

**THE UNITED REPUBLIC OF TANZANIA**  
**MINISTRY OF WATER**



**DODOMA RESILIENT AND SUSTAINABLE WATER DEVELOPMENT AND  
SANITATION PROGRAM PHASE II**

**THE UPDATED ENVIRONMENTAL AND SOCIAL IMPACTS ASSESSMENT (ESIA) FOR THE  
PROPOSED CONSTRUCTION OF WATER TREATMENT PLANT AND WATER CONVEYANCE  
SYSTEM TO DODOMA CITY AND DISTRICT TOWNS OF CHEMBA, BAHU AND CHAMWINO IN  
DODOMA REGION, TANZANIA**

*May 2025*



in Joint  
Venture  
with



#### GENERAL INFORMATION

<b>PROJECT</b>	Dodoma Resilient and Sustainable Water Development and Sanitation Program Phase 1
<b>CONTRACT NO</b>	ME-011/2023-2024/CONTRA/C/18
<b>CONTRACT NAME</b>	Provision of Consultancy Services for Preparation of Employer's Requirements, Preliminary Design and Tender Documents for Water Treatment Plant (WTP), Design Review & ESIA for Conveyance Systems to Dodoma City; Feasibility Study, ESIA and Detailed Design for the Transmission Main to Bahi and Chamwino Towns
<b>COMPONENT</b>	Farkwa Water Treatment Plant & Conveyance System– ESIA study
<b>AUTHOR(S)</b>	EGIS Water and Maritime in JV with ICE Project Services Ltd <b>Peter OBAMA</b>
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#### RECIPIENTS

Name	Entity
Eng James Mallya	Ministry of Water (MoW)

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## ABBREVIATIONS

asl	Above sea level
AfDB	African Development Bank
BS	British Standard
CBA	Cost/Benefit Analysis
CBOs	Community-Based Organizations
CESMP	Contractor's Environmental and Social Management Plan
CITES	Convention on International Trade an Endangered Species of Wild Fauna and Flora
DD	Detailed design
DoE	Division of Environment
DRSWDSP	Dodoma Resilient and Sustainable Water Development and Sanitation Program
DUWASA	Dodoma Urban Water Supply and Sanitation Authority
E&S	Environmental and Social
EHS	Environment, health & safety
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
ESHS	Environmental, Social, Health and Safety
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EWURA	Energy and Water Utilities Regulatory Authority
GBV	Gender Based Violence
GHG	Greenhouse Gas
GoT	Government of Tanzania
GRM	Grievance Redress Mechanism
HIV-AIDS	Human Immunodeficiency Virus- Acquired Immune Deficiency Syndrome
IEC	Information, education and communication
ILO	International Labor Organization
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature.
LGA	Local Government Authorities
MoW	Ministry of Water
NEMC	National Environment Management Council
NEP	National Environment Policy
NGOs	Non-governmental Organizations



OHS	Occupational Health and Safety
OSHA	Occupational Health and Safety Authority
PAP	Project Affected Persons
PPE	Personal Protective Equipment
PSEA	Prevention of Sexual Exploitation and Abuse
RAP	Resettlement Action Plan
SEA	Sexual exploitation & abuse
SEAH	Sexual exploitation, abuse and Harassment
SGR	Standard Gauge Railway
ST	Storage Tanks
STDs	Sexually Transmitted Diseases
TANESCO	Tanzania Electric Supply Company Limited
TANROADS	Tanzania National Roads Agency
TARURA	Tanzania Rural and Urban Roads Agency
TBS	Tanzania Bureau of Standards
TM	Transmission Main
TRC	Tanzania Railways Corporation
WHO	World Health Organization
WS	Water Supply
WTP	Water Treatment Plant

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## EXECUTIVE SUMMARY

### Overview of the project

The Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) is financed by the African Development Bank (AfDB) and the Government of Tanzania. The Ministry of Water (MoW) acts as Project Executing Agency (PEA) and is supposed to steer and monitor the project progress. The Program implementation will be undertaken in three (3) Phases which are expected to be sequenced based on readiness and availability of financing. An African Development Fund (AfDF) will cover 94% of Phase I program costs, while the GoT will contribute 6% as counterpart funding. The project aims at improving water supply, sanitation services, food and nutrition security by harnessing water resources and developing infrastructure for Dodoma City, Bahi, Chemba and Chamwino districts.

The overall purpose of the project is to improve water supply services to beneficiaries living within targeted districts and along the conveyance system by increasing the quantity of water available in the water distribution system and improving its quality to remain in compliance with Tanzanian and International standards. Increased clean and safe water availability for targeted districts will contribute to poverty reduction and general social well-being of the people in Dodoma region.

National water policy (NAWAPO 2002) version 2025 explains that 80% of water supplies is converted to Wastewater usually containing toxic substances or biological process inhibitors. Therefore, it must be treated before being discharged into the environment. In other phase, The DRSWDSP includes components for sanitation services and infrastructure development, which likely encompass wastewater treatment systems.

The key objectives of the proposed Project can be summarized as follow:

- Increase water production to 128,000m<sup>3</sup>/day;
- Improvement of water quality to meet WHO standards;
- Provide reliable and affordable water services to Dodoma region; and
- Improvement of environmental Hygiene for Dodoma region

The following are the Project's major components that are planned to be built:

**Table 0-1: Project's major components that are planned to be built**

Project component	Size/Capacity	Corridor Width
Water Intake and Pumping Station	128,000m <sup>3</sup> /d	
Conveyance from Intake to Farkwa WTP	1400DN	30m
Conveyance from Farkwa WTP to Makorongo Junction	1200DN	30m
WTP Access road	544m	10m
Conveyance from Makorongo junction to Makorongo storage tank	300DN	4m

Project component	Size/Capacity	Corridor Width
Makorongo access road		10m
Conveyance from Makorongo junction to babayu Junction	1200	30m
Conveyance from Babayu junction to Kongogo junction	300	4m
Conveyance from Kongogo junction to Kongogo Storage tank	200	4m
Kongogo access road		10m
Conveyance from Kongogo junction to Lamaiti Junction	300	4m
Conveyance from Lamaiti junction to Lamaiti Storage tank	200	4m
Lamaiti Access road		10
Conveyance from Lamaiti junction to Bahi Storage tank	200DN	4m
Conveyance from Babayu junction to Zamahero Junction	1200DN	30m
Conveyance from Zamahero junction to Ihumwa Junction	1200DN	30m
Conveyance from Ihumwa junction to Ihumwa Storage tank	600DN	10m
Ihumwa Access road		10m
Conveyance from Ihumwa storage tank to Buigiri storage tank	250DN	4m
Conveyance from Ihumwa junction to Iyumbu Balance & storage tank	1100DN	30m
Iyumbu access road		10m
Conveyance from Iyumbu storage tank to Udom Storage tank	500DN	10m
Iyumbu Storage Tank	30000m <sup>3</sup>	
Ihumwa Storage Tank	10000m <sup>3</sup>	
Makorongo Storage Tank	500m <sup>3</sup>	
TFS Tank Storage Tank	1000m <sup>3</sup>	
Farkwa Storage Tank	1000m <sup>3</sup>	
Kongogo Storage Tank	500m <sup>3</sup>	
Bahi Storage Tank	500m <sup>3</sup>	
Lamaiti Storage Tank	500m <sup>3</sup>	



urgent challenges such as water supply or sanitation needs. However, the disadvantages of “no project option” are as follows:

- No access to potable water and improved hygiene sanitation;
- Increased cases of waterborne diseases;
- Continued water scarcity in Dodoma region;
- increased cases and deaths associated with diarrheal disease; and
- Increased work burdens and time spent on fetching water among women and girls.

The project option aimed at increasing water production to meet the demand and is the only project option required to be undertaken by MoW. The project option aimed at a long-term strategy by increasing production of water to meet demand up to year 2045 through establishment of new WTP at Farkwa and new reservoirs at Chemba, Bahi, Chamwino districts and Dodoma city. The infrastructure will increase both availability of clean and safe water as well as service coverage area in Dodoma region.

## **2. Alternatives by Regarding Environmental and Social Impacts (E&S)**

However, the implementation of the project would have some environmental and social impacts which will require mitigation measures. To avoid and minimize E&S impacts, the Consultant decided to survey three TM route options of the project in order to determine the most feasible TM route and to quantify the impacts expected for each TM route so as to avoid or minimize E&S impacts. The following TM route options with its impact are summarize below:

Original Route: The original route (designed by another Consultant) was surveyed and observed to have 490 structures within the TM route. 37 graves and four graveyards were also within a wayleave. Total land parcels were 1,162 occupied by crops and trees were part of assets to be affected. In addition to that 1,148 PAPs were identified for compensation and livelihood restoration program.

Route 1: Consultant redesigned the above original route find alternative route with minimal E&S impacts. Route 1 option designed by the Consultant led to the following outcomes. 197 structures were found within a 30m wayleave. The structures included 116 houses, 15 unfinished house structures and 66 business structures. In addition, Consultant found 39 graves and 4 graveyards (with a substantial number of graves) and one of the graveyards was historical graveyard owned by Farkwa Catholic Church. A total of 1,028 land parcels including crops were also found to be within 30m wayleave and a total of 1022 PAPs were identified for compensation and livelihood restoration program.

Route 2: Under Route 2, Consultant observed a presence of 117 structures. The structures included 82 houses, 15 unfinished house structures and 20 business structures. A total of 38 graves and 1 graveyard at Mahomanyika with several graves (at TANROADS road reserve) were also found within route 2 option. A total 924 land parcels including crops and trees were found within 30m wayleave and a total of 918 PAPs were identified for compensation and livelihood restoration program.

Route 3: Under Route 3, Consultant observed a presence of 121 structures. The structures included 86 houses, 15 unfinished houses and 20 business structures. Apart from building

structures, 38 graves and 1 graveyard at Mahomanyika with several graves (at TANROADS road reserve) were identified within TM way leave. A total 958 land parcels including crops and trees were found within 30m wayleave and 946 PAPs were identified for compensation and a livelihood restoration program.

**Route 4:** Under route 4 the consultant observed 121 structures. The structures included 86 houses, 15 unfinished houses and 20 business structures. Apart from building structures, 38 graves were identified within TM way leave. A total 958 land parcels including crops and trees were found within 30m wayleave and 946 PAPs were identified for compensation and a livelihood restoration program. Option 4 is unique as it proposes iyumbu (being 30,000m<sup>3</sup> instead of 6000m<sup>3</sup> from option3) as main storage tank instead of kilimani in order to avoid mixing of fresh water from farkwa dam with salty water from the existing water sources.

Table below provide a summary of E&S impacts for each project alternative

**Table 0-2: Summary of E&S impacts for each project alternative**

Route	No. PAP	No. Affected Structures	No. Land Parcels	Graves
ORIGINAL ROUTE	1,148	490	1,162	37 individual graves 4 graveyards
ROUTE 1	1,022	197	1,028	39 individual graves 4 graveyards
ROUTE 2	918	117	924	38 individual graves 1 graveyard
ROUTE 3	946	121	958	38 individual graves 1 graveyard
ROUTE 4	946	121	958	38 individual graves

#### **Conclusion:**

- Original route had more E&S impacts compared to Route 1, 2,3and 4;
- Route 1 had more E&S impacts compared to Route 2 and Route 3;
- Route 2 had slightly less E&S impacts compared to Route 3; however, Route 2 had technical disadvantage compared to Route 3 as it covers less service area than Route 3. Option 4 is unique as it proposes iyumbu (being 30,000m<sup>3</sup> instead of 6000m<sup>3</sup> from option3) as main storage tank instead of kilimani in order to avoid mixing of fresh water from farkwa dam with salty water from the existing water sources. Therefore, Consultant opted for Route 4.

### **3. Alternatives by Regarding Costs ,Energy Consumption and carbon footprint**

The intake pumping station is powered by 8000 kVA, 33kV to 6600V transformers for raw water pumps and 500 kVA, 33kV to 400V transformers for auxiliary equipment such as air



compressors and lighting. Power factor correction units ensure a power factor of at least 0.96. For emergency backup, a 4500 kVA (3600 kW), 6600V diesel generator powers two raw water pumps, while a 500 kVA (400 kW), 213V/400V diesel generator supports all auxiliary equipment during TANESCO mains electricity outages. Both systems are located near the powerhouse.

**Table 0-3: Total initial cost ,maintenance cost and energy for design option 1&2**

Location	Carbon emission (kg)	No. of pumps (4 )	Total initial Amount	Total Maintenance cost/yr
Intake pumps To Farkwa WTP	41737.2	(4W+2S)	€ 2,234,849.58	€ 44,696.99
Mailimbili pumps To Makulu BPS and Itega Tank	3941.7	(2W+1S)	-	€ 9,487.34
		(2W+1S)	-	€ 5,985.58
Kilimani pumps To Imagi Tank and Kilimani 3A&3B	1907.8	(1W+1S)	-	€ 4,266.82
		(2W+1S)	-	€ 5,985.58
Makulu pumps To UDOM Tank, Iyumbu & Nghong'ohna	3709.8	(2W+1S)	-	€ 6,507.74
		(2W+1S)	-	€ 6,382.43
Total	84,684.7		€ 2,234,849.58	€ 83,312.47
Total energy costs/yr			€ 3,629,340.39	

**Table 0-4: Total initial cost ,maintenance cost and Energy Cost for option 3&4**

Location	Carbon emission (kg)	No. of pumps (2)	Total initial Amount	Total Maintenance cost/yr
Intake pumps To Farkwa WTP	41735.2	(4W+2S)	€ 2,234,849.58	€ 44,696.99
UDOM BPS To UDOM Tank	1825.9	(1W+1S)	€ 344,982.76	€ 6,899.66
Total	43,561.1		€ 2,579,832.34	€ 51,596.65
Total energy costs/year			€ 3,050,055.85	

## Conclusion

Option 3 and 4 offer advantage of being less costly in terms of operations, since this will reduce water tariffs for end users, also enable the smooth running the project by reducing excess costs also option 3&4 has less carbon emission

## **Brief description of the project site and the major environmental and social stakes/challenges**

Flora: The project area is endowed with variety of vegetation and habitat types with the area supporting a great diversity of plant species found both within and adjacent the proposed project areas. It supports species ranging from grasses to trees. The area comprises of various vegetation and habitat types both disturbed and undisturbed. During ESIA survey the vegetation and habitat types identified were disturbed miombo woodland, acacia woodland, acacia-commiphora, savannah, bushland, thicket on low land areas and riparian vegetation while undisturbed vegetation was only thicket.

Since it was during dry season, herbaceous layer was poorly dominated by herbs and grasses. No any species regarded as rare or endemic recorded within the project area. Most of the species recorded here are of low conservation concern except *Pterocarpus angolensis* and *Dalbergia melanoxylon* (IUCN – near threatened) and *Brachystegia spiciformis* (CITES Appendix II category). Majority of the plant species recorded in the proposed project area is represented elsewhere in the adjacent miombo woodland, acacia woodland, bushland and thicket.

The vegetation in the project area varies, depending on soil characteristics. Woodlands (miombo and acacia), acacia-commiphora, savannah, bushland and thicket, grassland with groups of scattered trees like baobabs (*Adansonia digitata*) characterizes the uncultivated project areas. Along the rest of the project area, the natural vegetation has been replaced more or less by human activities, mainly livestock grazing and crop production, mostly scattered cultivation with maize, millet, sorghum, beans, sunflower etc., intertwined with human settlement.

During site visit a consultation with local people, farmers and government staffs indicates that illegal harvesting (logging), bush fires, charcoal burning, fuel and fire wood collection are currently threatening vegetation of the proposed project areas. According to interviewees illegal harvesting threatens *Pterocarpus angolensis*, *Brachystegia spiciformis*, *Acacia abyssinica*, *Acacia tortilis*, *Acacia sieberiana*, *Acacia lahai*, *Acacia seyal* and *Anona senegalensis*. The threatened species are used by local people for poles, timber, charcoal making, fire and fuel wood. Bush fires and farm clearance threaten miombo and acacia woodland habitat in the proposed project areas. During site visit a consultation with local people, farmers and government staffs indicates that illegal harvesting (logging), bush fires, charcoal burning, fuel and fire wood collection are currently threatening vegetation of the proposed project areas. According to interviewees illegal harvesting threatens *Pterocarpus angolensis*, *Brachystegia spiciformis*, *Acacia abyssinica*, *Acacia tortilis*, *Acacia sieberiana*, *Acacia lahai*, *Acacia seyal* and *Anona senegalensis*. The threatened species are used by local

people for poles, timber, charcoal making, fire and fuel wood. Bush fires and farm clearance threaten miombo and acacia woodland habitat in the proposed project areas

**Fauna:** Results from the interview, animal calls; and dung and sign survey showed that the area harbours about 19 large and medium sized mammal species from 8 orders and 13 families. Lion (*Panthera leo*) and ground pangolin (*Manis temminckii*) only occasionally visit the study area during wet season. Apart from the baboons, warthog, dik dik, vervet monkey, mongoose and honey badger the other species were not directly encountered due to human disturbances and thus are nocturnal. Commonly encountered species by villagers in the area include the Warthog (*Phacochoerus africanus*), Bush pig (*Potamochoerus porcus*), Vervet monkey (*Chlorocebus aethiops*), Aardvark (*Orycteropus afer*), Crested porcupine (*Hyrix cristata*), Rock hyrax (*Procavia capensis*), Scrub hare (*Lepus saxatilis*), Eland (*Tragelaphus oryx*), dik dik (*Madoqua kirkii*), Klipspringer (*Oreotragus oreotragus*), Black backed jackal (*Canis mesomelas*), Wild dog (*Lycaon pictus*), Hyena (*Crocuta crocuta*), dik dik and Leopard (*Panthera pardus*).

Project area harbours about 8 small mammal species in 5 families. Species that were captured and listed through the interview include the Four-toed hedgehog (*Erinaceus albiventris*), one species of elephant shrews; Four-toed Elephant shrew (*Petrodromus tetradactylus*). Others were Slender mongoose (*Herpestes sanguineus*), Striped grass rat (*Lemniscomys striatus*), Woodland thicket rat (*Grammomys dolichurus*), Multimammate rat (*Mastomys natalensis*) and Black rat (*Ratus rattus*).

**Bird Species:** A total of 77 bird species were recorded both on site and the areas adjacent to the proposed project areas (miombo woodland, riparian vegetation, wooded acacia-grassland and thicket). The riverine forest was the most species rich with 40 species followed by the wooded acacia-grassland with 27 species, whereas the dry miombo woodland was the most impoverished with 10 species. The most well represented avian family in the area is family Columbidae with four species while the remaining families are represented by either two or single species.

In wooded acacia-grassland the most abundant species were African mourning dove, red eyed dove, ring-necked dove and emerald spotted wood dove while in the riverine forest common bulbul dictated the habitat. Francolin and crested guinea fowl dominated the habitat that borders the wooded acacia-grassland, miombo woodland and thicket.

Some of the species encountered in project areas include the Black-headed heron, African mourning dove, Emerald spotted wood dove, Ring necked dove, Red eyed dove, Cardinal wood pecker, Common bulbul, Collared sunbird, Red-cheeked cordon bleu, White browed Coucal, Crested guinea fowl, Common buzzard, Crested Francolin, Speckled mouse bird, Crowned Eagle, Malachite Kingfisher, Green wood hoopoe, Red-billed hornbill, Forked tail drongo and Brown headed Parrot.

**Reptiles:** A total of 23 species in 12 families were encountered or identified through the interview in the study area. Some of the species include the Black mamba (*Dendroaspis polylepis*), Gaboon viper (*Bitis gabonica*), Black-necked spitting cobra (*Naja nigricollis*), Puff Adder (*Bitis arietans*), Southern African Rock Python (*Python sebae natalensis*), African

burrowing snake- Cape centipede-eater (*Aparallactus capensis*), Common egg-eater (*Dasypeltis scabra*), Boomslang (*Dispholidus typus*) Brown-house snake (*Lamprophis fuliginosus*), Rufous Beaked snake (*Rhamphiophis rostratus*), Striped skink (*Mabuya striata*), Tropical house gecko (*Hemidactylus maboui*), Yellow-throated plated lizard (*Gerrhosaurus flavigularis*), Red-headed rock agama (*Agama agama*), Green snake (*Philothamnus* sp).

Threatened animal species: Four mammal species recorded during the study are in the IUCN Red List of Threatened Species (2007 IUCN) – Wild dog (*Lycaon pictus*) and Ground pangolin (*Manis temminckii*) are Endangered; Leopard (*Panthera pardus*) is near threatened while Lion (*Panthera leo*) is Vulnerable. There are no threatened birds or herptiles species in the study area.

Animal species in CITES list: Four animals are in the CITES Appendices (CITES 2011). One large mammal, Leopard (*Panthera pardus*) is in Appendix I, while in Appendix II are the reptiles notably South African rock python (*Python sebae natalensis*) and Monitor lizard (*Varanus niloticus*); and one avian species Brown-headed Parrot (*Poicephalus cryptoxanthus*).

Land and Structures: ESIA team observed that majority of lands are un-surveyed land and very few are surveyed. Lands are used as settlements and/or farmlands. The lands were obtained either through local/formal purchase agreements or inheritance from parents or relatives. Apart from lands used as settlement and/or farmlands, there also lands owned by institutions and in particular government institutions.

### **Method Overview for flora and fauna data collection**

The data was collected through a transect walk, which involved following a predefined path across the study area to systematically sample the species present. The transect was divided into segments to enhance spatial organization and ensure comprehensive data collection across various habitats. During this process, photographic documentation was carried out to capture images of flora and fauna, providing visual records that support findings in the Environmental and Social Impact Assessment (ESIA) report. These photographs were subsequently analyzed using field guides, taxonomic keys, and expert consultation to accurately identify species, with behavioral observations and habitat preferences of fauna also noted. Additionally, detailed records of species names, GPS coordinates, abundance, and habitat types were meticulously logged, ensuring a thorough and structured assessment process.

### **Carbon Footprint**

Approximately 12,195 trees which absorb approximately 300 tonnes per year are expected to be cleared.

### **Carbon emission during operation phase**

**Table 0-3 Carbon emission during operation phase**

Structures	Energy Consumption	Carbon Footprint (kg)
Intake	125,675kwh/day	37,900
Wtp	18,567KWh/day	5,600
<b>Total</b>	<b>144,242 KWh/day</b>	<b>43,500</b>

**Table 0-4 Carbon emission during Construction phase**

Structure	Carbon emissions (kg)
<b>1. INTAKE</b>	
Powerhouse	231,841
Workshop	13,231.8
Pumping Station	469,328
Guardhouse	3,674.4
Public toilet	8463.5
<b>2. WTP</b>	
Power House	242,854
Blower hose	18,733
Backwash water tank	590511
Primary sludge tank	350367
Secondary Sludge Tank	399,719
Primary and Secondary sludge thickeners	169,174
Thickened sludge tank	31,021
Sludge drying beds	2,392,583
Decantation lagoon	118,637
Chemical building	451,450
Administration building	549,225
Workshop	13,535
Cascade aerator	24,9145
Rapid Gravity Sand Filters	1,841,525
pH adjustment Chamber	190,505
Clariflocculator	300,935
Contact Tank	1512154
Clear water tank	436,527
Guardhouse	6,339
Public toilet	15,288
Staff houses	924,801
Plant manager's house	187,256
Basketball Court	131,176
<b>3. RAW WATER TRANSIMITION MAIN</b>	15,621,974
Excavation and Backfilling	2,237,408
<b>TOTAL</b>	<b>28,982,842</b>

## Institutional and legal framework for implementation of the project

A summary of the roles and responsibilities of the project implementation entity, implementing agencies and other stakeholders are presented in the table below.

**Table 0-5: Summary of the roles and responsibilities of the project implementation**

Institution	Stakeholders	Roles in the Project
Central Government	Ministry of Water (MoW)	<ul style="list-style-type: none"> <li>• Providing Policy, Institutional and legal framework of Water Resources Management and Water Supply and Sanitation;</li> <li>• Project Implementing Agency (PIA);</li> <li>• Overseer of the project undertakings;</li> <li>• Oversee the execution of the construction and direct implementation of ESMP, RAP and stakeholder engagements</li> <li>• Responsible for RAP implementation</li> <li>• Ensure compliance with E&amp;S standards</li> </ul>
	Vice President's Office - (Division of Environment, DoE)	<ul style="list-style-type: none"> <li>• Coordinates Environmental Management Policy, Act &amp; EIA Guidelines</li> <li>• Issuing of Environmental Certificate</li> </ul>
	Prime Minister's Office (Labour, Youth, Employment and Persons with Disability)	<ul style="list-style-type: none"> <li>• Issuance of work permits for foreign experts</li> <li>• Ensure labour law is adhered during Recruitment, deployment and retrenchment of workers</li> </ul>
	Ministry of Land, Housing and Human Settlements	<ul style="list-style-type: none"> <li>• Responsible for providing regulatory guidelines on land acquisition and resettlement processes in implementing the project</li> </ul>
	Ministry of Finance	<ul style="list-style-type: none"> <li>• Provide oversight and control of disbursement project funds to the implementing agency</li> <li>• Enabler in controlling of disbursement of project and financial management of the project</li> <li>• Overseer of the project undertakings pertinent to funding.</li> <li>• Custodian of the Project Credit Facility Agreement (CFA) on behalf of the Government.</li> </ul>
Local Government	Dodoma Regional Secretariat	<ul style="list-style-type: none"> <li>• Responsible for co-ordination of all advise on environmental management in Dodoma Region and liaison with the Director of environment and</li> </ul>

ion	Institut	Stakeholders	Roles in the Project
			the Director General of NEMC on the implementation and enforcement of the Environment Management Act No. 20 of 2004
		Dodoma City Director and District Executive Directors for Chemba; Bahi and Chamwino	<ul style="list-style-type: none"> <li>• Responsible for proper management of the environment in City and Districts;</li> <li>• Chief executive officer for development activities in municipality and district levels;</li> <li>• Land use approval;</li> <li>• Oversee enforcement of laws and regulations;</li> <li>• Land use planning at municipality and districts level;</li> <li>• Overseer of engineering activities in the municipality and district levels.</li> </ul>
		Ward Executive Officers in Dodoma City, Bahi, Chemba and Chamwino districts	<ul style="list-style-type: none"> <li>• Ensure proper management of environment issues within their wards</li> <li>• Coordinate all activities towards protection of the environment within their wards</li> <li>• Local leadership representing persons directly and indirectly within the vicinity of proposed projects</li> <li>• Oversee general development plans for ward level</li> <li>• Provide information on local conditions and extension services</li> <li>• Project monitoring in their area of jurisdiction</li> <li>• Participate in operationalisation of GRM and ESMP</li> </ul>
Ward Level		Community members	<ul style="list-style-type: none"> <li>• Persons directly and indirectly within the vicinity of proposed project areas who will be impacted either positively or negatively</li> <li>• Participate in operationalisation of GRM and ESMP</li> <li>• Project beneficiaries</li> </ul>
Government Institutions/Agencies		National Environment Management Council (NEMC)	<ul style="list-style-type: none"> <li>• Enforcement of the EMA and its Regulations</li> <li>• Review of ESIA</li> <li>• Issuance of environmental certificate</li> <li>• Environmental monitoring &amp; compliance auditing</li> <li>• Advise Government on all environmental matters</li> </ul>
		DUWASA	<ul style="list-style-type: none"> <li>• Project beneficiary</li> <li>• Responsible for urban water supply in urban centres of Dodoma town</li> </ul>
		TANESCO	<ul style="list-style-type: none"> <li>• Regulator of electricity transmission and owner of transmission lines</li> <li>• Give advice to the project developer and</li> </ul>



ion	Institut	Stakeholders	Roles in the Project
			<p>contractors regarding power installations</p> <ul style="list-style-type: none"> <li>• Provide power supply to the project facilities transformers etc.</li> </ul>
		Tanzania National Roads Agency (TANROADS)	<ul style="list-style-type: none"> <li>• Responsible for developing and maintaining trunk and regional roads network</li> <li>• Issue permits for the use of trunk and regional road reserves falling under TANROADS jurisdiction</li> <li>• Responsible for providing permits for the project to use road reserves in trunk/regional roads</li> </ul>
		Wami Ruvu Basin Water Board	<ul style="list-style-type: none"> <li>• Ensure that water resources are managed sustainably through water governance and integrated water resources management principles</li> <li>• Collect water resources data and monitor its use and quality</li> <li>• Processing and granting of water use permits</li> <li>• Pollution monitoring and control</li> <li>• Prepare and implement Integrated Water Resources Management Plan</li> </ul>
		Energy and Water Utilities Regulatory Authority (EWURA)	<ul style="list-style-type: none"> <li>• Regulator of the electricity, petroleum, natural gas and water sectors, including licensing, tariff and standard setting in respect to water supply and sanitation</li> <li>• Monitor water quality and standards of performance for the provision of water supply and sanitation services</li> <li>• Promote the development of water supply and sanitation services in accordance with recognized international standard practices and public demand</li> </ul>
		Tanzania Bureau of Standards (TBS)	<ul style="list-style-type: none"> <li>• The Tanzania Bureau of Standards (TBS) is the designated national authority for the development and review of standards which include water quality and effluent discharge standards, among others.</li> <li>• The water quality standards (TBS- TZS 789) is among the compulsory environmental standards which has been developed as part of the TBS' National Environmental Standards Compendium (NESC).</li> <li>• The implementation and compliance to water quality standards by TBS (TZS 789) stand to be a mandatory requirement for all Water Supply and</li> </ul>

ion	Institut	Stakeholders	Roles in the Project
			Sanitation Authorities including DUWASA.
		Tanzania Rural and Urban Roads Agency (TARURA)	<ul style="list-style-type: none"> <li>• Responsible for developing and maintaining rural and urban roads network</li> <li>• Issue permits for the use of Rural and urban road reserves falling under TARURA jurisdiction</li> <li>• Responsible for providing permits for the project to use road reserves in rural/urban roads</li> </ul>
		Tanzania Railways Corporation (TRC)	<ul style="list-style-type: none"> <li>• Provider of rail transport services and manage rail infrastructure</li> <li>• Railway reserve areas fall under TRC jurisdiction</li> <li>• Responsible for providing permits for the project to use rail reserve areas</li> </ul>
		The Occupational Safety and Health Agency (OSHA)	<ul style="list-style-type: none"> <li>• Responsible organ for labour management issues including OHS</li> <li>• Follow up on occupational health &amp; safety issues</li> <li>• Advise the contractors regarding national OHS requirements</li> <li>• Responsible for providing permits for the easements for water pipeline to pass through OSHA land</li> </ul>
		Tanzania Police Force (TPF)	<ul style="list-style-type: none"> <li>• Responsible for providing permits for the easements for water pipeline to pass through TPF land</li> </ul>
		Tanzania Peoples Defence Force (TPDF)	<ul style="list-style-type: none"> <li>• Owner of land at Ihumwa where Ihumwa reservoir will be constructed</li> <li>• Responsible for providing permits for MoW to use Ihumwa land for construction of reservoir</li> </ul>
		Tanzania Forest Services Agency (TFS)	<ul style="list-style-type: none"> <li>• Responsible for conservation of forests and bee resources in Tanzania;</li> <li>• Responsible for conservation of Chinene forest reserve at Bahi district</li> <li>• Balance the socio-economic needs of local communities to safeguard Tanzania's forests;</li> <li>• Responsible for implementation of forestry policies in Tanzania;</li> <li>• Responsible for mitigation of deforestation, promote reforestation initiatives, and foster responsible forest utilization practices;</li> <li>• Owner of Land at Zamahero located at Chinene Forest Reserve where Zahahero reservoir will be constructed;</li> </ul>

Institution	Stakeholders	Roles in the Project
		<ul style="list-style-type: none"> <li>Responsible for providing permits for MoW to use part of Chinene Forest Reserve land for construction of reservoir</li> </ul>
	University of Dodoma (UDOM)	<ul style="list-style-type: none"> <li>Owner of land parcel where conveyance system will pass</li> <li>Responsible for providing permits for the easements for water pipeline to pass through UDOM land</li> </ul>
African Development Bank (AfDB)	Development Partner/Funding Institution	<ul style="list-style-type: none"> <li>Funding institution</li> <li>Ensure that funds are available for completion of the Project</li> <li>Monitor project implementation including E&amp;S performance</li> </ul>

### Legislative and Regulatory requirements for the implementation of the ESMP

The EIA process and its implementation in Tanzania are supported by several policies, instruments and Laws- The Environmental Management Act No. 20 of 2004 (EMA), the Environmental Impact Assessment and Audit Regulations (amended in 2018) and the National Environment Policy, 2021 are the key instruments that cover environmental and social management in all development sectors.

Apart from the National Environment Policy, there are several sectoral policies that consider EIA as one of the planning tools for facilitating and promoting sustainable development. These policies envisage that, by integrating E&S considerations in the decision-making process it is possible to avoid or minimize impacts associated with Project implementation that may have negative effects on the environment and societies. These policies are National Water Policy, 2002; National Forest Policy, 1998; National Land Policy (1997); The National Health Policy (2003); The National Occupational Health and Safety Policy (2014); and Mining Policy (2009).

