendekeza kwamba wasiachie hapo, timu ta tathimini iendelee kuja kila mara kupata maoni ya wadau na hapo ndipo maendeleo yatakuwepo.

Miongoni mwao walijaribu kuelezea faida na hasara ambazo zinaweza kutokea wakati wa utekelezaji wa zoezi zima la mradi huu wa kutengeneza eneo la kutupa taka ngumu na wengine walielezea juu ya madhara na faida zinazoweza kuletwa na mradi huu. Tukianza na athari za ujenzi wa dampo katika kijiji cha Nala Wajumbe walitaja maoni yao ya jumla yalioambatana na faida na athari mbalimbali zikiwemo za kijamii (kiafya), kimazingira na hata kiuchumi Wajumbe walianza na athari za kijamii kama zifuatazo:-

- Dampo litakata mawasiliano kati ya Dodoma na Nala
  - (John Mogwa )uchafu kuletwa nyumbani na watoto
  - (Michael Mkongwa), kipindupindu, malaria, kichocho, watoto kufyonza sumu za makopo,kuhamisha watu kwenye makazi yao
  - (Bernad Magua) Hewa chafu kutoka kwenye Dampo kwenda kwenye makazi ya watu
  - (Herman Masila)Kuongezeka kwa wanyama wakali kama fisi
  - (Nicholaus Siwi) Watoto wataliwa na wanyama wakali kama fisi
  - (Rosa Mongwa Masina)Chanzo cha maji , wakina mama watapata wakati mgumu wa kutembea mbali kutafuta maji –je serikali italifikiliaje?
  - (Janet Chomola)Wataokota vitu vyenye madhara makubwa kwao.
  - Wajumbe wawili walizidi kuisitiza kwakusema kuwa pamoja na madhara ya kijamii(kiafya) pia yatakuwepo madhara ya kiuchumi , mfano
  - Vyanzo vyamaji vitapotea na hivyo kusababisha mifugo yetu kufa kwakukosa maji na sisi kukosa mifugo ya kuuza na kuinua uchumi wetu.
- (Antony Mbula) & (Rosa) **“Hatutaki liwekwe sehemu nzuri inayofaa kwani wana eneo kubwa linalochukuwa vijiji michese Nala na Zuzu”**



- Hata hivyo wajumbe walisema hakuna eneo la kihistoria /kiutamaduni wala lenye mambo ya kale ambalo ni tatizo katika kutekeleza zoezi la ujenzi wa dampo
- Yalikuwepo mapendekezo mengi ya jumla yaliyosemwa na wanajamii ingawaje mwanzoni kabisa hawakusita kuyatoa, miongoni mwa hayo mapendekezo ni kama haya:-
- Dampo liwe la kisasa na lizuie wananchi wasipate madhara kutokana na hilo dampo
- Wananchi waelimishwe ili wajuafaidha na athari za dampo
- watueleze faida za kuwa na dampo na hasara zake(Leonard John Maluna)
- Tuwapangie sehemu nyingine la hilo Dampo (Augustino Mongwa)
- Wapeleke sehemu nyingine(Stanley Magawa)
- Wanakijiji wa Nala walihoji tena kwamba
- (Nicholaus) Kuna chemchem ya ndani watu wanatumia kunyweshea wanyama itakuwaje?
- Kwanini CDA kama wataalam wasingechukua eneo lingine lao lililotengwa kama heka 500?
- Je wananchi watashirikishwaje katika ujenzi?(Masio Jeremiah)
- Wananchi watashirikishwaje wakati wa shughuli za kutengeneza dampo?
- Kwanini dampo limekaa karibu na wananchi? Kama wataalamu CDA walitakiwa wawe wanawashirikisha wananchi katika kuanzisha miradi
- Serikali ina lengo gani maana Nala ilitegemea kuungana na mjini lakini sasa dampo litatenganisha kimaeneo kati ya mjini na Nala(Emili Masina)
- Kwanini dampo lisingekuwa mbali na makazi ya wananchi?(Michael Mkongwa)
- Kwanini hakuna ushirikishwaji wa wananchi na CDA(Christopher Chinyele)
- Eneo la chanzo cha maji je itakuwaje?(Herman Masila)

Mkutano ulifungwa saa Mchana na mwenyekiti aliwaaga na kuwashukuru wageni (Timu ya tathmini) na kuwaomba yale yote wajumbe waliyoyaongea yafike kunakostahili na yafanyiwe kazi haraka.

### **Muhtasari wa mkutano wa tatu na wanakijiji cha Kata ya Hazina**

Timu ilifika kata ya Hazina na kuwapatia wanajamii madodoso ya kujaza, kisha waliyarejesha. Masuala yaliyoandikwa kwenye madodoso ndiyo yaliyojumuishwa pamoja na yale ya mkutano wa hadhara uliofanyika tarehe 14/09/09 mchana nje ya ofisi ya mtendaji kata karibu na shule ya msingi ya mlezi chini ya uenyekiti wa Mtendaji wa kata na Mheshimiwa Diwani wa kata hiyo kuhudhuriwa na wananchi 10. Mahudhurio hayakuwa mazuri kutokana na kwamba kata hii iko mjini na wakuu wa kaya wengi huondoka mapema kwenda kujitafutia riziki pamoja na hayo mahudhurio hakuna tatizo lililojitokeza katika kuchangia maoni na kutoa mapendekezo miongoni mwao wananchi.

Wajumbe walikuwa na hamu sana ya kusikia timu ya tathimin ujumbe iliyokuwa nao na hivyo Mwenyekiti chini ya uenyekiti wa mtendaji kata ulipewa nafasi ya upendeleo pekee na timu ya tathimini kuwaambia wajumbe wao wenyewe wachague mwenyekiti wa muda wa kuruhusu wachangia mada kwa siku hiyo, utaratibu huo uliwafurahisha sana na wao walikubaliana na kumchagua mheshimiwa Diwani wa kata ya Hazina kuwa ndiye mwenyekiti wa muda.

Wajumbe walianza kwakutoa maoni yao ya jumla juu ya kuja kwa mradi wa barabara, kuwa ni kitu cha maendeleo na wanaupokea kwa mikono miwili. Zifuatazo ni faida za kuja kwa mradi huo wajumbe walizotoa:-

- Shughuli nyingi zitafanyika kama mama lishe, pia kubeba zege na kusomba kokoto ambazo hata mimi naweza kufanya, pia shughuli za ulizi wa mali/ vifaa vyao naweza kulinda. Kweli kutakuwepo Na faida Sana.

- Kwani itafupisha njia ya kwenda mtera, pia watu wataweza kwenda kutafuta samaki na kuuza sana.
- Joel Milanzi, usafiri utakuwepo sana itasaidia sana kuwahi mjini badala ya kutumia dakika nyingi itakuwa chache
- Patrick, bihashara zitakuwepo Kama mama ntilie wataweza kuuza na pia vijana wetu watafanya bihashara ndogondogo.

Waliendelea kuchangia mada kwakusema kuwa pamoja na kuwa mradi utaleta maendeleo ila madhara ayawezi kukosa pia Baadhi ya madhara waliyotaja ni pamoja na

- Kelele pia ni tatizo lakini “itabidi tu tuvumilie kwani palipo na maendeleo lazima
- Edward, Kutakuwepo Na vumbi Na moshi Sana.
- Edward, njia za maji zinapashwa kushughulikiwa mapema kwani ni adha kubwa sana, vilevile mabomba ya maji safi, maji taka na miji kandokando ya barabaran vitaaathirika

Wajumbe hawakusita kusema kuwa wamejifunza mengi kupitia mradi wa JANDO ambao upo mpaka leo kwenye kata yao unaweka miundo mbinu ya maji safi na taka lakini umesababisha madhara y kiafya hususa ni ongezeko la umalaya na magonjwa kwahiyo hata kwenye mradi huu inawezekana pia hayo yakatokea,

Hata hivyo wajumbe walisema hakutakuwepo na tatizo la kihistoria /kiutamaduni kwenye eneo la mradi wa barabara na kuihakikishia timu ya tathimini kuwa ijipange haraka kuja kuanza utekelezaji wa zoezi hilo

Wajumbe hao walikuwa na mapendekezo ya jumla kama yalivyoainishwa hapo chini:-

- Iwepo fidia ya kuendana na mali ya mtu endapo itaharibiwa mfano nyumba ikivunjwa mtu sharti alipwe.
- Taarifa itolewe kwa watu wote walioko pembezoni mwa barabara wasijekushitukizwa wakati wanaanza kazi
- Walipenda wajue ukubwa wa barabara itakayojengwa mapema ili wajue kama watapata madhara ya aina yoyote au la.
- Steven Gamasa, Eneo la mradi limetupunja sana linachukua kipande kidogo sana wangeingia mpaka kwenye barabara za mitaa nazo wazitengeneze wangefurahi zaidi.
- Peter (Mh, Diwani) Zoezi litakapoanza litaathiri umeme kwani ni njia kubwa imepita pale katika eneo hilo, walipendekeza i kwamba ni muhimu sana kuwapitia wale wahanga wote na viongozi ili kuwaambia juu ya swala hilo mapema
- Patrick, tumejifunza mengi kupitia miradi mingine ilopita kama JANDO kwani baadhi ya watu waliathirika kutokana na ushawishi wa fedha za wale wageni na wenyeji na hata kupata maradhi ya vvu hivyo basi:-
- George, Kuwepo na taarifa au uhamasishaji wa madhara ya magonjwa hayo mfano kwa taarifa au waje wataalam
- Steven, Elimu itolewe kwa wananchi wote wageni na wenyeji itolewe juu ya magonjwa hayo
- Peter, Kuwepo na uwezeshwaji wa kamati za ukimwi kata na mitaa ambaye Diwani ndiyo mwenyekiti ili ziweze kufanya kazi ya ziada
- Vifaa vya kuchemshia lami kama mapipa na vingine vitunzwe sehemu maalumu mbali na makazi ya watu ili kuepusha magonjwa kama kikohozi na mafua visisumbue watu.

- Peter, Liwepo angalizo la vifaa vya wakandarasi ili yasitokee madhara ya kuwa na barabara isiyo na kiwango wakati Benki ya Dunia imetoa fedha nyingi kwa ajili ya kazi hiyo. Walishauri kuwepo vifaa bora. Mfano kuanzia Hazina mpaka kilimani kuma mita kama 50 hivi kipindi cha ujenzi wa barabara ya Singida kulikuwepo na mtikisiko sana ambao kuna baadhi ya nyumba zilipata nyufa sana kwahiyoy napendekeza kuwepo na fidia kwa wale wote watakoathirika.
- Patrick, kazi zitolewe kwa wakazi wa hapa siyo wanaenda kuchukua watu iringa, mfano kwenye mradi wa barabara ya singida watu walitolewa Morogoro na Dare s salaam matokeo yake vijana wa hapo wakawa wezi, waliiba vifaa vyao
- George, Kama ajira itatolewa kwa wenyewe wakazi wa hapa hakutakuwepo na maambukizi ya VVU
- kuwepo ushirikiano wa mambo yote ya mradi kutoka ngazi ya juu mpaka ya chini
- Joel Milanzi alisema haya kwa msisitiz “ viongozi washirikishwe wote wa kata, na mitaa wakiwemo madiwani wa eneo husika ili kupatikane uthabiti na udhibiti wa mali”
- (Khamis Shamnte) mjumbe huyo alisema usiwe mradi wa kwenye makaratasi bali uwe wa mikakati zaidi
- (Lucy), ziwepo alama za barabarani kwani kuna shule mfano mlezi na amani ili kupunguza ajali kwa watoto wa shule.
- Mtendaji alisema “Viongozi washirikishwe “ Ili kuweza kulinda Mali/ vifaa vya wataalamu kwani ilishatokea siku moja mwizi aliiba vifaa vya JANDU , ila alipoingia kutaka kuwasaidia tu, Yule muhindi akasemaamtambui ni nani wakati yeye ni kiongozi na hapo ndipo malipoamua kwa hasira kumsapoti yule mwizi Kwa hasira.
- Peter alisisitiza hivi “wanaomba sana huu mradi usiwe kama wa JANDU kwani mkataba wake auleweki”
- Nazidi kusisitiza kwamba mradi umetupunja sana kuna kakipande kadogo wamekaacha pale milembe road wakamalizie.
- Waliomba wasaidiwe pia kama miradi mingine ilivyofanya mfano uliotolewa ulikuwa ni wa kule UDOM ambao mwenye mradi alitoa bati 100, kama kuchangia maendeleo na siyo vibaya kama na mradi huu ukisaidia hata darasa moja la shule ya sekondari ya HAZINA au nyumba ya mwalimu ili iwe faida kwa wananchi pia Na hiyo inaweza kuchangia hata na wananchi kuwa moyo wa kujitolea hata kufyeka eneo la barabara au kufanya chochote kile kinachohusiana na mradi huo.