On the other hand, the Environmental Management Act No. 20 of 2004 is the principal legislation governing all environmental management issues in Tanzania. Within each sector, there are sectoral legislations that deal with specific issues pertaining to the environment. Some of the legislations and regulations that are relevant in the management of the environment for the proposed project are presented in the following table

**Table 0-6: Legislations and Regulations**

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>Environmental Management Act (EMA), Cap 191 (2004)</b>	The Act establishes the legal and institutional framework for the	Screening shows the Project activities are subjected to full EIA	ESMP will integrate regular monitoring, impact mitigation strategies, and

Legislation	Description	Applicability to the Project	Incorporation into ESMP
	management of the environment and implementation of the NEP. It empowers the National Environmental Management Council (NEMC) to screen, review and determine the types of development projects that should be subject to an EIA study. The Act outlines projects that require a full EIA or that may be subjected to preliminary EIA, after NEMC determination.		compliance checks; C-ESMP to enforce mitigation at the construction level.
<b>Environmental Impact Assessment &amp; Audit Regulation (2005) (Amended 2018)</b>	This Regulation provides the detailed procedures and requirements for undertaking EIA for various types of projects with potential for adverse environmental impacts. Where circumstances arise which compels or requires a developer or proponent to vary the terms and conditions on which an environmental impact assessment certificate has been issued, the holder of the certificate shall apply for a variation	According to Regulation, this project is subjected to full EIA. EIA study has been conducted prior to commencement of construction works.	ESMP to ensure adherence to EIA conditions; C-ESMP to enforce variation applications when necessary
<b>Environmental</b>	The Act prescribes the	Project need to devise	ESMP will develop a

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>Management Act (EMA), Cap 191 (Sections 114 – 118) - Management of Solid Wastes</b>	need to manage and minimize solid waste, disposal of solid waste from different sources, storage of solid waste from industries and solid waste collection from urban and rural areas	means for minimization of solid wastes and method of collection, transportation, treatment and disposal; as well as availing appropriate equipment and routes for collection; and designate transfer station / collection centers. The Project will ensure solid waste management plan is prepared by the Contractor	solid waste management plan; C-ESMP will detail waste segregation, collection routes, and disposal sites.
<b>Environmental Management Act (EMA), Cap 191 (Sections 74, 75, 130-132) - Management of Air Emissions and Ambient Air Quality</b>	EMA has provisions for three main areas: General Atmosphere; Climate Change and Management of Gaseous Wastes from Various Sources.	The project will comply with national standards on air emissions during construction and operation phase of the project Regular monitoring of air quality will be conducted during construction phase to ensure emissions are within acceptable standards	ESMP to include emission control measures; C-ESMP to implement air quality monitoring and control.
<b>Environmental Management (Hazardous Waste Control and Management) Regulations (2019)</b>	The Regulation mandates the need to ensure adequate and appropriate segregation and recycling facilities as well as training and adequate provision of personal protective gears.	The project will have specific procedures and practices for storage, transportation, treatment and disposal of all categories of any hazardous and toxic wastes including biological wastes during project implementation. The Project will ensure hazardous waste	ESMP will outline hazardous waste handling; C-ESMP to implement storage, disposal, and worker training measures.

Legislation	Description	Applicability to the Project	Incorporation into ESMP
		management plan is prepared by the Contractor	
<b>Environmental Management (Air Quality Standards) Regulations, (2007)</b>	The regulation prohibits emissions/release of hazardous substance into the environment.	The project will comply with permissible emission limits and quantities of emissions prescribed by the regulations. Regular monitoring of air quality will be conducted during construction phase to ensure emissions are within acceptable standards.	ESMP to include emission control measures; C-ESMP to implement air quality monitoring and control.
<b>The Water Resource Management Act No. 11 (2009)</b>	This is a legislation that has repealed the Water Utilization (Control and Regulation) Act. The Act intends for the protection of the water resources and the user so that there is a balance between different uses. This Act states that the water shall not be polluted with any matter derived from such use to such extent as to be likely to cause injury either directly or indirectly to public health to livestock, fish, crops, orchards or garden which are irrigated by such water or to any product in the processing of which such water is used. In	The project will ensure that any proposed development near a water resource area or watershed complies to the Water Resource Management Act.  The project will prevent pollution to water bodies as a result of various waste streams to be produced during construction phase.  Project Proponent and Contractor will take all necessary precautions to prevent any pollution from the project activities to water bodies.	ESMP to include water resource protection measures; C-ESMP to implement spill prevention and wastewater treatment.

Legislation	Description	Applicability to the Project	Incorporation into ESMP
	<p>general, it provides the legal basis among others for water resources management at National and Basin levels; the administration to legalize, grant, modify and diminish water rights to the use of water by those entrusted with responsibilities for water resources management; to protect water rights for all legitimate water users, hence monitoring the quality and quantity of water sources; water use conflict management and water pollution control and other related issues like water construction</p>		
<b>Water Supply and Sanitation Act No. 5 (2019)</b>	<p>This Act provide for sustainable management and adequate operation and transparent regulation of water supply and sanitation services; provide for the establishment of water supply and sanitation authorities, Rural Water Agency, National Water Fund and community-based water supply organizations;</p>	<p>The functions and existence of DUWASA is therefore regulated by the Water Supply and Sanitation Act. This relationship makes it a principal Act for the Water supply project.</p> <p>Under this Act, the Project will have to acquire a wayleave of 30m and 10m from center of TM</p>	<p>ESMP to ensure proper water infrastructure planning; C-ESMP to implement water supply and sanitation guidelines.</p>



Legislation	Description	Applicability to the Project	Incorporation into ESMP
	<p>In addition, the Act provides for a required wayleave to be acquired by water supply authority in respect to the size of water transmission mains.</p> <p>The main aim of this Act is to ensure the right of every Tanzanian to have access to efficient, effective and sustainable water supply and sanitation services for all purposes by taking into account among others protection and conservation of water resources and development and promotion of public health and sanitation; and protection of the interest of customers.</p>		
<b>Environmental Management (Water Quality Standards) Regulations (2007)</b>	The Regulation has provisions for safe distances of water supply systems from pollution sources for any infrastructure activity near any water source	The project will consider adequate distance (as per regulation) of water supply systems from pollution sources for any infrastructure activity near any water source. In addition, no discharge of water polluting substances will go uncontrolled.	ESMP to incorporate water quality protection; C-ESMP to enforce safe distances and manage discharges effectively.

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>Environmental Management (Quality Standards for Control of Noise and Vibration Pollution) Regulations (2015)</b>	The Regulations has provision to ensure measures for controlling noise and vibration pollution emanating from construction site, vehicles, workshop, and quarries that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and of the environment	The project will incorporate measures for the control of noise and vibration pollution emanating from construction site, vehicles, and quarries that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and of the environment.	ESMP will set noise limits and mitigation strategies; C-ESMP to enforce working hours, noise barriers, and PPE for workers.
<b>Environmental Management Act (EMA), Cap 191 (Sections 147) - Management of Noise</b>	The Act has provisions to control noise and vibration pollution into the environment for activities that emits noise and vibrations	The project will define all sorts of activities with potential to emitting noise and vibrations to control noise and vibration pollution into the environment especially during construction phase	ESMP to include noise and vibration mitigation measures; C-ESMP to enforce limits and monitoring during construction.
<b>Explosive Act of 1963</b>	The Act has provisions for all matters related to explosives	Existence of boulders or rocky in some of the project areas is likely to require blasting for preparation sites for construction works. These blasting operations will have to be planned, carried out and supervised by a licensed blaster. The contractor will have to prepare Method Statement and Health and Safety Plan for Blasting works	ESMP to include blasting safety protocols; C-ESMP to develop Method Statements and Health & Safety Plans for blasting activities

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>The Electricity Act of 2008</b>	The Act is primary legislation for generating, transmitting, and distributing electricity power in Tanzania. The Act also provides guidance on provision for free use of wayleave for other infrastructures for the purpose of laying water pipelines	Water pipelines are expected to either cross high-tension wayleaves or use powerline wayleaves of which permission from TANESCO will be required	ESMP to ensure compliance with TANESCO requirements; C-ESMP to obtain necessary permits for crossings.
<b>The Standard Act 2009</b>	An Act to provide for the promotion of the standardization of specifications of commodities and services including water quality and effluent discharge standards	Treated water from new Farkwa WTP must comply with water quality standards established by TBS	ESMP to ensure compliance with water quality standards; C-ESMP to enforce ongoing water quality monitoring.
<b>EWURA Act – R.E 2006 (Amendment 2022).</b>	The Act provides for the resolution of disputes in relation to regulated services and goods, including the supply of water and sewerage services.	Water tariffs must be applied to EWURA for approval	ESMP to include tariff application requirements; C-ESMP to oversee compliance with EWURA regulations during operations.
<b>Environmental Management (Soil Quality Standards) Regulations (2007)</b>	The Regulation has provisions to ensure main polluting activity and discharge effluent are prevented from contaminating soils or subsoil	The Project will ensure main polluting activities are prevented from contaminating soils or subsoil.	ESMP to incorporate soil protection measures; C-ESMP to enforce mitigation and monitoring during construction
<b>Environmental Management Act (EMA), Cap</b>	The Act provides provision for discharge of sewage	The project will adhere to provisions of proper management of	ESMP to develop wastewater management protocols;

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>191 (Sections 61, 62, 123 - 129) - Management of Wastewater &amp; Ambient Water quality</b>	and management of liquid wastes including storm water	sanitation facilities and liquid wastes during construction period	C-ESMP to implement best practices for stormwater and sewage discharge.
<b>Management of Land Use: The Constitution of the United Republic of Tanzania Cap 2 (1977); National Land Policy (1997); Land Act, Cap 113 (R.E 2019); Land Acquisition Act, Cap. 118 (R.E 2019); The Village Land Act Cap. 114 (R.E 2019); Urban Planning Act No.8 (2007); Land Use Planning Act No. 6 (2007); Land (Assessment of the Value of Land for Compensation) Regulations (2001); Land (Compensation Claims) Regulations (2001); Courts (Land Disputes</b>	These laws and regulations govern the use of land and other assets in urban and rural areas including property and land rights, acquisition of land and other assets, rights and compensation, and dispute resolution and grievance mechanisms.	The project will comply with these laws and regulations because it involves land acquisition and compensation procedures	ESMP to outline land acquisition and compensation processes; C- ESMP to enforce fair grievance resolution mechanisms.

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>Settlements) Act, Cap. 216 (2002).</b>			
<b>Employment and Labour Relations Cap. 366 (R.E 2019)</b>	Among other provisions the Act contains measures to tackle the intimidation of workers and set minimum standards that all employers should treat their employees with or above the minimum standards (contracts, working time, wages and termination). It also has provisions for fundamental rights and protections such as prohibition of child labor, forced labor and discrimination.	The Project involves hiring of both skilled and unskilled workers and it will comply with applicable national laws with regard to employment and labor relations	ESMP will enforce fair labor practices; C-ESMP to ensure compliance with wage, safety, and work-hour regulations.
<b>Management of Public / Occupation Health &amp; Safety: Occupational Health &amp; Safety Act No. 5 (2003); Employment &amp; Labor Relation Act Cap. 366 (2004); National Policy on HIV/AIDS (2001); The HIV &amp; Aids (Prevention &amp; Control) No. 28 (2008); Law</b>	The Acts make provisions for safety, health and welfare of persons at work places and general public. Sub-project ESMP will incorporate measures that ensure employment opportunities to all while protecting right of children and people with disabilities and control of STDs and HIV infections.	The project will incorporate measures to ensure employment opportunities to all while protecting rights of children and people with disabilities and control of sexually transmitted diseases (STDs) and HIV infections.	ESMP to incorporate inclusivity measures; C-ESMP to enforce health, safety, and welfare for employees and the public.

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>of the Child Act No. 21 (2009); &amp; Disabilities Act No. 9 (2010).</b>			
<b>Occupational Safety &amp; Health Act, No.5 (2003)</b>	The Act make provisions for securing the safety, health and welfare of person at work; it protects others against risks to safety or health in connection with the activities of persons at work.	The project will incorporate OSHA requirements and standards for the effective control of health and safety risks at the various work places during construction and during operation phases	ESMP will outline workplace safety measures; C-ESMP to implement training, PPE use, and incident reporting.
<b>Public Health Act, Cap 336 (2009)</b>	This Act makes provision with respect to matters of public health including control of (communicable) diseases, water pollution in ports, control of mosquitoes, sanitation, solid, liquid and hazardous waste management, control of gasses, sanitary control and quarantine in ports, sewerage and drainage, food safety and hygiene and supply of safe water.	The project will set aside and manage areas in respect of solid and liquid wastes from all sources and ensure that the project infrastructures and facilities operate as per these requirements. In addition, the project provides for supply of safe water to communities	ESMP to establish health and hygiene measures; C-ESMP to implement sanitation and disease control practices.
<b>The Contractors Registration (Amendment) Act (2008)</b>	The Act provide provisions for effective regulation of activities and maintenance of professional conduct	The project will require engagement of contractor during construction. The project proponent will comply with the	ESMP to include contractor qualification criteria; C-ESMP to enforce compliance with registration requirements.

Legislation	Description	Applicability to the Project	Incorporation into ESMP
	and integrity of contractors and for related matters. Sub-section 22(4) prohibits an employer or developer from engaging unregistered firms or persons.	requirement of the Act by employing only a qualified and registered contractor.	
<b>The Engineers Registration (Amendments) Act (2007)</b>	<p>The Act prohibit under Sub-section (1) any person from employing as an engineer any person who is not a professional engineer or consulting engineer, or causing to undertake engineering works or services without employing the services of a professional engineer or consulting engineer.</p> <p>The Act also prohibit under Sub-section (2) prohibits any person from taking up or continuing in any employment as an engineer, or carrying out engineering works or services, unless he is a professional engineer or consulting engineer.</p>	The project will require services of engineers during construction. In this regard, the project proponent will ensure only qualified professional engineers are employed.	ESMP to outline professional engineer requirements; C-ESMP to enforce compliance with legal standards.
<b>Management of Physical Cultural</b>	Under this law, the following categories of the cultural	Project screening has been conducted during planning stage to	ESMP to include cultural resource safeguards; C-ESMP to

Legislation	Description	Applicability to the Project	Incorporation into ESMP
<b>Resources: The Antiquities Act (1964)</b>	property are recognized and protected: relics, monuments, protected objects, conservation areas and ethnographic objects. Under the Act, the minister responsible for cultural heritage is empowered to declare any object, structure or area which is of archeological, historical, cultural or scientific significance a protected object or monument.	<p>ensure that cultural resources are identified and appropriate measures to be taken to avoid damaging them.</p> <p>These measures will also be incorporated into civil works contracts to avoid damage to cultural resources, such as “sacred” forests and graveyards.</p>	enforce protection measures in civil works contracts.
<b>Graves (Removal) Act No 9 of 1969</b>	Subject to the provisions of this Act, where any land on which a grave is situated is required for a public purpose the Minister may cause such grave and any dead body buried therein to be removed from the land and, in such case, shall take all such steps as may be requisite or convenient for the re-instatement of the grave and the re-interment of the dead body in a place approved by him for the purpose.	The project pipeline is expected to pass through some pieces of land on which graves may be present. The project will ensure that all graves are identified during project planning, and appropriate measures to be taken as per Act	ESMP to ensure compliance with exhumation procedures; C-ESMP to follow required legal and community engagement steps.



The project is also guided by a set of ten 10 safeguard requirements known as Operational Safeguards (OSs). The standards include OS1 (Assessments and Management of Environmental and social Risks and Impact), OS2 Labour and Working conditions, OS3 Resources Efficiency and pollution Prevention and Management, OS4 Community Health, Safety and Security, OS5 Land Acquisition, Restrictions on Access to land and Use and Involuntary Resettlement OS6 Habitat and Biodiversity Conservation, and Sustainable Management of Living Natural Resources, OS7 Vulnerable Groups, OS8 Cultural Heritage, OS9 Financial Intermediaries, OS10 Stakeholder Engagement and Information Disclosure.

These are main safeguard requirements that AfDB clients are expected to meet when addressing social and environmental impacts and risks. An overview of the applicable Operational Safeguards (OSs) and their respective key requirements is presented in table below.

**Table 0-7: Applicable Operational Safeguards (OSs)**

AfDB OSS	Purpose/Objective	Applicability to Project
<b>E&amp;S OS1 (OS1): Assessment and Management of Environmental and Social Risks and Impacts</b>	<p>Identify and assess the E&amp;S risks and impacts including those related to gender inequalities, climate change, and respective mitigation measures</p> <p>Utilize national E&amp;S institutions, systems, laws, regulations, and procedures in the assessment development and implementation of projects, whenever appropriate</p> <p>Provide opportunity for stakeholder engagement and consultation in assessing and managing the E&amp;S risks and impacts.</p> <p>Adopt a mitigation hierarchy approach as follows:</p> <ul style="list-style-type: none"> <li>• anticipate and avoid risks and impacts;</li> <li>• where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;</li> <li>• once risks and impacts have been minimized or reduced, mitigate them; and</li> <li>• where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.</li> </ul> <p>Adopt differentiated measures so that adverse impacts do not fall disproportionately on the vulnerable to prevent them from being disadvantaged in sharing development benefits and opportunities resulting from the project</p>	<p>ESIA and RAP reports have been prepared to mitigate potential E&amp;S impacts.</p> <p>Specific measures have been addressed in the ESMP section of this ESIA report</p> <p>Contractor shall be required to prepare a site-specific ESMP and Health and Safety Management Plan before commencement of construction works</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b>E&amp;S OS2 (OS2): Labor and Working Conditions</b>	<p>Protect workers' rights</p> <p>Promote compliance with national legal requirements on labor</p> <p>Protect the workforce from inequality, social exclusion, child labor, and forced labor</p> <p>To promote safety and health in the workplace.</p> <p>To prevent the use of all forms of forced labor and child labor</p>	<p>The project will recruit skilled, semi-skilled and unskilled labors.</p> <p>The workforce has to be protected from inequality, social exclusion, child labor, forced labor, health and safety risks and poor working conditions.</p> <p>The project will require contractor(s) to develop Labor management plan and Occupational Health and Safety Plan (OHSP) to protect workers from poor working conditions and health and safety risks.</p>
<b>E&amp;S OS3 (OS3): Resource Efficiency and Pollution Prevention and Management</b>	<p>To promote the sustainable use of resources, including energy, water, and raw materials.</p> <p>To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.</p> <p>To avoid or minimize project-related emissions of short and long-lived climate pollutants.</p> <p>To avoid or minimize generation of hazardous and non-hazardous waste.</p> <p>To minimize and manage the risks and impacts associated with pesticide use.</p>	<p>The project will use raw materials for construction of infrastructures, hence needs to be managed sustainably.</p> <p>Project will generate dust, erosion, sediments, solid and liquid wastes that will need to be properly managed by project proponent and contractor(s).</p> <p>The project is aimed at reducing pollution and preventing contamination to the environment. ESHS requirements will ensure contractor(s) develop waste management plans and site-specific Environmental Protection Plans (EPPs).</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b>E&amp;S OS 4 (OS4): Community Health, Safety and Security</b>	<p>To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project or operation lifecycle from both routine and non-routine circumstances.</p> <p>To help promote public health and safety across the project's area of influence by, inter alia, promoting and supporting programs that aim at preventing the spread of major communicable diseases.</p> <p>To promote quality and safety, and considerations relating to climate change in the design and construction of infrastructure, including dams.</p> <p>To avoid or minimize community exposure to project-related traffic and road safety risks, diseases, and hazardous materials.</p> <p>To ensure that effective measures to address emergency events are in place.</p> <p>To ensure that the safeguarding of personnel and property through the provision of public or private security is carried out in a manner that avoids or minimizes risks to the project-affected communities and in a manner consistent with international human rights standards and principles.</p> <p>To help prevent against sexual exploitation, abuse and sexual harassment (SEAH) of members of the community by project workers.</p>	<p>Project implementation is expected to have moderate risk and impacts to adjacent community health and safety. Significant influx of workers and followers into a project area are anticipated. Implementation of the project will have both direct and indirect benefits to the people's health and safety.</p> <p>To protect community, the MoW will ensure that there is a pre-approved Community Sensitisation and Education program; and appropriate Occupational Health and Safety (OHS) measures including traffic management are applied to avoid the risk of ill health, accidents and injuries to community during the whole period of project implementation.</p> <p>The Contractor shall be required to prepare Occupational Health and Safety Plan and traffic management plan to protect and minimize community health and safety risks.</p> <p>Contractor shall also be required to have GBV/SEAH policy and prepare GBV/SEAH Management Plan of the project</p>
<b>E&amp;S OS 5 (OS5): Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement</b>	<p>To avoid involuntary resettlement where feasible, or minimize resettlement impacts where involuntary resettlement is deemed unavoidable after all alternative project designs have been explored</p> <p>To avoid or minimize involuntary resettlement and to avoid forced eviction</p> <p>To mitigate unavoidable adverse impacts from land acquisition and restrictions on land use.</p>	<p>It was not possible to avoid involuntary resettlement during design stage. Various route options were considered and each route had resettlement impacts thus involuntary resettlement was deemed unavoidable after all alternative project designs explored.</p> <p>The project will cause physical and</p>

AfDB OSS	Purpose/Objective	Applicability to Project
	<p>Ensure that displaced people are meaningfully consulted and given opportunities to participate in the planning and implementation of resettlement programs</p> <p>Ensure that displaced people receive significant resettlement assistance under the project, so that their standards of living, income-earning capacity, production levels and overall means of livelihood are improved beyond pre-project levels</p>	<p>economic displacement and a RAP has been prepared by the project to avoid and minimize impacts and compensate for the impacts.</p> <p>In principle, the project requires land for WTP, some parts of TM, and reservoirs. Land acquisition shall occur in localized project areas.</p> <p>The RAP process was done in accordance with OS 5. MoW will ensure that RAP and Livelihood Restoration Plan (LRP) are followed and adhered. The project has prepared RAP report.</p>
<p><b><u>E&amp;S OS 6 (OS6):</u></b>  <b>Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources</b></p>	<p>Avoid adverse impacts on biodiversity, habitats and ecosystem services. When avoidance of adverse impacts is not possible, the project will have to implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in OS1 and with the requirements of the OS3</p> <p>Protect natural, modified, and critical habitats</p> <p>Endeavour to reinstate or restore biodiversity, including, where some impacts are unavoidable, through implementing biodiversity offsets to achieve “not net loss but net gain” of biodiversity</p>	<p>The Project was screened for potential direct and indirect impacts on natural habitats as per the requirements of OS 6.</p> <p>One of project infrastructure (reservoir) will be implemented inside Chinene forest reserve. The forest reserve is occupied by sensitive habitats both flora and fauna.</p> <p>The Biodiversity study of 2015 is being updated with separate consultant to include biodiversity at Chinene forest reserve. BAP will be shared after completing of the update to this report as a separate report aiming to protect and restore habitats and species at Chinene forest reserve and other Project Areas.</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b><u>E&amp;S OS 7 (OS7):</u></b> <b>Vulnerable Groups</b>	<p>To identify vulnerable groups among the displaced population that will be provided with specific support to ensure that their livelihoods are fully restored</p> <p>To ensure that marginalized and vulnerable populations, such as women, children, the elderly, and people with disabilities, have equal access to clean water and sanitation facilities.</p> <p>To create sustainable water management systems that consider the specific needs of vulnerable groups, ensuring long-term benefits</p>	<p>The stakeholders engagement process included active participation from all key stakeholders, including vulnerable groups, to make it inclusive and equitable.</p> <p>The ESIA process assessed the proposed activities, technologies, and approaches that can be effectively implemented within the project's geographic, cultural, social, and economic context, to safeguard vulnerable groups.</p> <p>The project will ensure international compliance standard (Oss)</p>
<b><u>E&amp;S OS 8 (OS8):</u></b> <b>Cultural Heritage</b>	<p>To protect cultural heritage from the adverse impacts of project activities and support its preservation.</p> <p>To address cultural heritage as an integral aspect of sustainable development.</p> <p>To promote meaningful consultation with stakeholders regarding cultural heritage as a means to identify and address risks and impacts related to cultural heritage.</p> <p>To promote the equitable sharing of benefits from the use of cultural heritage with affected stakeholders.</p>	<p>MoW will ensure that the project aligns with the unique cultural, social, and historical context of the community involved. This includes respecting traditions related to water use and management.</p> <p>MoW will ensure compliance with local and national guidelines regarding cultural heritage (such as graves) preservation and water management.</p> <p>Chance Find Procedure (CFP) has been developed as an appendix to this report as a separate report outlining steps to take when unexpectedly encountering previous unknown cultural heritage resources during project construction and operations.</p>
<b><u>E&amp;S OS 10 (OS10):</u></b> <b>Stakeholder Engagement and Information Disclosure</b>	<p>To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders, and build and maintain a constructive relationship and channels of communication with them, in particular project-affected parties.</p>	<p>The project has prepared Stakeholder's Engagement Plan (SEP) as a separate report outlining how the MoW will engage with its stakeholders throughout a project life cycle.</p>

AfDB OSS	Purpose/Objective	Applicability to Project
	<p>To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and E&amp;S performance.</p> <p>To promote and provide the means for safe, effective, and inclusive engagement with project affected parties, inclusive of women's perspectives, in an equitable manner, and vulnerable groups, in a manner free of reprisal, throughout the project life cycle on issues that could potentially affect them.</p> <p>To enhance project benefits and mitigate harm to local communities.</p> <p>To ensure that appropriate project information on E&amp;S risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format.</p> <p>To provide project-affected parties with accessible and inclusive means to provide input, raise issues, questions, proposals, concerns, and grievances, and allow Borrowers to respond to and manage such grievances.</p> <p>To promote development benefits and opportunities for project-affected communities, taking into account the needs of women, including vulnerable groups, in a manner that is accessible, equitable, culturally appropriate, and inclusive.</p>	<p>The ESIA process facilitated engagement with different stakeholders and their concerns and views are part of this report.</p> <p>MoW will ensure that stakeholder engagement and information disclosure contribute to the project's success by addressing community needs, fostering collaboration, and building trust.</p> <p>MoW will ensure that disclosed information is accessible to all stakeholders, including marginalized groups, and presented in a clear and understandable manner.</p>

### **Major and Moderate Impacts**

#### **Carbon footprint.**

Emissions greenhouse gas (GHG) shall be observed including Scope 1 which covers direct emissions arise from direct sources like fuel combustion in machinery and vehicles used on-

site, like fuel used in vehicles or machinery. Scope 2 includes indirect emissions from purchased energy, such as electricity used in operations, stemming from the electricity purchased to power operations, such as pumping systems or construction equipment. Scope 3 accounts for all other indirect emissions across the value chain, including supply chain activities, waste management, transportation of construction materials, and employee travel. Together, these scopes provide a comprehensive view of the project's carbon footprint.

Additionally, approximately 12,195 trees which absorb approximately 300 tons per year are expected to be cleared.

**Table 0-8: Estimated Solid Waste Generation During Construction-INTAKE AND WTP**

<b>Material Type</b>	<b>Quantity Used</b>	<b>Waste Generation %</b>	<b>Density / Unit Weight</b>	<b>Waste Estimate Formula</b>	<b>Estimated Waste (kg)</b>	<b>Estimated Waste (tons)</b>
<b>Concrete</b>	22780.5 m <sup>3</sup>	5%	2,400 kg/m <sup>3</sup>	2400×0.05×2400	2733660	2733.66
<b>Plastic Bags (Cement Packaging)</b>	176260 bags	100%	-	176260	8813000	8813
<b>Steel Reinforcement</b>	3286.5tons	2%	-	0.02×3286.5	65730	65.73
<b>Personnel Waste</b>	350 workers × 180 days	-	0.5 kg/person/day	350×0.5×788	137900	137.9
<b>TOTAL</b>						<b>9290.29</b>

**Land acquisition (substantial) - physical & economical displacement; loss of lands; and graves removal**

- Loss of 101 house structures for residential (completed and unfinished)
- Loss of 20 business structures
- Loss of 954 land parcels with crops and trees (Trees include Mango, Baobab, Teak, Acacia, Miombo, Cactus, Thickets, Neem. Thorny trees, Oak, bush trees, Gliricidia septum trees, tamarind trees. Crops include cassava, sugar cane, groundnuts, sorghum, millet, maize, cashew nuts, banana)
- Total 946 PAPs (756 PAPs without land titles)
- Removal of 38 graves
- Over 455.6ha of land is likely to be appropriated forest/natural vegetation lost (17 acres (70,200 m<sup>2</sup>))

**Influx of people seeking jobs (moderate)**

**Dust emission (moderate)**  
**Emission of GHGs (low)**  
**Generation of noise and vibration (moderate)**  
**Vegetation loss due to site clearance (moderate)**  
**forest/natural vegetation lost (17 acres (70,200 m<sup>2</sup>))**  
**Invasive plant species (moderate)**  
**Soil erosion (moderate)**

**Disturbance and loss of fauna (moderate)**

The diverse ecosystem which is home to a variety of mammals, birds, reptiles, and amphibians, including herbivores, predators, and venomous species. It showcases remarkable biodiversity, with vibrant wildlife and unique adaptations spread across the region's fauna. Together, these creatures form a thriving and interconnected natural habitat.

**Solid waste generation (moderate)**

- Domestic waste
- Construction waste

**Wastewater generation (moderate)**

- Sanitary wastewater
- Concrete and cement slurry from batching plant
- Oil, lubricant and grease

**Spills on land (moderate)**

**Pollution of water resources (moderate)**

**Traffic congestion (moderate)**

**OHS risks to workers (moderate)**

**HIV/AIDS & STDs transmission risks (moderate)**

**GBV and SEAH risks (moderate)**

**Increased pressure on social services (moderate)**

**Project grievances (moderate)**

**Damage to private properties (moderate)**

**Damage to archaeological resources (moderate)**

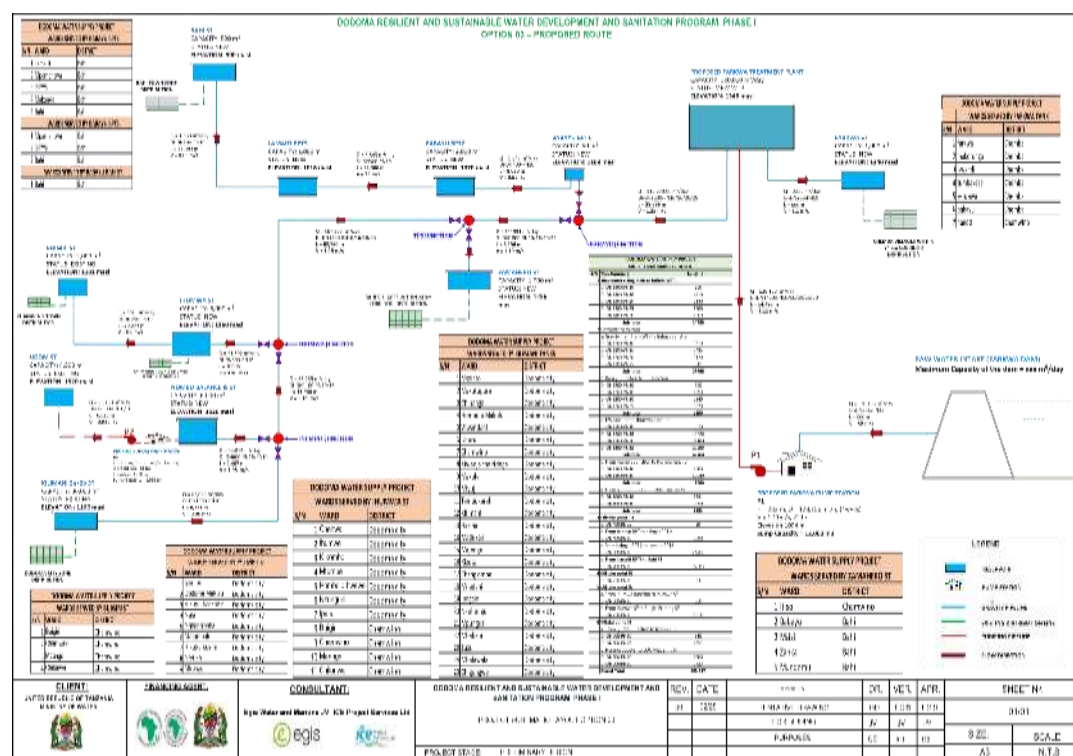


**Figure 0-1: Pipeline Layout Overlied on Google Map**

### Figure 0-1: Pipeline Layout Overlied on Google Map



### Figure 0-1: Schematic Diagram



**Table 0-9: Summary of ES Impact Evaluation for the Proposed Project**

Project Phases / Type of Impacts			
Temporal Distribution of Impacts	No Impact	Positive Impacts	Negative Impacts
<b>Mobilization Phase</b>			
Land acquisition, resettlement & livelihood restoration			substantial
Temporary employment opportunities		✓	
Local economy & increased local spending		✓	
Influx of people seeking jobs			moderate
<b>Construction Phase</b>			
Emissions of air pollutants (dust, exhaust etc.)			moderate
Emission of GHGs			low
Generation of noise & vibration			moderate
Visual impact			moderate
Vegetation loss through site clearance			moderate
Invasive plant species			moderate
Soil erosion			moderate
Disturbance and loss of biodiversity			moderate
Solid waste generation			moderate
Wastewater generation			moderate
Spills on land			moderate
Soil pollution			moderate
Water pollution			moderate
Traffic congestion			moderate
OHS risks to workers			moderate
Community health and safety risks			moderate
HIV/AIDS transmission risks			moderate
GBV and SEAH risks			moderate
Influx of people seeking jobs			moderate
Increased pressure on social services			moderate
Temporary job opportunities for locals		✓	
Local economy & increased local spending		✓	
Project grievances			moderate
Damage to private properties			moderate
Damage to archaeological resources			moderate
<b>Operation Phase</b>			
Emissions of air pollutants (dust, exhaust etc.)			low
Emission of GHGs			low
Generation of noise & vibration			low
Visual impact			low
Invasive plant species			moderate

Project Phases / Type of Impacts			
Temporal Distribution of Impacts	No Impact	Positive Impacts	Negative Impacts
Disturbance and loss of fauna			moderate
Soil erosion			moderate
Water pollution			low
Solid waste generation			moderate
Wastewater generation			moderate
Spills on land			moderate
Population influx	✓		
Land acquisition and resettlement	✓		
OHS risks to workers			moderate
Community health and safety risks			low
Improved Health Sanitation and Hygiene		✓	
Increased water supply to community		✓	
Local economy & increased local spending		✓	
Project grievances	✓		
Damage to private properties			moderate
Damage to archaeological resources	✓		

### Consultations

Consultation with different stakeholders took place between 10th – 28th February, 2025. Consultations were held with different government institutions (TANROADS, DUWASA, Immigration department, TARURA, TRC, TANESCO, UDOM, OSHA, TFS, TPF, TISS, Wami Ruvu Basin Water Board and Internal Drainage Basin Water Board) and with Dodoma Regional Secretariat, local community leaders at ward and street levels (Farkwa, Babayu-Chemba, Babayu-Bahi, Zanka, Makorongo, Majengo, Lamaiti, Mpamatwa, Makutupora, Nzuguni, Chahwa, Ihumwa, Iyumbu, Dodoma Makulu, Tambukareli, Kilimani, Mtumba, Buigiri and Bahi wards) A total of 260 local community leaders participated to these consultations.