Mwisho kabisa mjumbe mmoja alihoji kuwa

- je endapo itatokea mtu akatakiwa kubomolewa nyumba yake ili barabara ipitishwe itakuwaje? Atalipwa fidia?

Mkutano ulifungwa na mheshimiwa Diwani na kusisitiza kuwa wangependa mchakato mzima wa mradi huu uanze mapema haraka iwezekanavyo kwani yasiishie kwenye makaratasi tu kama ilivyo kawaida ya watafiti wengine. Pia wajumbe waliomba yale yote waliyopendekeza yazingatiwe kwani watu walikubali kuacha shughuli zao na kuja kusikiliza timu ya tathmini inasemaje.

## **Muhtasari wa mkutano wa nne na wanakijiji wa Kata ya Kikuyu kusini.**

Timu ilifika Kikuyu kusini na kuwapatia wanajamii madodoso ya kujaza, kisha waliyarejesha. Masuala yaliandikwa kwenye madodoso yamechachambuliwa na kujumuishwa pamoja na yale ya mkutano wa hadhara uliofanyika tarehe 14/09/09 mchana ndani ya ofisi ya mtendaji kata chini ya uenyekiti wa Mwenyekiti alieteuliwa na wajumbe waliohudhuria mkutano Mkutano ulihudhuriwa na wajumbe wachache 10. Mahudhurio hayakuwa mazuri kutokana na kwamba wananchi wengi kawaida wanawahi kwenda mjini mapema kujitafutia riziki na hivyo kukosa wakuu wa kaya wengi wa kuhudhuria mkutano kata hii iko karibu na mjini ni kazi sana kuwapata wajumbe wengi wakati wa asubuhi. Pamoja na hayo zoezi liliendelea vizuri kama ilivyokuwa imepangwa maana wale wahanga walijitahidi kuhudhuria mkutano ili kutoa kero zao na maoni yao. Ifuatayo ni orodha ya mahudhurio ya siku hiyo.

Wajumbe walifurahia sana mradi huu na kusema kuwa kutakuwepo na maendeleo sana katika kata yao na Dodoma kwa ujumla.

Wajumbe walitoa maoni ya jumla Kama haya:-

- Itakuwa rahisi kufanya bihashara kwa wale wanaofanya bihashara za maduka kwani urahisi wa kwenda mjini kununua bidhaa (Richard)
- Wajumbe walitoa maoni kuwa mradi ni mzuri wanaupokea ili mradi tu utekelezwe kama walivyopanga
- Wakina mama pia wataweza kupata ajira ya muda kwa kuuza mama lishe tena kwa bei nzuri hivyo kipato kitaongezeka.
- Wazawa tapata fursa ya ajira ya muda au ya kudumu hivyo yote ni maendeleo

Na wajumbe waliendelea kusema palipo na maendeleo hapakosi hasara kwahiyo walitaja miongoni mwa madhara yanayoweza kutokea ni pamoja na:-

- Watu kuvunjiwa nyumba zao, maduka yao hasa walioko kando ya barabara
- Vumbi na kelele wakati wa utengenezaji wa barabara matokeo yake ni kupata vifua na vikohozi kwa muda mrefu na wengine wenye presha kuzidi.
- Kukatwa kwa mabomba ya maji na umeme kukatika mara kwa mara
- Ongezeko la maradhi kama maambukizi ya VVU kwa wenyeji na wagegi pia japo walisema hiyo ni tabia ya mtu ni vigumu kuiepuka. Lakini wanajua mara nyingi wageni wanakuja na kuwarubuni watotot wao wa shule pia wake zao kwa kuwa wanalipwa hela nzuri mtu anaona akipewa laki moja na ajawahi kuishika anachanganyikiwa.
- Barabara kukatisha kwenye makaburi yao
- Kukatiwa miti yao

Wajumbe walisema kuna eneo lenye makaburi ya watu ambapo barabara itapita kama image ni eneo lililotajwa sana na mjumbe mmoja “reHEMA” na hivyo kupendekeza kuwa wawalipwe fidia

Wajumbe walisema hakuna eneo la kihistoria / kitamaduni kwenye kata yao ambalo laweza kuwa kikwazo kwa watu wa mradi isipokuwa CDA wanatakiwa waje ili kuongea ana kwa ana na wadau “ bi Zuhura na Rehema wenye tatizo la makaburi yao

Hata hivyo mabishano yalikuwa mengi juu ya kupata uhakika wa wajumbe hao wawili kama ni kweli barabara itapitia makaburi yao? Au la mwisho wa mkutano wajumbe hao walionekana kuwa na furaha baada ya kuhakikishiwa kwamba watakuja kupima na kama itaonekana wao wako sahihi na sheria ya arhi inavyosema wakivunjiwa fidia itatolewa na pia watazungumza nao mpaka wataelewana wao wenyewe kwa kauli moja kama wataruhusu makaburi yavunjwe au la.

Pamoja Na hayo wajumbe wa litoa maoni yao / matarajio yao kwa mradi kama haya:-

CDA waende kuonana uso kwa uso na wahangwa ili wajue hatima yao na kama ni fidia wakivunja nyumba itolewe mapema kabla ujenzi aujanza ili mtu ajue anajipanga vipi? (Davi)

- Mradi uanze mara moja
- Iwekwe sheria ya kulinda nidhamu kwa waajiriwa na vibarua ili wasiend kiholelaholela tu na hivyo kuleta madhara ya maabukizi ya magonjwa.
- Uwepo ulinzi wa doria usiku ili kulinda vifaa vya wakandarasi
- Elimu ya kujikinga na VVU itolewe sana kwa vijana wetu
- Fidia za gharama za matibabu zitolewe kwani kwa wale wasiojiweza watakaoathirika mfano kupata vifua, kuumwa macho kwa ajili ya vumbi pia ngoma zao za masikio zinaweza kudhurika na hilo waangalie kwenye sheria zao wao ndiyo wanajua
- Wageni wanapokuja kuanza kazi huku wapiti kwa mtendaji kata wao ili watoe ajira kwa vijana wao(Rafaeli)
- Tunausubiri mradi kwa hamu sana
- Serikali izingatie haki fidia zitolewe mapema na watu wasizungushwe na atima yake kuanza kupelekana mahakamani.
- Kazi isichelewe kuanza ikasubiri mpaka uchaguzi ufike
- Wasingoje wakati wa kuanza kulima mashamba ndiyo waanze kuja na kusumbua watu wameshapanda mazao yao halafu wanaanza kuwaambia hapana hapo ndiyo barabara inapitia.
- Serikali iache mambo ya kifisadi na hivyo kuwaambukiza na wakandarasi ,wajumbe wanaomba utekelezaji uanze mapema.
- CDA waache ujumu ni wahujum wakubwa waje huku wawashirikishe wananchi kabla ya kufanya chochote.Kwa ufupi waache kujisikia watu wa CDA ili wafanya kazi zao vizuri na wananchi

Mkutano ulifungwa rasmi na mwongoza mada wa timu ya tathmini. Wajumbe walisisitiza kuwa wangependa mchakato mzima wa mradi huu uanze mapema haraka iwezekanavyo kwani yasiishie kwenye makaratasi tu kama ilivyo kawaida ya watafiti wengine. Pia wajumbe waliomba yale yote waliyopendekeza yazingatiwe kwani watu walikubali kuacha shughuli zao na kuja kusikiliza timu ya tathmini inasemaje.

#### **Muhtasari wa mkutano waTano na wa sita wa wanajamii wa kata ya Uhuru na madukani.**

Tarehe 15/09/2009 saa nne asubuhi Timu ya Tathimini ya masuala ya kijamii na kimazingira ilifika katika kata ya Uhuru na kuwapatia wanajamii madodoso ya kujaza, kisha waliyarejesha. Masuala yaliandikwa kwenye madodoso yamejumuishwa pamoja na yale ya mkutano wa hadhara uliofanyika kwenye ofisi ya kata ya Uhuru. Siku hiyo kuanzia saa 4 asubuhi chini ya mtendaji wa kata, Diwani na wenyeviti wa mitaa na kuhudhuriwa na wananchi wengi (tazama mahudhurio chini) ambao miongoni mwao ndio hao hao walijaza dodoso. Mahudhurio yalikuwa mazuri kwani kulikuwa na mwitikio wa watu wengi wa kijijini na wapo waliochelewa kupata taarifa za mkutano pia ambao walifika wakati mkutano ukiendelea.

**IFUATAYO NI ORODHA YA MAJINA YA WANAJAMII WALIOHUDHURIA MKUTANO WA TANO KATIKA KATA YA UHURU.NA MADUKANI.**

KUKAO CHA WANAJAMII WA BARABARA WA  
WAZOZUZI WA UHURU.

NO	JINA	WIKIWAPO MATA	SOMI
1	ALLY M. KHERI	DIWANI - UHURU	
2	MARIEGE M. MANGRE	WEO - UHURU	
3	MURSUMA KITERI	M/Kiti - KIPANDE	
4	CHIKU NJAMBO	MJUMBE	
5	MARIAM JUMBE	K/TAXI MJI MPYA	
6	MARIAM LUBIGISA	" " UHURU	
7	ASHA JAKUFI	BALZI - UHURU	
8	JOHN R. MHIHA	MJUMBE " "	
9	HUMISI MRISHO	MJUMBE KIPANDE	
10	RAMADHAN	UHUZU	
10	JUMANE RAMADHANI	" " KIPANDE	
11	AMRON MASUDI	" " KIPANDE	
12	SIDI GUSAI	" " KIPANDE	
13	HASSAN RAMADHAN	" " UHURU	
14	JELCA K. MAMBO	" " " "	
15	AMINA R. RAMADHANI	M/Kiti Mimi UHURU	
16	SALMA H. MAWISO	MJUMBE UHURU	
17	ABRAHAMAN RASTIO	" " " "	
18	YAKUFI SIMBULI	MJUMBE KIPANDE	
19	KHADAJA ABDALLAH	MJUMBE KIPANDE	
20	AMINA SADALA	MJUMBE KIPANDE	
21	MARIHA LYIMO	AFISA MIENDAJI MTAU - UHURU	
22	MIRIAM CHIMA	" " " MJI MPYA	
23	ZAYNABU KAOMBEWE	MJUMBE/UMUJA WA KIWA MAMA	
24	SHAKILA NYUDI	MEO (Kati	
25	NELSON MBILU	MJUMBE KATI	
26	SIDI POLE	" " UHURU	
27	SEITE MREKWA	M/KITI - KATI	

28 Mwasuma IDB - Msumbe Uhuru  
 29 ASITA RAMADHANI IGATI 30 KATA  
 30 Hafina Baraka - Mjumba Kipande  
 31) Fatuma M. NGONDI - Mjumba Uhuru  
 32) Anita Hassan - " Uhuru  
 33 RAMADHANI KASOBI " Uhuru  
 34 Mwanazita Anani " Uhuru  
 35

Mawene N. Mawene  
 ALISA MTEMDAJI  
 KATA YA UHURU  
 DODOMA

Kata ya Uhuru ni kata kubwa iliyoko katikati ya manispaa ya dodoma Mkutano ulifunguliwa rasmi na Mheshimiwa Diwani ambaye wananchi walimchagua kuwa mwenyekiti wa muda. Kwanza wananchi walionekana kutokuwa na uelewa sana na huo mradi isipokuwa Mheshimiwa Diwani tu ambaye alisema alipata taarifa kupitia barua toka manispaa Wananchi walisema mradi ambao umewahi kuwepo wa barabara hapo nyuma ni wa KONOIKE japokuwa uliwahudhi sana watu kwakumwaga vifusi kwa muda mrefu na kusababisha usumbufu mwingi kwa muda mrefu barabarani.

Walitaja barabara zilizopo katika kata yao kuwa ni pamoja na Umoja, Kinyonge, Uhuru, Chenja, Mwanza, Mwangaza, Oneway, Kondoa, Kuu street, Nyerere road, , barabara ya 6, 7, 8,9,10,11 na ya 12.

Hakuna mradi mwingine ambao walisema umewahi kuja na mpango mzuri kama huu hivyo wanaipongeza serikali kwa ujumla kwa kutaka kuanzisha zoezi hilo japokuwa tatizo ni pale tu ambapo ushirikishwaji unakuwa mdogo

Wananchi walito maoni yao ya majumuisho kuwa mradi huu unafahamika kwao kupitia viongozi wao wa kata akiwemo mheshimiwa diwani pia kupitia CDA na manispaa ya Dodoma

Miongoni mwa maoni waliyosema wajumbe kama faida ambazo zitaweza kupatikana kutokana na mradi huu kiuchumi ni kama:-

- Kukua kwa mji na kuwa jiji
- Uchumi utakuwa kwani wawekezaji wataongezeka
- Hata hivyo wajumbe walitoa faida za kijamii kuwa
- Kutakuwa na haki sawa kwa watumiaji wa barabara siyo wengine zina lami na wengine hazina lami

Wajumbe walitoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

- Wakandarasi wasiishie kumwaga vifusi tu wakafanya viini macho, walisema wnanchi wapewe taarifa mapema kwani hawakuwa na taarifa
- Barabara zijengwe wakati wa kiangazi kwani mvua zikinyesha ni balaa
- Waweke matuta mwanzo wa barabara na mwisho wa barabara
- Mitaro iwekwe katika barabara ya 10 Na ya 8 kwani huwa zina shida Sana, pia kinyonga na kondo.
- Watengeneze mifereji imara siyo mradi Barbara tu(Diwani)
- Wafanyakazi wengi watoke huku eneo husika ili kupunguza ongezeko la maambukizi ya VVU
- Barabara zote ziwekwe lami siyo kucha ila kazi boragua mfano chenja na kinyonga
- Kusiwepo na ubaguzi wa mardi katika kuweka lami barabara
- Taa za kudumu barabarani ziwekwe
- Yawepo mawasiliano kati ya mradi na mamlaka ya majim safi ili usiwepo usumgufuWajumbe wa timu ta tathmini wasisite kwenda kuchukua maoni yoyoteIsifanyika bora kazi(Hassani)
- Wawe wanaboresha
- walielezea juu ya madhara yanayoweza kutokea kutokananamradi huo kuwa ni
- Kubomolewa kwa nyumba na maduka ya wananchi
- Kukatiwa mabomba ya maji safi na maji taka na hivyo kusababisha usumbufu mwingine tena wa kuja kuyarudishia.

Wajumbe awakusita kusema kuwa kutakuwepo na ongezeko la maambukizi ya VVU na magonjwa mengine ya zinaa kama wageni na wenyeji watakaokuwa wamepata ajira/ vibarua katika mradi huu hawatokuwa waaminifu kwa wenzi wao. Mjumbe mmoja alisema “ni kawaida miradi kama hii inapokuja na watu wakishalipwa hela nyingi ambazo hawakuzoea mwisho wake ni kufanya mambo ya kuwarubuni watoto wa shule na hata watu wazima kwa kuwapa pesa nyingi. Wajumbe awakuishia hapo na athari za kijamii ila walisema pia kutakuwepo na athari za kimazingira kama zifuatazo:

- Kuongezeka kwa vumbi na kelele
- Kwa upande wa hali ya hewa kutakuwepo na uchafuzi wa hali ya juu kwani uchafu wote utakaokuwa unamwagwa katika dampo hasa wakati wa mvua utatoa sana harufu mbaya na kusababisha maradhi mbalimbali kwa wakazi wa eneo hilo.
- Kuhusu maeneo muhimu ya kihistoria / kiutamduni/mambo ya kale Kama yapo yanayoweza kuathiriwa na mradi wajumbe walisema wote kuwa Hakuna kitu kama hicho katika eneo la ujenzi wa barabara hiyo. Kwahiyo hakutokuwa na tatizo la kukabiliana na suala hilo.
- Wajumbe walisema pamoja na athari mbalimbali zitakazojitokeza wakati wa mradi huo
- Wajumbe hawakusita kuhoji kwamba
- Wananchi, watahitajika kuchangia ili mradi uanze?

Mkutano ulimalizika saa sita mchana, wajumbe na Mwenyekiti waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusisitiza



kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa.


### **Muhtasari wa mkutano wa saba na wanajamii wa kata ya Majengo**

Timu ilifika Kata ya majengo tarehe 17/09/2009 saa 9.00 mchana na kuwapatia wanajamii madodoso ya kujaza, kisha waliyarejesha. Masuala yaliandikwa kwenye madodoso yamejumuishwa pamoja na yale ya mkutano wa hadhara uliofanyika siku hiyo kuanzia saa 9.00 jioni chini ya uenyekiti wa Mwenyekiti Mtendji wa kata na kuhudhuriwa na wananchi (tazama mahudhurio chini).

**IFUATAYO NI ORODHA YA MAJINA YA WANAJAMII WALIOHUDHURIA MKUTANO WA SABA KATIKA KATA YA MAJENGO**

MAJENGO

NO	JINA	WADHIFA	SATHIHI
01	KIBIBI BAKERA	MJUMBE WA Mtaa (Baraza)	<i>[Signature]</i>
02	EMMANUEL CHIBAGO	Mjumbe	<i>[Signature]</i>
03	FREDRICK Y. NYONI	MJUMBE	<i>[Signature]</i>
04	KHADJA SEIFU	"	<i>[Signature]</i>
05	VERONICA SALEMA	"	<i>[Signature]</i>
06	Thomas Mfuu	"	<i>[Signature]</i>
07	Hidaya Kasimu	"	<i>[Signature]</i>
08	ONESMO MHELUWA	"	<i>[Signature]</i>
09	STANLEY HANIBU	"	<i>[Signature]</i>
10	VICTOR SELEMANI	"	<i>[Signature]</i>
11	IBRAHIMU KIJU	"	<i>[Signature]</i>
12	ODILA KOTI X	NTENDAJI	<i>[Signature]</i>
13	Maudinda Chingo	"	<i>[Signature]</i>
14	Mohamed Selemani	"	<i>[Signature]</i>

  
 12/09/2009

Kata ya majengo ni kata kubwa iliyoko katikati ya manispaa ya dodoma katika soko kuu la Manispaa ya dodoma Mkutano ulifunguliwa rasmi na Mtendaji wa kata na kuwakaribisha timu ya tathmini ya masuala yakijamii na kimazingira kuendelea na utaratibu wao. Timu ilizingatia itifaki kama ilivyokuwa ikifanya katika mikutano mingine kwa kuwaomba wananchi kupendekeza mwenyekiti wa muda wakati mkutano ukiendelea na ndivyo ilivyofanyika na wajumbe walifurahi utaratibu huo.

Kwanza wananchi walionekana kutokuwa na uelewa kabisa wa mradi huu wa uboreshaji wa barabara na kukili kwa vinywa vyao kuwa leo ndiyo mara yao ya kwanza kusikia kutoka kwa timu ya tathmini na baadhi walisema walisikia wakati wanapewa madodoso kujaza. Hata hivyo mtendaji wa kata peke ake kama kiongozi. Ambaye alisema alipata taarifa kupitia barua toka

manispaa Lakini tatizo kubwa ni kutotangazwa kwa miradi ndiyo maana wananchi wengi wanakuwa hawana taarifa.

Wananchi walisema mradi ambao umewahi kuwepo wa barabara hapo nyuma ni wa KONOIKE na MEKO

Walitaja barabara zilizopo katika kata yao kuwa ni pamoja na Tandala, Ndovu, Twiga na Swala. Hakuna mradi mwingine ambao walisema umewahi kuja na mpango mzuri kama huu yaani wa kuwashirikisha wananchi katika hatua za awali kabla ya utekelezaji kufanyika na hivyo wanaipongeza serikali kwa ujumla kwa kutaka kuanzisha zoezi hilo japokuwa tatizo ni pale tu ambapo ushirikishwaji unakuwa mdogo hasa kwa watu wa CDA na Manispaa.

Wananchi walito maoni yao ya majumuisho kuwa Kutakuwa na faida za kiuchumi kutokana na mradi huu ambazo ni kama hizi

- Afya ya wananchi itakuwa ni bora kwa vile vumbi litapungua
- Kutakuwepo na magari mengi ya abiria na wagonjwa
- Nauli zitapungua
- Ajira kwa vijana na wanawake zitakuwepo
- Ajali zitapungua kwa vile alama za barabarani zitakuwepo
- Maisha ya magari yatarefuka (magari hayataharibika kila mara)
- Mazao ya mashambani yatapata soko
- Mazao ya biashara yatasafirishwa kwa urahisi
- Bei za mifugo kama ng'ombe na mazao zitapungua

Walisema pia kutakuwepo na athari za kimazingira kama zifuatazo:

- Kuongezeka kwa vumbi na kelele
- Kuanguka kwa nyumba zao kutokana na mtikisiko
- Kuvunjwa kwa nyumba zao hasa zilizoko karibu na barabara
- Kukatwa kwa mabomba ya maji taka na maji safi hovyoy
- Waliendelea kusema madhara ya kiafya pia takakuwepo kama:-

Kuongezeka kwa maradhi kama vifua na vikohozi Lakini suala la maambukizi ya VVU kwa wao halitakuwepo kwani walishapata elimu ya kutosha na Dododoma ni mji mkubwa ambao umekuwa na wageni kila wakati wa kila namna hivyo si rahisi kwa wenyeji kurubuniwa na pesa za wakandarasi na kuwaambukiza VVU

Wajumbe walitoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

Kuhusu maeneo muhimu ya kihistoria / kiutamduni/mambo ya kale Kama yapo yanayoweza kuathiriwa na mradi wajumbe walisema wote kuwa Hakuna kitu kama hicho katika eneo la ujenzi wa barabara hiyo. Kwahiyo hakutokuwa na tatizo la kukabiliana na suala hilo.

Wajumbe walitoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

- Matuta yawekwe ili kupunguza ajali
- Mradi uwe na vifaa vyenye ubora ili barabara ziwe imara

- Ujenzi usichukue muda mrefu sana ikawa kero kwa wananchi
- Watengeneza barabara wapewe elimu ya kujikinga na VVU kwani wao walishapewa
- Wakandarasi wawe wakweli yaani watimize ahadi yao kwa muda muhafaka
- Waweke barabara pana ili magari mawili yaweze kupishana.
- Waweke lami ya uhakika yaani nzuri
- Wananchi watakuwa tayari kujitolea kwa kila kazi watakayoombwa ila wawe wakweli
- Wenyeji wapewe kipaumbele kwa ajira .
- Yawepo mawasiliano kati ya mradi na mamlaka ya maji safi na maji taka ili usiwepo usumbufu
- wajumbe wa timu ya tathmini wasisite kwenda kuchukua maoni yoyote.

Mkutano ulimalizika saa 11 jioni, wajumbe waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusisitiza

Kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa.

### **MUHTASARI WA MKUTANO WA NANE NA WANAJAMII WA KATA YA TAMBUKARELI**

Timu ya wataalamu ilifika kata ya Tambuka reli tarehe 24 mwezi wa tisa 2009 saa tisa mchana na kukutana na wananchi wengi wakiwa wamefika eneo la mkutano. Mkutano ulifunguliwa na Mama maendeleo wa kata na kuwakaribisha wataalamu wa mambo kijamii na mazingira kuendelea, baada ya utambulisho timu iliomba kuwepo na mwenyekiti wa kuongoza mkutano, hivyo uteuzi wa mwenyekiti ulifanyika na mwenyekiti alipatikana.

**IFUATAYO NI ORODHA YA MAJINA YA WANANCHI WALIOHUDHURIA MKUTANO KATIKA KATA YA TAMBUKARELI**

MATHUDHURIO . TAMBUKARELI 27/09/09.

JINA	CHEO/WIAPOTOKA	NO YA SIMU	SAHITI
1. Hassan J. SHEKAWI	T/RELI SER. MTAARELI	0753-789302	
2. RUBERI ABDI MASUDI	M/M/M/ DAR-UL-MUHAMMEDI	0756 759121	
3. SHABANI ABDEL	MJUMBE T/RELI	0754385578	
4. MSAFIRI -L. NYAUU	MJUMBE T/RELI	0713790407	
5. ANGELA P. MAMIRALCO	MASIRA MARI	0754576187	
6. SALIMU NAHOCHA	HOTELIA	0784395396	
7. TUMWENSE I. SARA	TIZI	0713265792	
8. MINAJUMA SUPHAN	MGAHAWA	0753609559	
9. HALIMA HAMISI	MGAHAWA	0769567672	H.Hamisi
10. SALMA KASIMU	"	0763621455	S. Kasim
11. AISHA SAIDI	"	0755101628	A. Saidi
12. AMINA A. MSOSA	"	0753605752	A. msosa
13. SILVIA MKANGA	"	0762631458	S. mkanga
14. A. J. URASSA	Dmc	0732184715	Aarassa
15. RUKIA O. BAKARI	KAINU AFISANTENDASI WA KATA - T/RELI	0717 129221	
16. Nelson A. Mahango	Mtalam Mazingira CDA	0764-776686	
17. Napoleon Frankie	Consultant	0712-266788	
18. Geoffrey Mkinga	USEZI MANISPA	0754398627	
19. Msham Mmenaki	MRO	0755-464194	
20. William Ngaluchi Mhiga	Mjumba Stadi Kuu	073 2100444	
21. BHOKE J MOWITA	STENDI	0755033248	
22. DOROTHEA MESHCH	STEDI	0787673871	D. Meshch
23. JOSEPH MWAJUKA	STENDI KUU	0759 257907	J. Mwakaka
24. EVA...			