### Concerns raised by stakeholders were as follows:

#### Sacred and Ritual Areas

It was presented that MoW and Consultant to ensure that all sacred and ritual areas be avoided and adequately protected during project implementation. It is important to note that, there was no ritual or sacred area identified during site surveys. It was made clear that the MoW and the Consultant are responsible for overseeing this aspect. However, during the survey conducted for the project, no sacred sites or ritual areas were identified in close proximity to the project footprint. This finding suggests that there are no immediate concerns regarding the presence of such areas within the project's boundaries, but continued vigilance will be necessary throughout the implementation phase to ensure compliance with the guidelines and respect for cultural and spiritual heritage.

#### Removal of graves from TANROADS road reserve

MoW was advised to consider removal of 128 graves from TANROADS road reserve at Mahomanyika if the road reserve will be utilized by project infrastructures. TANROADS explained that there is a graveyard alongroad reserve at Mahomanyika. Consultant assessment revealed a total of 128 graves to be compensated and be removed/relocated. . After the engagement with TANROADS, the Consultant revised the design of the pipeline and avoided these graves.

#### Installation of Storage Tank at Zamahero within Chinene Forest Reserve

- Tanzania Forest Services (TFS) Agency advised the MoW to write an official letter to request permission of Tank installation within Chinene Forest Reserve.
- Tanzania Forest Services Agency Tanzania Forest Services Agency advised the MoW to make an inventory study or survey to know the numbers of the trees that will be removed for construction of storage tank at Chinene forest reserve.
- Tanzania Forest Services Agency advised MoW to request permission/consent from TFS for tree removal and to proceed with the project in protected areas.
- MoW shall pay compensation for the number of trees to be cleared at Chinene forest reserve
- Tanzania Forest Services Agency advised the MoW to involve forestry experts during the project implementation exercise.

#### Adjustment of water pipeline to avoid impact to Government structures

It was advised that MoW to consider adjusting the pipeline to avoid demolishing any of the government building. MoW to ensure relocating and diverting the proposed water pipeline to minimize damage of public structures.

#### Land Acquisition and Resettlement

Community members whose land will be acquired by the project should be compensated in accordance with Land Acquisition Act (Cap 118) and the Land Act, 1999 (Cap 113), ensuring fair and prompt compensation for those whose land rights are revoked or acquired for public purposes.

#### Compensation for Road Reserves

MoW was informed by TANROADS that the proposed pipeline shall pass on some of road reserves which were not compensated. MoW was advised to compensate individuals and business structures located at road reserves in Buigiri village, Sichelela Mtaa and Zanka village. In addition, TANROADS informed MoW that the proposed Kilimani road reserve was not compensated; and that DUWASA water infrastructure exists within the road reserve. Therefore, the space for road reserve is limited because it has also been utilized by DUWASA infrastructures. Table 0-10 provide the issues discussed during consultation with stakeholders.

**Table 0-10: Issues Discussed During Consultation with Stakeholders**

Section	Concerns Raised	Responses Given
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Section	Concerns Raised	Responses Given
Pipeline and Construction Location	Concerns include the route of the pipeline, its deviation from the road, the choice of tank location in the Chenene forest reserve, and the width of the pipeline corridor. Additionally, there were concerns about the water source in Farkwa, given its semi-arid conditions.	The pipeline will pass on the right side of the road towards Dodoma and turn off-road to reduce social and environmental impacts. The tank's location in the Chenene forest reserve takes advantage of the area's high elevation to facilitate natural water flow, cutting down on pump costs. The wide pipeline corridor ensures maintenance access, future expansion, and compliance with safety and environmental standards. Despite Farkwa's semi-arid nature, seasonal rivers like Bubu and Mkinki, along with catchment conservation measures, will provide a reliable water source.
Water Supply, Usage, and Distribution	Concerns were raised about whether citizens could connect directly to the main pipe and whether the water could be used for irrigation or other activities. Additionally, there were questions about supplying small tanks in Buigiri from the Farkwa dam.	Direct connections to the main pipe will not be allowed, as it is designated for supplying water to tanks, not for distribution. The water is for drinking purposes only, serving both people and animals, and not for irrigation. The project ensures that Buigiri will have a sustainable water supply by using Farkwa water to fill the small tanks, which will serve both Buigiri and Chamwino.
Compensation and Land Acquisition	The community expressed concerns about compensation for affected individuals, the criteria for asset valuation, disputed land, the impact of compensation costs on the project, and the timely disbursement of compensation.	Compensation will be provided for affected assets based on national valuation laws and guidelines. In cases of land disputes, compensation will be withheld until resolution. While compensation adds to project costs, it is a statutory requirement. The project will expedite compensation to avoid delays in progress and ensure fairness, following both national and international standards.

Section	Concerns Raised	Responses Given
Employment and Social Impact	The concerns were whether the project would provide employment for the local youth, whether public properties would be compensated, and whether farming and grazing would be allowed after the pipeline construction.	The project will provide employment opportunities, particularly for unskilled labor. Public properties affected by the project will be reinstated rather than compensated with cash. After the construction of the pipeline, the wayleave area will remain clear, and farming and grazing will not be allowed within the corridor.
Environmental and Regulatory	The main concern was how the project would address environmental impacts and whether alternative water sources had been considered, given Farkwa's reliance as the primary water source.	The project will conduct a comprehensive environmental impact study and implement appropriate mitigation measures, ensuring adherence to both national and international environmental regulations. No alternative water sources were identified, as the Farkwa dam was deemed the most sustainable option for the water supply.



**Table 0-11: Environmental and Social Management Plan (ESMP) – Construction Phase**

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
Noise and vibration impact at the construction sites due to construction works, blasting, traffic and transport	<ul style="list-style-type: none"> <li>▪ Limit working hours for specific equipment or activity, especially mobile sources operating through community areas or close to sensitive receptors;</li> <li>▪ Restrict vehicle and equipment movements at night;</li> <li>▪ Install noise control devices in construction equipment if noise levels exceed the applicable guidelines;</li> <li>▪ Instruct the workforce to avoid unnecessary noise where sensitive receptors are present;</li> <li>▪ Ensure the use of modern and well-maintained equipment (e. g. use of silencers);</li> <li>▪ Limit the number of machines/equipment to operate simultaneously;</li> <li>▪ Provide PPEs (earplugs) for workers working in noisy activities;</li> <li>▪ Carryout blasting activities during daytime;</li> <li>▪ Schedule traffic activities to avoid peak hours on local roads if feasible;</li> </ul>	Contractors	15,000
Impact on air (air pollution) and dust emission	<ul style="list-style-type: none"> <li>▪ Spraying water on unpaved surfaces to minimize dust dispersion;</li> <li>▪ Covering stockpiles of excavated soils in areas near sensitive receptors;</li> <li>▪ Covering vehicles carrying construction materials with tarpaulin</li> <li>▪ Maintaining and storing piles of loose/friable materials and soil in a suitable manner to minimize dust dispersion;</li> <li>▪ Switch off vehicles /equipment when not in use.</li> </ul>	Contractors	30,000
Visual impact and impact on vegetation clearing	<ul style="list-style-type: none"> <li>▪ Remove and temporarily store the good topsoil for subsequent reuse in site restoration and landscaping;</li> <li>▪ Landscaping of the topsoil should take advantage of the natural terrain;</li> </ul>	Contractors	25,000

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
	<ul style="list-style-type: none"> <li>▪ Restore construction sites to pre-construction state;</li> <li>▪ Strictly limit vegetation clearance for the wayleave pipelines and associated facilities to the required work strip;</li> <li>▪ Revegetate all Project areas disturbed by the works (pipeline corridor; reservoir sites, WTP, camp areas etc.) and use native species</li> </ul>		
Impact on soils (erosion)	<ul style="list-style-type: none"> <li>▪ Generally, ensure that all cleared surfaces and areas exposed to soil erosion are minimized on all project areas and that erosion risks are effectively controlled;</li> <li>▪ Determine the appropriate locations and the type of erosion control measures required with Engineer's approval;</li> <li>▪ Stabilize soils mechanically to minimize erosion risks;</li> <li>▪ Re-grade slopes and re-vegetate exposed areas;</li> <li>▪ Use native/excavated material to backfill the trench section around the pipes;</li> <li>▪ Dispose of spoil earth/rock in appropriate approved areas;</li> <li>▪ Take effective measures to avoid soil erosion at river crossings.</li> </ul>	Contractors	15,000
Mishandling of soil	<ul style="list-style-type: none"> <li>▪ Ensure appropriate storing of topsoil removed;</li> <li>▪ Limit stockpile height to 2 m maximum to avoid soil compensation;</li> <li>▪ Reinstate construction working area to the best possible after construction activities are completed;</li> <li>▪ If construction takes place on inclined surfaces/slopes, ensure preventive erosion control measures are applied (e.g. plan to retain trees and other vegetation, use of natural contours for access roads and drainage networks, excavated drainage channels).</li> </ul>	Contractors	10,000



Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
Spills on lands	<ul style="list-style-type: none"> <li>▪ Install secondary containment / oil separators at fuel storage areas;</li> <li>▪ Store fuel and hazardous chemicals/materials in properly designed storage areas;</li> <li>▪ Fuel, oil or hazardous materials required to be temporarily stored onsite shall be stored within secondary containment located greater than 100m from any watercourse or water body;</li> <li>▪ Ensure appropriate containment and disposal of construction wastewater, including sanitary water;</li> <li>▪ Provide absorbent and intervention materials in sufficient quantities and at relevant locations for intervention in case of leakages/spills;</li> <li>▪ Implement appropriate secondary containment and spill controls for maintenance or refuelling works;</li> <li>▪ Ensure immediate cleaning of any spills and remediation of contaminated areas after construction.</li> <li>▪ Dripping pans should be used to contain all fuel leakages on construction equipment;</li> <li>▪ In case of fuel spills, the contaminated soil should be collected and treated to remove the fuel and prevent the fuel from being washed away in storm water or nearby water bodies</li> <li>▪ Implement appropriate secondary containment and spill controls for maintenance or refuelling works.</li> </ul>	Contractors	20,000
Solid waste	<ul style="list-style-type: none"> <li>▪ Collect and segregate wastes and ensure safe storage and in line with legal requirements;</li> <li>▪ Ensure disposal through waste contractors licensed for removal and final disposal for each of the waste stream;</li> <li>▪ Provide adequate number of dust bins on sites; and</li> <li>▪ Designate special area for collection of different streams of waste including construction wastes</li> </ul>	Contractors	30,000

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
Water Pollution	<ul style="list-style-type: none"> <li>▪ Dripping pans should be used to contain fuel leakages on construction equipment;</li> <li>▪ Restrict excavation activities during periods of intense rainfall;</li> <li>▪ Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters;</li> <li>▪ Carry out excavation works in cut off ditches to prevent water from entering excavations;</li> <li>▪ Ensure storage and handling of fuel to be kept away from the Bubu river and other small streams;</li> <li>▪ Ensure appropriate containment and disposal of construction wastewater, including sanitary water through onsite sanitation practice;</li> <li>▪ Install secondary containment / oil separators at fuel storage sites;</li> <li>▪ Store fuel and hazardous chemicals/materials in properly designed storage areas.</li> <li>▪ Fuel, oil or hazardous materials required to be temporarily stored onsite shall be stored within secondary containment located greater than 100m from any water source;</li> <li>▪ Implement appropriate secondary containment and spill controls for maintenance or refuelling works</li> </ul>	Contractors	20,000
Impact on areas of ecological value	<ul style="list-style-type: none"> <li>▪ Assess the occurrence of natural habitats at and around the construction site. Avoid these areas where possible through traffic management and site setup;</li> <li>▪ In case sensitive biodiversity are found, Biodiversity Action Plan (BAP) will be prepared and implemented once the update of Biodiversity study completed.</li> </ul>	Contractors	15,000
Site Clearance - Vegetation	<ul style="list-style-type: none"> <li>▪ Limit vegetation clearing to areas within the site boundary where it is absolutely necessary;</li> </ul>		

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
removal and habitat disturbance	<ul style="list-style-type: none"> <li>▪ Avoid clearing mature trees;</li> <li>▪ Avoid off-road vehicle traffic and use existing access roads;</li> <li>▪ Ensure revegetation of cleared areas where possible after construction using native species.</li> </ul>		
Disturbance from construction activities	<ul style="list-style-type: none"> <li>▪ Instruct workers to avoid unnecessary disturbance of any habitats outside the immediate construction area;</li> <li>▪ Instruct workers that hunting or killing of wild animals shall be strictly forbidden.</li> </ul>		
Community and Worker Grievances	<ul style="list-style-type: none"> <li>▪ Engage/ communicate with communities and plan sufficient time for participation;</li> <li>▪ Ensure regular consultations with the local authorities and communities regarding the management of construction;</li> <li>▪ In case of damage to properties, notify the property owner and immediately repair the infrastructure/property to the original state;</li> <li>▪ Alternatives access ways should be communicated to the community</li> <li>▪ Implement and monitor the approved Grievance Mechanism to allow potentially affected individuals to voice their concerns on the Project;</li> <li>▪ Ensure that all workers have access to and are aware about the GRM;</li> <li>▪ Ensure compliance with labour laws and standards;</li> <li>▪ Observe labor conditions and ensure wage payment is not below minimum wage rate;</li> <li>▪ Ensure the workforce has access to healthcare on site, providing first aid;</li> <li>▪ Provide staff welfare in accordance with all applicable health and safety regulations and norms by ensuring the provision of rest area, supply of water, adequate sanitary facilities and garbage disposal system, appropriate protection against heat, noise, fire and disease-carrying animals;</li> </ul>	Contractors	15,000

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
	<ul style="list-style-type: none"> <li>▪ Ensure adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services on site;</li> <li>▪ Provide transparent grievance mechanism for workers and community.</li> </ul>		
Influx of Population seeking jobs	<ul style="list-style-type: none"> <li>▪ Conduct engagement meetings with community adjacent to project area to disclose project information and explain recruitment procedures including formal grievance mechanisms of the project;</li> <li>▪ Establish transparent recruitment procedures to avoid camp followers (job-seekers);</li> <li>▪ Establish a recruitment policy that gives priority to local residents for less specialized services;</li> <li>▪ Share recruitment procedures with the local authorities for further dissemination;</li> <li>▪ Give priority for recruitment to local residents for less specialised and labour-intensive services.</li> </ul>	Contractors	10,000
Land acquisition	<ul style="list-style-type: none"> <li>▪ Avoid land take and hereby avoid physical relocation of both formal and informal land owners/land users whenever possible during design stage;</li> <li>▪ Should land acquisition and displacement be inevitable, prepare and implement Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) before commencement of construction works;</li> <li>▪ Provide compensation to PAPs in accordance with national regulations and OS2;</li> <li>▪ Establish GRM to allow PAPs raise their concerns during RAP implementation;</li> <li>▪ Possibly schedule site clearance operations such as to minimize the loss of crops;</li> </ul>	Consultant MoW	The ESMP budget typically does not include the costs for resettlement. Preliminary indicative cost for resettlement is estimated

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
	<ul style="list-style-type: none"> <li>▪ Provide timely information to land owners about the commencement of works as part of stakeholder's engagement;</li> <li>▪ Allow farmers to harvest their crops prior to construction and to continue growing seasonal crops in the pipeline wayleave.</li> </ul>		to be <b>5,340,935,940.00</b> -
Physical damage of public and private infrastructures and properties	<ul style="list-style-type: none"> <li>▪ Carry out a condition survey to assess to identify and record any deficiencies in the site or property, such as the extent of existing damages such as cracking prior to work commencement;</li> <li>▪ Notify the relevant service provider/property owner in-case of accidental damage;</li> <li>▪ Repair the infrastructure/property to the original state</li> <li>▪ In case of infrastructure utilities, ensure prompt repairs to minimize the duration of interruption of services; and</li> <li>▪ Prepare and record all incidents in an incident register book.</li> </ul>	Contractors	50,000
Community Health and Safety	<ul style="list-style-type: none"> <li>▪ Use barriers and install signage;</li> <li>▪ Provision of appropriately trained security personnel;</li> <li>▪ Provision of adequate safe passageways for the public crossing the construction sites;</li> <li>▪ Set speed limits and traffic controls for Project vehicles and equipment near sensitive receptors;</li> <li>▪ Ensure all contractors implement Codes of Conduct concerning employment and workforce behaviour;</li> <li>▪ Conduct public health campaigns addressing issues of water and sanitation, GBV/SEAH, HIV/AIDS and other STDs, etc.;</li> <li>▪ Install safety and warning signs at high-risk sections of public roads or sensitive receptors;</li> <li>▪ Suitable warning signs should be placed at near site locations and should be visible at night;</li> </ul>	Contractors	25,000

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
	<ul style="list-style-type: none"> <li>▪ Ensure all H&amp;S related incidents (e.g. observations, accidents) are recorded and followed up properly (see template for incident reporting in <b>Annex 4</b> of ESIA report);</li> <li>▪ Prepare Traffic Management Plan in the Project area</li> </ul>		

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
Occupational health & safety	<ul style="list-style-type: none"> <li>▪ Contractor should prepare an Occupational Health and Safety Plan (OHS Plan);</li> <li>▪ Identify all works requiring a permit and comply to permit's terms and conditions;</li> <li>▪ Ensure that first aid station is always available;</li> <li>▪ Recruit qualified first aider;</li> <li>▪ Providing of emergency response equipment such as fire-fighting equipment, fire extinguishers;</li> <li>▪ Suitable warning signs should be placed at site locations and should be visible;</li> <li>▪ Provide H&amp;S induction training and toolbox talks to the workforce regarding H&amp;S risks;</li> <li>▪ Provide firefighting training, first aid training, OSHA trainings;</li> <li>▪ Provide and ensure proper use of Personal Protective Equipment (PPE) for workers;</li> <li>▪ Ensure site is well fenced;</li> <li>▪ Provision of potable water and adequate sanitation facilities to site workers;</li> <li>▪ Use hazard notices/signs/barriers to prevent access to dangerous areas;</li> <li>▪ Set speed limits on site and on transporting routes;</li> <li>▪ Establish an emergency response plan to be implemented in the case of an accident/accident or emergency;</li> <li>▪ During blasting, prepare Method Statement for Blasting prior to blasting activity;</li> <li>▪ Develop Job Hazard Assessment before construction works;</li> <li>▪ Ensure provision of Health and Safety (H&amp;S) facilities at the Project site, including shaded welfare areas, bathrooms, sanitary facilities and potable water;</li> <li>▪ Ensure that the workers camp and construction areas are open only to formal employees</li> <li>▪ Ensure all H&amp;S related incidents (e.g. observations, accidents) on site are recorded and followed up properly (see template for incident reporting in <b>Annex 4</b> of this report); and</li> </ul>	Contractors	15,000

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
Labour rights	<ul style="list-style-type: none"> <li>▪ Establish a GRM for workers and ensure that all have access to and are aware about it;</li> <li>▪ Ensure that minimum legal labour standards as per ILO regulations are met: <ul style="list-style-type: none"> <li>- No child / forced labour;</li> <li>- No discrimination;</li> <li>- Working hours;</li> <li>- Minimum wages.</li> </ul> </li> <li>▪ Ensure the workforce has access to healthcare on site, providing first aid in case of emergency;</li> <li>▪ Provide housing conditions in accordance with all applicable health and safety regulations and norms by ensuring the provision of <ul style="list-style-type: none"> <li>- Adequate space,</li> <li>- Supply of clean water,</li> <li>- Adequate sanitation and garbage disposal system,</li> <li>- Appropriate protection against heat, cold, noise, fire and disease-carrying animals,</li> </ul> </li> <li>▪ Ensure adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services on site.</li> </ul>	Contractors	-
Communicable diseases	<ul style="list-style-type: none"> <li>▪ Report any occurrence of any communicable diseases amongst the workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C) and set up disease prevention programme;</li> <li>▪ Conduct awareness campaign to addressing issues of communicable diseases to project workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C).</li> </ul>	Contractors	25,000
Violation of children's rights	<ul style="list-style-type: none"> <li>▪ All staff of the contractor to sign, committing themselves towards protecting children, which clearly defines what is and is not</li> </ul>	Contractors	-



Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
and child labour force on site	<ul style="list-style-type: none"> <li>acceptable behaviour;</li> <li>Strictly refrain from hiring workers under the age of 18;</li> <li>Comply with all relevant local legislation, including labour laws in relation to child labour;</li> <li>Strictly do not invite children to workers' camp.</li> </ul>		
Sexual exploitation and abuse and GBV	<ul style="list-style-type: none"> <li>Develop and implement a <b><i>Sexual Exploitation &amp; Abuse (SEA) Action Plan</i></b> as part of the Contractor's ESMP.</li> <li>Integrate provisions related to sexual harassment and sexual exploitation and abuse in the employee Code of Conduct (COC);</li> <li>Develop a confidential community-based complaints mechanism discrete from the standard GRM;</li> <li>Mainstreaming of Prevention of Sexual Exploitation and Abuse (PSEA) awareness-raising in all community engagement activities;</li> <li>Provide regular community outreach to women and girls about social risks and their PSEA-related rights;</li> <li>Integrate SEA in all job descriptions, employments contracts etc.;</li> <li>Provide a dedicated focal person in the project and trained community liaison officers to implement and monitor SEA;</li> <li>Ensure clear human resources policy against sexual harassment that is aligned with national law;</li> <li>Ensure appointed human resources, environmental, social and health and safety personnel is informed and well trained on PSEA; and</li> <li>Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.</li> </ul>	Contractors	25,000

Impact Source	Mitigation Measures	Responsible Party	Estimated Costs (USD)
Damage of Cultural Heritage	<ul style="list-style-type: none"> <li>▪ Ensure all chance finds of cultural heritage (e.g. graves, old ceramic, old building fragments) are reported immediately to the relevant authority.</li> <li>▪ If possible, avoid excavation in the ultimate neighbourhood of a chance find, fence the chance find and await instructions from the relevant authority.</li> <li>▪ Stop the construction activities in the area of the chance find;</li> <li>▪ Delineate the discovered site or area;</li> <li>▪ Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities take over;</li> <li>▪ Notify the Engineer who in turn will notify Division of Antiquities and the responsible local authorities immediately (within 24 hours or less).</li> </ul>	Contractors	15,000
165,000			

**Table 0-12: Environmental and Social Management Plan (ESMP)- Operation Phase**

Impact Source	Mitigation Measures	Responsible	Estimated Costs (USD)
Spills on lands	<ul style="list-style-type: none"> <li>▪ Install secondary containment / oil separators at designated fuel storage areas;</li> <li>▪ Store fuel and hazardous chemicals/materials in properly designed storage areas;</li> <li>▪ Ensure immediate cleaning of any spills and remediation of contaminated areas after construction.</li> </ul>	MoW/DUWASA	25,000
Water pollution	<ul style="list-style-type: none"> <li>▪ Ensure effluent from WTP meets discharging standards</li> </ul>	MoW/DUWASA	25,000

Impact Source	Mitigation Measures	Responsible	Estimated Costs (USD)
	before released to waterbodies		
Establishment of invasive species	<ul style="list-style-type: none"> <li>▪ Removal of invasive plant species during routine maintenance;</li> <li>▪ Restore disturbed areas immediately after the construction and maintenance works;</li> <li>▪ Avoid importation of exotic trees and soil from other places (e.g. for restoration or as ornamentals).</li> </ul>	MoW/DUWASA	30,000
Solid waste	<ul style="list-style-type: none"> <li>▪ Dewatering of sludge from WTP processes</li> <li>▪ Drying of dewatered sludge</li> <li>▪ Provide plastic UV resistant membrane to sludge storage area to prevent groundwater pollution</li> <li>▪ Re-use sludge as soil conditioner for agricultural purposes</li> <li>▪ Re-use the dried sludge for co-incineration in e.g. cement or steel factories</li> <li>▪ Provide dust bins for domestic waste</li> </ul>	MoW/DUWASA	80,000
Liquid waste	<ul style="list-style-type: none"> <li>▪ Provide drainage and leachate detention system</li> <li>▪ Re-cycle water from filter washing</li> <li>▪ Provide septic tank for sanitary wastewater</li> </ul>	MoW/DUWASA	15,000
Occupational health & safety risk	<ul style="list-style-type: none"> <li>▪ Ensure strict compliance of operations with the applicable OHS standards;</li> <li>▪ Establish an Emergency Preparedness and Response Procedures;</li> <li>▪ Develop and implement a prevention program that includes the identification of potential hazards, written operating procedures, training, maintenance, and accident investigation procedures;</li> <li>▪ Provide H&amp;S training and raise awareness to the employees regarding H&amp;S risks (i.e use of PPE, chemical</li> </ul>	MoW/DUWASA	30,000

Impact Source	Mitigation Measures	Responsible	Estimated Costs (USD)
	<p>handling)</p> <ul style="list-style-type: none"> <li>▪ Provide guide notes/guide manual to WTP workers on safe use of coagulants and chemical disinfectants</li> <li>▪ Use of proper PPEs (clothing, gloves, eye protection, and respirators) when exposed or mixing chemicals at WTP</li> </ul>		
Stakeholder engagement	<ul style="list-style-type: none"> <li>▪ Communicate regularly with neighbouring communities of the WTP to inform them of activities and address their concerns</li> <li>▪ Implement a grievance mechanism to handle potential issues related to plant operations.</li> </ul>	MoW/DUWASA	5,000
180,000 USD			

**Table 0-13: Environmental and Social Monitoring Plan**

Management Issue	Parameters	Performance Indicators	Means of Verification	Responsible	Monitoring	Cost
Involuntary Resettlement	• <b>RAP &amp; LRP implementation</b>	<ul style="list-style-type: none"> <li>• RAP &amp; LRP implementation</li> <li>• Compensation and Assistance</li> <li>• Valuation method</li> <li>• Grievances</li> </ul>	<ul style="list-style-type: none"> <li>• RAP &amp; LRP implementation reports</li> <li>• Number of PAPs compensated</li> </ul>	MoW Consultant	Monthly	25,000
Landscape and vegetation management	• <b>Vegetation Clearing and Landscaping</b>	<ul style="list-style-type: none"> <li>• Quantity (physical extent) and quality of vegetation clearing</li> <li>• Quality of landscaping at restored sites</li> <li>• Plant species used for re-vegetation</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Photographic documentation</li> <li>• Interviews</li> </ul>	Contractors Site Engineer ESHS expert	Weekly inspections	10,000
Soil erosion control	• <b>Soil Erosion Control</b>	<ul style="list-style-type: none"> <li>• Number and location of silt trap fences / sedimentation ponds</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Photographic documentation</li> </ul>	Contractors Site Engineer ESHS	Weekly inspections	5,000
Solid waste, hazardous waste and wastewater management	• <b>Waste Management</b>	<ul style="list-style-type: none"> <li>• Amounts and types of waste generated, sorted, recycled/reused, treated and disposed</li> <li>• Number, location and status of waste disposal sites</li> <li>• Number and status of toilet facilities</li> <li>• Wastewater quality parameters</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Photographic documentation</li> <li>• Interviews</li> <li>• Wastewater quality measurement</li> </ul>	Contractors Site Engineer ESHS expert	Weekly inspections Weekly wastewater quality measurements	15,000
Air pollution control	• <b>Air Pollution Control</b>	<ul style="list-style-type: none"> <li>• Frequency of water spraying on roads and stockpiles;</li> <li>• Evidence that trucks cover loose materials;</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Photographic documentation</li> <li>• Interviews</li> </ul>	Contractors Site Engineer ESHS expert	Weekly inspections Weekly air quality	15,000

Management Issue	Parameters	Performance Indicators	Means of Verification	Responsible	Monitoring	Cost
Noise management	• <b>Noise Management</b>	<ul style="list-style-type: none"> <li>• Timing of blasting operations;</li> <li>• Blasting practices;</li> <li>• Evidence of hearing protection equipment used by workers;</li> <li>• Evidence of noise control devices;</li> <li>• Noise levels (dB) at site schools and</li> </ul>	<ul style="list-style-type: none"> <li>• Visual and auditory inspections</li> <li>• Interviews</li> <li>• Blasting records</li> <li>• Noise level measurements</li> </ul>	Contractors Site Engineer ESHS expert	Weekly inspections Weekly noise measurements, or daily in case of non-	5,000
Chance finds procedure	• <b>Chance Finds Procedure</b>	<ul style="list-style-type: none"> <li>• Number of chance finds recorded;</li> <li>• Evidence of chance finds procedures.</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Photographic documentation</li> </ul>	Contractors Site Engineer ESHS expert	Weekly inspections	10,000
Occupational health and safety	• <b>Occupational Health and Safety</b>	<ul style="list-style-type: none"> <li>• Evidence of Occupational H&amp;S Plan;</li> <li>• Evidence of Emergency Preparedness and Response plan;</li> <li>• Number of safety trainings performed and numbers of workers trained in safety procedures;</li> <li>• Percentage of workers using Personal Protective Equipment (PPE);</li> <li>• Structural integrity of workers' accommodation &amp; sanitary facilities;</li> <li>• Access to health services by workers;</li> <li>• Malaria prevalence rate in workforce;</li> <li>• HIV/AIDS prevalence rate in workforce;</li> <li>• Incident statistics (Total Recordable Injuries, Fatalities, Lost Time Injuries, Restricted Work Cases, Medical Treatment)</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Interviews</li> <li>• Photographic documentation</li> <li>• Incident reports</li> </ul>	Contractors Site Engineer ESHS expert	Daily monitoring	15,000
Traffic and transportation safety	• <b>Traffic and Transportation Safety</b>	<ul style="list-style-type: none"> <li>• Evidence of traffic and transportation safety plan;</li> <li>• Traffic incident rate (including workers, community and livestock);</li> <li>• Observed speed of construction vehicles;</li> <li>• Number of drivers trained and equipped with licenses;</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Speed checks</li> <li>• Photographic documentation</li> <li>• Interviews</li> </ul>	Contractors Site Engineer ESHS expert	Weekly inspections and checks	5,000

Management Issue	Parameters	Performance Indicators	Means of Verification	Responsible	Monitoring	Cost
Security arrangements	• <b>Security Arrangements</b>	<ul style="list-style-type: none"> <li>• Evidence of training of security personnel in the use of force and arms;</li> <li>• Number of security related grievances raised by the communities and workers.</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Photographic documentation</li> </ul>	Contractors Site Engineer ESHS expert	Weekly inspections	5,000
Labour management	• <b>Labour Management</b>	<ul style="list-style-type: none"> <li>• Proportion of local population on overall project workforce;</li> <li>• Proportion of women &amp; youth employees on overall project workforce;</li> <li>• Evidence of written contracts;</li> <li>• Number of worker grievances;</li> <li>• Age of workers;</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Interviews</li> <li>• Employment contracts</li> </ul>	Contractors Site Engineer ESHS expert Social expert	Weekly inspections	5,000
Community relations	• <b>Community Relations</b>	<ul style="list-style-type: none"> <li>• Number of community grievances;</li> <li>• Incidence of damages to crops and structures along work corridor and access roads.</li> </ul>	<ul style="list-style-type: none"> <li>• Visual inspections</li> <li>• Photographic documentation</li> <li>• Interviews</li> </ul>	Contractors Site Engineer ESHS expert Social	Weekly inspections	20,000
Total Estimated Environmental & Monitoring Plan						135,000 USD

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## **1. INTRODUCTION**

### **1.1 Background Information**

The Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) is financed by the African Development Bank (AfDB) and the Government of Tanzania. The Ministry of Water (MoW) acts as Project Executing Agency (PEA) and is supposed to steer and monitor the project progress. The Program implementation will be undertaken in three (3) Phases which are expected to be sequenced based on readiness and availability of financing. AfDB will cover 94% of Phase I program costs, while the GoT will contribute 6% as counterpart funding. The project aims at improving water supply, sanitation services, food and nutrition security by harnessing water resources and developing infrastructure for Dodoma City, Bahi, Chemba and Chamwino districts.