Wananchi walitoa maoni yao ya majumuisho kuwa kutakuwa na faida za kiuchumi na za kijamii kutokana na mradi huu ambazo ni pamoja na hizi zifuatazo:-

- -wamefurahi kusikia barabara zao zinaboreshwa na kwamba watapata faida za kiuchumi kama kuinuka kwa biashara
- -vumbi litapungua hivyo kupunguza magonjwa

Walisema pia kutakuwa na adhari kadhaa katika uboreshaji huu wa barabara kama zifuatazo:-

- -usumbufu wa kupita .watu watakuwa wanachuka mbali na kutembea kwa miguu kuja katika eneo lao
- -mavumbi na moshi wakati wa uboreshaji wa barabara hivyo wananchi walipenda kujua kama kuna chochote watapiwa kutokana na madhara hayo
- -kutakuwa na makelele kwani barabara zimepita kando kando mwa shule
- -mabomba ya maji yatakatwa kwani yamepita katikati ya barabara
- -pia waligusia kuwa kutakuwa na ukataji wa miti katika maeneo yao

Waligusia madhara ya kiafya kama vile

- -kuongezeka kwa maambiukizi ya magonjwa kama HIV.
- pia kutokana na moshi na vumbi magonjwa kama kukohoa, na ugonjwa wa macho vitasumbua.

Wajumbe hawakuacha kusema kwamba kwakuwa katika kata yao kutakuwa na uboreshaji wa stendi ya mabasi kutakuwa na kusimama kwa biashara zao haswa wakina mama lishe, hivyo walishauri pawepo na njia mbadala ya kuweza kuwasaidia wafanya biashara hao.

Wananchi walitoa mapendekezo yao kwa ujumla kama ifuatavyo:

- -kuwepo na matuta ili kupunguza ajali za mara kwa mara
- -walipendekeza mradi usiwe na muda mrefu ili kuwaokoa wafanyabishara wa eneo hilo
- -wananchi walitaka kupewa kipaumbele kipindi cha ujenzi huo ili kujipatia ajira

Mkutano ulifungwa rasmi na wajumbe walifurahia sana kuwepo kwa wataalamu pia wa manispaa na CDA kwa ajili ya kuwapa maelezo mazuri juu ya maeneo ambapo barabara zitapita na hivyo kuwaondolea hofu ya wao kubomolewa nyumba zao na sehemu zao za biashara. Hawakusita kusema kuwa mradi huo usiishie kwenye makaratasi tu uanze mapema ikiwezekana.

### **Muhtasari wa mkutano wa tisa na wanajamii wa kata ya Dodoma Makulu.**

Timu ya Tathimini ya masuala ya kijamii na kimazingira ilifika katika kata ya Uhuru na kuwapatia wanajamii Madodoso ya kujaza, kisha waliyarejesha. Masuala yaliyoandikwa kwenye madodoso yamejumuishwa pamoja na yale ya mkutano wa hadhara uliofanyika tarehe 17/09/2009 asubuhi saa nne chini ya mti kwenye senta ya mtaa mmojawapo wa kata ya dodoma makulu iliyochaguliwa na mtendaji wa kata. na kuhudhuriwa na wananchi wachache kwani wengi walishaenda kujitafutia riziki zao mjini (tazama mahudhuri chini)

## IFUATAYO NI ORODHA YA MAJINA YA WANAJAMII WALIOHUDHURIA MKUTANO WA TISA KATIKA KATA YA DODOMA MAKULU

KATA - DODOMA MAKULU  
KISASA COMMUNITY ROLES - MATHUASHIRO

JINA	WANAMBA	SAMBA
Pete UPeti Nguliga	Mkulima	PITA
MAIKO	MAZENAO	Mkulima
KOSTANZIA	O. mwana kutoka swaswa	
Kenedi	M. samsoni	Chibago
Daisi	chulewa	kukepe
matisi	malinda	nyagoda
sabuli	sanga	chisher
Silipo	chugu	sajilo
Agosi	kutoka	ENESTV Dandak
Amama	hamba	Mangwero
Sopdoi	Mussa	Blau
PERPETUA	JAMES	Blau
BELTA	MAKALI	
VELIAN	LIGOTHA	
PILI	JOHNSON	
REHEMA	JONAZAN	
Simiyani	manamwe	
mahego	SUDAI	
ISAHA	Barozi	mwagata

Kata ya Dodoma makulu ni kata kubwa iliyoko katikati ya manispaa ya dodoma Mkutano ulifunguliwa rasmi na Mtendaji msaidizi wa kata na kuikaribisha timu ya tathmini ya masuala ya kijamii na kimazingira kuendelea na utaratibu wao. Timu ilizingatia itifaki Kama ilivyokuwa ikifanya katika mikutano mingine Kwa kuwaomba wananchi kupendekeza mwenyekiti wa muda wakati mkutano ukiendelea na ndivyo ilivyofanyika na wajumbe walifurahia utaratibu huo.

Kwanza wananchi walionekana kutokuwa na uelewa kabisa wa mradi huu wa uboreshaji wa barabara na kukili kwa vinywa vyao kuwa leo ndiyo mara yao ya kwanza kusikia kutoka kwa timu ya tathmini na baadhi walisema walisikia wakati wanapewa madodoso kujaza.Hata hivyo mtendaji msaidizi wa kata peke ake kama kiongozi. Ambaye alisema alipata taarifa kupitia barua toka manispaa Wananchi walisema mradi ambao umewahi kuwepo wa barabara hapo nyuma hawaujui kwa jina walikuwa wakiona vifusi vinamwagwa na barabara kutengenezwa Walitaja barabara zilizopo katika kata yao kuwa hawazijui kwa majina

Hakuna mradi mwingine ambao walisema umewahi kuja na mpango mzuri kama huu yaani wa kuwashirikisha wananchi katika hatua za awali kabla ya utekelezaji kufanyika na hivyo wanaipongeza serikali kwa ujumla kwa kutaka kuanzisha zoezi hilo.

Wananchi walitoa maoni yao ya majumuisho kuwa Kutakuwa na faida za kiuchumi kutokana na mradi huu ambazo ni kama hizi

- Afya ya wananchi itakuwa ni bora kwa vile vumbi litapungua
- Kutakuwepo na magari mengi ya abiria na wagonjwa
- Nauli zitapungua
- Ajira kwa vijana na wanawake zitakuwepo

- walisema pia kutakuwepo na athari za kimazingira kama zifuatazo:
- Kuongezeka kwa vumbi na kelele
- Kuanguka kwa nyumba zao kutokana na mtikisiko
- Kuvunjwa kwa nyumba zao hasa zilizoko karibu na barabara
- Kukatwa kwa mabomba ya maji taka na maji safi hovyoy

Waliendelea kusema madhara ya kiafya pia takakuwepo kama:-

Kuongezeka kwa maradhi kama vifua na vikohozi Lakini suala la maambukizi ya VVU kwa wao halitakuwepo kwani walishapata elimu ya kutosha na kama likitokea ni tabia ya mtu halikwepeki ni mtu kujilinda tu.

Wajumbe walitoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

Kuhusu maeneo muhimu ya kihistoria / kiutamduni/mambo ya kale Kama yapo yanayoweza kuathiriwa na mradi wajumbe walisema wote kuwa Hakuna kitu kama hicho katika eneo la ujenzi wa barabara hiyo. Kwahiyo hakutokuwa na tatizo la kukabiliana na suala hilo.

Wajumbe walitoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

- Waweke alama za vivuko vya mifugo na watoto wa shule
- Matuta yawekwe ili watotowasigongwe
- Yawepo mawasiliano kati ya mradi na mamlaka ya maji safi na maji taka ili usiwepo usumbufu
- wajumbe wa timu ya tathmini wasisite kwenda kuchukua maoni yoyote.

Mkutano ulimalizika saa sita mchana, wajumbe waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusesitiza

Kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa.

### **Muhtasari wa mkutano wa kumi na wanajamii wa kata ya K/ndege.**

Timu ya tathmini ilifika katika kata ya K/ndege tarehe 25/09/09 na kupokelewa na afisa maendeleo wa kata. Mkutano ulifanyika saa 4 na dakika 45 asubuhi chini ya mti karibu na ofisi ya kata. Mkutano ulihudhuriwa na wajumbe 11 kwasababu ya zoezi la uandikishaji daftari la wapiga kura.



**IFUATAYO NI ORODHA YA MAJINA YA WANAJAMII WALIOHUDHURIA  
MKUTANO WA KUMI KATIKA KATA YA K/NDEGE.**

K/NDEGE:		
JJOA	KAZI	SATHIJI
Hassan R. Kasubini	(MED) Afisa Mtendaji Mtaa	Ashid
MAIHAS KAMATIE	Mkulima	M. Kamatie
NASAU MANUMBU	Mkulima	<del>Ashid</del>
DOITO JUMA	Biashara	<del>Ashid</del>
MOHAME <del>ashid</del>	fundi	<del>Ashid</del>
Omari Athman	Biashara	<del>Ashid</del>
Naomi Kaskenya	CDO	Meg
Asha usumagilo	Biashara	<del>Ashid</del>
Chwici Shabani	Maua nyumbani	Shabani
Mary Kombo	Mkulima	<del>Ashid</del>
VICTORIA A. Mkweso	C.H.B.C	<del>Ashid</del>

AFISA MTENDAJI  
KATA K/NDEGE  
DODOMA CM

Kata ya K/ndege ni kata iliyoko eneo la AREA C pembeni kidogo ya manispaa ya dodoma Mkutano ulifunguliwa rasmi na Afisa maendeleo ya jamii wa kata kwakuwakaribisha wataalamu wa timu ya tathmini ya masuala ya kijamii na kimazingira kuendelea na utaratibu wao.

wananchi wachache walionekana kutokuwa na uelewa kabisa wa mradi huu wa uboreshaji wa barabara na kukili kwa vinywa vyao kuwa leo ndiyo mara yao ya kwanza kusikia kutoka kwa timu ya tathmini na baadhi walisema walisikia wakati wanapewa madodoso kujaza. Japokuwa mjumbe Asha alionekana kuwa na uelewa mzuri tu na mradi huo japokuwa hakuweza kutambua jina la mkandarasi Afisa maendeleo ya jamii wa kata alisema taarifa hizo alizipata kamawiki mbili zilizopita baada ya timu ya tathmini kupita katika ofisi yake, hata hivyo alikili kuwa ana miezi 2 tu toka afike hapo yeye ni mgeni bado.

Wajumbe walisema mradi uliopo kwenye kata yao ni wa AFRICARE ambao unafanya kazi ya kutambua watoto yatima waishio katika mazingira magumu, pia kuna mradi wa kusomba taka na CBO ya WEMU ambayo inasaidia kutoa elimu ya UKIMWI

Kuhusu mradi wowote wa barabara walionao kwenye kata yao wajumbe walisema hawajui ni wa CDA au MANISPAA kwani huwa wanaona watu wakitengeneza barabara siku za nyuma na greda likipita mfano eneo la osterbay greda lilikwangua njia na kuna vyoo na nyumba mbili zilivunjwa ili kuweka mji kwenye mpangilio lakini tatizo hilo lilitatuliwa kwa maana ya watu kupewa eneo lingine

Wajumbe walisema hawajui majina ya barabara zao kwani zamani kulikuwa na vibao ila watu walivyoanza kutafuta vyuma chakavu wakaondoa na hivyo ni ngumu wao kujua barabara zao Hata hivyo wajumbe hawakusita kusema kwamba walifurahishwa sana na utaratibu wa timu ya tathmini uliokuja nao wa kuwashirikisha wanajamii ili kupata maoni yao kabla ya ujenzi kuanza.

Wananchi walito maoni yao ya majumuisho ya faida za aina nyingi kama hizi:-

- Kukuwa kwa bihashara ndogondogo kama maduka na saluni
- Urahisi wa usafiri kwa wagonjwa pia kama kuna ajali ya moto watu wa zima moto watawahi kufika.
- Vumbi litapungua na hivyo maradhi kama vikohozi na mafua yatapungua.
- Mazingira yatakuwa masafi kwani hakuna mtu ataweka taka nje.
- Magonjwa ya malaria yatapungua kwani yale maji yaliyokuwa yanatuhama kwenye madimbwi na kujaa mbele ya nyumba yataisha.
- Daladala zitaongezeka na kuja mpaka kwa wanajamii yaani vituo vitasogea karibu.
- Ajira zitaongezeka mfano mama lishe watauza sana na vijana na watu wengine wenye uwezo wa kufanya kazi watafanya.

Walisema pia kutakuwepo na athari zifuatazo:

- Kuongezeka kwa vumbi moshi na kelele hasa wakati wanapopika lami
- Kuacha mabaki ya kokoto kwenye uwanja wa kuchezea watoto na hivyo kuharibu sehemu ya michezo.
- Kuongezeka kwa ajali
- Ongezeko la mafuriko katika eneo korofi endapo wenyeji hawatahusishwa kutoa ushauri. Mfano CDA mifereji yao imefunga huwa haipeleki maji kunakohusika.
- Ongezeko la maambukizi ya VVU kutokana na tabia ya mtu
- Kuvunjwa kwa nyumba zao hasa zilizoko karibu na barabara mfano wajane watapata shida wakivunjwa nyumba zao hawana uwezo wa kujenga.

Waliendelea kusema kwamba hakuna maeneo ya kihistoria/ kiutamaduni / ya kale yanayoweza kuzuia ujenzi wa barabara kuendelea

Wajumbe walimalizia kwakutoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

- Bumps ziwekwe
- Mabango ya kuelimisha juu ya kujikinga na UKIMWI barabrani yawekwe
- Wageni na wenyeji pia wazidi kuelimishwa juu ya maradhi ya ukimwi.

- Wataalamu kabla ya kuja kuanza kujenga waanze wafike katika eneo husika waonyeshwe maeneo korofi ili mifereji ikitengenezwa iwe ya uhakika.
- Madreva wamagreda wawe makini wanapoendesha.
- Taarifa kwa wananchi ziwe zinatolewa mapema ili wajue mipaka ya eneo lao ili wasijenge kusikostahili.
- Ujenzi wa barabara uendane na drainage system kwani mfano barabara ya zebra kuna matatizo sana mvua zikinyesha.
- Waweke parking za magari ili waache kupaki njiani
- Mifereji iwekwe ya uhakika.
- Waweke taa za mbalimbali barabarani ili hata kama kuna wahuni /majambazi wamejificha iwe rahisi kuonekana.
- Wawatumie watendaji wa mitaa kuwaelimisha watu na kuwaonyesha mipaka yao.
- Vifaa vya ujenzi mfano kokoto ziweweke mbali na makazi ya watu ili vumbi lisiathiri watu, watoke nje kidogo na mji.
- Taarifa zitolewe mapema kwa wananchi na ujenzi uende faster ili usumbufu usiwepo katika kufunga njia.

Hata hivyo wajumbe walioji maswali ya msingi kuwa:-

- Watakaovunjiwa nyumba zao watasaidiwa? Kuna fidia itatolewa?
- Wakandarasi watawasaidiaje juu ya vumbi namoshi wa lami?

#### **Muhtasari wa mkutano wa kumi na moja na wanajamii wa kata ya Makole.**

Timu ya wataalamu ilifika kata ya Makole siku ya jumamosi tarehe 19 mwezi wa tisa 2009 saa nne asubuhi na kukutana na wananchi wachache wakiwa wamefika eneo la mkutano. Mkutano ulifunguliwa na mtendaji wa kata na kuwakaribisha wataalamu wa mambo kijamii kuendelea, baada ya utambulisho timu iliomba kuwepo na mwenyekiti wa kuongoza mkutano, hivyo uteuzi wa mwenyekiti ulifanyika na mwenyekiti alipatikana.

**IFUATAYO NI ORODHA YA MAJINA YA WANANCHI WALIOHUDHURIA MKUTANO KATIKA KATA YA MAKOLE**

KIKAO CHA WAKAZI WA MITAA WA CHIMULI NA WATAJAMU WA Mazingira NA JAMII SMEC

NA	JINA KAMILI	WADHITA	SAMHI
1	A. MUKASIGE (P.S. D)	Mwami	Chadulu
2	HAMODAN HAMISI	Mufaka bwanari	Hamodan
3	YAHYA SHABANI MAKUJA	---	Yahya
4	C-K-FUTA	Maralima	Futa
5	EMANUEL PALINGO	fundi	Palingo
6	JUMA AMOUR	Mwami	Juma
7	PHILLIP T. JUMU	WEO	Phillip

19/09/09

AREA INTENDANT  
KATA YA MAKOLE  
DODOMA MC

Kata ya Makole ni moja ya kata za manisipaa ya Dodoma, katika kata hiyo kuna mitaa kama Chadulu D, Chimuli (Area D), Ipagala, Makole na Swaswa,

Kuhusu uelewa wa mradi wanajamii walisema kwamba walikuwa hawana taarifa juu ya uwepo wa mradi huu ila baadhi walikuwa nayo baada ya timu ya tathmini mazingira kuwapitia na kuwapa madodoso kipindi timu hio ilipokuwa inafanya tathimini yake pia wananchi walisema kulikuwa hakuna mradi mwingine wa barabara zaidi ya huu wa uboreshaji.

Wananchi walitoa maoni yao ya pamoja kuwa kutakuwa na faida za kiuchumi na za kijamii kutokana na mradi huu wa uboreshaji wa barabara zao .faida kama vile :

- Wameshukuru kusikia barabara zao zinaboreshwa na kwamba watapata faida za kiuchumi kama kuinuka kwa shughuli za kibiashara
- vumbi litapungua hivyo kupunguza magonjwa
- usafiri wa watu utakuwa rahisi pamoja na kupungua kwa nauli za daladala
- Pia wameeleza juu ya athari mbalimbali ambazo wanazitarajia kuzipata kipindi cha utekelezaji wa mradi utakapokuwa unaendelea kama vile:
- usumbufu wa kupita kipindi cha ujenzi huo
- -vifusi vya ujenzi vitaleta vumbi mno
- -kutakuwa na makelele kwani wajenzi hufanya kazi zao usiku
- -mabomba ya maji taka na maji safi yatakatwa kwani yamepita katikati ya barabara hivyo kutakuwa na gharama ya kurudishia tena mabomba hayo

- ukataji wa miti kipindi cha ujenzi wa barabara kwa kuwa miti ipo pembezoni mwa barabara zao
- -kutakuwa na mitetemo (vibration) kipindi cha ujenzi hivyo kusababisha nyufa katika nyumba

Pia waligusua madhara ya kiafya ambayo wanahisi yatawapata kipindi cha uboreshaji barabara kama vile

- kuongezeka kwa maambukizi ya magonjwa kama HIV/AIDS kwa kuwepo kwa ongezeko la watu wa aina mbalimbali katika maeneo yao kipindi cha uboreshaji huo wa barabara
- pia kutokana na moshi na vumbi pia magonjwa kama kukohoa, na magonjwa wa macho yataibuka na wanajamii kuambukizana

Wananchi walitoa mapendekezo/maoni yao kwa ujumla ambayo walipenda yazingatiwe kipindi cha uboreshaji huo kama vile:

- uboreshaji huu uchukue muda mfupi ili kupunguza ukali wa athari zilitakazokuwepo mfano vumbi
- -wananchi wapewe vibarua kipindi cha ujenzi huo ili kujipatia kipato
- -pia wananchi walitaka kuwepo na fidia kutokana na athari watakazopata
- -wananchi walisema ‘wajenzi wazingatie ujenzi bora sio bora ujenzi’
- -pia pawepo na matuta na alama za barabarani kipindi uboreshaji utakapomalizika ili kupunguza ajali za barabarani

Kuhusu swala la kuwepo kwa maeneo ya kihistoria au kiutamaduni ambayo labda yange athiliwa na uboreshaji huu wananchi walisema hakuna maeneo hayo, hivyo kuwathibitisha watalaamu kuwa hilo sio tatizo la kuweza kuzuia mradi kuendelea.

Mkutano ulimalizika saa tano na nusu, wajumbe waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusisitiza

Kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa.

### **Muhtasari wa mkutano wa kumi na mbili na wanajamii wa kata ya viwandani.**

Timu ya tathmini ilifika katika kata yaviwandani tarehe 28/09/09 na kupokelewa na msaidizi wa afisa mtendaji wa kata. Mkutano ulifanyika saa 4 na dakika 30 asubuhi ndani ya ofisi ya kata. Mkutano ulihudhuriwa na wajumbe wachache ukilinganisha na kata zingine zilizokuwa zimeshatembelewa kwasababu kata hiyo iko katikati ya mji wa dodoma maarufu kwa jina la uhindini.

**IFUATAYO NI ORODHA YA MAJINA YA WANAJAMII WALIOHUDHURIA MKUTANO WAKUMI NA MBILI KATIKA KATA YA VIWANDANI.**

VIWANDANI WARD.		28-07-2009
JINA		KAZI
1. KHADISA Mwanzi	M/KITI-Mtaa	Mly
2. BASILE HABIBI	KIASHARA	Mly
3. STELLA MILEOSI MUNGEE	MEO	Mly
4. BENAVENTURA LYUW	MEO	Mly
5. ROSE KASSAOCIA		Mly
6. FATUMA ELIABI		Mly
7. FANUEL O. LAWRENCE	MEO	Mly
8. CHRISTOPHER R. MLECA	MEO	Mly
9. GAIID MLECA		Mly
10. PETRONILA S. KAZILEGE		Mly

**AFISA MTENDAJI WA KATA VIWANDANI**  
28/07/2009.

Kata ya viwandani ni kata iliyoko eneo la ya manispaa ya dodoma Mkutano ulifunguliwa rasmi na Afisa maendeleo ya jamii wa kata kwakuwakaribisha wataalamu wa timu ya tathmini ya masuala ya kijamii na kimazingira kuendelea na utaratibu wao.

wananchi wachache walionekana kutokuwa na uelewa kabisa wa mradi huu wa uboreshaji wa barabara na kukili kwa vinywa vyao kuwa leo ndiyo mara yao ya kwanza kusikia kutoka kwa timu ya tathmini na baadhi yao walisema walisikia wakati wanapewa madodoso kujaza. Japokuwa msaidizi wa afisa mtendaji wa kata yeye alionekana kuwa na taarifa zaidi juu ya mradi huo ila ni kupitia timu ya tathmini

Wajumbe walisema mradi uliopo kwenye kata yao ni wa ujenzi wa sekondari na ofisi ya kata tu. Kuhusu mradi wowote wa barabara walionao kwenye kata yao wajumbe walisema mwaka jana kulikuwa na uboreshaji wa Barbara uliokuwa unafanywa na manispaa ya dodoma hakuna mradi mwingine zaidi ya huo alisisitiza kusema hayo mjumbe(Fanuel)

Waliendelea kuzitaja barabara zilizoko katika kata yao kuwa ni pamoja na nyerere street, Tabora avenue, Mwanza avenue, First avenue, Mbeya avenue na mpwapawa zilizoko mtaa wa taffic Hata hivyo wajumbe hawakusita kusema kwamba walifurahishwa sana na utaratibu wa timu ya tathmini uliokuja nao wa kuwashirikisha wanajamii ili kupata maoni yao kabla ya ujenzi kuanza.

Wananchi walito maoni yao ya majumuisho kuwa zitakuwepo faida nyingi kama hizi zifuatazo:-

- Itapunguza kero ya maji kuingia kwenye nyumba za watu hasa wakati wa masika.
- Kukuwa kwa bihashara ndogondogo kama maduka na saluni
- Urahisi wa usafiri kwa wagonjwa pia kama kuna ajali ya moto watu wa zima moto watawahi kufika.
- Vumbi litapungua

- Mazingira yatakuwa masafi
- Ajira zitaongezeka mfano mama lishe watauza sana na vijana na watu wengine wenye uwezo wa kufanya kazi watafanya.

Walisema pia kutakuwepo na athari zifuatazo:

- Kuongezeka kwa vumbi moshi na kelele hasa wakati wanapopika lami
- Kuongezeka kwa wizi na uhasherati
- Watoto wa mitani wataongezeka.
- Kuongezeka kwa ajali
- Ongezeko la maambukizi ya VVU kutokana na tabia ya mtu

Waliendelea kusema kwamba hakuna maeneo ya kihistoria/ kiutamaduni / ya kale yanayoweza kuzuia ujenzi wa barabara kuendelea

Wajumbe walimalizia kwakutoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

- Bumps ziwekwe
- Mabango ya kuelimisha juu ya kujikinga na UKIMWI barabrani yawekwe
- Wageni na wenyeji pia wazidi kuelimishwa juu ya maradhi ya ukimwi.
- Wataalamu kabla ya kuja kuanza kujenga waanze wafike katika eneo husika waonyeshwe maeneo korofi ili mifereji ikitengenezwa iwe ya uhakika.
- Ujenzi wa barabara uendane na drainage system kwani mfano barabara ya zebra kuna matatizo sana mvua zikinyesha.
- Mifereji iwekwe ya uhakika.
- Waweke taa za mbalimbali barabarani ili hata kama kuna wahuni /majambazi wamejificha iwe rahisi kuonekana.
- Taarifa zitolewe mapema kwa wananchi na ujenzi uende faster ili usumbufu usiwepo katika kufunga njia.