The main activities under the program involves construction of a 128,000 m<sup>3</sup>/day Water Treatment Plant (WTP), Preparatory studies/designs for the water conveyance systems to Dodoma City, Chemba, Bahi and Chamwino Towns, wastewater treatment and sanitation facilities, fisheries development; catchment protection and management, carrying out Environmental and Social Impact Assessment (ESIA) and capacity development. The ESIA for this project is being conducted as an ESIA for Variation. The project has a valid Environmental Impact Assessment (EIA) certificate, which is now being varied in accordance with the requirements outlined in the EIA and Audit Regulations, 2005.

The overall objectives of the project are to improve water supply services to beneficiaries living within Dodoma City, Chemba District, Bahi District and Chamwino District, the communities along the conveyance system by increasing the quantity of water available in the water distribution system and improving its quality to remain in compliance with Tanzanian and International standards. Increased clean and safe water availability to Dodoma City, Chemba, Bahi and Chamwino District Councils will contribute to poverty reduction and general social well-being of the people. The present main source of water is the Makutupora well field with an upgraded supply capacity of 61,000 gross m<sup>3</sup>/day. This present source is considered not to be reliable enough for the supply of a growing population.

The Project component includes Water Treatment Plant (WTP), main Conveyance System consisting of 230 km long conveyance pipeline with an end connection to the existing Kilimani water storage tank, proposed Ihumwa and Iyumbu storage tanks in Dodoma city; proposed Farkwa storage tank in Chemba district; proposed Bahi and Zamahero storage tanks in Bahi district; and existing Buigiri storage tank in Chamwino town. Other project component includes raw water intake structure, raw water pumping station and raw water transmission main.

### **1.2 Project Objectives**

The overall purpose of the project is to improve water supply services to beneficiaries living within Dodoma City, Chemba District, Bahi District and Chamwino District and along the conveyance system by increasing the quantity of water available in the water distribution system and improving its quality to remain in compliance with Tanzanian and International



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standards. Increased clean and safe water availability for targeted districts will contribute to poverty reduction and general social well-being of the people in Dodoma region.

The key objectives of the proposed Project can be summarized as follow:

- Increase water production to 128,000m<sup>3</sup>/day;
- Improvement of water quality to meet WHO standards;
- Provide reliable and affordable water services to Dodoma region; and
- Improvement of environmental Hygiene for Dodoma region.

### **1.3 Environmental and Social Data Sources**

The ESIA team reviewed various relevant documents related to proposed project. Such documents include maps, preliminary designs, existing land uses of the project area, climatic and ecological data, relevant policies, laws, regulations, socio-economic profiles etc, related to environmental and social issues. Review of documents aimed at acquiring relevant information on issues that are important and could be related to the project implementation, identification of stakeholders that might be affected by the project, collection of relevant secondary information that might provide insights of the impacts and benefits of the project.

In addition to document review, the ESIA team carried out a baseline survey in November 2024 – January 2025. The ESIA team visited the site including adjacent areas of project site and made observation and assessment of the biophysical conditions, social, economic and environmental characteristic of the project area, as well as key areas of the projects. The field visit also included biodiversity survey within the project area. The ESIA team undertook their respective baseline studies in accordance with international standards associated with their specialty and generally in accordance to Environmental Management Act CAP 191 (2004), the Regulations for EIA and Auditing, (2005) amended 2018.

### **1.4 Study Methodology**

Key methods used in this study include literature review; engagement meetings; and field visit. Other methods included a use of assessment tools (checklists and matrices). The information collected were main baseline information which was also used as a basis for analysis of impacts. The ESIA team also used a participatory approach in order to ensure involvement of all key players in this study.

#### **Desk Study**

The ESIA team reviewed relevant documents related to proposed project. Such documents include maps, preliminary design, existing land uses of the areas, climatic and ecological data, relevant policies, laws, regulations, strategies at national level, development plans, socio-economic profiles etc, related to environmental and social issues.

#### **Field Work**

The ESIA team visited the site including adjacent areas of project site and made observation and assessment of the biophysical conditions, social, economic and environmental characteristic of the project area, as well as key areas of the projects. The field visit also included biodiversity survey within the project area. The collection of baseline data was

conducted by defining the scope of the ESIA. Data collected during detailed ESIA study allowed the ESIA team to determine whether more detailed information on environmental conditions at the development site and its surroundings are needed and where such information can be obtained. Furthermore, engagement meetings with local government leaders at district to Mitaa level were conducted. Engagement meetings with community living adjacent to project area were also part of the field work.

### **Biodiversity Survey**

ESIA team conducted biodiversity survey to assess the existing vegetation types and identify the flora and fauna species composition occurring within the proposed project site. Furthermore, consultant aimed as classifying vegetation types, assessing their conservation statuses and identification of all flora and fauna species occurring in the project area before execution of the project activities. In addition, the consultant identified key species of plants and animals, which fall under the International Union for Conservation of Nature (IUCN), and Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed, endemic and rare, which are occurring within the project footprints. Lastly the consultant prepared checklist of all plant and animal species occurring in the area, which will be cleared and assess their biological status as well as speculating possible mitigation measures for their conservation.

### **1.5 Stakeholder Consultation and Public Engagement**

The ESIA team conducted a number of engagement meetings and consultations with project stakeholders to inform interested and affected parties about the Project; to assist in the identification of key issues and concerns in respect of the project; to obtain information that may assist in carrying out baseline or predictive studies for the ESIA; to collect information in respect of the current use of land and resources for traditional purposes by local people; and to ensure that sufficient information in respect of the project is available to stakeholders and the general public. ESIA team conducted engagement meetings and public consultations with project stakeholders including Dodoma Regional Secretariat, District level and local authorities at ward and Mitaa levels. Consultations with project stakeholders included the Central Government, local government, and Government Institutions. Chapter 5 of the report provides a list stakeholder consulted and summary of stakeholder engagements. Table 1-1 provide list of stakeholders consulted.

**Table 1-1: Stakeholder Engagement**

Date	Stakeholder Meeting	Venue	Participant
<b>CHEMBA DISTRICT</b>			
03/03/2025	Babayu Ward	Babayu Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, District Environmental Officer
10/02/2025	Farkwa Ward	Farkwa Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division

Date	Stakeholder Meeting	Venue	Participant
			Secretary, Extension officer, District Environmental Officer
10/02/2025	Makorongo Ward	Makorongo Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, District Environmental Officer
<b>BAHI DISTRICT</b>			
12/02/2025	Bahi Ward	Bahi Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer.
13/02/2025	Babayu Ward	Babayu Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer.
13/02/2025	Lamaiti Ward	Lamaiti Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer.
13/02/2025	Mpamantwa Ward	Mpamantwa Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer.
14/02/2025	Zanka Ward	Primary Court Zanka	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer.
26/02/2025	Bahi District Executive Director	Bahi District Office	
<b>DODOMA CITY COUNCIL</b>			
17/02/2025	Dodoma City District Commissioner	Dodoma City District Commissioner Office	District Commissioner, District Administration Secretary, Division Secretary
17/02/2025	Mtumba Ward	Mtumba Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer.
17/02/2025	Chahwa Ward	Chahwa Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer.
17/02/2025	Makutupora Ward	Makutupora Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub

Date	Stakeholder Meeting	Venue	Participant
			village leaders, Division Secretary, Extension officer, Ten Cell leaders
17/02/2025	Ihumwa Ward	Ihumwa Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, Ten Cell leaders
18/02/2025	Kilimani Ward	Kilimani Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, Ten Cell leaders
18/02/2025	Dodoma Makulu Ward	Dodoma Makulu Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, Ten Cell leaders
18/02/2025	Iyumbu Ward	Iyumbu Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, Ten Cell leaders
18/02/2025	Tambukareli Ward	Tambuka Reli Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, Ten Cell leaders
19/02/2025	Nzuguni Ward	Nzuguni Ward Office	WEO, MEO, Mtaa chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officer, Ten Cell leaders
19/02/2025	Fire And Rescue	Fire And Rescue Office	MARSHO
20/02/2025	TARURA Hq	TARURA Hq Office	Environmental and social officers
20/02/2025	TARURA Dodoma	TARURA Dodoma Office	Regional Manager TARURA Environmental officer TARURA Social officer TARURA
20/02/2025	TANESCO Hq	TANESCO Hq Office	Environmental expert
20/02/2025	Wami/Ruvu Basin Water Board Dodoma	Wami/Ruvu Basin Water Board Dodoma Office	Water resources management officers

Date	Stakeholder Meeting	Venue	Participant
24/02/2025	Occupational Safety And Health Authority (Osha)	OSHA Office	OSHA Zone Manager
24/02/2025	Tanzania Forest Services (TFS)	TFS Office	TFS officers
25/02/2025	TANROADS Dodoma	Dodoma TANROAD Regional Office	Civil Engineers and Environmental Officers
28/02/2025	Tanzania Immigration	Tanzania Immigration Office	Immigration officers
28/02/2025	TANESCO	TANESCO OFFICE	Planning and Environmental
10/03/2025	UDOM	UDOM Estate Executive Director	Environmental engineer and QA Card
28/02/2025	TRC	TRC STATION OFFICE	Civil Engineers
<b>CHAMWINO DISTRICT</b>			
19/02/2025	Chamwino District Commissioner	Chamwino District Commissioner Office	DAS
19/02/2025	Chamwino District Executive Director	Chamwino District Executive Director Office	DED
19/02/2025	Chamwino District Social and Environment Management	Chamwino District Social and Environment Management Office	Environmental and Social Officers Chamwino
21/02/2025	Buigiri Ward	Buigiri Ward Office	WEO, VEO, Village chairman, Ward Councilor, CDO, Sub village leaders, Division Secretary, Extension officers

### 1.6 Identification and Assessment of Impacts

The identified impacts were assessed using the Environmental Impact Assessment Matrix. The matrix helped to determine the significance of impacts in terms of the likelihood and the expected consequence (impact).

The likelihood was established using the following five ratings: Very unlikely to occur (1); Not expected to occur (2); Likely to occur (3); Known to occur (4); and Common occurrence (5).

Expected consequence (impact) was established using the following five ratings: Severe (5); Major (4); Medium (3); Minor (2); and Negligible (1).

Finally, the Significance of impact of risks was established by combining the likelihood and expected consequence (impact) of a risk event as demonstrated in the Table 1-2 below.

**Table 1-2: Rating of Significance of Project Impact**

		LIKELIHOOD OF OCCURRENCE				
		<i>(Uncertain) Very unlikely to occur (1)</i>	<i>(Improbabl e) Not expected to occur (2)</i>	<i>(Probable) Likely – could occur (3)</i>	<i>(Highly probable) Known to occur - almost certain (4)</i>	<i>(Certain) Common occurrence (5)</i>
<b>IMPACT</b>	<b>Severe (5)</b>	Moderate	Substantial	High	High	High
	<b>Major (4)</b>	Low	Moderate	Substantial	Substantial	High
	<b>Medium (3)</b>	Low	Moderate	Moderate	Moderate	Substantial
	<b>Minor (2)</b>	Low	Low	Moderate	Moderate	Moderate
	<b>Negligible (1)</b>	Low	Low	Low	Low	Low

The significance of project impacts also took into consideration existing by-laws, national and international environmental standards, legislation, treaties, and conventions that may affect the significance of identified impacts.

This technique was used in order to have a logical and systematic way of identifying, assessing, and analysing environmental impacts of the project. The technique also allowed subjective judgments to be quantitatively recorded and therefore made the assessment of impacts to become more objective.

### 1.7 Report Structure

This ESIA report comprises the following chapters:

**Executive Summary:** This section presents in a non-technical language a concise summary of the ESIA report including the overview of the project; brief description of the project areas; major environmental and social challenges; Institutional and legal framework for implementation of the project; major and moderate impacts of proposed project; consultations; Environmental and social management plan (ESMP); monitoring plan; and cost implications for implementation of ESMP and monitoring plan.

**1. Introduction:** This chapter presents the project background, project components, objective, environmental and social data sources. It also briefly mentions the contents of the ESIA Report and the methods adopted to complete the assessment.

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2. Project description: This part of the chapter describes the proposed project location, its area of influence and description of its geographic, ecological, social, economic and temporal context, main project infrastructures, construction activities, project operations, project implementation arrangement and schedule as well as project cost.

3. Policy, legal and Institutional framework: This chapter concerns the policy, legal and administrative framework within which the ESIA is carried out. It presents the relevant national legal requirements as well as international safeguard guidelines to be complied.

4. Baseline Conditions: This chapter presents an analysis of the physical and biological baseline conditions of the project location and addresses relevant environmental, social issues within the project location, including any changes anticipated before project implementation.

5. Public Consultations: This chapter summarizes stakeholder's consultations and the main issues raised by different stakeholders.

6. Assessment of Impacts: The chapter identifies the potential environmental and social impacts as a result of the proposed project both positive and negative in terms of physical, biological and human (social, cultural and economic) environments.

7. Mitigation Measures: This chapter gives a summary of appropriate mitigation measures identified to prevent, minimize, mitigate or compensate for adverse environmental and/or social impacts.

8. Environmental and Social Management Plan: This chapter presents management measures including actions, roles and responsibilities and the implementation period

9. Environmental and Social Monitoring Plan: This chapter summarizes the surveillance and monitoring activities proposed in the Environmental and Social Management Plan prepared for the project. It also identifies the roles and responsibilities of stakeholders in the implementation of the activities.

10. Decommissioning: The chapter provides a decommissioning plan to guide closure and post-closure activities for the proposed project

11. Summary and Conclusion: The chapter gives a summary and conclusion that specifies the environmental and social acceptability of the project, taking into account the impacts and measures identified during the assessment process. It shall also identify any other condition or external requirement for ensuring the success of the project.

In addition to the substantive chapters, there are also cited references used in the report and annexes.



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## **2. PROJECT DESCRIPTION**

### **2.1 Introduction**

The scope of the proposed project covers the construction of a pumping station and raw water main from Farkwa dam, a new Water Treatment Plant (WTP) at Farkwa, and a Transmission Main (TM) from Farkwa WTP to two (2) existing tanks of Kilimani and Buigiri and seven (8) newly proposed tanks of Farkwa, Makorongo, Kongogo, Lamaiti, Bahi, TFS, Ihumwa and Iyumbu. TM (conveyance system) shall originate from WTP located at Farkwa. The TM route shall cover a total length of 230 km traverses eighteen (18) wards within targeted districts Raw water from the intake structure will be pumped to WTP at Farkwa for treatment. Treated water will be conveyed by gravity from the WTP to , targeted districts However, the previous ESIA document scope covered the construction of the main Farkwa Dam, saddle dam, pumping station, and raw water main from Farkwa Dam, new Water Treatment Plant (WTP) at Farkwa, and Transmission Main (TM) (Conveyance system) from Farkwa WTP to Dodoma City and Chemba District council. The conveyance system was proposed to cover 158.6 km traversing seventeen (17) wards.

### **2.2 Project Location**

The study area covers the City of Dodoma and villages within 24 kilometres corridor of the TM routes (i.e from WTP to Chemba district, Bahi district, Chamwino district and Dodoma City). Administratively the proposed water intake structure will be located at Mombose village and proposed WTP will be at Farkwa village (Chemba district). Propose water storage tanks will be located as follows: Farkwa storage tank at Farkwa village (Chemba district); Babayu storage tank at Babayu village (Chemba district); Lamaiti storage tank at Lamaiti village (Bahi district) ; Bahi storage tank at Bahi Sokoni village (Bahi district); Zamahero storage tank at Babayu village (Bahi district); Ihumwa storage tank at Mahoma Makulu street (Dodoma city); and Iyumbu storage tank at Iyumbu street (Dodoma city).

Villages/Mtaa along the conveyance system from Farkwa village (Chemba district) to Bahi district, Chamwino district and Dodoma city are as shown in Table 2.1 below. In general, proposed project covers a total of 3 districts and 1 town council; 18 wards; 34 villages; and 45 sub-villages in Dodoma region. Details of wards, villages and sub-villages are as presented in Table 2.1.

**The Project Areas: Chemba, Bahi, Chamwino and Dodoma city in Dodoma Region**



### Table 2-1: Project Areas

District	Ward	Village	Sub-village
Chemba District	Farkwa	1. Mwambose	Shuleni
		2. Farkwa	Mission
		3. Gonga	Gonga
		4. Donsee	Amani Bwawani
	Makorongo	1. Khubunko	Sengese
		2. Makorongo	Makorongo A Makorongo B Wekense Masimba
	Babayu- Chemba	1. Masimba	Masimba A Wekense
		2. Babayu	Uswahilini
	Zanka	1. Mayamaya	Zamahero Mtitaa Mkandamizee Lusinde
		2. Zanka	Kawawa

District	Ward	Village	Sub-village
			Azimio Mnasee Nyerere A Nyerere B
Dodoma City	Makutupora	1. Makutupora	
	Nzuguni	1. Mahomanyika	
		2. Kitelela	
	Chahwa	1. Mahoma Makulu	
	Ihumwa	1. Ihumwa	
	Mtumba	1. Majengo	
		2. Mtumba	
		3. Vikonje B	
	Iyumbu	1. Bwibwi	
		2. Iyumbu	
	Dodoma Makulu	1. Msangalalee Mashariki	
		2. Njedengwa	
	Tambuka reli	1. Salimi	
		2. Sechelela	
		3. Amani	
	Kilimani	1. Chinyoyo	
Chamwino District	Buigiri	1. Buigiri	
Bahi District	Babayu- Bahi	1. Babayu	Duluu Malechela A Mwenge Mapinduzi Apiti
		2. Kongogo	Muhanga Chamwino Chitelela Mkalama
	Lamaiti	1. Lukali	Likali B
		2. Lamaiti	Ushirika A Nijiri Bombani Nguji B Nguji A
		3. Bankolo	Chamwino Mihondo Chilala
	Mpamatwa	1. Mkakatika	Mseche Miyengwe Miembeni Mkakatika
	Bahi	1. Bahi	Bahi sokoni
Total	18	34	45

## 2.3 Project Boundaries

### Institutional Boundaries

Institutional boundaries refer to those institutions and sectoral boundaries in which the project rests or mandated. These can be determined from political boundaries, Acts, regulations and

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institutional mandates and administrative structures. The current institutional framework for the construction of the proposed WTP at Farkwa, TM and water storage tanks rests largely with the Ministry of Water (MoW). Under the legislation (Water supply and Sanitation Act, 2009), the Minister responsible for water may, in consultation with the Minister responsible for local government authority establish water authority and cluster water authorities in order to achieve commercial viability. Dodoma Urban Water Supply and Sanitation Authority (DUWASA) is one of Urban Water Supply and Sewerage Authorities established by the Minister in the country and will have a role to implement this project.

The local governments' Authorities are ultimately accountable to the Prime Minister's Office, Regional Administration and Local Government (PMO-RALG). The Local Government Acts of 1982 for both District and Urban Authorities gives the respective authorities, powers to establish, maintain operate and control public water supplies drainage and sewerage works. From an institutional point of view, DUWASA has the responsibility of maintaining and developing the Dodoma City Water Supply System. However, the performance of DUWASA in terms of service delivery is checked and regulated by EWURA and water quality standards are monitored by TBS.

The proposed development touches the interest of a number of institutions and administrative units in relation to several policies, laws and plans. Other institutions include Vice President's Office (Division of Environment), Dodoma City, National Environment Management Council (NEMC), Occupational Safety and Health Authority (OSHA), Wami Ruvu Basin Water Board, Internal Drainage Basin Water Board, TRC, TANROADS, TARURA, TPDF, TFS, TPF and TANESCO.

### **Temporal Boundaries**

Temporal boundaries refer to the lifespan and reversibility of impacts. For example, the impact of construction work for the proposed WTP, reservoirs and Transmission Mains may be short-lived, but the presence of the TM, reservoirs, WTP and its associated component in that area has a long-term implication in terms of the physical environment. The project impacts have a time scale dimension which has been considered during impact identification and prediction discussed in Chapter 6. In this case, impacts are classified as short-term or long-term, and low, moderate or high significant.

### **Spatial Boundaries**

The spatial dimension encompasses the geographical spread of the impacts regardless of whether they are short term or long term. The spatial scale considers the receptor environmental component and can be local or broader. Two zones of impacts namely core impact zone and influence impact zone are considered.

- The core Impact zone - The core impact zone includes the area immediately bordering the project (0-500m both sides of the project site). In the case of this project, local impacts will include the site of the construction and the immediate surrounding areas which are Farkwa area. Most of the negative impacts are expected to be within this boundary during construction phase.

- The influence impact zone- includes the area beyond 500m from the proposed site and consists of anthropogenic activities and human settlements in the 18 wards and 34 villages within Chemba, Bahi, Chamwino districts and Dodoma city.

Therefore, some of the impacts that may occur during construction, e.g. noise, vibration and dust caused by construction equipment will disappear as soon as the construction phase will be completed. The construction period will last for about 24 months unless unforeseen event occurs. Most of the impacts will not last for more than 2 years as most of them will occur during construction period except for vehicle noise and emissions during operation phase which will be insignificant.

## 2.4 Project Areas

The table below shows project areas with their corresponding infrastructural development.

**Table 2-2: below shows project areas with their corresponding infrastructural development**

Infrastructure	Project Features	Capacity	Location/Project area
Raw water system	Raw Pumping station,	128m <sup>3</sup> /d	Farkwa
	Raw Water main, length,	DN 1,400; 14.78km	
	Powerhouse,	8MVA	
	Workshop,		
New Water Treatment Plant	Treatment units,	Capacity 128,000 m <sup>3</sup> /d	Farkwa
	Powerhouse	8mVA	
	Staff houses, Administration Building,	220	
	Workshop,		
	Basketball Court		
Transmission main	Gravity main DN1200;	99.61km	Chemba – Dodoma city
Transmission main	Gravity main DN1100;	11.9km	Dodoma city
Transmission main	Gravity main DN1000;	8.32km	Dodoma city
Transmission main	Gravity main DN400;	8.0km	Chemba district
Transmission main	Gravity main DN300;	22.98km	Chemba – Bahi district
Transmission main	Gravity main DN200;	27.88km	Bahi district
Transmission main	Gravity main DN600;	0.3km	Dodoma city
Transmission	Gravity main DN250;	20.27km	Dodoma city –

Infrastructure	Project Features	Capacity	Location/Project area
main			Chamwino
Transmission main	Gravity main DN600	2.47km	Dodoma city
Farkwa Reservoir		1,000m <sup>3</sup>	Farkwa – Chemba district
Makorongo Reservoir		500m <sup>3</sup>	Makorongo – Chemba district
Kongogo Reservoir		500m <sup>3</sup>	Babayu- Bahi
Lamaiti Reservoir		500m <sup>3</sup>	Lamaiti – Bahi district
Bahi Reservoir		500m <sup>3</sup>	Bahi district
Zamahero Reservoir		1,000m <sup>3</sup>	Bahi district
Ihumwa Reservoir		10,000m <sup>3</sup>	Dodoma city
Iyumbu Reservoir		30,000m <sup>3</sup>	Dodoma city
Access Roads	3144 m		Dodoma city, Chemba, Bahi

## 2.5 Land Ownership

MoW is currently engaging with different stakeholders on land ownership issues. MoW shall request permit for easement to some of stakeholders eg TANROADS, TARURA etc while in other project areas the MoW have to acquire lands for the project. Acquisition of land shall require MoW to change land ownership through transfer of land. Project areas where land acquisition is not avoidable are Farkwa WTP area, Farkwa Pumping Station and some of Reservoir areas except reservoir areas inside Chinene Forest Reserve and Tanzania Peoples Defense Force (TPDF). The following is a summary of land ownership status within the project area where infrastructures will be built.

**Table 2-3: Summary of Land Ownership Status**

Infrastructure	Project Area	Status of Land Ownership
Pumping station Raw water main	Farkwa – Chemba district	MoW
New Water Treatment Plant Farkwa Storage Tank	Farkwa – Chemba district	Individual community members
Makorongo Storage Tank	Makorongo – Chemba district	Individual community member
Lamaiti Storage Tank	Lamaiti – Bahi district	Individual community members
Bahi Storage Tank	Bahi district	Village land
Zamahero Storage Tank	Bahi district	Tanzania Forest Services (TFS)
Ihumwa Storage Tank	Dodoma city	Tanzania Peoples Defense Force (TPDF)
Iyumbu Storage Tank	Dodoma city	Martin Luther Church
Kongogo Storage Tank	Babayu- Bahi	Individual community members





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of biodiversity including ornamental trees, reptiles like lizards, snakes, frogs, chameleons, insects and butterflies. The reserve also contains animals like monkeys, hyenas, dikdik, antelopes and warhogs. The study further indicates that none of the fauna species that are regarded as endemic or rare to Farkwa was recorded. However, fauna species that are under CITES Category or IUCN-listed species (threatened or vulnerable) was recorded.

Within other project areas there are a number of man-made features apart from natural features. There are individual household structures and farmlands to mentioned notable ones. There are also two primary schools namely Donsee Primary school at Farkwa ward in Chemba district and Bankolo Primary school at Bankolo ward in Bahi district. Along the conveyance system there are also a number of structures that will be encountered by the pipeline such as properties that belong to public institutions such as roads and railway.

#### **Farkwa Dam Raw Water Pumping Station to Farkwa WTP**

The location of Raw Water Pumping Station, covers an area of about 39 acres (159,250 m<sup>2</sup>). The plot was surveyed along with the raw water pumping main route to the WTP which covers 14.78km which incorporate an alternative route that passes across community farmlands to avoid passing through Farkwa Village center.

#### **Farkwa Water Treatment Plant (WTP)**

Farkwa WTP site is located at an elevation of 1,345 m.a.s.l which is enough higher elevation to provide enough head for the gravity main from the WTP. Land for WTP covers a total of about 40 acres. (161,690 m<sup>2</sup>). The area is occupied by both residential houses and farmlands.

#### **Farkwa WTP to Donsee Junction**

From the Farkwa WTP, there is 30m wayleave (in accordance with pipe size) which goes up to the first Junction at Donsee Village. This makes the coverage of 3.028 km. The route is located adjacent to the road passing through Donsee village center and Donsee Primary school. At Donsee Junction, a proposal of an offtake to serve Chemba Township was introduced.

#### **Donsee Junction to Babayu Junction**

A 30m wayleave for the TM continues to the next offtake at Babayu area, where the offtake Junction to serve Bahi Township was proposed. The wayleave covers 24.959 km passing adjacent to the road for its initial chainage and was rerouted to avoid Makorongo and Babayu Villages centers.

#### **Babayu Junction to Proposed TFS Storage Tank Junction**

The TM gravity wayleave of 30m width covered 8.276 km from Babayu to the proposed TFS storage tank junction. The route passes through the Chinene Forest Reserve area at Zamahero, where the storage tank is proposed to serve rural villages located within a 12 km corridor on each side of the TM. Area allocated for storage tank within a forest reserve is about 17 acres (70,200 m<sup>2</sup>).

#### **Proposed Zamahero Storage Tank Junction to Zanka Junction**

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The TM route wayleave continues to Zanka junction which covered a distance of 16.517 km. The pipeline corridor is proposed to pass through farmlands and was diverted to avoid passing through Zamahero village center.

#### **Zanka Junction to Ring Road Junction**

At Zanka area, pipeline route is proposed to pass on the right-hand side of the A104 road (Arusha Road) to the Ring Road Junction covering distance of 24.741 km. The pipeline route located in a road reserve. However, some section of the pipeline route is expected to pass through JKT Makutupora land.

#### **Ring Road Junction to Kilimani Existing Tanks (2A and 2B)**

The pipeline route is proposed to reach Kilimani tanks (2A & 2B) via Msalato, crossing Airport round about, Mirembe Mental Health Institute covering about 22.446 km. The route is expected to pass through an area with buildings and transport infrastructures such as Meter Gauge Railway (MGR).

#### **Ring Road Junction to Proposed Ihumwa Storage Tank Junction**

Pipeline route from Dodoma city ring road is proposed to pass through a junction of Hombolo road to proposed Ihumwa tank. The route covers 21.647 km. A total of about 21 acres (85,500 m<sup>2</sup>) inside TPDF area is allocated for Ihumwa tank.

#### **Proposed Ihumwa Storage Tank Junction to Kilimani Existing Tanks (2A and 2B)**

The pipeline shall proceed to Kilimani existing tanks (2A & 2B) via TPDF area and then TPF area crossing the B129 road (Morogoro Road) to the MGR to Iyumbu road then to the MGR crossing. The route shall turn right, then it shall move alongside TRC corridor on the right-hand side of the MGR to Kilimani and shall cross MGR and SGR infrastructures. The pipeline shall continue to TANROADS road reserve and shall end up at Kilimani existing tanks (2A & 2B). After consultation with TRC, there are several service ducts in place reserved purposely for pipe crossings. The whole route from Ihumwa Proposed Tank to Kilimani existing tanks (2A & 2B) covers 11.893 km.

#### **Offtake from Donsee Junction to Chemba Township**

From Donsee village near Donsee Primary school an offtake to Chemba Township has been proposed with its route covering a distance of 41.426 km to Chemba Tank which is under construction. The route shall have a 10m corridor passing along gravel road from Donsee to Chemba.

#### **Offtake from Babayu Junction to Bahi Township**

At Babayu, an offtake to Bahi was proposed and shall cover a distance of 58.895 km via Lamaiti, Ibhiwa and Mpamantwa having a corridor of 10m width. An area reserved for Babayu storage tank covers about 1.4 acres (5,833 m<sup>2</sup>).

#### **Offtake from Ihumwa Tank to Chamwino Township**



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The route to Chamwino from Proposed Ihumwa tank shall have 10m width corridor and shall cover a distance of 27.515 km. This route covers the route to Buigiri Existing tank and from Buigiri to Chamwino Township.

## **2.7 Main Project Infrastructures**

The following are the Project's major infrastructures that are planned to be built:

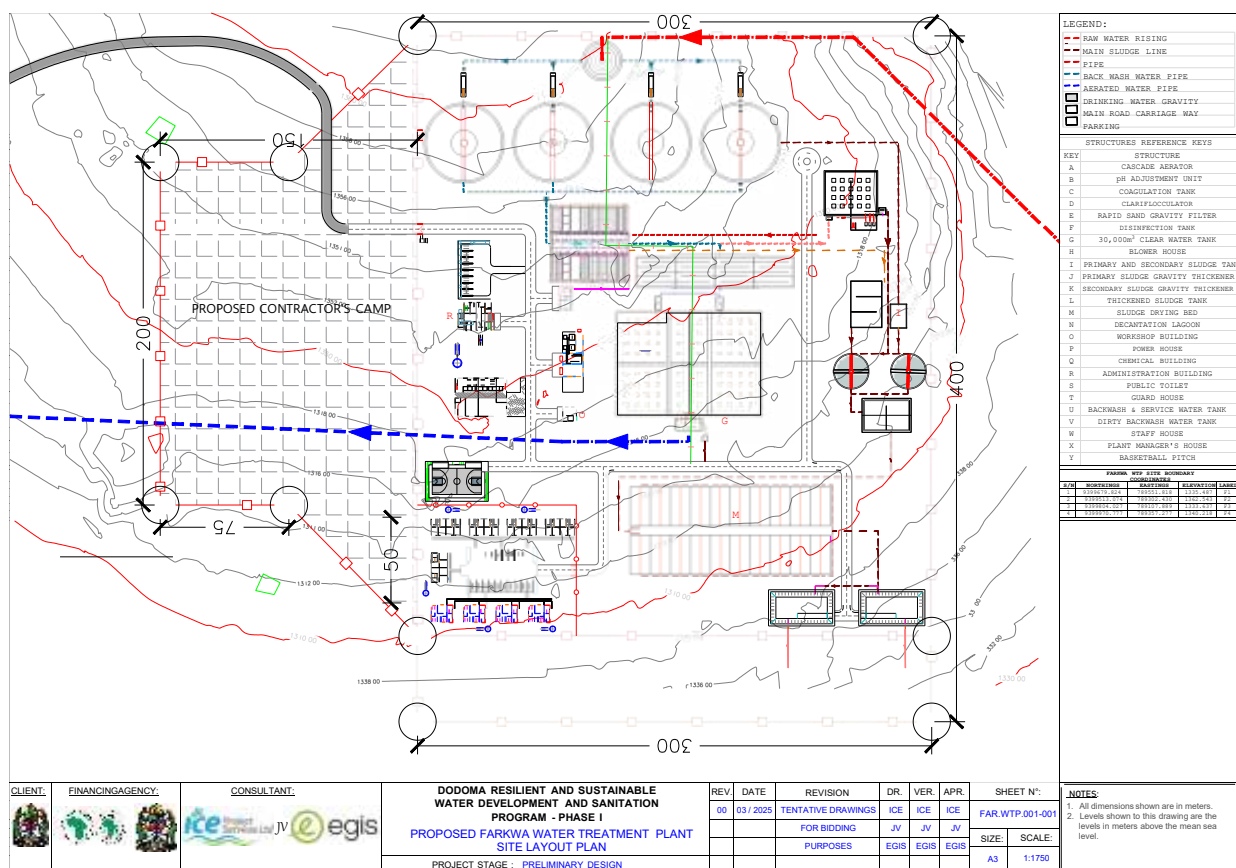
- Pumping station and raw water pumping main from Farkwa dam DN1400; 14.78km;
- New WTP (cascade aeration unit, remineralization, coagulation unit, flocculator unit, sedimentation unit, rapid sand filters, disinfection unit, sludge thickeners, sludge drying beds and lagoons);
- Transmission main from Farkwa WTP to Dodoma city DN1200; 99.61 km;
- Transmission main Dodoma city DN1100; 11.9km;
- Transmission main Dodoma city DN1000; 8.32km;
- Transmission main Dodoma city DN600; 2.77km;
- Transmission main Chemba district DN400; 8.0km;
- Transmission main from Chemba to Bahi district DN300; 22.98km;
- Transmission main Bahi district DN200; 27.88km;
- Transmission main from Dodoma city to Chamwino district DN250; 20.27km;
- Construction of seven (8) Water Storage Tanks.

### **Pumping Station and Raw Water Pumping Main from Farkwa Dam**

The scope of works shall include the construction of pumping station and raw pumping main DN1400 at a distance of 14.78 km from Farkwa dam (source) to new Farkwa WTP. Raw water main has the ultimate conveyance capacity of around 128,156 m<sup>3</sup>/d. Construction of associated facilities will include a Powerhouse and access roads.

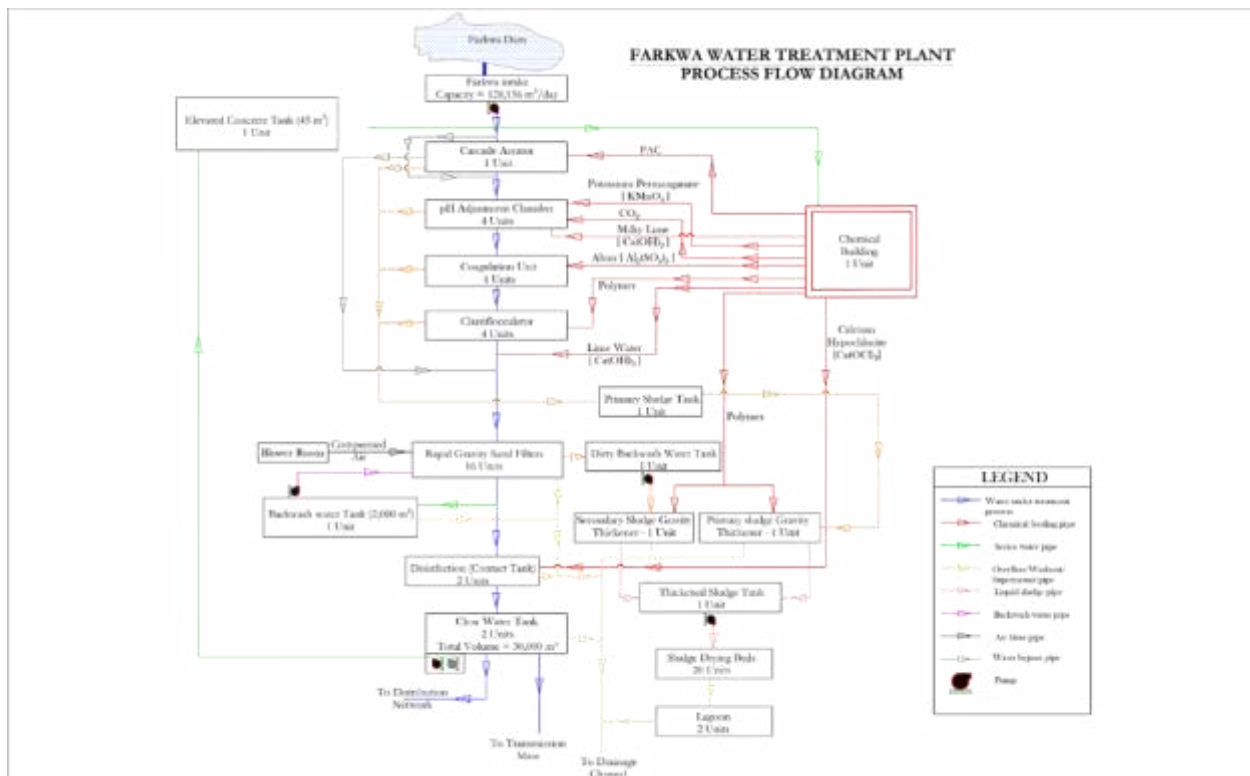


Figure 2-3 below shows the WTP layout with its operation units. An enlarged version is presented in **ANNEX 2**.



**Figure 2-4: Water Treatment Plant Layout Plan**

**Source:** EGIS and ICE Project Services, February 2025



**Figure 2-5: Water Treatment Process Diagram**

Source: EGIS and ICE Project Services, February 2025

### **Main Water Treatment Plant Processes**

**Note :** the process proposed is subject to changes proposed by the Contractor in the course of Design and Build Contract.

**Cascade Aeration Unit:** Raw water from Farkwa raw water intake arrives at the WTP's first operation unit which is aeration unit. Aeration is an in-line point-of-entry process that reduces the concentration of volatile organic compounds like iron and manganese. Aeration process also removes dissolved gases present in the raw water at the same time increases dissolved oxygen (DO). Aeration treatment involves allowing strips of air coming into contact with air present in the atmosphere. The air causes the dissolved gases or volatile compounds to release from the raw water. In this design cascade aerator have been used.

**pH adjustment Unit:** at this second unit of operation, whereby pH of raw water can be altered by adding an acid or an alkaline substance to drive pH downward or upward depending on water characteristics. The purpose of pH adjustment is to improve the effectiveness of coagulation process which is a next unit of operation. The chemicals used for pH adjustment are carbon dioxide and lime for increasing and decreasing water pH respectively.

**Coagulation Unit:** Coagulation is the process that precedes flocculation. In this process chemicals with a positive charge are added to the water, and in this project, Aluminium sulphate (Alum) is proposed. The positive charge of these chemicals will neutralize the negative charge of suspended solids and other dissolved particles in the raw water. When this occurs,

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the particles will bind with the chemicals and will form larger particles, called floc. Then the suspended matter in raw water will be attracted to the flocs. Rapid mixing of raw water and coagulant will be taken into consideration to ensure thorough and even distribution of the coagulant by using rapid mixing impellers.

**Clariflocculator Unit:** Clariflocculator also known as Flocculation-clarifier is a circular treatment unit next to coagulation unit. After coagulation, a slow and gentle mixing process aided by slow moving mixers will be undertaken to encourage the flocs to form and grow to a size which will easily settle down. This process is known as flocculation and is presented as the inner circular unit of the clariflocculator. The outer circle of the clariflocculator is a clarifier. Clarification is the process of allowing suspended particles in water to settle down under the effect of gravity. At this step, large flocs containing much of the suspended matter from flocculation process will sink to the bottom of the tank. These settled particles become sludge. The choice of clariflocculator over other treatment technologies like lamella sedimentation and rectangular clarifier with chain-and-flight was due to the following reasons;

- Relatively compact as it occupies less ground area due to circular geometry and integrated design.
- Excellent hydraulic flow distribution due to circular design, minimizes dead zones and short-circuiting.
- High settling efficiency due to stable hydraulic conditions and effective sludge removal by scraper.
- Simple maintenance; fewer moving parts with easier access due to open circular design.
- Continuous, uniform sludge removal towards central hopper; less prone to clogging and easier sludge management.
- Typically, lower energy consumption due to fewer mechanical parts and simpler mechanism.
- Moderate initial cost and low to moderate operating costs due to simplicity and durability.
- Highly adaptable to variations in influent quality and flow rates; flexible operational adjustments possible.

**Rapid Gravity Sand Filtration Unit:** under this unit operation, the main purpose is to remove the remained suspended solids from clarifier and attaining a turbidity less than 2NTU. Clean water from the sedimentation unit will overflow to filtration unit on top of a bed sand, supported on a bed of a graded gravel and then passes via the filter nozzles down to the underdrain system. The filtration action of the sand will be by gravity. Suspended matter will accumulate in the spaces between sand grains until the rate of water filtered become too low due to filter clogging. At this point the filter will be drained and cleaned up by backwashing using both water and air at different washing rates and durations. Filtered water will flow to disinfection unit for microbial removal.

**Disinfection Unit:** This is the unit of operations which facilitates application of disinfectant (Examol, Calcium hypochlorate, sodium hypochlorate or chlorine gas) to water to kill pathogens and make water safe to drink. After disinfection treated water will be stored in the proposed

30,000 m<sup>3</sup> clear water tank at WTP. Then a gravity main connected to the WTP will convey water to the proposed water storage reservoirs ed to storage tank ready to distribute for human consumption.

### Sludge Treatment Process

**Primary and Secondary sludge units:** Sludge removed from the primary treatment units (Cascade aerator, pH adjustment units, Coagulation unit, flocculation unit and clarifier) are received in the primary sludge tank before conveying it to the primary gravity sludge thickener. Also waste from filter backwashes are conveyed to the the secondary sludge tank (also known as dirty backwash water tank) and then to the gravity sludge thickener. The two tanks act as equalization basins before proceeding to the gravity thickeners.

**Sludge Thickening Units:** A gravity sludge thickener is a sludge treatment unit used to increase the concentration of solids in sludge. It works by allowing particles to settle at the base of a cylindrical tank, producing a thickened solids stream at the bottom and a diluted supernatant stream at the surface. The sludge enters the center of the tank and flows outward, where suspended solids sink and are scraped into a cone-shaped outlet by a rotating scraper. Both primary and secondary sludge thickeners receives wet sludge from primary and secondary sludge tanks respectively.

Thickened sludge tank.

**Sludge Drying Beds:** in this unit process, sludge from thickening sludge unit will be conveyed by pumps to the top of drying beds for dewatering. The drying bed will be filled with sand layer material and supporting material, usually gravel at the bottom and sand on top. The bottom of the bed will be sloped and lined with perforated pipes to drain away the liquid from the sludge. When the sludge from sludge thickening is placed on the surface of the bed, the liquid will flow through the sand and gravel for several days. After several days, remained water in the sludge will be removed by evaporation process and the solid portion of the sludge will stay on the surface of the bed forming a sudge cake. The dewatered sludge will then be removed from the surface of the bed manually or mechanically to a designated sludge area. Dried sludge may be sold and used as manure by farmers. The underflow is conveyed to the decantation lagoon.

**Decantation Lagoon:** this is the last operation unit in sludge treatment which is used as a simple dirty water treatment system. overflow water from the sludge thickener, contact tank, clear water tank and their washouts will be transported to the lagoon for further physical treatment. All drainage water coming from the plant will be collected in a lagoon. Drainage water coming from the chemical buildings will be neutralized before being directed to the lagoon. The lagoon will be designed for a hydraulic retention time (HRT) of minimum 10 days. The water depth will be limited at maximum 1.5 m. The lagoon will be equipped with a concrete overflow connected to the nature.

### Residues from Water Treatment Process

The production of sludge during the water treatment process is mainly depending on the amount of total suspended solids (TSS) in the raw water and the corresponding number of needed flocculants (aluminum sulphate and lime). The sludge from the purges of clarifiers will be passed to an equalization primary sludge tank. From there the sludge is pumped to the

primary gravity thickeners. At the primary thickener entrance a specific polymer shall be added, for the purpose of increasing the capture of the sludge solids in suspension. This process is also done for spent backwash water where after backwashing, dirty water is conveyed to the equalization secondary sludge tank. From there the sludge is pumped to the primary gravity thickeners. At the secondary thickener entrance a specific polymer shall be added, for the purpose of increasing the capture of the sludge solids in suspension.

The supernatant from gravity thickeners shall be conveyed to the equalization thickened sludge tank. The thickened sludge, with a concentration of about 3%, shall be pumped to the sludge drying beds and dewatered sludge will have a minimum concentration of 30% what eases considerably its transportation and storage. The sludge will be transported by means of shovel excavators. The sludge underflow is conveyed to the decantation lagoon for aerobic treatment.

Possible further uses of the sludge cake from sludge drying beds could be as soil conditioner for agricultural purposes or to use the dried sludge for co-incineration in e.g. cement or steel factories. If sludge is not suitable for agriculture, it will be disposed to municipal landfills.

Proposal for Irrigation: To make optimal use of the water from the lagoon, it is proposed that the ministry of agriculture acquires 15,000 m<sup>2</sup> of land designated for irrigation purposes. The lagoon water can be treated, if necessary, to meet standards suitable for agricultural irrigation. Utilizing this water for irrigation will promote sustainable water management and support agricultural activities, especially in water-scarce regions. This initiative can help improve crop yields, reduce reliance on freshwater sources, and contribute to eco-friendly practices.

### **Transmission Main from Farkwa WTP to Reservoirs**

Clean water from Farkwa WTP will flow by gravity via the following districts with their corresponding pipe size and distance;

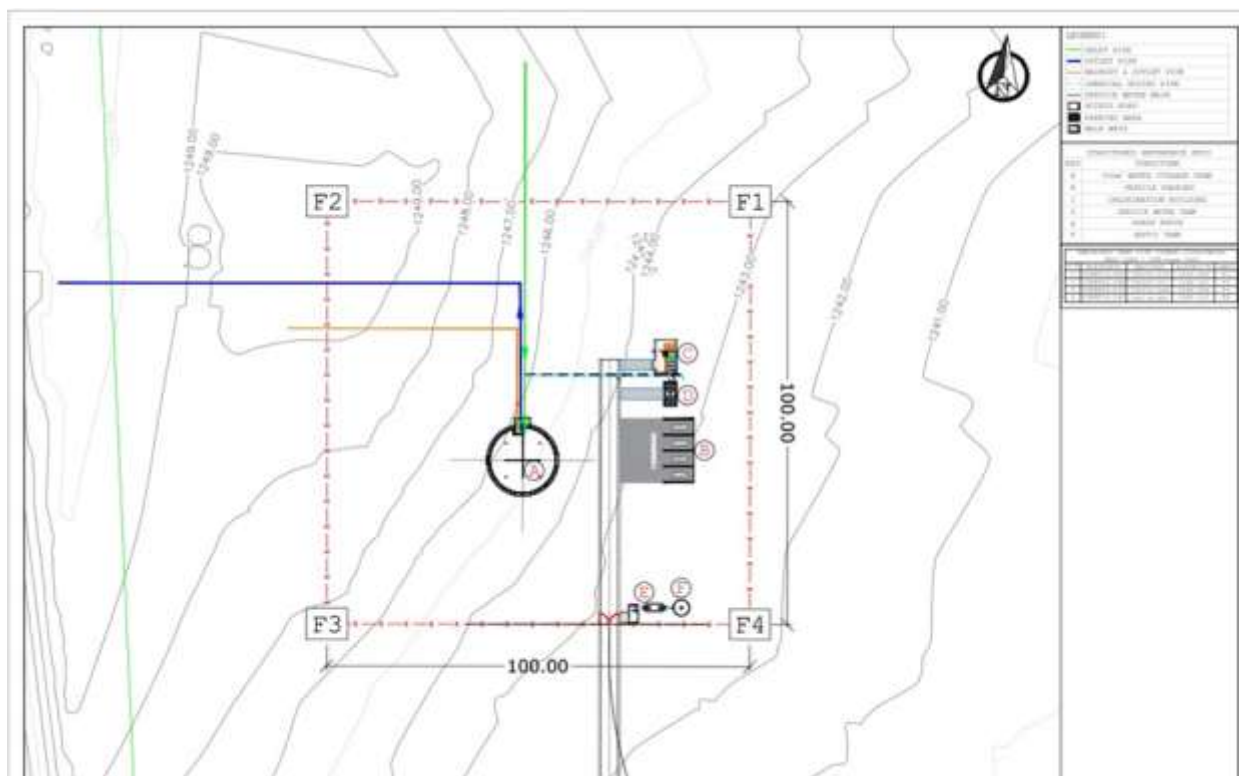
- Transmission main from Farkwa WTP to Dodoma city DN1200; 99.61 km;
- Transmission main Dodoma city DN1100; 11.9km;
- Transmission main Dodoma city DN1000; 8.32km;
- Transmission main Dodoma city DN600; 2.77km;
- Transmission main Chemba district DN400; 8.0km;
- Transmission main from Chemba to Bahi district DN300; 22.98km;
- Transmission main Bahi district DN200; 27.88km;
- Transmission main from Dodoma city to Chamwino district DN250; 20.27km;

### **Reservoirs**

A total of seven (8) reservoirs with different capacities will be constructed at Chemba, Bahi, Chamwino districts and Dodoma city. All reservoirs will be constructed as reinforced concrete structure, with a minimum concrete strength of C30/37, reinforcement steel shall have a minimum yield strength of 500 MPa (Class B500 according to BS 4449: 2005). The main design considerations for reservoir sites are the provision of adequate width and radii of internal site roads to access all operational points.

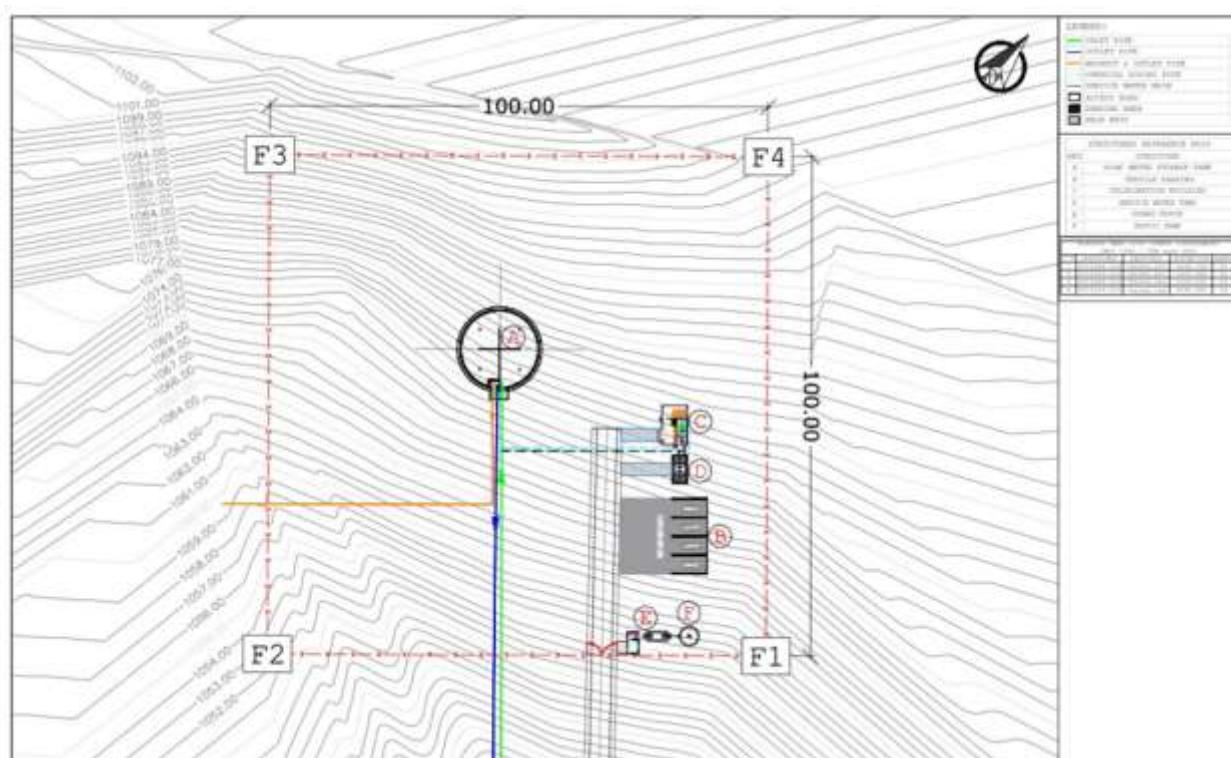
The layouts of the reservoirs are presented in the following figures. Enlarged versions of the drawings of these and other structures are presented in **ANNEX 2**.





**Figure 2-6: Makorongo- Site Layout of 500 m3 Reservoir**

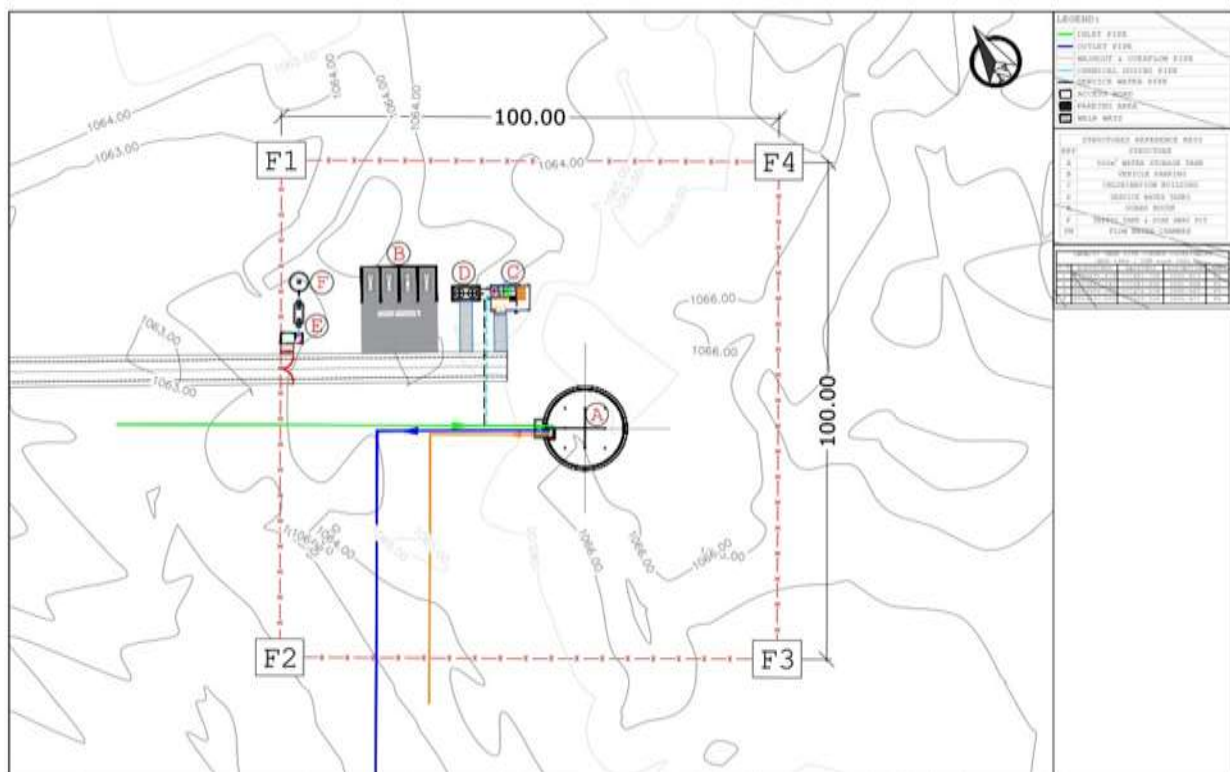
**Source:** EGIS and ICE Project Services, February 2025



**Figure 2-7: Kongogo- Site Layout of 500 m3 Reservoir**

**Source:** EGIS and ICE Project Services, February 2025





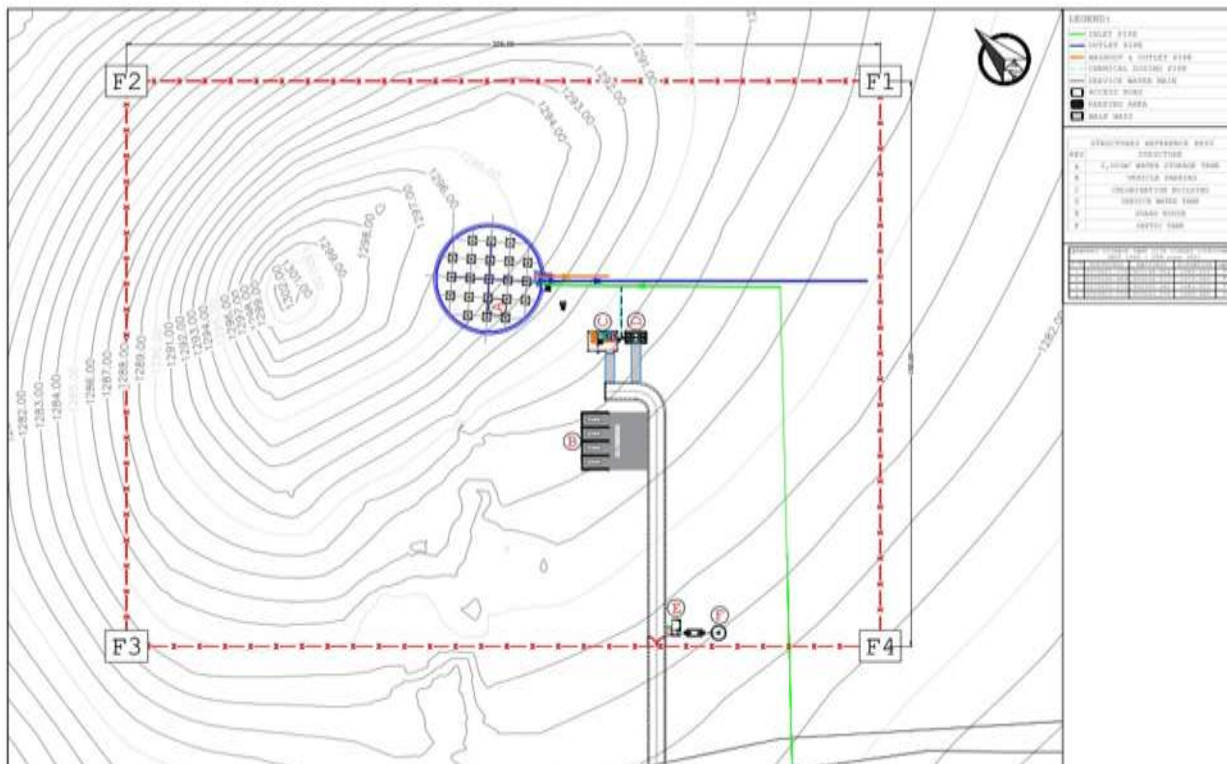
**Figure 2-8: Lamaiti BP3- Site Layout of 500 m3 Reservoir**

Source: EGIS and ICE Project Services, February 2025



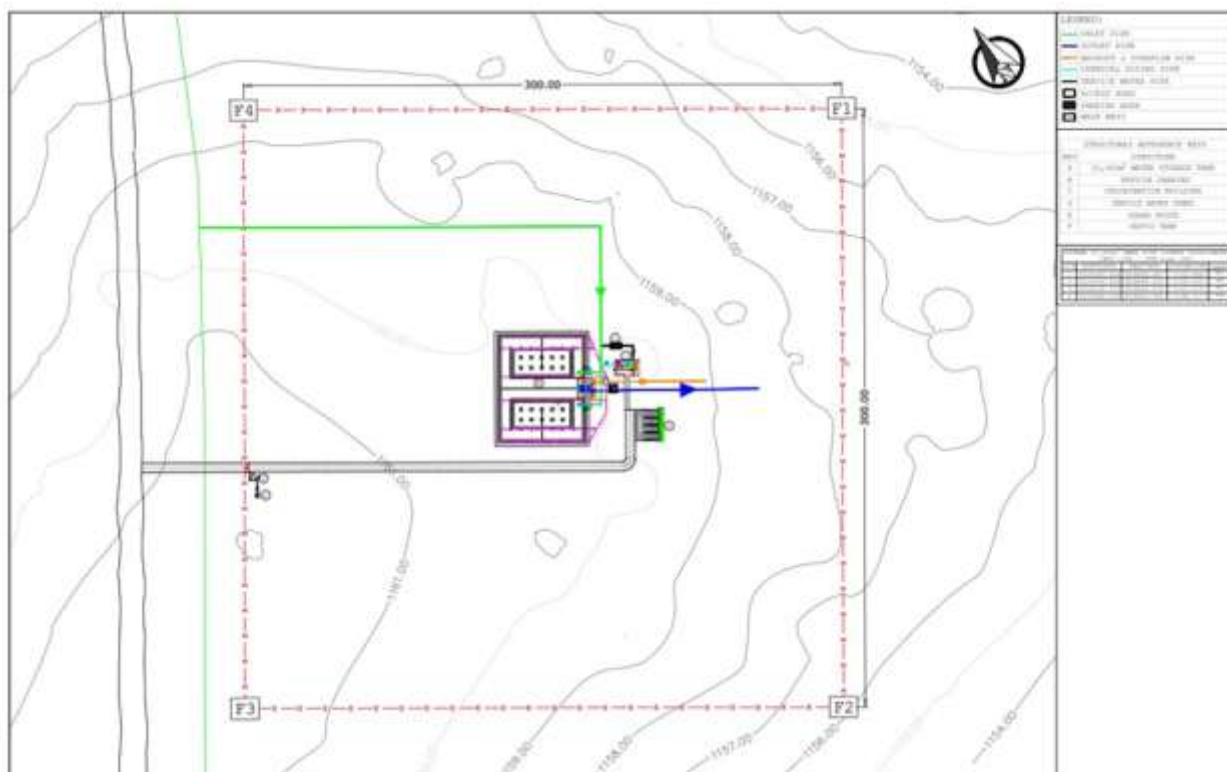
**Figure 2-9: Bahi Storage Tank - Site Layout of 500 m3 Reservoir**

Source: EGIS and ICE Project Services, February 2025



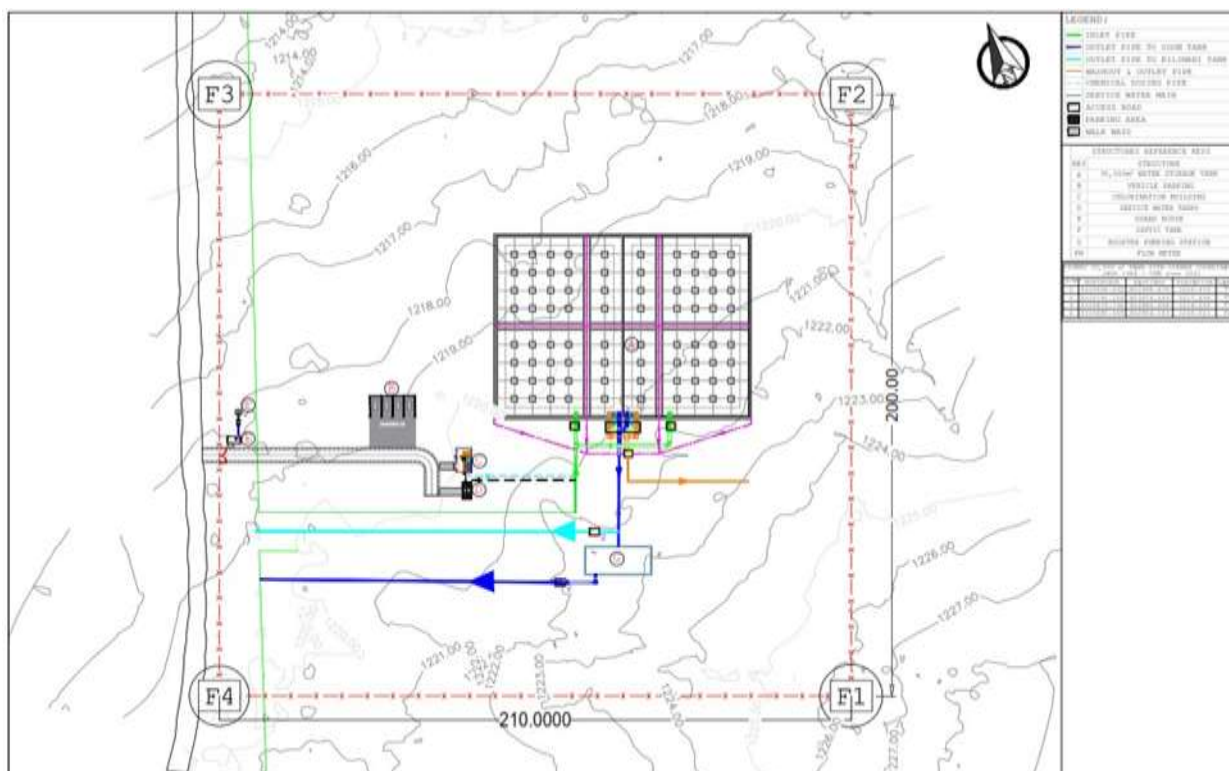
**Figure 2-10: Zamahero Storage Tank - Site Layout of 1,000 m<sup>3</sup> Reservoir**

Source: EGIS and ICE Project Services, February 2025



**Figure 2-11: Ihumwa Storage Tank - Site Layout of 10,000 m<sup>3</sup> Reservoir**

Source: EGIS and ICE Project Services, February 2025



**Figure 2-12: Iyumbu Storage Tank - Site Layout of 30,000 m3 Reservoir**

**Source:** EGIS and ICE Project Services, February 2025

It is expected that during operation phase, these reservoirs will require dislodging and cleaning up of sludge accumulated after certain period. Sludge may be used for agricultural application which is an economical solution.

## 2.8 Main Project Activities

Main construction works will involve various tasks such as mobilization, site clearance, excavations, trenching, spoil disposal, earth backfilling, construction of gravel cushion, masonry works, concrete works, pipe installing, decoration works and work strip restoration. Excess soil will be disposed of in appropriate areas or spread over disturbed areas along the pipeline route.

Backfilling will be done according to the technical specification, using partly native material and partly imported sand or soil. Clean-up and work strip restoration include recontouring the work strip and repairing roads, drainage and fences.

The number of construction workers is expected to be more than 300. In total, several hundred workers will be involved during construction phase.