Hata hivyo wajumbe walioji maswali ya msingi kuwa:-

- Watakaovunjiwa nyumba zao watasaidiwaje? Kuna fidia itatolewa?
- Wakandarasi watawasaidiaje juu ya vumbi namoshi wa lami?
- Mkutano ulimalizika saa5 na dakika 33 asubuhi, wajumbe waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusisitiza
- Kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa.

**Muhtasari wa mkutano wa kumi na tatu na wanajamii wa kata ya Kilimani.**

Timu ya tathmini ilifika katika kata ya kilimani tarehe 26/09/09 na kupokelewa na mwenyekiti wa serikali ya mtaa wa kata na viongozi wengine wa kata na wajumbe mbalimbali wa kata ya kilimani. Mkutano ulianza saa 10 na dakika 57 jioni chini ya mti mbele ya ofisi ya kata. Mkutano ulihudhuriwa na wajumbe 17.

**IFUATAYO NI ORODHA YA MAJINA YA WANAJAMII WALIOHUDHURIA MKUTANO WA KUMI NA TATU KATIKA KATA YA KILIMANI.**

KILIMANI IXIXR D: 26/09/09

JINA	KAZI	SANJAI
1. SIMON MWAKAMBISI	Mkazi	<del>Alama</del>
2. JANE MPEMBA	Kim	<del>Alama</del>
3. Matega M.M.M	Mkazi	<del>Alama</del>
4. U.S. MSHINDU	Mkazi	<del>Alama</del>
5. S. Mwalukisa	Mkazi	<del>Alama</del>
6. Phinas Misana	Mkazi	<del>Alama</del>
7. SHOSHO N.B.R	M/Kiti Tawi - Mkazi	<del>Alama</del>
8. Pius Joseph	Mkazi	<del>Alama</del>
9. GUISO KALINDO	Mkazi	<del>Alama</del>
10. M. MPEMBA	Mkazi	<del>Alama</del>
11. MRS. J. CHWALIGO	Mkazi	<del>Alama</del>
12. MRS E. MAHAWA	Mkazi	<del>Alama</del>
13. COILDA NYENDIKU	mtandaji wa mtaa	<del>Alama</del>
14. ANYONG MWALILEMA	MKAZI	<del>Alama</del>
15. MRS. R. KALINDO	MKAZI	<del>Alama</del>
16. P. E. KILANCI	MKAZI	<del>Alama</del>
17. A. H. NYAKISIRYA	MKAZI	<del>Alama</del>
18.		
19.		
20.		

MWENYEKITI WA MTAI-KILIMANI  
S. L. P.  
DODOMA  
28/09/09

Kata ya Kilimani ni kata iliyoko eneo la uzunguni katika manispaa ya Dodoma. Mkutano ulifunguliwa rasmi na mwenyekiti wa serikali ya mtaa wa kata kwakuwakaribisha wataalamu wa timu ya tathmini ya masuala ya kijamii na kimazingira kuendelea na utaratibu wao.

Katika swala zima la uelewa wa mradi, wananchi wachache walionekana kutokuwa na uelewa kabisa wa mradi huu wa uboreshaji wa barabara na kukili kwa vinywa vyao kuwa leo ndiyo mara



yao ya kwanza kusikia kutoka kwa timu ya tathmini na baadhi walisema walisikia wakati wanapewa madodoso kujaza. Japokuwa mjumbe mmoja alionekana kuwa na uelewa mzuri zaidi na mradi huo kwani alikuja na uthibitisho wa barua toka manispaa inayoeleza zoezi zima la uboreshaji wa barabara za manispaa ya Dodoma.

Wajumbe wachache walionekana kutoelewa majina ya barabara zao vizuri na hivyo kuanza kulalamika kwamba kwanini kuna barabara zingine zimeachwa kuboreshwa? Wajumbe wengine walijitahidi kutaja barabara ambazo wao kama wadau wangependa zifanyiwe maboresho ambazo ni pamoja na Kazembo na mwangosi, Kwamaana hiyo walisema mkandarasi asitengeneze barabara ya biringi, farahanai, vice president, /askari/boma, na kikuyu avenue peke yake itakuwa haina maana.

Wananchi walito maoni yao ya majumuisho ya faida kuwa zitakuwepo faida nyingi sana kuliko madhara. Japokuwa walitaja athari ambayo inaweza kujitokeza ni pamoja na hii ifuatayo:-

- Ongezeko la maambukizi ya VVU

Wajumbe walimalizia kwakutoa mapendekezo/maoni ya ujumla Kama ifuatavyo:-

- Waweke vidaraja vidogo vya kuingia katika nyumba hata mtu mwenye pikipiki au baiskeli aweze kupita.
- Barabara ambazo zimeachwa kufanyiwa uboreshaji nazo zote zifanyiwe
- Iwepo fidia kwa mtu ambaye mtaro utapitishwa kwenye eneo lake
- Barabara zinazojengwa ziwe imara na jukumu la ukarabati lijulikane.
- Mradi usiishie njiani tu.
- Bumps ziwekwe
- Kuwepo mawasiliano ya karibu kati ya DUWASA na mkandarasi ili kuepuka kukata mabomba ya maji yanayopita barabarani.
- Kuwepo na mawasiliano pia na TTCL kwani kuna nyaya za simu zimepitishwa hivi karibuni.
- Mabango ya kuelimisha juu ya kujikinga na UKIMWI barabarani yawekwe
- Wageni na wenyeji pia wazidi kuelimishwa juu ya maradhi ya ukimwi.
- Mifereji iwekwe ya uhakika.

Mkutano ulimalizika saa 12 na dakika 12 jioni. Wajumbe waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusisitiza

Kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa hasa barabara za MWANGOSI na KAZEMBO endapo zitawekewa lami pia.

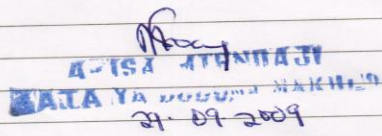
### **Muhtasari wa mkutano wa kumi na nne na wanajamii wa kata ya Dodoma makulu- eneo la ujenzi wa stendi mpya.**

Timu ya tathmini ilifika katika kata ya Dodoma makulu tarehe 29/09/09 na kupokelewa na msaidizi wa afisa mtendaji wa kata. Mkutano ulifanyika saa 8 na dakika 20 mchana ndani ya ofisi ya kata. Mkutano ulihudhuriwa na wajumbe wachache kutokana na kutopata taarifa mapema kwa wajumbe wengine toka kwa mtendaji wa kata. Wajumbe walimteua mheshimiwa Diwani kuwa mwenyekiti wa muda wa mkutano huo kama ilivyo kawaida.

**IFUATAYO NI ORODHA YA MAJINA YA WANAJAMII WALIOHUDHURIA MKUTANO WA KUMI NA NNE KATIKA KATA YA DODOMA MAKULU-ENEO LA STENDI MPYA.**

**MKUTANO NA WANAJAMII WA DODOMA MAKULU**  
-MAHUDHURIO- 29/09/2009.

JINA	KAZI	SAMHI
1/ MOSES Makutu	Mkulima	
1/ JENES. A. NGONYA	MFANYABIASHARA	Ajanga
1/ ROBASIANI ONESI FDR	MFANYABIASHARA	R. W. 2009
1/ JACHINDA LUHANGA	BALOZI	J. Lungya
1/ ZIPOLA KUSHOKA	B. MSAIDIZI	Kushoka
1/ SALEHE Y.	BILINGI	Stacy
OLIMPIA BOGASIANI	MFANYABIASHARA	Olimpia
1/ KATHERINA MSISI	BALOZI	MSISI
1/ SAIONDI SAJILLO	MGAMBO	Sajillo
0/ JOHN Chimbusi	M/KITI TAWALUM.	
11/ STEPHEN Ngaha	M/KITI MTA	MS
2/ ALY ISSA BIRINGI	MHE. DIWANI	Albiringi
13/ Queen Nelson Mosses	Mkazi	Queen
14/ ALI J MTEOMBAZI	Mwenzaji Kiti	Ali
15/ MARY G. MBELWA	Mkazi	Mbelwa
16/ AMANA NDAMBA	Mkulima	Aidama

  
 DODOMA CITY COUNCIL  
 KATA YA DODOMA MAKULU  
 29-09-2009

Eneo la ujenzi wa stendi mpya ya manispaa ya dodoma liko katika kata ya Dodoma makulu. Mkutano ulifunguliwa rasmi na mheshimiwa Diwani ambaye alifika akiwa amechelewa kidogo. Na kuwakaribisha wataalamu wa timu ya tathmini ya masuala ya kijamii na kimazingira kuendelea na utaratibu wao.

Kuhusiana na swala la uelewa wa mradi wananchi wachache walionekana kutokuwa na uelewa kabisa wa mradi huu wa uboreshaji wa barabara na kukili kwa vinywa vyao kuwa leo ndiyo mara yao ya kwanza kusikia kutoka kwa timu ya tathmini na baadhi yao walisema walisikia wakati wanapewa madodoso kujaza. Japokuwa msaidizi wa afisa mtendaji wa kata yeye alionekana kuwa na taarifa zaidi na mheshimiwa Diwani.

Wananchi walitoa maoni yao ya majumuisho kuwa zitakuwepo faida nyingi kama hizi zifuatazo:-

- Nauli zitapungua.
- Kukuwa kwa biashara ndogondogo kama maduka na mama lishe
- Urahisi wa usafiri
- Mazingira yatakuwa masafi
- Ongezeko la wawekezaji
- Ajira zitaongezeka mfano mama lishe watauza sana na vijana na watu wengine wenye uwezo wa kufanya kazi watafanya.

Walisema pia kutakuwepo na athari zifuatazo:

- Ongezeko la maambukizi ya VVU
- Wezi wataongezeka
- Ajali zitaongezeka.

Waliendelea kusema kwamba hakuna maeneo ya kihistoria/ kiutamaduni / ya kale yanayoweza kuzuia ujenzi wa stendi kuendelea

Wajumbe walimalizia kwakutoa mapendekezo/maoni ya ujumla kama ifuatavyo:-

- Wapewe kipaumbele na mradi kwenye eneo la mradi ili wanajamii waweze kuwekeza
- Fidia itolewe kwa wahanga wenye makaburi yao na ambao walikuwa na mashamba yao
- Ajira itolewe kwa wakazi wa eneo hilo kwanza.
- Kiwekwe kituo cha polisi ili hata kama kuna matatizo yametokea iwe rahisi kuyatatua.
- Wajengewe zahanati katika eneo hilo kama huduma ya kwanza kwa wananchi.

Mkutano ulimalizika saa 9 na dakika 32 jioni wajumbe waliomba Timu ya Tathimini kuyafikisha maoni yao yote kunakohusika na kusisitiza

Kuwa wanasubiri kwa hamu sana mradi huo kwani ni mzuri na utakuwa na maendeleo ukizingatia mapendekezo yaliyotolewa.

## APPENDIX 4: PHOTOS TAKEN DURING THE FIELD INVESTIGATIONS



**The picture showing the existing bus stand**



**Dodoma town Bus commuters' stand**



**Central Business Park road**



**Chamwino- Chang'ombe road**



**Ndovu road at Majengo Ward: one of the Commercial roads**



**Ward Executive Officer (WEO) of Dodoma Makulu ward opening a community meeting**



**Engineer from Dodoma Municipal Council showing the map to the community of Tambukareli ward**



**Focus Group Discussion held at Makole ward**



**Community meeting held at Kikuyu ward**

## Appendix 5: Environmental Education and Public Hygiene Awareness Program

As Dodoma Municipal Council (DMC) moves in tandem with the rest of Tanzania's cities and municipalities keeping pace with technology and development, the Council's natural environment may often be taken for granted. Protecting, maintaining and improving the cities fragile environment can only be brought about through a combination of responsibility and action, both individual and collective. A well-informed and well-initiated public will be better positioned to effect real and sustainable change in public health and environmental issues.

The goal of the Environmental and Social Impact Assessment for all the sub-projects in Dodoma Municipal Council and the Capital Development Authority (CDA) is to improve environmental sustainability in Dodoma region as a whole by, helping achieve the desired Millennium Development Goals (MDG) targets. More immediately, it will develop and test on an environmental management Plan that focuses predominantly but not solely on environmental health and awareness.

In addition to building capacity for Environmental Assessment it is desirable to introduce Innovative **Environmental Education and Public Awareness** a specially designed environmental awareness program that will Increase understanding of the issues to the local affected communities. This programme should have the following elements:

- Selecting and developing adequate methodologies and tools for promoting environmental education and awareness;
- developing materials for an environmental awareness, education, and outreach program;
- testing the education awareness program by conducting training in selected communities
- preparing outline guidelines for teachers or community trainers and conducting a train-the-trainers program
- developing indicators for evaluating the program after 3 months of raising awareness
- Allowing the learners to draw scientific principles and social insights from their immediate environment and increasing the connection between school and community, exogenous and endogenous knowledge.