## Planning Phase

During planning phase, different works and studies for the proposed project will be conducted. It includes survey works, ESIA and RAP, preliminary design and final design. The project RAP will be implemented (with a RAP completion note) prior to commencement of construction phase.

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Environmental certification process by the National Environment Management Council (NEMC) shall take place at this stage. During project planning phase, main works shall be paper works as summarized below:

- Evaluation of project concepts and alternatives selection;
- Design of all project components;
- Topographic survey;
- Geo-technical Investigations;
- Soils and Materials Investigations;
- Carrying out ESIA of the project;
- Carrying out RAP for the affected people (with completion note);
- Compensations and Land Tenure;
- Tendering for construction works;
- Approval of Engineering designs and Environmental Certification

### **Mobilization Phase**

Upon hiring the contractor and finalization of contract formalities and site handing over to the contractor, preparation of the proposed site shall follow by involving clearing of the site, when clearance is over, the site will be ready for receiving actual works. Once surplus material generated from the site preparation works like trees clearance is over, the wastes generated will be moved to the appropriate disposal sites. All project activities are supposed to be carried out within the boundaries of the identified project's sites without disturbing the neighboring facilities. Warning tapes shall be provided to demarcate construction areas for the safety of the communities around.

Also, as necessary, the Contractor will hire labour and erect necessary temporary facilities to cater for offices and storage yards near the construction sites or outside the sites as it may be agreed and permitted by the local government authorities in Dodoma region. According to scope of Works, it is projected that the Contractor shall mobilize a minimum of 300 workers of different skills on Project Areas.

Mobilization phase will also involve purchase and stockpiling of the materials such as aggregates, sand, cement, timber and reinforcing steel including delivery of plant and equipment at site(s), and installation of concrete batching plant.

### **Camp site**

The siting and design of campsite will be determined by the Contractor. It may, however, be assumed that the main camp will be located near the proposed WTP in Farkwa. Typically, the campsite would include site offices, the workshop, areas for the storage of machinery, equipment and materials. Smaller temporary camp sites might be needed at storage tank sites. These smaller site camps will need to be set up to store machinery, equipment and construction materials etc. Specifications for the camps will be included in the tender documents and contracts, including environmental, health and safety (EHS) requirements.

### **Construction Phase**

#### **Dam construction**



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The construction of the Saddle Dam at Farkwa, as per the Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP I), involves a series of tasks aimed at providing a stable and resilient water storage system. Key activities include site clearance, excavation for the dam's foundation, and the disposal of spoil material. The embankment is constructed using earth fill, with layers of compacted soil, gravel, and clay, and reinforced with concrete and steel in critical sections to enhance strength and stability. Masonry works will also construct protective structures such as spillways and abutments. Additionally, the construction process includes crossing the riverbed to close the reservoir, ensuring proper water storage and management.

### **Water Intake Structure, and Raw Water Pumping Station**

Construction of water intake structure, and pumping station at Farkwa will involve site clearance, excavation works, spoil disposal, backfilling works, steel works, concrete works, masonry works, pumps installation and electrical installation works.

### **Raw Water Transmission Main**

Construction of raw water main from raw water pumping station to proposed Farkwa WTP will involve trench clearance of the route, excavation, spoil disposal, installation of the DN1400 pipe and backfilling

### **Water Treatment Plant**

Construction of WTP structures will involve major civil works such as earthworks and landscaping; special foundations; concrete and steel works; buildings, structures and facilities; pipes, channels, manhole and chambers; installation of process equipment; mechanical works; and high and low voltage electrical works.

### **Transmission Main**

The installation of the water pipelines from Farkwa WTP to Farkwa ST, Zamahoro ST, Babayu ST, Lamaiti ST, Bahi ST, Ihumwa ST, Iyumbu ST and existing Kilimani ST constitutes another main construction works in terms of scale and duration. This phase shall involve the following tasks:

- Clearing of work strip, trench excavation and blasting as required;
- Spoil disposal,
- Pipe installing,
- Backfilling,
- Pipeline Pressure testing,
- Clean-up, and
- Work strip restoration.
- Clearing of the work strip for the pipeline right-of-way will be carried out to provide space for construction equipment, while trenching is undertaken to provide the minimum required cover and site clearance to the pipeline. Spoil removed from the trench will be left alongside the same in a spoil bank, unless traffic conditions require immediate transport. Excess soil or rock will be spread over disturbed areas along the pipeline route, if possible, or disposed of in appropriate areas. The siting of permanent spoil tips will require approval by the local authorities and the Engineer, giving due

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consideration to avoidance and mitigation of E&S impacts such as visual intrusion and disturbance to natural drainage, habitats or objects.

Clearing of the work strip for the pipeline right-of-way will be carried out to provide space for construction equipment, while trenching is undertaken to provide the minimum required cover and site clearance to the pipeline. In rocky areas (mainly at the reservoir sites and the access roads to the same) some blasting may be required. Spoil removed from the trench will be left alongside the same in a spoil bank, unless traffic conditions require immediate transport. Excess soil or rock will be spread over disturbed areas along the pipeline route, if possible, or disposed of in appropriate areas. The siting of permanent spoil tips will require approval by the local authorities and the Engineer, giving due consideration to avoidance and mitigation of E&S impacts such as visual intrusion and disturbance to natural ecosystem, habitats or objects.

### **Reservoirs and Access Roads**

There is no human activity in reservoir areas. The sites belong to district councils except for Zamahoro and Ihumwa sites. Zamahoro site belongs to Tanzania Forest Services (TFS) while Ihumwa site belongs to Tanzania Peoples Defence Force (TPDF). Storage tanks will need all-weather access roads to enable monitoring and maintenance during operation phase. Due to local geological and topographical conditions, some of reservoir sites are likely to require blasting for preparation of access roads to these sites. These blasting operations will have to be planned, carried out and supervised by a licensed blaster. The treated water will have conveyed by gravitate to Kilimani tanks at dodoma city, Chamwino town and bahi town with total distance of 230 km, also the total storage tanks capacity of 43,000 m<sup>3</sup>. The total land to be acquired is 476.3ha

### **Demobilization Phase**

Demobilization will involve dismantling of camp site, plants and equipment etc that were used by the contractor and sub-contractors for their construction works to leave the site in the same or better condition than they found it. Prior to demobilization, the contractor will prepare a detailed list of all remaining equipment, unused materials, and wastes transported to the project area or generated as a result of work performed. The equipment, unused materials and waste list should contain a description of the following:

- How each piece of equipment will be prepared for off-site shipment and the type and quantity of waste materials that will be generated during the equipment demobilization effort;
- The quantities and types of all unused materials, and the planned disposition of those materials; and
- The types, quantities and disposal plan for all wastes generated by the contractor which still remain within the project areas.

The equipment, unused materials and waste list will be submitted to the proponent prior to demobilization of the Contractor to ensure that all equipment, unused materials and wastes are managed and disposed of in accordance with good practices, applicable regulatory requirements, and the procedures.

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## **Operation Phase**

The activities during operation phase will include a wide range of water treatment, water transmission and storage of chemicals to be used in water treatment. Other activities will include waste management, maintenance, landscaping and planting some vegetation to control erosion in the project affected areas. The unit operation to be used for treatment processes at the Farkwa WTP includes aeration, remineralization, coagulation and flocculation, sedimentation, filtration and disinfection. The output of the WTP processes is treated water to be fed in the water supply network, waste water from treatment processes and sludge. Waste water will be transported to the lagoon for further physical treatment. All drainage water coming from the plant will be collected in a lagoon. Drainage water coming from the chemical buildings will be neutralized before being directed to the lagoon. The lagoon will be designed for a hydraulic retention time (HRT) of minimum 10 days. The accumulated sludge will be dried into drying beds and then be used as soil conditioner.

## **Decommissioning Phase**

It is envisaged that the project will be operational for several decades. In case the development comes to an end, decommissioning of the facility will be undertaken in accordance with the laws and regulations that will be prevalent at that time. This phase will mainly involve demolition of the structures and other associated infrastructures. A written plan detailing how construction related equipment, materials and wastes will be decommissioned and disposed of on completion of their use will be prepared. The decommissioning and disposal plan will be reviewed by the project proponent prior to mobilization of the contractor to the site, and the proponent will maintain ultimate responsibility for the proper management of equipment, materials and wastes within the project area.

### **2.9 Project Raw Materials**

The construction materials sources are as described below:

#### **Gravel**

Contractor shall identify potential sources of gravel materials within Dodoma region. The existing gravel sources and other potential sources shall be investigated for its suitability and quantity estimation of the available material within economic haulage distance through excavation of trial pits to ascertain the quality and extent of the gravel seam. Representative samples would subsequently be taken for laboratory testing by the contractor. Contractor shall before commencement of construction works, prepare environmental protection plan (EPP) for the identified gravel borrow pit and submit to local authorities and/or NEMC for approval.

#### **Water**

At the time of the site reconnaissance, the only reliable water source identified was from DUWASA network and some perennial rivers around project areas. Other source of water for construction works may include groundwater abstraction through boreholes. Contractor may decide to construct boreholes as an alternative source of water for construction purposes. Contractor shall carry out an evaluation of water sources and quality towards its applicability in

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construction works that will be carried out. Potable water will be required on-site for domestic purposes, including drinking and washing for the workers. In addition, water will be required for toilet flushing and for other uses such as construction works, cleaning of equipment and dust control.

### **Sand**

Contractor shall identify main potential sand source within project areas. The existing sand sources and other potential sources shall be investigated for its suitability and quantity estimation of the available material within economic haulage distance through excavation of trial pits to ascertain the quality and extent of the sand seam. Representative samples shall be taken, and sieve analysis performed to ascertain their suitability by making comparison with grading envelope specified in BS 822 (1983) Standards. Contractor shall before commencement of construction works, prepare environmental protection plan (EPP) for the identified sand borrow pit and submit to local authorities and/or NEMC for approval.

### **Source of Energy**

During construction phase, electricity will be required on-site for concrete batching plant, workshops, onsite offices and for other needs including night lighting. For lighting, light towers will be installed and used. To start with, contractor shall temporarily install standby generators while waiting for connection to TANESCO grid. For the site offices approximately two 500kVA generators will be required whilst three 150kVA generators will be required for the concrete batching plant.

During operation phase, the proposed Farkwa WTP, pumping station and storage tanks will use electricity from TANESCO. The standby generator is recommended to be installed and operated during power shortages. The possibility to use solar energy system for lightening and other minor operation is strongly recommended.

### **Portland Cement**

Major construction works shall include concrete works. Concrete works shall require Contractor to use extensive tonnes of cements for the entire construction period. Cement materials may be sourced from different manufactures upon approval from the Engineer based of technical specifications of the project. Major manufacturers and potential supplier of cement to the project are not limited to Tanzania Portland Cement Ltd (Twiga cement), Tanga Cement PLC (Simba cement) and Mbeya Cement (Tembo cement). Contractor shall ensure that cement mixing and/or concreting is done on plastic sheeting, on board surface or impervious surface capable of retaining cement or concrete slurry run-off to prevent soil contamination.

### **Steel Bars**

Contractor shall have an extensive use of tons of steel bars to strengthen concrete works and masonry structures. Steel bars may be sourced from Kamal steel, MM integrated steel etc. Contractor shall obtain approval from the Engineer on where to source the steel bars that meets technical specifications of the project. Contractor shall prepare Occupational Health and safety Plan to ensure safety of workers during steel works.



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## **Steel Pipes**

Conveyance system requires a substantial number of steel pipes to cover 230km conveyance network of different pipe sizes. The steel pipes may be source in Tanzania or outside Tanzania depending of several factors including technical specifications of the project. Major supplier of steel pipes in Tanzania are not limited to Tanzania steel pipes Ltd and Pipes industries Ltd.

### **2.10 Waste Management**

#### **Solid waste Generation and Management**

The project will generate waste during mobilization, construction, demobilization, operation and decommissioning phases. Some of the solid wastes which are likely to be generated by the project will mainly include remains of construction materials like timber, cement, plastics, papers and steel used during the construction.

Other solid wastes are expected to be generated from the campsite during construction and from staff houses/ WTP plant operators during the operation phase. These will include garbage, redundant raw materials, bottles and containers that need to be disposed of. Dust bins and collection points will be provided to cater for these different types of wastes that are to be generated from staff house and campsite. Waste collected from dust bins will be sorted at the main collection point where a prescribed agent/service provider will collect the waste to dispose it in the designated sites as located by the municipality. It is highly recommended that waste separation as well as decomposition of organic waste and recycling of solid waste be practiced.

During operation phase, the conventional coagulation-filtration treatment process, suspended solids and natural organic matter are expelled from the source water by adding iron and aluminium salts as chemical coagulants, will bring out the formation of sludge. In addition to the chemical coagulant added, sludge also will include the mineral and other components from the raw water. Sludge of water treatment work remains an unavoidable by-product of WTP process.

The production of sludge during the water treatment process shall depend on the amount of total suspended solids (TSS) in the raw water and the corresponding amount of needed flocculants (aluminium sulphate and lime). The thickened sludge, with a concentration of about 3%, shall be pumped to the filter press feeding chamber, where lime and polymer shall be added for chemical conditioning, in order to increase the filter press efficiency. The dewatered sludge shall have a minimum concentration of 30% what eases considerably its transportation and storage. The sludge will be transported by means of shovel excavators (eventually a conveyor will be used, final decision is not done yet) to a storage site located in the area proposed for the water treatment plant in order to reduce transportation needs. In addition, it is planned to construct about 20 sludge drying beds and about 4 lagoons at the water treatment site for intermediate storage and further drying purposes.

The WTP site will be designed and implemented in order to prevent a possible pollution of the soil and the groundwater aquifers. It will be lined with a plastic UV resistant membrane and fitted with a drainage and leachate detention system. The sludge from WTP could be used as

soil conditioner for agricultural purposes or to use the dried sludge for co-incineration in e.g. cement or steel factories.

### **Waste Water Generation and Management**

During mobilization, construction, demobilization, operation and decommissioning phases of the project, the anticipated liquid waste from the project will consist of domestic grey, wastewater from construction activities and sanitary water emanating from campsite and construction sites. The contractor shall ensure that all sanitary liquid waste from the project is discharged into septic tank(s) for treatment before being discharged to the environment.

Other wastewater to be generated during construction phase includes wastewater from concrete batching plant, wastewater from washing of plants and equipment, oil and grease from service and maintenance of vehicle/ plants and equipment. The contractor shall ensure that wastewater originated from concrete batching plant, washing of plants and equipment and oil are not discharged into natural environment or storm drainage systems.

During operation phase, WTP will produce wastewater from the sludge thickener unit. Wastewater to be produced will be transported to the lagoon for further treatment. All drainage water coming from the plant will be collected in a lagoon. Drainage water coming from the chemical buildings will be neutralized before being directed to the lagoon. The lagoon will be designed for a hydraulic retention time (HRT) of minimum 10 days. The water depth will be limited at maximum 1.5 m. The lagoon will be equipped with a concrete overflow connected to the nature.

Summary of estimated quantity of wastes to be generated during construction and operation phases is as shown in table below:

**Table 2-4: Estimated quantity of wastes to be generated during construction and operation phase**

Waste	Type	Amount	Treatment/ Disposal
<b>Construction Phase</b>			
Solid Waste (Degradable)	General garbage (Food remains, cardboards and papers etc)	75 kg/day (based on generation rate of 0.25 kg/day/person and 300 workers)	To be collected in skip bucket then disposed to authorized dump site in Dodoma municipality
	Vegetation	Approximately 65-70% of the area where infrastructures will be sited vegetation clearance will be done	Tree logs will be given to local people
Solid Waste (Non-Degradable)	Plastics	Variable	Will be collected and stored ready to be sold to recyclers
	Tins, glasses, pieces of	Variable	Will be collected and stored ready to be sold to

Waste	Type	Amount	Treatment/ Disposal
	boards, timbers, nails etc		recyclers
Hazardous Wastes	Scrap metals, materials packaging, paint buckets, corrugated iron sheets, oil filters and etc.)	Variable	To be collected and sold by the authorized recyclers or to be disposed by the registered firm by the NEMC
Liquid waste	Sewage	12,000 Litres /day (Based on 300 people, water consumption rate of 50 LPCD and wastewater discharge factor of 80%)	To be discharged to septic tank onsite for treatment
	Oils and greases	3-5l/day	To be collected and sold to the authorized recyclers or to be disposed by the registered firm by the NEMC
	Waste water from concrete batching plant, washing of plants and equipment	Variable	To be discharged to waste water pit/concrete batching waste water pit for treatment before released to the environment
<b>Operation Phase</b>			
Solid Waste	Dried sludge	Variable	To be sold to farmers as soil conditioner or to use the dried sludge for co-incineration in e.g. cement or steel factories.
	General garbage	Variable	to be collected in skip bucket then disposed to authorized dump site in Dodoma municipality
Liquid waste	Wastewater from sludge thickener unit, drainages and treatment process eg backwash etc	Variable	To be treated at lagoons and discharged to the nature
	Sewage	Variable	To be discharged to septic tank onsite for treatment

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Waste	Type	Amount	Treatment/ Disposal
	Oils and greases	3-5l/day	To be collected and sold to the authorized recyclers or to be disposed by the registered firm by the NEMC

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### **3. POLICY, LEGAL AND INSTITUTIONAL FRAMEWORK**

#### **3.1 Introduction**

The Environmental Impact Assessment (EIA) process in Tanzania is guided by several policies, instruments, and laws. Key among these is the Environmental Management Act No. 20 of 2004 (EMA), the Environmental Impact Assessment and Audit Regulations (amended in 2018), and the National Environment Policy of 2021. These instruments form the foundation of environmental and social management across all development sectors.

In addition to the National Environment Policy, various sectoral policies emphasize the importance of EIA as a planning tool. These policies aim to promote sustainable development by integrating environmental and social considerations into decision-making. This approach helps to avoid or minimize the negative impacts of project implementation on both the environment and society.

Relevant sectoral and cross-sectoral policies mandate the undertaking of an Environmental and Social Impact Assessment (ESIA) before project commencement. They provide specific directives for managing projects to ensure minimal harm to natural resources, sensitive ecosystems, and community welfare. This section outlines the applicable policy, legal, and institutional frameworks, divided into three key areas:

- **Policy Framework:** National policies and international safeguard policies relevant to environmental and social impact assessments.
- **Legal Framework:** Applicable national laws, international agreements, and conventions that govern environmental and social management.

#### **3.1. Institutional Framework: National institutions responsible for implementing the policies and laws related to EIA. Policy Framework**

##### **3.1.1. National policies**

Key environmental and social (E&S) policies that must be considered during project development, implementation, and operation are outlined below:

##### **3.1.2. National Environment Policy (NEP), 2021**

The NEP was updated in 2021, replacing the 1997 version. It addresses modern environmental challenges such as invasive species, water and air pollution, chemical control, electronic waste, climate change, and biotechnology use. The NEP highlights issues like land degradation and limited access to quality water for urban and rural communities. Its objectives include:

- Ensuring sustainable and equitable resource use for present and future generations.
- Preventing land, water, vegetation, and air degradation.
- Conserving biodiversity and ecosystems.
- Improving productivity in degraded areas and promoting safe and healthy living environments.

- Raising public awareness of the environment-development linkages.
- Promoting international cooperation on environmental matters.

The NEP provides a framework for mainstreaming E&S considerations into decision-making, setting guidelines, monitoring policies, and encouraging sectoral integration to ensure compatibility.

### **3.1.3. National Water Policy, 2023**

The National Water Policy focuses on sustainable management, equitable access, and environmental protection in the water sector. It emphasizes climate change resilience, including strengthening flood forecasting, early warning systems, and promoting adaptation and mitigation measures. The policy also highlights the importance of environmental and social safeguards, ensuring land acquisition and management for water sources adhere to guidelines while advocating for the safe disposal and recycling of wastewater. It further promotes public awareness regarding environmental issues, with a strong focus on gender equality in water resource management, encouraging the equal participation of women and men in decision-making processes.

The policy also aims at strengthening institutional capacity for integrated water resources management, ensuring efficient service delivery and sustainable water use. Significant investments in water infrastructure are outlined, including the transition from diesel to electric pumps for a reliable year-round supply and the drilling of wells in various districts to meet 2030 targets. These efforts, alongside a focus on institutional strengthening, aim to address both current and future challenges in the water sector, ensuring equitable and sustainable access to water for all Tanzanians.

### **3.1.4. National Forest Policy, 2018**

The National Forest Policy focuses on sustainable conservation, management, and utilization of forest resources to address challenges like deforestation, forest degradation, and biodiversity loss. It highlights the importance of forests in supporting economic development, climate change mitigation, and biodiversity conservation.

Key areas of focus in the policy include promoting sustainable forest management, conserving biodiversity, and combating deforestation. The policy also emphasizes climate change adaptation through forest restoration and the improvement of forest-based livelihoods, particularly by engaging local communities in sustainable practices like beekeeping, ecotourism, and harvesting timber and non-timber products.

The policy's main strategic areas include Forest Conservation and Restoration, which involves afforestation and reforestation, and Community-Based Forest Management (CBFM), which empowers local communities to manage forest resources. Additionally, it focuses on institutional capacity building for better forest management and public awareness to engage stakeholders in conservation efforts.

Involvement of forestry management authority, local communities and other stakeholders in conservation will be consulted while establishing water sources and project sites.

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### **3.1.5. National Land Policy, 2023**

The National Land Policy aim to strengthen the land tenure and management system, ensuring equal access to land for all citizens while protecting government land. Key objectives include promoting transparency and fairness in land acquisition and cancellation, improving land registration and transactions, and enhancing the security of agricultural, pastoral, and fishing land tenure for sustainable use. The policy also focuses on facilitating the sustainable use of land for investment, expediting the preparation and implementation of land use plans, and establishing an integrated system for maintaining land records and geographic information.

The policy seeks to improve participatory management of sensitive areas, strengthen land dispute resolution mechanisms, and enhance the surveying and mapping systems. It emphasizes the establishment of a land market management system, improving compensation procedures, and ensuring land management integrates environmental protection and climate change considerations. Gender equality in land rights, good governance, and public education on land issues are also prioritized. The policy aligns with national, regional, and international development plans, recognizing the land sector's critical role in economic growth, social equity, and environmental sustainability.

### **3.1.6. National Health Policy, 2017**

The Policy addresses several crucial areas, including strengthening the health system to improve the efficiency, accessibility, and quality of healthcare services across the country. It emphasizes the goal of achieving universal health coverage (UHC) to ensure all Tanzanians have access to affordable and quality healthcare without financial hardship. It focuses on enhancing primary healthcare, raising public awareness on preventive health, addressing human resource shortages in healthcare, and improving the infrastructure of health facilities to ensure quality care.

### **3.1.7. National Occupational Health and Safety Policy, 2014**

This policy provides guidelines for safe working conditions and serves as a framework for stakeholders to ensure workplace safety during project implementation.

### **3.1.8. Mining Policy, 2009**

The policy encourages private sector-led mining and addresses sustainable development challenges. Its objectives include strengthening regulatory frameworks, promoting local participation, and integrating the mining sector with the broader economy International Safeguard Policies and Standards

The project is also guided by a set of ten 10 safeguard requirements known as Operational Safeguards (OSs). The ten E&S OSs set out the requirements for the MoW relating to the identification and assessment of E&S risks and impacts associated with operations supported by the AfDB. The AfDB believes that the application of these safeguards, by focusing on the identification and management of E&S risks and impacts, will support the MoW's goal of protecting communities and the environment from unintentional harm, as well as sustainably reducing poverty and increasing prosperity for the benefit of the environment and communities.

The ten E&S OSs establish the standards that MoW shall meet, as appropriate, in projects, activities, and initiatives supported through AfDB financing throughout the life cycle of operations, as follows:

- E&S OS 1 (OS1): Assessment and Management of Environmental and Social Risks and Impacts
- E&S OS 2 (OS2): Labour and Working Conditions
- E&S OS 3 (OS3): Resource Efficiency and Pollution Prevention and Management
- E&S OS 4 (OS4): Community Health, Safety and Security
- E&S OS 5 (OS5): Land Acquisition, Restrictions on Access to Land and Land Use, and Involuntary Resettlement
- E&S OS 6 (OS6): Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources
- E&S OS 7 (OS7): Vulnerable Groups
- E&S OS 8 (OS8): Cultural Heritage
- E&S OS 9 (OS9): Financial Intermediaries.
- E&S OS 10 (OS10): Stakeholder Engagement and Information Disclosure.

The OSS are main safeguard requirements that AfDB clients are expected to meet when addressing social and environmental impacts and risks. An overview of the applicable Operational Safeguards (OSs) and their respective key requirements is presented in table below.

**Table 3-1: Overview of the applicable Operational Safeguards (OSs)**

AfDB OSS	Purpose/Objective	Applicability to Project
<b>E&amp;S OS1 (OS1): Assessment and Management of Environmental and Social Risks and Impacts</b>	<p>Identify and assess the E&amp;S risks and impacts including those related to gender inequalities, climate change, and respective mitigation measures</p> <p>Utilize national E&amp;S institutions, systems, laws, regulations, and procedures in the assessment development and implementation of projects, whenever appropriate</p> <p>Provide opportunity for stakeholder engagement and consultation in assessing and managing the E&amp;S</p>	<p>ESIA and RAP reports have been prepared to mitigate potential E&amp;S impacts.</p> <p>Specific measures have been addressed in the ESMP section of this ESIA report</p> <p>Contractor shall be required to prepare a site-specific ESMP and Health and Safety Management Plan before commencement of construction works</p>



AfDB OSS	Purpose/Objective	Applicability to Project
	<p>risks and impacts.</p> <p>Adopt a mitigation hierarchy approach as follows:</p> <ul style="list-style-type: none"> <li>• anticipate and avoid risks and impacts;</li> <li>• where avoidance is not possible, minimize or reduce risks and impacts to acceptable levels;</li> <li>• once risks and impacts have been minimized or reduced, mitigate them; and</li> <li>• where significant residual impacts remain, compensate for or offset them, where technically and financially feasible.</li> </ul> <p>Adopt differentiated measures so that adverse impacts do not fall disproportionately on the vulnerable to prevent them from being disadvantaged in sharing development benefits and opportunities resulting from the project</p>	
<b>E&amp;S OS2 (OS2): Labor and Working Conditions</b>	<p>Protect workers' rights</p> <p>Promote compliance with national legal requirements on labor</p> <p>Protect the workforce from inequality, social exclusion, child labor, and forced labor</p> <p>To promote safety and health in the workplace.</p> <p>To prevent the use of all forms of forced labor and child labor</p>	<p>The project will recruit skilled, semi-skilled and unskilled labors.</p> <p>The workforce has to be protected from inequality, social exclusion, child labor, forced labor, health and safety risks and poor working conditions.</p> <p>The project will require contractor(s) to develop Labor management plan and Occupational Health and Safety Plan (OHSP) to protect workers from poor working conditions and health and safety risks.</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b><u>E&amp;S OS3 (OS3):</u></b> <b>Resource Efficiency and Pollution Prevention and Management</b>	<p>To promote the sustainable use of resources, including energy, water, and raw materials.</p> <p>To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.</p> <p>To avoid or minimize project-related emissions of short and long-lived climate pollutants.</p> <p>To avoid or minimize generation of hazardous and non-hazardous waste.</p> <p>To minimize and manage the risks and impacts associated with pesticide use.</p>	<p>The project will use raw materials for construction of infrastructures, hence needs to be managed sustainably.</p> <p>Project will generate dust, erosion, sediments, solid and liquid wastes that will need to be properly managed by project proponent and contractor(s).</p> <p>The project is aimed at reducing pollution and preventing contamination to the environment. ESHS requirements will ensure contractor(s) develop waste management plans and site-specific Environmental Protection Plans (EPPs).</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b>E&amp;S OS 4 (OS4):</b> <b>Community Health, Safety and Security</b>	<p>To anticipate and avoid adverse impacts on the health and safety of project-affected communities during the project or operation lifecycle from both routine and non-routine circumstances.</p> <p>To help promote public health and safety across the project's area of influence by, inter alia, promoting and supporting programs that aim at preventing the spread of major communicable diseases.</p> <p>To promote quality and safety, and considerations relating to climate change in the design and construction of infrastructure, including dams.</p> <p>To avoid or minimize community exposure to project-related traffic and road safety risks, diseases, and hazardous materials.</p> <p>To ensure that effective measures to address emergency events are in place.</p> <p>To ensure that the safeguarding of personnel and property through the provision of public or private security is carried out in a manner that avoids or minimizes risks to the project-affected communities and in a manner consistent with international human rights standards and principles.</p> <p>To help prevent against sexual exploitation, abuse and sexual harassment (SEAH) of members of the community by project workers.</p>	<p>Project implementation is expected to have moderate risk and impacts to adjacent community health and safety. Significant influx of workers and followers into a project area are anticipated. Implementation of the project will have both direct and indirect benefits to the people's health and safety.</p> <p>To protect community, the project will ensure appropriate Occupational Health and Safety (OHS) measures including traffic management are applied to avoid the risk of ill health, accidents and injuries to community during the whole period of project implementation.</p> <p>The Contractor shall be required to prepare Occupational Health and Safety Plan and traffic management plan to protect and minimize community health and safety risks.</p> <p>Contractor shall also be required to have GBV/SEAH policy and prepare GBV/SEAH Management Plan of the project</p>
<b>E&amp;S OS 5 (OS5):</b> <b>Land Acquisition, Restrictions on Access to Land and Land</b>	<p>To avoid involuntary resettlement where feasible, or minimize resettlement impacts where</p>	<p>It was not possible to avoid involuntary resettlement during design stage. Various route options</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b>Use, and Involuntary Resettlement</b>	<p>involuntary resettlement is deemed unavoidable after all alternative project designs have been explored</p> <p>To avoid or minimize involuntary resettlement and to avoid forced eviction</p> <p>To mitigate unavoidable adverse impacts from land acquisition and restrictions on land use.</p> <p>Ensure that displaced people are meaningfully consulted and given opportunities to participate in the planning and implementation of resettlement programs</p> <p>Ensure that displaced people receive significant resettlement assistance under the project, so that their standards of living, income-earning capacity, production levels and overall means of livelihood are improved beyond pre-project levels</p>	<p>were considered and each route had resettlement impacts thus involuntary resettlement was deemed unavoidable after all alternative project designs explored.</p> <p>The project will have physical and economic displacement and a RAP has been prepared by the project to avoid and minimize impacts and compensate for the impacts.</p> <p>In principle, the project requires land for WTP, some parts of TM, and reservoirs. Land acquisition shall occur in localized project areas.</p> <p>The project will ensure that RAP and Livelihood Restoration Plan (LRP) are followed and adhered.</p> <p>The project has prepared RAP report.</p>
<b>E&amp;S OS 6 (OS6): Habitat and Biodiversity Conservation and Sustainable Management of Living Natural Resources</b>	<p>Avoid adverse impacts on biodiversity, habitats and ecosystem services. When avoidance of adverse impacts is not possible, the project will have to implement measures to minimize adverse impacts and restore biodiversity in accordance with the mitigation hierarchy provided in OS1 and with the requirements of the OS3</p> <p>Protect natural, modified, and critical habitats</p> <p>Endeavour to reinstate or restore biodiversity, including, where some impacts are unavoidable, through implementing biodiversity offsets to achieve “not net loss but net gain” of biodiversity</p>	<p>The Project was screened for potential direct and indirect impacts on natural habitats.</p> <p>One of project infrastructure (reservoir) will be implemented inside Chinene forest reserve. The forest reserve is occupied by sensitive habitats both flora and fauna.</p> <p>A separate Biodiversity study is being updated once completed the Biodiversity Action Plan will be prepared and implemented. This considers the protection and restoration of habitats and species at Chinene forest reserve and other Project areas.</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b>E&amp;S OS 7 (OS7):</b> <b>Vulnerable Groups</b>	<p>To identify vulnerable groups among the displaced population that will be provided with specific support to ensure that their livelihoods are fully restored</p> <p>To ensure that marginalized and vulnerable populations, such as women, children, the elderly, and people with disabilities, have equal access to clean water and sanitation facilities.</p> <p>To create sustainable water management systems that consider the specific needs of vulnerable groups, ensuring long-term benefits</p>	<p>The project, in ESIA, SEP and RAP documents, has made sure that the project's approaches facilitate active participation from all key stakeholders, including vulnerable groups, to make it inclusive and equitable.</p> <p>The project has verified that the proposed activities, technologies, or approaches can be effectively implemented within the project's geographic, cultural, social, and economic context.</p> <p>The project will ensure international compliance standard (Oss)</p>
<b>E&amp;S OS 8 (OS8):</b> <b>Cultural Heritage</b>	<p>To protect cultural heritage from the adverse impacts of project activities and support its preservation.</p> <p>To address cultural heritage as an integral aspect of sustainable development.</p> <p>To promote meaningful consultation with stakeholders regarding cultural heritage as a means to identify and address risks and impacts related to cultural heritage.</p> <p>To promote the equitable sharing of benefits from the use of cultural heritage with affected stakeholders.</p>	<p>The project has ensured that the project aligns with the unique cultural, social, and historical context of the community involved. This includes respecting traditions related to water use and management.</p> <p>The project has ensures compliance with local and national guidelines regarding cultural heritage preservation and water management.</p> <p>The project has ensured that the cultural heritage component can foster active participation and ownership among community members, making the project more inclusive and sustainable.</p> <p>Chance Find Procedure (CFP) has been developed as an appendix to this report as a separate report outlining steps to take when unexpectedly encountering previous unknown cultural heritage resources during project construction and operations.</p>

AfDB OSS	Purpose/Objective	Applicability to Project
<b>E&amp;S OS 10 (OS10):</b> <b>Stakeholder Engagement and Information Disclosure</b>	<p>To establish a systematic approach to stakeholder engagement that will help Borrowers identify stakeholders, and build and maintain a constructive relationship and channels of communication with them, in particular project-affected parties.</p> <p>To assess the level of stakeholder interest and support for the project and to enable stakeholders' views to be taken into account in project design and E&amp;S performance.</p> <p>To promote and provide the means for safe, effective, and inclusive engagement with project affected parties, inclusive of women's perspectives, in an equitable manner, and vulnerable groups, in a manner free of reprisal, throughout the project life cycle on issues that could potentially affect them.</p> <p>To enhance project benefits and mitigate harm to local communities.</p> <p>To ensure that appropriate project information on E&amp;S risks and impacts is disclosed to stakeholders in a timely, understandable, accessible, and appropriate manner and format.</p> <p>To provide project-affected parties with accessible and inclusive means to provide input, raise issues, questions, proposals, concerns, and grievances, and allow Borrowers to respond to and manage such grievances.</p> <p>To promote development benefits and opportunities for project-affected communities, taking into account the needs of women, including vulnerable groups, in a</p>	<p>The project has prepared Stakeholder's Engagement Plan (SEP) as a separate report outlining how the MoW will engage with its stakeholders throughout a project life cycle.</p> <p>The project has engaged with different stakeholders and their concerns and views are part of this report.</p> <p>The project has ensured that stakeholder engagement and information disclosure contribute to the project's success by addressing community needs, fostering collaboration, and building trust.</p> <p>The project has ensured that disclosed information is accessible to all stakeholders, including marginalized groups, and presented in a clear and understandable manner.</p>

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AfDB OSS	Purpose/Objective	Applicability to Project
	manner that is accessible, equitable, culturally appropriate, and inclusive	



## 3.2 Legal Framework

### National legislation

In addition to the above policies, there are several legal and regulatory frameworks that proposed water projects must comply with. The Environmental Management Act No. 20 of 2004 is the principal legislation governing all environmental management issues in the country. Within each sector, there are sectoral legislations that deal with specific issues pertaining to the environment. Some of the legislations and regulations that are relevant in the management of the environment for the proposed project are presented in the following table 3-2.

**Table 3-2: Summary of applicable key environmental and social legislation**

Legislation	Description	Applicability to the Project
<b>Environmental Management Act (EMA), Cap 191 (2004)</b>	The Act establishes the legal and institutional framework for the management of the environment and implementation of the NEP. It empowers the National Environmental Management Council (NEMC) to screen, review and determine the types of development projects that should be subject to an EIA study. The Act outlines projects that require a full EIA or that may be subjected to preliminary EIA, after NEMC determination.	Screening shows the Project activities are subjected to full EIA
<b>Environmental Impact Assessment &amp; Audit Regulation (2005) (Amended 2018)</b>	This Regulation provides the detailed procedures and requirements for undertaking EIA for various types of projects with potential for adverse environmental impacts. Where circumstances arise which compels or requires a developer or proponent to vary the terms and conditions on which an environmental impact assessment certificate has been issued, the holder of the certificate shall apply for a variation	According to Regulation, this project is subjected to full EIA EIA study has been conducted prior to commencement of construction works. the proposed project has a valid EIA certificate. This ESIA is being conducted as an ESIA for Variation as new components has been added and some modified.
<b>Environmental Management Act (EMA), Cap 191 (Sections 114 – 118) - Management of Solid Wastes</b>	The Act prescribes the need to manage and minimize solid waste, disposal of solid waste from different sources, storage of solid waste from industries and solid waste collection from urban and rural areas	Project need to devise means for minimization of solid wastes and method of collection, transportation, treatment and disposal; as well as availing appropriate equipment and routes for collection; and designate transfer station /

Legislation	Description	Applicability to the Project
		collection centers. The Project will ensure solid waste management plan is prepared by the Contractor
<b>Environmental Management Act (EMA), Cap 191 (Sections 74, 75, 130-132) - Management of Air Emissions and Ambient Air Quality</b>	EMA has provisions for three main areas: General Atmosphere; Climate Change and Management of Gaseous Wastes from Various Sources.	The project will comply with national standards on air emissions during construction and operation phase of the project Regular monitoring of air quality will be conducted during construction phase to ensure emissions are within acceptable standards
<b>Environmental Management (Hazardous Waste Control and Management) Regulations (2019)</b>	The Regulation mandates the need to ensure adequate and appropriate segregation and recycling facilities as well as training and adequate provision of personal protective gears.	The project will have specific procedures and practices for storage, transportation, treatment and disposal of all categories of any hazardous and toxic wastes including biological wastes during project implementation. The Project will ensure hazardous waste management plan is prepared by the Contractor
<b>Environmental Management (Air Quality Standards) Regulations, (2007)</b>	The regulation prohibits emissions/release of hazardous substance into the environment.	The project will comply with permissible emission limits and quantities of emissions prescribed by the regulations. Regular monitoring of air quality will be conducted during construction phase to ensure emissions are within acceptable standards.
<b>The Water Resource Management Act No. 11 (2009)</b>	This is a legislation that has repealed the Water Utilization (Control and Regulation) Act. The Act intends for the protection of the water resources and the user so that there is a balance between different uses. This Act states that the water shall not be polluted with any matter derived from such use to such extent as to be likely to cause injury either directly or indirectly to public health to livestock,	The project will ensure that any proposed development near a water resource area or watershed complies to the Water Resource Management Act.  The project will prevent pollution to water bodies as a result of various waste streams to be produced during

Legislation	Description	Applicability to the Project
	fish, crops, orchards or garden which are irrigated by such water or to any product in the processing of which such water is used. In general, it provides the legal basis among others for water resources management at National and Basin levels; the administration to legalize, grant, modify and diminish water rights to the use of water by those entrusted with responsibilities for water resources management; to protect water rights for all legitimate water users, hence monitoring the quality and quantity of water sources; water use conflict management and water pollution control and other related issues like water construction	construction phase.  Project Proponent and Contractor will take all necessary precautions to prevent any pollution from the project activities to water bodies.
<b>Water Supply and Sanitation Act No. 5 (2019)</b>	<p>This Act provide for sustainable management and adequate operation and transparent regulation of water supply and sanitation services; provide for the establishment of water supply and sanitation authorities, Rural Water Agency, National Water Fund and community-based water supply organizations;</p> <p>In addition, the Act provides for a required wayleave to be acquired by water supply authority in respect to the size of water transmission mains.</p> <p>The main aim of this Act is to ensure the right of every Tanzanian to have access to efficient, effective and sustainable water supply and sanitation services for all purposes by taking into account among others protection and conservation of water resources and development and promotion of public health and sanitation; and protection of the interest of customers.</p>	<p>The functions and existence of DUWASA is therefore regulated by the Water Supply and Sanitation Act. This relationship makes it a principal Act for the Water supply project.</p> <p>Under this Act, the Project will have to acquire a wayleave of 30m and 10m from center of TM</p>
<b>Environmental Management (Water Quality Standards) Regulations (2007)</b>	The Regulation has provisions for safe distances of water supply systems from pollution sources for any infrastructure activity near any water source	The project will consider adequate distance (as per regulation) of water supply systems from pollution sources for any infrastructure activity near any water source. In addition, no discharge of water

Legislation	Description	Applicability to the Project
		polluting substances will go uncontrolled.
<b>Environmental Management (Quality Standards for Control of Noise and Vibration Pollution) Regulations (2015)</b>	The Regulations has provision to ensure measures for controlling noise and vibration pollution emanating from construction site, vehicles, workshop, and quarries that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and of the environment	The project will incorporate measures for the control of noise and vibration pollution emanating from construction site, vehicles, and quarries that annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and of the environment.
<b>Environmental Management Act (EMA), Cap 191 (Sections 147) - Management of Noise</b>	The Act has provisions to control noise and vibration pollution into the environment for activities that emits noise and vibrations	The project will define all sorts of activities with potential to emitting noise and vibrations to control noise and vibration pollution into the environment especially during construction phase
<b>Explosive Act of 1963</b>	The Act has provisions for all matters related to explosives	Existence of boulders or rocky in some of the project areas is likely to require blasting for preparation sites for construction works. These blasting operations will have to be planned, carried out and supervised by a licensed blaster. The contractor will have to prepare Method Statement and Health and Safety Plan for Blasting works
<b>The Electricity Act of 2008</b>	The Act is primary legislation for generating, transmitting, and distributing electricity power in Tanzania. The Act also provides guidance on provision for free use of wayleave for other infrastructures for the purpose of laying water pipelines	Water pipelines are expected to either cross high-tension wayleaves or use powerline wayleaves of which permission from TANESCO will be required
<b>The Standard Act 2009</b>	An Act to provide for the promotion of the standardization of specifications of commodities and services including water quality and effluent discharge standards	Treated water from new Farkwa WTP must comply with water quality standards established by TBS
<b>EWURA Act – R.E 2006 (Amendment 2022).</b>	The Act provides for the resolution of disputes in relation to regulated services	Water tariffs must be applied to EWURA for approval

Legislation	Description	Applicability to the Project
	and goods, including the supply of water and sewerage services.	
<b>Environmental Management (Soil Quality Standards) Regulations (2007)</b>	The Regulation has provisions to ensure main polluting activity and discharge effluent are prevented from contaminating soils or subsoil	The Project will ensure main polluting activities are prevented from contaminating soils or subsoil.
<b>Environmental Management Act (EMA), Cap 191 (Sections 61, 62, 123 -129) - Management of Wastewater &amp; Ambient Water quality</b>	The Act provides provision for discharge of sewage and management of liquid wastes including storm water	The project will adhere to provisions of proper management of sanitation facilities and liquid wastes during construction period
<b>Management of Land Use: The Constitution of the United Republic of Tanzania Cap 2 (1977); National Land Policy (1997); Land Act, Cap 113 (R.E 2019); Land Acquisition Act, Cap. 118 (R.E 2019); The Village Land Act Cap. 114 (R.E 2019); Urban Planning Act No.8 (2007); Land Use Planning Act No. 6 (2007); Land (Assessment of the Value of Land for Compensation) Regulations (2001); Land (Compensation Claims) Regulations (2001); Courts (Land Disputes Settlements) Act, Cap. 216 (2002).</b>	These laws and regulations govern the use of land and other assets in urban and rural areas including property and land rights, acquisition of land and other assets, rights and compensation, and dispute resolution and grievance mechanisms.	The project will comply with these laws and regulations because it involves land acquisition and compensation procedures
<b>Employment and Labour Relations Cap. 366 (R.E 2019)</b>	Among other provisions the Act contains measures to tackle the intimidation of workers and set minimum standards that all employers should treat their employees with or above the minimum standards (contracts, working time, wages and termination). It also has provisions for fundamental rights and protections such as prohibition of child	The Project involves hiring of both skilled and unskilled workers and it will comply with applicable national laws with regard to employment and labor relations

Legislation	Description	Applicability to the Project
	labor, forced labor and discrimination.	
<b>Management of Public / Occupation Health &amp; Safety: Occupational Health &amp; Safety Act No. 5 (2003); Employment &amp; Labor Relation Act Cap. 366 (2004); National Policy on HIV/AIDS (2001); The HIV &amp; Aids (Prevention &amp; Control) No. 28 (2008); Law of the Child Act No. 21 (2009); &amp; Disabilities Act No. 9 (2010).</b>	The Acts make provisions for safety, health and welfare of persons at work places and general public. Sub-project ESMP will incorporate measures that ensure employment opportunities to all while protecting right of children and people with disabilities and control of STDs and HIV infections.	The project will incorporate measures to ensure employment opportunities to all while protecting rights of children and people with disabilities and control of sexually transmitted diseases (STDs) and HIV infections.
<b>Occupational Safety &amp; Health Act, No.5 (2003)</b>	The Act make provisions for securing the safety, health and welfare of person at work; it protects others against risks to safety or health in connection with the activities of persons at work.	The project will incorporate OSHA requirements and standards for the effective control of health and safety risks at the various work places during construction and during operation phases
<b>Public Health Act, Cap 336 (2009)</b>	This Act makes provision with respect to matters of public health including control of (communicable) diseases, water pollution in ports, control of mosquitoes, sanitation, solid, liquid and hazardous waste management, control of gasses, sanitary control and quarantine in ports, sewerage and drainage, food safety and hygiene and supply of safe water.	The project will set aside and manage areas in respect of solid and liquid wastes from all sources and ensure that the project infrastructures and facilities operate as per these requirements. In addition, the project provides for supply of safe water to communities
<b>The Contractors Registration (Amendment) Act (2008)</b>	The Act provide provisions for effective regulation of activities and maintenance of professional conduct and integrity of contractors and for related matters. Sub-section 22(4) prohibits an employer or developer from engaging unregistered firms or persons.	The project will require engagement of contractor during construction. The project proponent will comply with the requirement of the Act by employing only a qualified and registered contractor.
<b>The Engineers Registration (Amendments) Act (2007)</b>	The Act prohibit under Sub-section (1) any person from employing as an engineer any person who is not a professional engineer or consulting engineer, or causing to undertake	The project will require services of engineers during construction. In this regard, the project proponent will ensure only qualified professional



Legislation	Description	Applicability to the Project
	<p>engineering works or services without employing the services of a professional engineer or consulting engineer.</p> <p>The Act also prohibit under Sub-section (2) prohibits any person from taking up or continuing in any employment as an engineer, or carrying out engineering works or services, unless he is a professional engineer or consulting engineer.</p>	engineers are employed.
<b>Management of Physical Cultural Resources: The Antiquities Act (1964)</b>	Under this law, the following categories of the cultural property are recognized and protected: relics, monuments, protected objects, conservation areas and ethnographic objects. Under the Act, the minister responsible for cultural heritage is empowered to declare any object, structure or area which is of archeological, historical, cultural or scientific significance a protected object or monument.	<p>Project screening has been conducted during planning stage to ensure that cultural resources are identified and appropriate measures to be taken to avoid damaging them.</p> <p>These measures will also be incorporated into civil works contracts to avoid damage to cultural resources, such as “sacred” forests and graveyards.</p>
<b>Graves (Removal) Act No 9 of 1969</b>	Subject to the provisions of this Act, where any land on which a grave is situated is required for a public purpose the Minister may cause such grave and any dead body buried therein to be removed from the land and, in such case, shall take all such steps as may be requisite or convenient for the re-instatement of the grave and the re-interment of the dead body in a place approved by him for the purpose.	The project pipeline is expected to pass through some pieces of land on which graves may be present. The project will ensure that all graves are identified during project planning, and appropriate measures to be taken as per Act
<b>The Tanzania Land Acquisition Act No. 47 of 1967</b>	The act provides the legal framework for the government or its agents to acquire land for public purposes, including infrastructure projects like roads, water systems, and utilities. The Act outlines the processes for acquiring land, notifying landowners, assessing compensation, and resolving disputes.	This Act sets guides to acquire land necessary for infrastructure such as reservoirs, pipelines, and treatment plants, ensuring that land acquisition is carried out legally and fairly.

### International Agreements and Conventions

Tanzania is a party to numerous International Agreements related to E&S management, including:



**Table 3-3: International Agreements related to E&S management**

Convention/Agreement	Relevance to DRSWDSP
Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal (1989)	The Basel Convention aims to minimize the generation of hazardous waste and ensure its environmentally sound management. DRSWDSP can align with this by ensuring safe disposal and management of waste, including hazardous materials, within water treatment and sanitation processes.
Convention for the Protection of the World Cultural and Natural Heritage, Paris (1972)	This convention focuses on preserving cultural and natural heritage sites. DRSWDSP can contribute by ensuring that water development projects do not harm cultural or environmental heritage sites and promote their protection while enhancing local water access.
Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and their Destruction, London (1972)	Although this convention primarily addresses biological weapons, it has relevance to sanitation and public health. DRSWDSP can support the prevention of biological contamination in water sources and ensure safe water hygiene practices to protect public health.
Convention on Biological Diversity (1992)	This convention promotes the conservation of biodiversity, which is critical for the ecosystems that water projects rely on. DRSWDSP must ensure that water development efforts do not negatively impact local biodiversity and ecosystems in the Dodoma region.
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES, 1973)	CITES focuses on protecting endangered species. The DRSWDSP can incorporate measures to ensure that water development and sanitation projects do not negatively affect species and ecosystems in the region, especially when building infrastructure near habitats.
Convention on the Ban of the Import into Africa and the Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa, Bamako, Mali (1991)	This convention focuses on the management of hazardous waste in Africa. DRSWDSP could support regional efforts by ensuring that waste from water development and sanitation projects is managed in line with this agreement to

Convention/Agreement	Relevance to DRSWDSP
	avoid environmental harm.
United Nations Convention to Combat Desertification in Countries Experiencing Serious Drought and/or Desertification, particularly in Africa (1994)	Desertification is an issue in many regions of Africa, including Dodoma. DRSWDSP can promote sustainable water management and restoration of land, ensuring water systems are resilient in areas prone to drought and desertification.
Lusaka Agreement on Co-operative Enforcement Operations Directed at Illegal Trade in Wild Fauna and Flora (1994)	While this agreement focuses on combating illegal wildlife trade, it can be linked to DRSWDSP by encouraging responsible land and water management, ensuring that water projects do not encourage or facilitate illegal wildlife activities.
Montreal Protocol on Substances that Deplete the Ozone Layer (1987)	The Montreal Protocol aims to protect the ozone layer by phasing out substances that deplete it. DRSWDSP can align with this goal by using technologies and materials in water development that are environmentally friendly and do not contribute to ozone depletion.
Phyto-Sanitary Convention for Africa, Kinshasa (1967)	This convention promotes plant health and the protection of agriculture. DRSWDSP can contribute by ensuring that water management practices do not negatively affect agricultural water use and are aligned with sustainable practices that protect crops and plant health.
United Nations Convention on the Law of the Sea (1982)	Although primarily concerned with marine environments, this convention establishes principles for managing transboundary water resources. DRSWDSP can align by ensuring that the management of water resources in Dodoma considers the broader regional and international frameworks for sustainable water use.
United Nations Framework Convention on Climate Change (1983)	The UNFCCC addresses climate change, which impacts water resources. DRSWDSP must address climate resilience by planning water infrastructure and sanitation projects that can withstand climate-induced challenges such as droughts and

Convention/Agreement	Relevance to DRSWDSP
	floods.
Vienna Convention for the Protection of the Ozone Layer	Similar to the Montreal Protocol, this convention focuses on protecting the ozone layer. DRSWDSP can avoid using ozone-depleting substances in water infrastructure projects and focus on sustainable, eco-friendly technologies.
Nile Basin Commission	Although primarily focused on the Nile Basin, the commission's principles of shared water resources management can guide DRSWDSP in ensuring fair and sustainable management of water resources.
Protocol for Sustainable Development of Lake Victoria Basin Commission (2003)	This protocol focuses on the sustainable use of water resources in the Lake Victoria Basin. While not directly related to Dodoma, DRSWDSP can benefit from the protocol's principles by adopting sustainable water management practices that protect ecosystems and ensure equitable access to water.

### 3.3 Institutional Framework

A summary of the institutional and administrative framework through which this Project will be implemented is presented in the table 3-3 below. The institutional framework includes all relevant governmental institutions responsible for enforcing compliance of the Project with national standards in their respective areas of specialization.

**Table 3-4: Institutional Framework for the Proposed Project**

Institution	Stakeholders	Roles in the Project
Central Government	Ministry of Water (MoW)	<ul style="list-style-type: none"> <li>• Providing Policy, Institutional and legal framework of Water Resources Management and Water Supply and Sanitation;</li> <li>• Project Implementing Agency (PIA);</li> <li>• Overseer of the project undertakings;</li> <li>• Oversee the execution of the construction and direct implementation of ESMP, RAP and stakeholder engagements</li> <li>• Responsible for RAP implementation</li> <li>• Ensure compliance with E&amp;S standards</li> </ul>

Institution	Stakeholders	Roles in the Project
	Vice President's Office - (Division of Environment, DoE)	<ul style="list-style-type: none"> <li>Coordinates Environmental Management Policy, Act &amp; EIA Guidelines</li> <li>Issuing of Environmental Certificate</li> </ul>
	Prime Minister's Office (Labour, Youth, Employment and Persons with Disability)	<ul style="list-style-type: none"> <li>Issuance of work permits for foreign experts</li> <li>Ensure labour law is adhered during Recruitment, deployment and retrenchment of workers</li> </ul>
	Ministry of Land, Housing and Human Settlements	<ul style="list-style-type: none"> <li>Responsible for providing regulatory guidelines on land acquisition and resettlement processes in implementing the project</li> </ul>
	Ministry of Finance	<ul style="list-style-type: none"> <li>Provide oversight and control of disbursement project funds to the implementing agency</li> <li>Enabler in controlling of disbursement of project and financial management of the project</li> <li>Overseer of the project undertakings pertinent to funding.</li> <li>Custodian of the Project Credit Facility Agreement (CFA) on behalf of the Government.</li> </ul>
Local Government	Dodoma Regional Secretariat	<ul style="list-style-type: none"> <li>Responsible for co-ordination of all advise on environmental management in Dodoma Region and liaison with the Director of environment and the Director General of NEMC on the implementation and enforcement of the Environment Management Act No. 20 of 2004</li> </ul>
	Dodoma City Director and District Executive Directors for Chemba; Bahi and Chamwino	<ul style="list-style-type: none"> <li>Responsible for proper management of the environment in City and Districts;</li> <li>Chief executive officer for development activities in municipality and district levels;</li> <li>Land use approval;</li> <li>Oversee enforcement of laws and regulations;</li> <li>Land use planning at municipality and districts level;</li> <li>Overseer of engineering activities in the municipality and district levels.</li> </ul>
	Ward Executive Officers in Dodoma City, Bahi, Chemba and Chamwino districts	<ul style="list-style-type: none"> <li>Ensure proper management of environment issues within their wards</li> <li>Coordinate all activities towards protection of the environment within their wards</li> <li>Local leadership representing persons directly and indirectly within the vicinity of proposed projects</li> </ul>

Institution	Stakeholders	Roles in the Project
		<ul style="list-style-type: none"> <li>Oversee general development plans for ward level</li> <li>Provide information on local conditions and extension services</li> <li>Project monitoring in their area of jurisdiction</li> <li>Participate in operationalisation of GRM and ESMP</li> </ul>
Ward Level	Community members	<ul style="list-style-type: none"> <li>Persons directly and indirectly within the vicinity of proposed project areas who will be impacted either positively or negatively</li> <li>Participate in operationalisation of GRM and ESMP</li> <li>Project beneficiaries</li> </ul>
Government Institutions/Agencies	National Environment Management Council (NEMC)	<ul style="list-style-type: none"> <li>Enforcement of the EMA and its Regulations</li> <li>Review of ESIA</li> <li>Issuance of environmental certificate</li> <li>Environmental monitoring &amp; compliance auditing</li> <li>Advise Government on all environmental matters</li> </ul>
	DUWASA	<ul style="list-style-type: none"> <li>Project beneficiary</li> <li>Responsible for urban water supply in urban centres of Dodoma town</li> </ul>
	TANESCO	<ul style="list-style-type: none"> <li>Regulator of electricity transmission and owner of transmission lines</li> <li>Give advice to the project developer and contractors regarding power installations</li> <li>Provide power supply to the project facilities transformers etc.</li> </ul>
	Tanzania National Roads Agency (TANROADS)	<ul style="list-style-type: none"> <li>Responsible for developing and maintaining trunk and regional roads network</li> <li>Issue permits for the use of trunk and regional road reserves falling under TANROADS jurisdiction</li> <li>Responsible for providing permits for the project to use road reserves in trunk/regional roads</li> </ul>
	Wami Ruvu Basin Water Board	<ul style="list-style-type: none"> <li>Ensure that water resources are managed sustainably through water governance and integrated water resources management principles</li> <li>Collect water resources data and monitor its use and quality</li> <li>Processing and granting of water use permits</li> </ul>

Institution	Stakeholders	Roles in the Project
		<ul style="list-style-type: none"> <li>• Pollution monitoring and control</li> <li>• Prepare and implement Integrated Water Resources Management Plan</li> </ul>
	Energy and Water Utilities Regulatory Authority (EWURA)	<ul style="list-style-type: none"> <li>• Regulator of the electricity, petroleum, natural gas and water sectors, including licensing, tariff and standard setting in respect to water supply and sanitation</li> <li>• Monitor water quality and standards of performance for the provision of water supply and sanitation services</li> <li>• Promote the development of water supply and sanitation services in accordance with recognized international standard practices and public demand</li> </ul>
	Tanzania Bureau of Standards (TBS)	<ul style="list-style-type: none"> <li>• The Tanzania Bureau of Standards (TBS) is the designated national authority for the development and review of standards which include water quality and effluent discharge standards, among others.</li> <li>• The water quality standards (TBS- TZS 789) is among the compulsory environmental standards which has been developed as part of the TBS' National Environmental Standards Compendium (NESC).</li> <li>• The implementation and compliance to water quality standards by TBS (TZS 789) stand to be a mandatory requirement for all Water Supply and Sanitation Authorities including DUWASA.</li> </ul>
	Tanzania Rural and Urban Roads Agency (TARURA)	<ul style="list-style-type: none"> <li>• Responsible for developing and maintaining rural and urban roads network</li> <li>• Issue permits for the use of Rural and urban road reserves falling under TARURA jurisdiction</li> <li>• Responsible for providing permits for the project to use road reserves in rural/urban roads</li> </ul>
	Tanzania Railways Corporation (TRC)	<ul style="list-style-type: none"> <li>• Provider of rail transport services and manage rail infrastructure</li> <li>• Railway reserve areas fall under TRC jurisdiction</li> <li>• Responsible for providing permits for the project to use rail reserve areas</li> </ul>
	The Occupational Safety and Health Agency (OSHA)	<ul style="list-style-type: none"> <li>• Responsible organ for labour management issues including OHS</li> <li>• Follow up on occupational health &amp;</li> </ul>

Institution	Stakeholders	Roles in the Project
		safety issues <ul style="list-style-type: none"> <li>Advise the contractors regarding national OHS requirements</li> <li>Responsible for providing permits for the easements for water pipeline to pass through OSHA land</li> </ul>
	Tanzania Police Force (TPF)	<ul style="list-style-type: none"> <li>Responsible for providing permits for the easements for water pipeline to pass through TPF land</li> </ul>
	Tanzania Peoples Defence Force (TPDF)	<ul style="list-style-type: none"> <li>Owner of land at Ihumwa where Ihumwa reservoir will be constructed</li> <li>Responsible for providing permits for MoW to use Ihumwa land for construction of reservoir</li> </ul>
	Tanzania Forest Services Agency (TFS)	<ul style="list-style-type: none"> <li>Responsible for conservation of forests and bee resources in Tanzania;</li> <li>Balance the socio-economic needs of local communities to safeguard Tanzania's forests;</li> <li>Responsible for implementation of forestry policies in Tanzania;</li> <li>Responsible for mitigation of deforestation, promote reforestation initiatives, and foster responsible forest utilization practices;</li> <li>Owner of Land at Zamahero located at Chinene Forest Reserve where Zahahero reservoir will be constructed;</li> <li>Responsible for providing permits for MoW to use part of Chinene Forest Reserve land for construction of reservoir</li> </ul>
	University of Dodoma (UDOM)	<ul style="list-style-type: none"> <li>Owner of land parcel where conveyance system will pass</li> <li>Responsible for providing permits for the easements for water pipeline to pass through UDOM land</li> </ul>
African Development Bank (AfDB)	Development Partner/Funding Institution	<ul style="list-style-type: none"> <li>Funding institution</li> <li>Ensure that funds are available for completion of the Project</li> <li>Monitor project implementation including E&amp;S performance</li> </ul>
Institution	Stakeholders	Roles in the Project
Central Government	Ministry of Water (MoW)	<ul style="list-style-type: none"> <li>Providing Policy, Institutional and legal framework of Water Resources Management and Water Supply and Sanitation;</li> <li>Project Implementing Agency (PIA);</li> </ul>



Institution	Stakeholders	Roles in the Project
		<ul style="list-style-type: none"> <li>• Overseer of the project undertakings;</li> <li>• Oversee the execution of the construction and direct implementation of ESMP, RAP and stakeholder engagements</li> <li>• Responsible for RAP implementation</li> <li>• Ensure compliance with E&amp;S standards</li> </ul>
	Vice President's Office - (Division of Environment, DoE)	<ul style="list-style-type: none"> <li>• Coordinates Environmental Management Policy, Act &amp; EIA Guidelines</li> <li>• Issuing of Environmental Certificate</li> </ul>
	Prime Minister's Office (Labour, Youth, Employment and Persons with Disability)	<ul style="list-style-type: none"> <li>• Issuance of work permits for foreign experts</li> <li>• Ensure labour law is adhered during Recruitment, deployment and retrenchment of workers</li> </ul>
	Ministry of Land, Housing and Human Settlements	<ul style="list-style-type: none"> <li>• Responsible for providing regulatory guidelines on land acquisition and resettlement processes in implementing the project</li> </ul>
	Ministry of Finance	<ul style="list-style-type: none"> <li>• Provide oversight and control of disbursement project funds to the implementing agency</li> <li>• Enabler in controlling of disbursement of project and financial management of the project</li> <li>• Overseer of the project undertakings pertinent to funding.</li> <li>• Custodian of the Project Credit Facility Agreement (CFA) on behalf of the Government.</li> </ul>
Local Government	Dodoma Regional Secretariat	<ul style="list-style-type: none"> <li>• Responsible for co-ordination of all advise on environmental management in Dodoma Region and liaison with the Director of environment and the Director General of NEMC on the implementation and enforcement of the Environment Management Act No. 20 of 2004</li> </ul>
	Dodoma City Director and District Executive Directors for Chemba; Bahi and Chamwino	<ul style="list-style-type: none"> <li>• Responsible for proper management of the environment in City and Districts;</li> <li>• Chief executive officer for development activities in municipality and district levels;</li> <li>• Land use approval;</li> <li>• Oversee enforcement of laws and regulations;</li> <li>• Land use planning at municipality and districts level;</li> <li>• Overseer of engineering activities in the municipality and district levels.</li> </ul>

Institution	Stakeholders	Roles in the Project
	Ward Executive Officers in Dodoma City, Bahi, Chemba and Chamwino districts	<ul style="list-style-type: none"> <li>• Ensure proper management of environment issues within their wards</li> <li>• Coordinate all activities towards protection of the environment within their wards</li> <li>• Local leadership representing persons directly and indirectly within the vicinity of proposed projects</li> <li>• Oversee general development plans for ward level</li> <li>• Provide information on local conditions and extension services</li> <li>• Project monitoring in their area of jurisdiction</li> <li>• Participate in operationalisation of GRM and ESMP</li> </ul>
Ward Level	Community members	<ul style="list-style-type: none"> <li>• Persons directly and indirectly within the vicinity of proposed project areas who will be impacted either positively or negatively</li> <li>• Participate in operationalisation of GRM and ESMP</li> <li>• Project beneficiaries</li> </ul>
Government Institutions/Agencies	National Environment Management Council (NEMC)	<ul style="list-style-type: none"> <li>• Enforcement of the EMA and its Regulations</li> <li>• Review of ESIA</li> <li>• Issuance of environmental certificate</li> <li>• Environmental monitoring &amp; compliance auditing</li> <li>• Advise Government on all environmental matters</li> </ul>
	DUWASA	<ul style="list-style-type: none"> <li>• Project beneficiary</li> <li>• Responsible for urban water supply in urban centres of Dodoma town</li> </ul>
	RUWASA	<ul style="list-style-type: none"> <li>• Project beneficiaries</li> <li>• Responsible for rural water supply</li> <li>• Responsible for planning, construction and supervision of water supply and sanitation at the local level</li> </ul>
	TANESCO	<ul style="list-style-type: none"> <li>• Regulator of electricity transmission and owner of transmission lines</li> <li>• Give advice to the project developer and contractors regarding power installations</li> <li>• Provide power supply to the project facilities transformers etc.</li> </ul>
	Tanzania National Roads Agency (TANROADS)	<ul style="list-style-type: none"> <li>• Responsible for developing and maintaining trunk and regional roads network</li> <li>• Issue permits for the use of trunk and</li> </ul>

Institution	Stakeholders	Roles in the Project
		<p>regional road reserves falling under TANROADS jurisdiction</p> <ul style="list-style-type: none"> <li>• Responsible for providing permits for the project to use road reserves in trunk/regional roads</li> </ul>
	Wami Ruvu Basin Water Board	<ul style="list-style-type: none"> <li>• Ensure that water resources are managed sustainably through water governance and integrated water resources management principles</li> <li>• Collect water resources data and monitor its use and quality</li> <li>• Processing and granting of water use permits</li> <li>• Pollution monitoring and control</li> <li>• Prepare and implement Integrated Water Resources Management Plan</li> </ul>
	Internal Drainage Water Basin Board	<ul style="list-style-type: none"> <li>• Ensure that water resources are managed sustainably through water governance and integrated water resources management principles</li> <li>• Collect water resources data and monitor its use and quality</li> <li>• Processing and granting of water use permits</li> <li>• Pollution monitoring and control</li> <li>• Prepare and implement Integrated Water Resources Management Plan</li> </ul>
	Energy and Water Utilities Regulatory Authority (EWURA)	<ul style="list-style-type: none"> <li>• Regulator of the electricity, petroleum, natural gas and water sectors, including licensing, tariff and standard setting in respect to water supply and sanitation</li> <li>• Monitor water quality and standards of performance for the provision of water supply and sanitation services</li> <li>• Promote the development of water supply and sanitation services in accordance with recognized international standard practices and public demand</li> </ul>
	Tanzania Bureau of Standards (TBS)	<ul style="list-style-type: none"> <li>• The Tanzania Bureau of Standards (TBS) is the designated national authority for the development and review of standards which include water quality and effluent discharge standards, among others.</li> <li>• The water quality standards (TBS- TZS 789) is among the compulsory environmental standards which has been developed as part of the TBS' National Environmental Standards Compendium (NESC).</li> </ul>