Although the environmental education program is expected to have a strong focus on Environmental health and hygiene, the component must be integrated with long-term

sustainable environmental management, natural resource conservation practices, and elements of education for disaster risk reduction. Thus, proposed modules should include topics such as:

- Rain and groundwater resources;
- Vegetation and groundwater;
- Salinity, water resources management, and appropriate groundwater extraction systems;
- Point pollution sources;
- Community solid waste management (including collection, segregation, and composting);
- Community-driven natural resource management;
- Disaster awareness, preparedness, and management.
- Organizing for Community-Based Environmental Management.
- Conducting preliminary technical and organizational workshops in all aspects of water supply and sanitation (WSS) and solid waste management (SWM).
- Identifying community “mobilizers
- Developing community organization and mobilization guidelines;
- Transferring community development skills to “mobilizers” in preparation for the transfer of the sanitation and solid waste management schemes



## **Appendix 6: Environment Section for TSCP Operational Manual**

### **General**

The purpose of this Section in the TSCP Operational Manual is three-fold: (i) establish the appropriate institutional arrangement for managing the environmental assessment process; (ii) guide the development of possible future sub-projects; (iii) catalogue the “typical” environmental mitigation measures that need to be incorporated in the engineering design of any variation/additional works or additional sub-projects.

#### **(i) Process Used to Prepare EMPs**

- Immediately following the identification of the sub-projects and subsequent invitation of the Consultant, the PMO-RALG in conjunction with the DMC and CDA, the SMEC consulting firm on EIA undertook a wide process of consultation with the affected communities to elicit their views on the proposed road sub-projects including waste dumpsite and Bus and lorry terminal construction.
- In total, 15 Ward Executive Officers in 15 wards where the sub-projects are located were consulted on the purpose of the sub-projects, and its impact on the affected communities and the nation as a whole. Discussions were held regarding the ward’s capacities in implementing the Environmental management Plan for health, safety, security, and waste disposal which the Consultant has prepared.
- All of the participants from the affected communities endorsed the project and admitted the critical importance of good roads in their economic and social life. Issues which emerged of most concern were inadequate water supply, lack of access roads and garbage disposal. They also made several suggestions pertaining to the construction of the roads in a manner that would benefit the local communities e.g. the employment of available local skills, providing bus stops and shelter along the roads, providing good drainage, to stem flooding episodes in some areas. Annex 1 shows the community’s participation list.
- All these recommendations are featured in EMP prepared by the consultant.

#### **(ii) Institutional Arrangement Responsibilities for Monitoring EMPs**

The administration of DMC is composed of 43 Councilors out of which 30 are Wards representatives, 11 nominated members and 2 are members of Parliament (1 of the Constituency and 1 are nominated) of the legislative body of the Council. The City Director and Heads of departments constitutes the executive component of the Council.

The full council under the elected Mayor is the highest decision making organ in the Council. The Council consists of four standing committees:-

- Finance and Administration
- Economic, Health and Education
- Urban Planning and Environment
- Works and Communication

Most of the Council wards have in existence committees in security, waste management and health services. The DMC can draw expertise from University campuses, colleges and Vocational Training Centers located in Dodoma. In addition to the Regional Offices' for Environment, Planning, Roads, Health, Agriculture, Forestry, Geology, Water, Irrigation and Weather Agency. All of which have been informed about the proposed sub-projects. Other Institutions which have been consulted include TENASCO- the electricity supply company and DUWASA, the Dodoma Urban Water Supply and Sewerage Authority.

It is desirable for the Municipal Council to enhance its capacity in order to improve ownership and create awareness among decision makers and other stakeholders at the national and district levels, such as government agencies; the private sector; and civil society, including non-government organizations and representatives of those affected by the project (Ward level) regarding EMP implementation. As a start there will be need to establish a steering committee at municipality comprising members from the above organizations to oversee the implementation processes.

### **(iii) Checklists and Guidelines for Sub-project EIAs**

The checklist for sub-project EIA's should identify impacts on:

- **Soil** e.g. land uses, unique physical characteristics, etc.
- **Water** e.g. Quality, flow alteration, etc.
- **Atmosphere** air quality, temperature variation, etc.
- **Flora** endangered species, deforestation, etc.
- **Fauna** rare species, endangered species, etc.
- **Resources** natural landscapes, swamps, etc.
- **Recreation** loss of fishing, camp sites, countryside walks, etc.
- **Cultural aspects** indigenous communities, changes of habits, etc.

The following types of lists are considered:

• **Simple lists:** that contains a list of environmental factors with impacts or a list of characteristics of impact-producing activities or both, and serves as an aide-memoire.

They ensure that a particular factor is not omitted in the analysis.

• **Descriptive lists:** that guides the assessment of impacted environmental parameters. For instance, they suggest possible mitigating measures, bases for a technical estimate of the impact, bibliographic references, or data on the affected groups

• **Graded lists.** Criteria are established to assess a set of environmental elements. Their minimum acceptable values (MAV) as specified in the environmental quality standards and criteria are compared, as well as value variations (VV), for three project alternatives: without action (WA), average investment (AI) and major investment (MI). The negative environmental impact (NEI), if any, is indicated for each case. Since this is criteria, units should be adapted to each case (i.e. project alternative).

• **Questionnaires.** Set of systematic questions on generic environmental categories. There are usually three answers (yes, no, don't know) with regard to the specific impact. The questionnaire enables us to find out how much information is available on the impact. The answers can provide a qualitative idea of the relative importance of a given impact, whether it is negative or positive. The environmental analysis of a project is a systematic procedure of questions and answers with the addition of quantitative and qualitative information if necessary

### **EIA's Guidelines**

Criteria for assessing a project and setting a level of assessment are:

- The character of the receiving environment
- The potential impact of the proposal and confidence of predicting impacts
- Resilience of the environment to cope with change
- The technology to be used
- Plans, policies or procedure which influence land use changes
- Degree of public interest (i.e. concerns of the general public)
- Any other relevant factors to the particular undertaking

### **The following methodologies can be applied:**

a) **Meetings of experts.** This method is useful when the impact to be studied is specific and limited. If it is not so, neither speed nor thoroughness can be demanded because of interdisciplinary conflicts. The Delphi method has been very useful.

**b) Checklists.** Detailed lists of issues that help identify impacts rapidly. There are merely indicative lists and quantitative lists that use standards to define the main impacts (for example, air pollution according to number of households).

**c) Simple cause-effect matrices.** They are limited matrices that relate the affected environmental variable with the human activity that induces it.

**d) Graphs and flow charts.** They seek to determine chains of primary and secondary impacts with existing interactions and are used to define the types of impacts expected.

**e) Environmental cartography or map overlay.** Set of maps that represent the main environmental characteristics. For instance, synthesis maps define soil capacities for different uses, protection levels, and constraints on development in each area.

**f) Networks.** Expanded flow charts with primary, secondary, and tertiary impacts.

**g) Geographic information systems.** Computer programs that do not identify impacts, but rather attempt to assess their importance.

**h) Matrices.** Double-input tables with environmental characteristics and expected activities of the project. The corresponding impact is identified by intersecting each row with each

column. The Leopold matrix is a good example. In more complex matrices, sequence between primary and secondary effects can be deduced.

### **Existing key policies and laws relating to environmental management**

Existing key policies and laws relating to environmental management. The following are key policies and laws of The Government of Tanzania (GoT) governing Environmental management:

- Town and Country Planning Ordinance, of 1966, Chapter 378: The Ordinance was intended to establish a land-use planning scheme for designated areas. The National Land Use Planning Commission was established to advise Government on land conservation and development
- Water Utilization and Control Act, No. 42 of 1974: The Act establishes temporary standards for receiving waters, as well as effluent discharge standards.
- Urban Water Supply Act, No. 7 of 1981 : The Act gives the National Urban Water Authority powers to monitor and control surface water and groundwater

pollution and specifies when such Ministry of Water and Livestock pollution is a punishable offence

- Local (District and Urban) Local Authorities Act, No. 7 of 1982 : Local Authorities are empowered to make by-laws regarding the Local Authorities protection of soil, agriculture, water supplies and other natural resources. The Act contains provisions to protect human health and regulate pollution problems.
- National Environmental Management Council (NEMC) Act, No. 19 of 1983: The Act provides for the establishment of the NEMC, as well as all functions and other matters related and incidental to its establishment.
- Forestry Policy of 1993: The revised Policy continues to recognize the important role of forests in maintenance of the environment, the provision of forestry products, and protection of watersheds and biodiversity.
- Land Act, No. 4 of 1999: Private Group Property is given either through Granted Rights in General Ministry of Lands and Human and Reserved Land (Land Act, Section 19) or through Customary Rights in Settlement Development Village Lands (Village Land Act, Section 22). Provision is also made for holding land by joint occupancy or occupancy in common (Land Act, Part XIII).
- Public Health, Sewerage and Drainage Ordinance Chapter 336: The Ordinance prohibits the discharge of certain substances into sewers. Violation of the Ordinance is an offence, and penalties may be imposed on offenders.

#### **(iv) Formats for EMPs**

The Environmental Management Plans'(EMP's) scope, content, and activities will be formatted to conform with the safeguard requirements of the Government of Tanzania(GoT), Municipal By- laws, World Bank, and other donors with relevant international best practices. The targeted EMP will cover, but will not be limited to, the following:

- Construction roads,
- Resettlement sites,
- Quarries,
- workers' camps,
- waste disposal sites,
- Materials staging and storage sites and other ancillary facilities and Identified sensitive areas such as schools and health centres.

It will cover preconstruction, construction, and operational phases. The City Councils' experience with EMP's implementation is limited and the Consultant recommends capacity building in this regard.

Mitigation in the Sub-projects aims at eliminating/reducing adverse impacts and maximizing the positive ones. Mitigation measures generated by construction works re integrated in the technical designs and will be included in the construction contracts. The project implementation unit, management and contractors will make sure that all the measures are properly implemented.

**The project will induce land-take; especially the pieces of land located in the right of way.**

In this project (TSCP-Dodoma), the developer has confirmed that there are no resettlement and Compensation issues to be addressed prior to roads construction. However, wherever involuntary resettlement is an issue, mitigation will focus mainly on: **minimizing land expropriation and compensations**; establishing appropriate compensation mechanisms, recognizing income and asset losses; planning of adequate space and facilities to locate new businesses; and ensuring that the poor and other vulnerable groups maintain or improve their capacity to satisfy their basic needs. Regarding **information, education and communication**, mitigation will focus on informing all groups of people affected by the project on **project activities, schedule and potential disturbances**, as well as on means to reduce disturbances; and planning of session of information, education and communication activities during and after project implementation to increase awareness of all users on dangerous behaviors and safety measures that shall be taken.

- Health and communicable diseases distribution are highly affective during road construction:
- There is an increased incidence of HIV and other STDs associated with construction, transit, and economic change. This will necessitate the distribution of HIV/AIDS prophylaxis through appropriate health service organizations as well as wide distribution of condoms (for men and women), particularly at hotels and overnight stops;
- There is the need for environmental management for vector control, especially in drainages and culverts, and un-reclaimed borrow pits. Insecticide and molluscicide will be applied to minimize water/roads related diseases such as malaria 3) Medical services will be strengthened to ensure rapid diagnosis and treatment.

Non-communicable diseases mainly related to dust and pollution will be minimized as follows: **Control of dust emissions or provision of protective devices** (especially for roads workers), promote public transport (to minimize individual transportation and proliferation of vehicles), control vehicle emissions and noise; plan facilities for pedestrians and cyclists.

Roads can significantly affect the hydrology of the areas crossed. To avoid or minimize adverse effects and mitigate, properly designed culverts, inverts, and drains should be installed. Road engineers are well aware and trained on this issue.

Soils and landscapes are sensitive to road construction. Therefore, areas sensitive to erosion should be avoided or special measures taken to minimize effects. In this regard, engineering design and implementation are highly critical.

#### **(v) Guidelines for Sub-project Appraisal**

The following elements on the environmental impacts being considered for sub- project appraisal can be applied:

- The beneficial or detrimental character of the impact with regard to the situation prior to the action.
- The magnitude represented by extension, quantity, and intensity of the impact. For instance, it answers questions such as: how many hectares are affected?, how many species are threatened?, what is the volume of pollutants or percentage above the standard limit, etc.?
- The significance of the impact and its relative importance (impact quality) or example, ecological importance of eliminated species, intensity of effluent toxicity or environmental value of a land area.
- The type of impact, i.e., direct, indirect or synergistic (the latter accumulates and increases with the presence of several impacts, which end up exceeding the sum of the individual impacts).
- The duration of the impact refers to the behavior of predicted environmental impacts in time: whether it is short-term and then stops; whether it appears rapidly; if it is long-term or intermittent, etc.
- The reversibility of the impact, which considers the possibility, difficulty, or impossibility of returning to the situation previous to the action or project. There are reversible, terminal, and irreversible impacts.
- The impact risk and its probability of occurrence.
- The spatial area or area of influence, the land area receiving the environmental impact, which does not necessarily coincide with the location of the proposed action. It informs about the dilution of the impact intensity, which is not lineal to the distance from the source that induces it; when environmental characteristics are more sensible, the impact severity will increase (the example of toxic accumulation in ravines with impermeable soils is relevant).

Sub –project appraisal may be carried out by analysis of the following: Water quality, Air quality analysis, Soil degradation analysis, Soil cartography, Tele-detection (i.e. satellite) data, Analysis of flora and fauna and Landscape analysis.

As an example, a study of the landscape can be based on the following criteria:

- The value of the landscape corresponds to the set of interrelations among other elements (water, air, plants, rocks, etc.) and its study requires previous research.
- Landscape encompasses an important fraction of the plastic and emotional values of the natural environment; it is therefore recommended that a study of the landscape be based on visual qualities or values.

Parameters vary from one area to another depending on the objectives proposed in each study. Hence, there are different techniques to **inventory**, **identify**, and subsequently **assess** the condition of the landscape. The properties mainly addressed are **visibility**, **fragility**, and **quality**, as described below:

- a) **Visibility** encompasses possible observation points from which the activity is visible. Some techniques used are: in situ observation, manual profile determination, automatic methods, search by sector, and grids. Manual methods of creating visibility maps may be used or a microcomputer.
- b) **Fragility** refers to the set of characteristics of the land area related to its capacity to respond to changes in the properties of its landscape. It is used as a guide for locating the possible facilities or their elements in such a way as to produce the least possible visual impact. **Biophysical**, **perceptive**, and **historical-cultural** factors usually affect fragility. **Proximity** and **visual exposure** can also be considered.
- c) **Quality or beauty** of the landscape: these values also need to be assessed in terms comparable to those used for other resources. Perception of the landscape depends on the sensitive conditions or mechanisms of the observer, educational or cultural conditions, and the relationship between the observer and the observed object. Although the formal quality of the objects that make up the landscape and the relations with its environment can be described in terms of **design, size, shape, color, and space**, there are many differences when measuring the relative value of each and its weight in the total Composition.

The following methods have been established for this purpose:

**Direct methods.** The appraisal is made based on the observation of the whole landscape:



**Accepted subjectivity.** It is the simplest, though the least objective method, but it is accepted because of the degree of subjectivity that the landscape itself possesses. The result can correspond to a parceling of the land area classified; in visual quality categories, for instance, excellent, **very good, good, fair, and poor.**

**Controlled subjectivity.** Based on a universal scale of landscape values to establish comparable figures in different areas. Certain categories such as **spectacular, superb, distinguished, pleasant, vulgar, and ugly** are used. It is carried out with the participation of specialized personnel, using universal scales to ensure that the subjective assessment of different sites is comparable.

**Shared subjectivity.** This is similar to the accepted subjectivity method. The appraisal is performed by a group of professionals who should reach consensus, thereby eliminating extreme positions within the group. In brief, the aesthetic appraisal of the landscape is discussed.

**Representative subjectivity.** In this case, the appraisal is carried out by a representative group of the society. Surveys are used in order to classify the selected landscapes. **Photographs** serve as a support tool.

**Indirect methods.** These include qualitative and quantitative methods that assess the landscape and analyze and describe its components. Some of the methods considered are:

**Methods of appraisal through landscape components.** Physical characteristics of the landscape are used, for instance, **topography, land uses, presence of water**, etc. Each unit is appraised in terms of the components and subsequently, partial values are added to obtain final data.

**Methods of appraisal through aesthetic categories.** Each unit is appraised in terms of the aesthetic categories established, and partial appraisals are added or harmonized in one single value. Categories such as **unit, variety, contrast**, etc., are used. Its key point is related to the selection of the components to be used and the criteria that represent them. **Mixed methods.** These methods combine the two previous ones and the appraisal is carried out directly using a component analysis that weights the participation of each component in the total value.

#### **(vi) Guidelines for assessing variations/Additional work - Assessment Guidelines**

This assessment may be carried out by applying the principles of environmental mitigation, EMP implementation and compensatory mechanisms.

### **Mitigation measures**

Mitigation is the designing and execution of measures to reduce, mitigate, minimize the negative impacts of the sub-projects, work, or activity on human or natural environments. Mitigation can restore one or more environmental components to pre-impact quality; if this is not possible, it can re-establish the basic properties. This is done by implementing the environmental management plan.

### **Implementation of EMP**

The Environmental Management Plan identifies measures to mitigate and compensate significant environmental impacts. It includes a program with mechanisms for the execution of actions aimed at minimizing negative environmental impacts and strengthening the positive ones during the construction, operation, and abandonment of projects, works, and facilities; and a program with compensatory measures to restore the environment.

### **Compensatory principles**

Compliance with environmental protection programs depends to a large extent on the mitigating and compensatory measures, since it is these measures that make human activities viable from the environmental perspective. The purpose of mitigation is to set in motion pre-designed actions to reduce environmental impacts to acceptable levels. Compensatory measures aim to produce a positive alternative effect to match an identified adverse effect and they are implemented only in areas where significant adverse impacts cannot be mitigated.

### **Establishing Preventive measures**

When establishing preventive measures to reduce or eliminate impacts, we must work on the premise that it is always far better not to produce impacts than to have to set up mitigation measures. Mitigation involves **an additional cost** that, although low in comparison with the global value, can be avoided if the impact is not produced. It should be added that, in most cases, mitigating measures eliminate only part of the alteration while other benefits derived from impact reduction, such as, for example, the possibility of making use of other alternatives, are lost. Moreover, it has been emphasized that impacts can be greatly reduced if a project has an adequate environmental design and follow-up is carried out during the construction, operation, and abandonment stages. It is important to note that the cost can be reduced significantly if mitigation actions are applied at an early stage. Another important aspect is the spatial and temporal scale of the application of mitigating measures. Most of such measures have to be applied through agreements with affected organizations or people. Regarding the time of application, it is desirable to do it as soon as possible to avoid non-desirable secondary impacts, for instance, erosion on slopes that have been left without vegetation.

### **(vii) Overall Environmental Monitoring and Evaluation Framework**

The environmental monitoring and Evaluation Framework for the sub- projects can be best illustrated by the Table below:

**Table : Overall Environmental Monitoring and Evaluation Framework**

Project sub-component	Mitigation Measure	Institutional Responsibility
Quarrying	<ul style="list-style-type: none"> <li>*New sites or extensions to existing quarries</li> <li>*avoid good agricultural land</li> <li>*No 'mega' quarries</li> <li>*Topsoil must be retained and conserved</li> <li>*There must be a written restoration plan and funds must be retained to ensure it can be implemented</li> <li>*Restoration must include grading, stabilizing slopes, relaying topsoil, seeding and planting of local species of grass and tree</li> <li>*Worker safety precautions to be in place</li> <li>*Advance notice of blasting where quarries close to settlement or areas of heavy land use</li> <li>*Ensure no landfill in exhausted quarries.</li> </ul>	<p>PMO – RALG initiating cooperation</p> <p>With NEMC, OSHA, MUNICIPAL COUNCIL AND WARD COUNCILS.</p> <p>Early in Phase 1. NEMC must ensure post project responsibilities of TANROADS for quarry restoration.</p>
Stabilization of road embankments	<ul style="list-style-type: none"> <li>*Ensure no interference with seasonal/permanent springs</li> <li>corporate steps and ramp access to enable pedestrians to climb embankment at road crossing points</li> </ul>	<p>Municipal Council Engineering Consultant for as Phase 2 responsibilities.</p>

Project sub-component	Mitigation Measure	Institutional Responsibility
Land Take	<p>Compensation procedures to be initiated and implemented in a timely fashion World Bank to consider conditionality to ensure compensation payment programme adhered to A single scale of compensation for the project to be used</p> <p>All payments to be made before properties are Taken. Household to be given adequate time to dismantle structures for reassembly Design sensitive to retaining very mature trees where possible, consulting if necessary</p>	<p>City Council prior to and early in Phase in order to submit Resettlement &amp; Compensation Plan to the World Bank to consider conditionality and to consider and approve Resettlement &amp; Compensation Plan prior to Phase 2 disbursement</p> <p>Min. Lands early Phase 2 Min of Finance early in Phase 2 City Council Engineering Consultant in Phase 2</p>
Resource Requirements	<p>*Maximize local sourcing of materials</p> <p>*Maximize local employment</p>	<p>PMO-RALG in Phase 1 thru Bid Docs &amp; contractor supervision</p>
Nuisance, Pollution, Disposal of wastes	<p>*Contractor Guidelines on Good Practice implemented</p> <p>*Proper disposal of wastes</p> <p>*Maintenance of working width and designated works areas</p>	<p>PMO – RALG thru Bid Docs and hands-on construction phase supervision</p>

Project sub-component	Mitigation Measure	Institutional Responsibility
Gender	<ul style="list-style-type: none"> <li>*Equal opportunity for employment</li> <li>*Restoring or building new sheds at the Lorry/ Bus park area.</li> <li>* Provision of lay-by areas at junctions for market stalls for women</li> <li>*Graded hard shoulder with adequate width for all non-motorised use and with graded edges so that there is no sharp drop off the sides</li> <li>*Emphasize importance of pedestrian/bicycle use in road user design</li> </ul>	Consultant together with Min. Youth, Employment & Women, PMO – RALG through Phase 2
Villagers and Farmers	<ul style="list-style-type: none"> <li>*Ample lay-by area at junctions for waiting areas and pick up points</li> <li>*Emphasize importance of pedestrian/bicycle use in road user design</li> <li>Feeder road upgrade initiated</li> <li>*Safety maximized in villages and near schools</li> <li>Expansion of daladala routes to be encouraged</li> </ul>	Consultant in Phase 2 design generally & including making outline recommendations for priorities in any subsequent feeder road upgrade study PMO- RALG commencing in Phase 2 and continuing thru commissioning

Project sub-component	Mitigation Measure	Institutional Responsibility
Liaison & Institutional Cooperation	*Ongoing liaison with communities through: PMO-RALG Min. Youth, Employment & Women, Council Ward Offices Dialogue with NEMC *Safety campaign in schools, transport sector, communities	PMO- RALG must ensure, prior to Phase 2, that responsibilities outlined in the ESMP are agreed, especially with Ministry of Youth, Employment & Women, Ward Executive Officers, NEMC, Police

**(vii). EIA Capacity Building Program in the Implementation Units, Local Authorities and at the relevant community level**

A programme for building capacity for EMP Implementation for the Project Monitoring Units, Local Authorities and at the local ward levels is essential to ensure successful outcomes. The proposal is to have a workshop on the findings of the Dodoma TSCP

ESIA and the proposed EMP's for experts represented in the steering committee for EMPs' implementation. Training events for Trainers on EIA's will be targeted to the committee members on Health, Security and Environment at the Ward level and Public Awareness meetings on EIA's and EMP's implementation in all the Wards is also envisaged.

**1. WORKSHOPS**

This will should ideally be three day event and will employ best practices Participants should be drawn from organizations represented at the steering committee level of EMP's implementation at Municipal Council and project monitoring Unit staff at the PMO - RALG. The Work Bank and the Municipal Council should finance this event, with the latter recruiting the necessary resource expertise. The number of proposed participants is expected to be twenty (20).

**2. TRAINING OF TRAINERS**

This will be a middle level one week event drawing participants from implementing Agencies such as ward councils and NGO's and community based organizations at sub-Project level. The Number of earmarked participants will be about 40.

### 3. PUBLIC AWARENESS MEETINGS

These will be one day meetings to be conducted at ward level for the general public. Local experts conversant with the local language- KISWAHILI will have to be recruited especially for this purpose if the exercise is to achieve any success. These meetings should cover three broad areas:

- Health (Communicable diseases)
- Waste disposal
- Health Sanitation and Public hygiene.

The number of people expected for these events cannot be ascertained.

#### A.PUBLIC AWARENESS

1 meeting x 3 local experts x 12 wards x US dollars 100.0x3 days  
Is US 1,2800.0 .....

Contingencies at 10% is US dollars 1280.0  
Total estimated cost is about US 14000.0

#### B.TRAINING OF TRAINERS:

\_40 participants @ US 20 dollars x 5 days is US 4000.0  
Contingencies at 10% is US dollars 400.0  
Total estimated cost is US4400.0

#### C.WORKSHOP.

20 participants @50 dollars x 3 days is US 30,000.0  
Contingencies at 10% is US 3000.0

Total estimated cost is US 33,000.0

Overall costs excluding payments for meeting venues, Travel, materials and the CONSULTANT IS About US 50,000.0