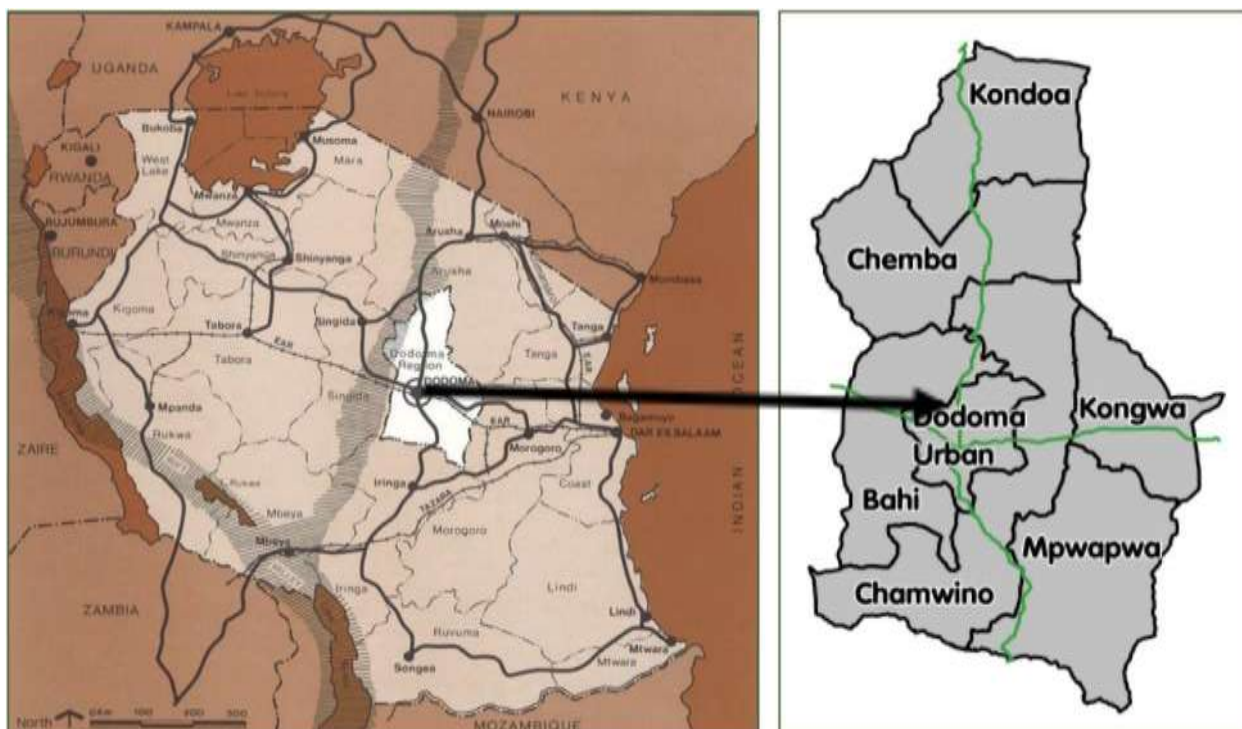
Institution	Stakeholders	Roles in the Project
		<ul style="list-style-type: none"> <li>The implementation and compliance to water quality standards by TBS (TZS 789) stand to be a mandatory requirement for all Water Supply and Sanitation Authorities including DUWASA.</li> </ul>
	Tanzania Rural and Urban Roads Agency (TARURA)	<ul style="list-style-type: none"> <li>Responsible for developing and maintaining rural and urban roads network</li> <li>Issue permits for the use of Rural and urban road reserves falling under TARURA jurisdiction</li> <li>Responsible for providing permits for the project to use road reserves in rural/urban roads</li> </ul>
	Tanzania Railways Corporation (TRC)	<ul style="list-style-type: none"> <li>Provider of rail transport services and manage rail infrastructure</li> <li>Railway reserve areas fall under TRC jurisdiction</li> <li>Responsible for providing permits for the project to use rail reserve areas</li> </ul>
	The Occupational Safety and Health Agency (OSHA)	<ul style="list-style-type: none"> <li>Responsible organ for labour management issues including OHS</li> <li>Follow up on occupational health &amp; safety issues</li> <li>Advise the contractors regarding national OHS requirements</li> <li>Responsible for providing permits for the easements for water pipeline to pass through OSHA land</li> </ul>
	Tanzania Police Force (TPF)	<ul style="list-style-type: none"> <li>Responsible for providing permits for the easements for water pipeline to pass through TPF land</li> </ul>
	Tanzania Peoples Defence Force (TPDF)	<ul style="list-style-type: none"> <li>Owner of land at Ihumwa where Ihumwa reservoir will be constructed</li> <li>Responsible for providing permits for MoW to use Ihumwa land for construction of reservoir</li> </ul>
	Tanzania Forest Services Agency (TFS)	<ul style="list-style-type: none"> <li>Responsible for conservation of forests and bee resources in Tanzania;</li> <li>Balance the socio-economic needs of local communities to safeguard Tanzania's forests;</li> <li>Responsible for implementation of forestry policies in Tanzania;</li> <li>Responsible for mitigation of deforestation, promote reforestation initiatives, and foster responsible forest utilization practices;</li> <li>Owner of Land at Zamahero located at Chinene Forest Reserve where Zahahero</li> </ul>

Institution	Stakeholders	Roles in the Project
		reservoir will be constructed; <ul style="list-style-type: none"> <li>• Responsible for providing permits for MoW to use part of Chinene Forest Reserve land for construction of reservoir</li> </ul>
	University of Dodoma (UDOM)	<ul style="list-style-type: none"> <li>• Owner of land parcel where conveyance system will pass</li> <li>• Responsible for providing permits for the easements for water pipeline to pass through UDOM land</li> </ul>
African Development Bank (AfDB)	Development Partner/Funding Institution	<ul style="list-style-type: none"> <li>• Funding institution</li> <li>• Ensure that funds are available for completion of the Project</li> <li>• Monitor project implementation including E&amp;S performance</li> </ul>

## 4. BASELINE CONDITIONS

### 4.1 Location, Geographical Settings and Administration

Dodoma region is centrally positioned in Tanzania mainland. The region lies between latitude 4° and 7° (degrees) South Latitude and 35° - 37° (degrees) East Longitude. Four regions border Dodoma regions as follows: To the north, Dodoma region shares borders with Arusha and to the East with Morogoro region. In the south it shares borders with Iringa region and to the west, it shares borders with Singida region. Much of the region is plateau rising gradually from some 830 meters in Bahi swamps to 2,000 meters above sea level in the highlands North of Kondoa.



**Figure 4-1: Dodoma Administrative Units**

The Region has about 413,110 hectares or 2.5 percent of Tanzania Mainland land area 885,987 square Kilometres. The distribution of the region's area among the districts is heavily in favour of Chamwino DC (19.5 percent) and Chemba DC (18.5 percent) followed by Mpwapwa DC (18.1 percent), Bahi DC (14.4 percent), Kondoa DC (13.5 percent), Kondoa TC (1.1 percent) Kongwa DC (9.8 percent) and last Dodoma CC (6.2 percent).

Administratively, the Region is divided into seven Districts (Kondoa, Chemba, Bahi, Dodoma, Chamwino, Kongwa and Mpwapwa), Eight Local Government Authorities, 29 Divisions, 209 Wards, 607 Villages, 181 Streets and 2,184 hamlets. While Kondoa District comprises of Kondoa Town Council and Kondoa District Council other districts have one Council each.

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## **4.2 Physical and Biological Environment**

### **Topography**

The Dodoma region is characterized by broad upland plains. The Plains shelf gently down to mbuga swamps and separated by ranges of hills and punctuated by inselbergs, prominent, isolated rock outcrops. The Dodoma hills rise about 400 metres above the general level of plains. They are of great charm, with gentle valleys dividing them, such as Ntyuka and Ruaha valleys. Bounding the northerly plain to the North east are the more mountainous Hombolo Hills, rising 900 meters above the plain.

### **Geology**

Most of the Dodoma region is underlain by intrusive Basement Complex rocks, mainly granites. The granites outcrop in scattered inselbergs, mainly in Dodoma Hills south of Dodoma and in the Chenene mountains in the north. The most common granitic rocks are grey, nonschistose and rarely porphyritic granites.

The Basement Complex rocks are covered by a mantle of loose or cemented superficial deposits, of alluvial, colluvial and residual origin and Tertiary. The cemented superficial deposits include argillaceous or calcareous "cements". The argillaceous "cements" have a high clay content and are characteristically very hard and compact when dry, but soft when moist. They underlie large parts of the project area and occur usually on the transition from hillslopes to lowland plains.

### **Soil and Vegetation**

The region is covered by clay soil, black soil, sandy and loamy soils. These soils have favoured the growth of various crops such as maize, sorghum, millet, pigeon peas, cassava, groundnuts, sunflower, paddy, sweet potatoes and sesame. The large part of the region is occupied by Savana type of vegetation with bush thickets, scattered grasslands and forests on hilly areas.

In their natural state, the plains are marked by open grassland with little or no tree or bush cover. Due to the erratic nature of the rains and strong radiant heat of the sun, much of the grass is sparse, except in the low-lying areas. Most common, however, are wooded grassland and bush land with thickets. These types of ground cover represent the majority in Dodoma area. In many areas they are typified by groups of enormous baobab trees. The bush tends to be leafless and drab in the dry season, but springs to luxuriant life during the rains when the whole countryside turns a brilliant green. Woodlands form the remainder of the area, with the heaviest concentrations on the hills of the region

### **Seismicity**

The seismicity of the eastern Africa is related to the tectonics of the region controlled by the East African Rift System (EARS). The pumping station and WTP is located in the vicinity of the Eastern Branch of the EARS, which is reputed to be the most extensive and currently active zone of continental rifting. The Eastern Branch reaches North Tanzania where it forms the



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North Tanzania Divergence. Near Arusha, it splits into three segments, one of which heads southwards through the Lake Manyara and further towards Dodoma.

In the area of Dodoma, seven active faults are considered related to the EARS tectonics. Among them, the Bubu Fault is credited with the highest estimated maximum magnitudes. It is also the closest to the project area. The seismic hazard assessment concluded that the Bubu Fault is seismogenic and its co-seismic rupture during the lifetime of the scheme's structures cannot be ruled out. The reference earthquake is the Mw 7.2 generated on the northern Bubu Fault segments.

### **Temperature**

The temperature in the region varies according to altitude but generally range from about 15°C in July to 30°C during the month of October. Moreover, temperature differences are observed between day and night and may be very high with hot afternoons going up to 35°C and chilly nights going down to 10°C.

### **Rainfall**

Dodoma Region is mostly Semi-arid due to low and erratic rainfall. Rainfall is the most important climatic factor in the region. It falls in a single rainy season between November/December and April/May. Generally, these rains fall in heavy storms resulting in flash floods. Consequently, about 60 percent of the precipitation becomes run-off rather than penetrating the soil for crop growth. Total rainfall ranges from 500mm to 800mm per annum with high geographical, seasonal and annual variation. Rainfall is slightly higher in the upper parts of the catchment (Mbulu Highlands). The region experiences often severe droughts due to consecutive years with below average rainfall with dramatic consequences for human activities, natural vegetation and groundwater recharge. Rainfall in Dodoma region is not only low but it is rather unpredictable in frequency and amount, particularly in the month of January in which most crops are generally sown.

### **Hydrology**

The Bubu River Basin is the major catchment within the Bahi Swamp drainage basin (Figure 4.2). It is part of the central Tanzania internal drainage system. This area, also called Internal Drainage Basin (IDB), is the second largest basin of the country after Rufiji River Basin with an area of about 143,100 km<sup>2</sup>. The Bubu River Basin is the major catchment within the Bahi Swamp drainage basin. The Bubu River takes its source from the Mbulu Plateau on the border between Arusha and Manyara regions. All rivers within Arusha and Manyara Border flow into Lake Manyara

The catchment area of the Bubu River Basin is about 12,660 km<sup>2</sup> as recorded in a technical note of hydrology of the Bahi wetland. It represents 54% of the total catchment area of the Bahi Swamp. The official river gauge inventory of the MoW indicates 13,161 km<sup>2</sup> to the river gauge at Bahi (station ID 2R4) on the shore of the Swamp. This discrepancy is mostly due to the flat topography of the catchment, which makes the definition of the drainage system difficult.



(39,447 hectares), forest reserves (30,046 hectares), open land (11,362 hectares) and urban area covers 39,492 Hectares.

## **Population**

According to 2022 Population and Housing Census report, Dodoma region had a total population of 3,085,625 of whom 1,512,760 were male and 1,572,865 females. In terms of households, the Dodoma region had a total of 757,821 households with average household size of 4.1. Table 4-1 gives a summary of 2022 Population and Housing Census report in Dodoma region.

**Table 4-1: Summary of 2022 Population and Housing Census in Dodoma Region**

Region/Council	Population			Sex Ratio	Number of Households	Average Household Size
	Both Sexes	Male	Female			
<b>Dodoma Region</b>	<b>3,085,625</b>	<b>1,512,760</b>	<b>1,572,865</b>	<b>96</b>	<b>757,821</b>	<b>4.1</b>
1. Kondoa District	244,854	124,379	120,475	103	52,677	4.6
2. Kondoa Town	80,443	40,153	40,290	100	20,396	3.9
3. Mpwapwa District	403,247	196,466	206,781	95	99,003	4.1
4. Kongwa District	443,867	214,475	229,392	93	101,761	4.4
5. Chamwino District	486,176	236,583	249,593	95	118,812	4.1
6. Dodoma City	765,179	373,440	391,739	95	214,330	3.6
7. Bahi District	322,526	156,427	166,099	94	75,792	4.3
8. Chemba District	339,333	170,837	168,496	101	75,050	4.5

Source: National Bureau of Statistics, 2022

## **Ethnic Groups and Culture**

Dodoma, a culturally diverse region in Tanzania, is home to several ethnic groups, including the Gogo, Rangi, and Sandawe. Traditional practices such as polygamy, extended family structures, and male dominated decision-making play a significant role in the region's social dynamics.

The region's most spoken languages are Swahili, Gogo, Sandawe, Rangi, and other local dialects. The indigenous people commonly eat Ugali (a stiff porridge) paired with dried green vegetables and milk in some families. For the Gogo and Sandawe communities, Mlenda (dried wild vegetables) is a staple food, collected during the wet season and stored for future use.

The four districts of Chemba, Bahi, Dodoma City, and Chamwino are predominantly inhabited by these tribes. The Sandawe, once one of Tanzania's recognized indigenous tribes, have experienced significant cultural change. Their traditional lifestyle has evolved due to factors such as interactions with other tribes, the adoption of agriculture, and increased business activities. Many now live in permanent settlements while maintaining their unique language.

A notable cultural shift is the growing preference for Swahili among younger generations, with children increasingly speaking Swahili over their native languages, including Sandawe. This shift reflects a blend of tradition and modernity in the region.

During the survey, the consultant observed majority of ethnic group present in Project Areas is Sandawe who are recognized as indigenous tribes. Furthermore, the Consultant observed that

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the Sandawe in Project Areas has undergone significant societal transformations and adaptations in response to modernization including shifts in economic and social spheres. Consultant engaged with this group in Project Areas to gather and collect their opinion and views for the proposed project. The concern and views are presented in Chapter 5 of this report.

### **Economic Activities**

Dodoma region is characterized with mixed economy that of agriculture, livestock keeping, mining, tourism, industrial activities, office work and trading.

#### **Cash crops**

Dodoma Region is found in the Central Plateau zone, which is famous for production of fruits such as grapes, mango, papaya, guava, baobab, tamarind and dates. Among the fruits produced, grape is the major cash crop produced by farmers. In addition, grape production is the mainstay for many farmers in Dodoma City and the nearby districts of Chamwino and Bahi. About 70 percent of grapes in the region are produced in Dodoma City. Chamwino and Bahi produce 30 percent. Grape production in Dodoma is dominated by smallholder farmers, who produce grapes in their own farms.

Sunflower and groundnuts as oil seeds are also used as income generating cash crops in Dodoma. The two cash crops are produced in all districts of the region even though they are produced on a small-scale level.

#### **Staple food crops**

The major staples food crops produced in Dodoma include maize, sorghum, millet, rice, pulses (mainly pigeon peas), cassava, potatoes, bananas and plantains in some areas. The region falls under the Central zone, which is largely semi-arid, which favours the production of sorghum, millet, maize, oil seed crops, and paddy. Among staple food crops, maize and sorghum are the major crops produced in the region, mostly in Kongwa, Chemba, Kondoa, Mpwapwa and Chamwino districts. Kongwa being the leading district, followed by Kondoa and Chemba in maize production. Crops such as cassava and potatoes are produced in small quantities.

#### **Horticulture**

**Vegetable Farming:** Several vegetables are found to be commonly grown in Dodoma. These include spinach, amaranths, tomatoes, chinese cabbage, onions, okra, lettuce, egg plant, bell pepper and carrots.

**Fruits Production:** Different varieties of fruits are found to be commonly grown in Dodoma region mostly by smallholder farmers. These include pawpaw, mangoes, banana, guava and sugarcane.

#### **Livestock Keeping**

Livestock farming is the second major economic activity in Dodoma region. Livestock keeping includes indigenous cattle, beef cattle, dairy cattle, goats, sheep, broilers, layers, indigenous poultry and pigs. Most of livestock kept is of indigenous type (99 percent) that thrives well in

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the prevailing climatic conditions. The sector also produces raw materials for two (2) abattoirs that export beef and mutton (goat meat) to Oman, Morocco, Iraq and Vietnam.

### **Mining**

Dodoma has more than 52 different kinds of minerals whose extraction by local miners has been low due to inadequate capital and lack of modern technical knowhow. These include: copper deposits in Tambi, Kimagai and Kinusi in Mpwapwa District; nickel at Haneti in Chamwino District; Manganese at Kibakwe in Mpwapwa; silica; enstatite in Mpwapwa; scapolite (marialite-meionite) at Rubeho Mountains; spessartine garnet at Loliondo Mpwapwa; marialite in Mpwapwa; gypsum in Mpwapwa and Chamwino; quartz, limestone, gold, uranium, green tormaline in Chemba.

### **Tourism**

Dodoma region is endowed with a wide range tourist attraction sites including two (2) Game Reserves where tourist hunting is allowed, Historical Sites where Freedom Fighters from Mozambique, Zambia, Namibia, and South Africa stayed during fighting for the independence of their Countries. These sites need some investors to invest in constructing camp sites and Tourist Hotels and Lodges.

### **Industrial Activities**

Existing industries includes maize milling, sunflower oil processing mill, tailoring, wine processing, carpentry and the rest are few industries producing different products.

### **Water Supply**

Dodoma region depends on several sources including charcoal dams, shallow wells, open spring, rainwater harvesting and boreholes. Dodoma urban areas are mostly served by ground water from Mzakwe Basin. This basin is 30km north of Dodoma town and has a potential of producing 72,000m<sup>3</sup> of water per day from 21 boreholes (100-130m deep).

Compared to urban areas, water supply in rural areas is limited. About 51% of people in the Dodoma Municipality have an access to safe and clean water. The management of water supply in Dodoma urban is under DUWASA. The major sources of water in the Municipality include deep and shallow wells, seasonal river water and dam.

## **4.4 Baseline Environment along the Proposed Project**

### **Land use**

ESIA team observed that majority of lands to be affected by implementation of the project are un-surveyed land and very few are surveyed. Lands are used as settlements and/or farmlands. The lands were obtained either through local/formal purchase agreements or inheritance from parents or relatives. ESIA team estimated that over 455.6ha of land is likely to be appropriated due to implementation of the project.

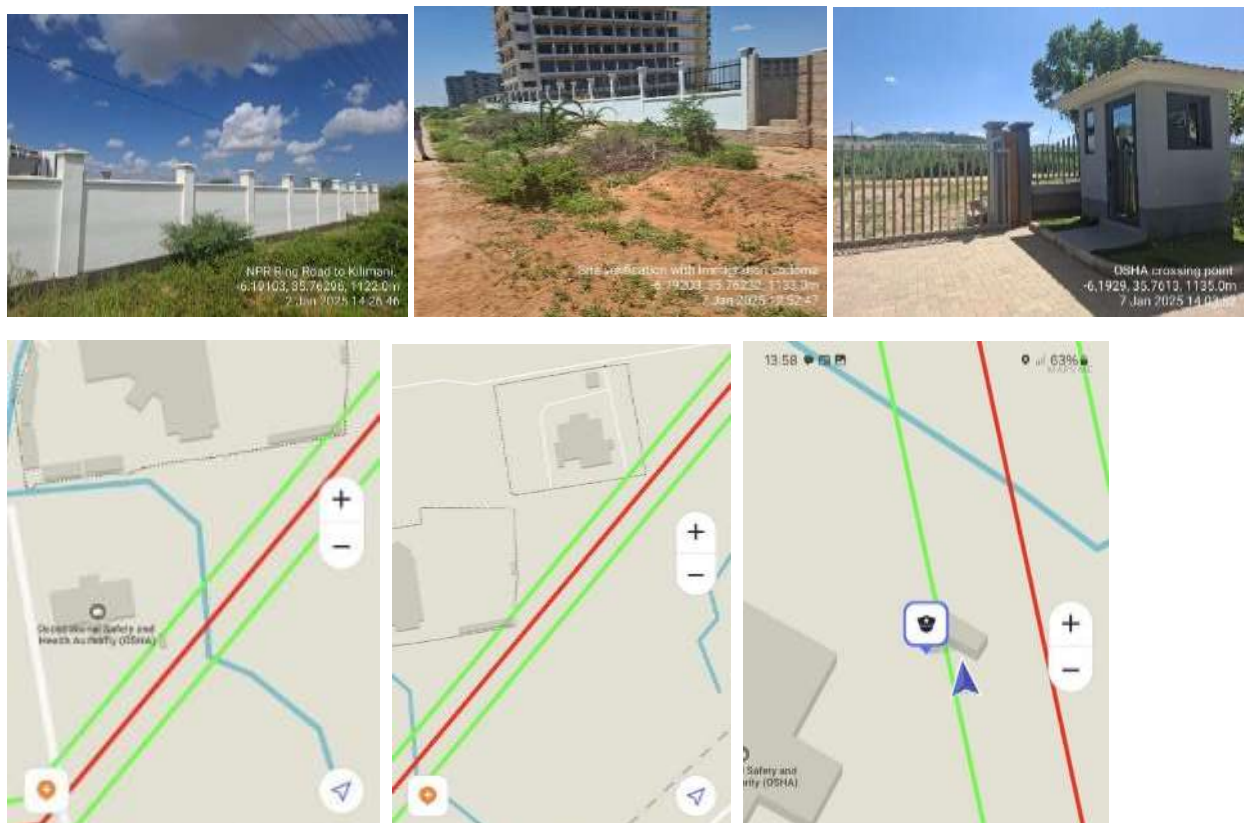
Apart from lands which are used as settlement and/or farmlands, the project implementation will also impact lands that are owned by institutions and in particular government institutions.



MoW have to engage and request for easements of conveyance system to pass through government institution lands. The easements are likely to be utilized upon official engagement and request to Tanzania Forest Services (TFS), TANESCO, TARURA, University of Dodoma (UDOM), WAMI/RUVU BASINS, DUWASA Tanzania Police Force (TPF), Tanzania Railway Corporation (TRC), Tanzania Peoples Defence Force (TPDF), Tanzania Intelligence and Security Service (TISS), Occupational Safety and Health Authority (OSHA), TANROAD, District Executive Directors (Chemba, Bahi and Chamwino) and Internal Drainage Basin.



**Figure 4-3: Some of Government Institution's Land in Project areas**



**Figure 4-4: Some of Government Institution's Land for easements in Project areas**

ESIA team found about 958 land parcels were within wayleave, hence land acquisition is inevitable. Land parcels contain trees and crops. Trees includes Mango, Baobab, Teak, Acacia, Miombo, Cactus, Thickets, Neem. Thorny trees, Oak, bush trees, Gliricidia septum and tamarind trees. Crops includes cassava, sugar cane, groundnuts, sorghum, millet, maize,

Cashew trees and banana trees. The Land Acquisition Act (CAP. 118 R.E. 2019) provides for the compulsory acquisition of lands for public purposes and in connection with housing schemes.

Lastly a total of 946 PAPs were identified. Out of 946 PAPs about 756 PAPs (80 percent) have no land titles. All PAPs either with or without land titles are entitled for land compensation and livelihood program. Land compensation is governed primarily by the Land Acquisition Act, 1967 (Cap. 118 R.E 2019) and the Land Act, 1999 (Cap. 113), which provide for compensation for land acquired for public purposes and when rights of occupancy are revoked or interfered with. Social and economic activities to be affected by land acquisition in project areas includes small-scale agricultural activities, bee keeping, hunting, fruit gathering and bricks making activities.



**Figure 4-5: Small Scale Agricultural Activities**

### **Water Supply**

The proposed project expects to produce 128,000m<sup>3</sup>/day which is twice of the present main source of water (Makutupora well field) with supply capacity of 61,000 gross m<sup>3</sup>/day. Farkwa source is considered to be more reliable enough for the supply of a growing population in both Dodoma urban and rural. It is therefore expected that more than 51% of people in the Dodoma Municipality will have access to safe and clean water after implementation of Farkwa project.

### **Flora**



The project area is endowed with variety of vegetation and habitat types with the area supporting a great diversity of plant species found both within and adjacent the proposed project areas. It supports species ranging from grasses to trees. The area comprises of various vegetation and habitat types both disturbed and undisturbed. During ESIA survey the vegetation and habitat types identified were disturbed miombo woodland, acacia woodland, acacia-commiphora, savannah, bushland, thicket on low land areas and riparian vegetation while undisturbed vegetation was only thicket.

Since it was during dry season, herbaceous layer was poorly dominated by herbs and grasses. No any species regarded as rare or endemic recorded within the project area. Most of the species recorded here are of low conservation concern except *Pterocarpus angolensis* and *Dalbergia melanoxylon* (IUCN – near threatened) and *Brachystegia spiciformis* (CITES Appendix II category). Majority of the plant species recorded in the proposed project area is represented elsewhere in the adjacent miombo woodland, acacia woodland, bushland and thicket.



**Figure 4-6: Variety of Flora in Project areas**

The vegetation in the project area varies, depending on soil characteristics. Woodlands (miombo and acacia), acacia-commiphora, savannah, bushland and thicket, grassland with groups of scattered trees like baobabs (*Adansonia digitata*) characterizes the uncultivated project areas. Along the rest of the project area, the natural vegetation has been replaced more or less by human activities, mainly livestock grazing and crop production, mostly scattered cultivation with maize, millet, sorghum, beans, sunflower etc., intertwined with human settlement.







**Figure 4-7: Variety of Flora in Project areas**

During site visit a consultation with local people, farmers and government staffs indicates that illegal harvesting (logging), bush fires, charcoal burning, fuel and fire wood collection are currently threatening vegetation of the proposed project areas. According to interviewees illegal harvesting threatens *Pterocarpus angolensis*, *Brachystegia spiciformis*, *Acacia abyssinica*, *Acacia tortilis*, *Acacia sieberiana*, *Acacia lahai*, *Acacia seyal* and *Anona senegalensis*. The threatened species are used by local people for poles, timber, charcoal making, fire and fuel

wood. Bush fires and farm clearance threaten miombo and acacia woodland habitat in the proposed project areas.

### **Fauna**

Results from interviews, animal calls, and dung and sign surveys indicate that the project area harbors approximately 19 species of large and medium-sized mammals, representing 8 orders and 13 families. Notably, the lion (*Panthera leo*) and ground pangolin (*Manis temminckii*) are only occasional visitors during the wet season. Due to human disturbances, many species are nocturnal and were not directly encountered during the study, except for a few including the baboon, warthog (*Phacochoerus africanus*), dik dik (*Madoqua kirkii*), vervet monkey (*Chlorocebus aethiops*), mongoose, and honey badger.

Species commonly reported by villagers include warthog, bush pig (*Potamochoerus porcus*), vervet monkey, armadillo (*Orycteropus afer*), crested porcupine (*Hystrix cristata*), rock hyrax (*Procavia capensis*), scrub hare (*Lepus saxatilis*), eland (*Tragelaphus oryx*), klipspringer (*Oreotragus oreotragus*), black-backed jackal (*Canis mesomelas*), wild dog (*Lycaon pictus*), hyena (*Crocuta crocuta*), and leopard (*Panthera pardus*).

In addition, the area supports about 8 species of small mammals across 5 families (Table 4-2). These include the four-toed hedgehog (*Erinaceus albiventris*), four-toed elephant shrew (*Petrodromus tetradactylus*), slender mongoose (*Herpestes sanguineus*), striped grass rat (*Lemniscomys striatus*), woodland thicket rat (*Grammomys dolichurus*), multimammate rat (*Mastomys natalensis*), and black rat (*Rattus rattus*).

**Table 4-2: Small mammals recorded during the study**

Common name	Scientific name	Order	Family	IUCN status	Evidence / Method		
					Trap	Direct observed	Other
Black rat	<i>Rattus rattus</i>	Rodentia	Muridae	Least concern		x	Interview
Woodland thicket rat	<i>Grammomys dolichurus</i>	Rodentia	Muridae	Least concern	x		
Common/ Typical striped grass rat	<i>Lemniscomys striatus</i>	Rodentia	Muridae	Least concern	x	x	
Multimammate rat	<i>Mastomys natalensis</i>	Rodentia	Muridae	Least concern	x		
White toothed shrew	<i>Crocidura hirta</i>	Eulipotyphla	Soricidae	Least concern	x		
Slender mongoose	<i>Herpestes sanguineus</i>	Carnivora	Herpestidae	Least concern		x	Interview

Four-toed Elephant shrew	<i>Petrodromus tetradactylus</i>	Macroscelidea	Macroscelidae	Least concern		x	
Four-toed hedgehog	<i>Erinaceus albiventris</i>	Erinaceomorp ha	Erinaceidae	Least concern		x	Interview

### **Bird Species**

A total of 77 bird species were recorded both on site and the areas adjacent to the proposed project areas (miombo woodland, riparian vegetation, wooded acacia-grassland and thicket). The riverine forest was the most species rich with 40 species followed by the wooded acacia-grassland with 27 species, whereas the dry miombo woodland was the most impoverished with 10 species. The most well represented avian family in the area is family Columbidae with four species while the remaining families are represented by either two or single species.

In wooded acacia-grassland the most abundant species were African mourning dove, red eyed dove, ring-necked dove and emerald spotted wood dove while in the riverine forest common bulbul dictated the habitat. Francolin and crested guinea fowl dominated the habitat that borders the wooded acacia-grassland, miombo woodland and thicket.

Some of the species encountered in the proposed project area include the Black-headed heron, African mourning dove, Emerald spotted wood dove, Ring necked dove, Red eyed dove, Cardinal wood pecker, Common bulbul, Collared sunbird, Red-cheeked cordon bleu, White browed Coucal, Crested guinea fowl, Common buzzard, Crested Francolin, Speckled mouse bird, Crowned Eagle, Malachite Kingfisher, Green wood hoopoe, Red-billed hornbill, Forked tail drongo and Brown headed Parrot.

### **Reptiles**

A total of 23 species in 12 families were encountered or identified through the interview in the study area. Some of the species include the Black mamba (*Dendroaspis polylepis*), Gaboon viper (*Bitis gabonica*), Black-necked spitting cobra (*Naja nigricollis*), Puff Adder (*Bitis arietans*), Southern African Rock Python (*Python sebae natalensis*), African burrowing snake-Cape centipede-eater (*Aparallactus capensis*), Common egg-eater (*Dasypeltis scabra*), Boomslang (*Dispholidus typus*) Brown-house snake (*Lamprophis fuliginosus*), Rufous Beaked snake (*Rhamphophis rostratus*), Striped skink (*Mabuya striata*), Tropical house gecko (*Hemidactylus maboui*), Yellow-throated plated lizard (*Gerrhosaurus flavigularis*), Red-headed rock agama (*Agama agama*), Green snake (*Philothamnus* sp).





**Figure 4-8: Some of Reptiles in project area**

### **Animal species of conservation importance at Project Areas**

#### **Threatened animal species**

Four mammal species recorded during the study are in the IUCN Red List of Threatened Species (2007 IUCN) – Wild dog (*Lycaon pictus*) and Ground pangolin (*Manis temminckii*) are Endangered; Leopard (*Panthera pardus*) is near threatened while Lion (*Panthera leo*) is Vulnerable. There are no threatened fish, birds or herptiles species in the study area.

#### **Animal species in CITES list**

Four animals are in the CITES Appendices (CITES 2011). One large mammal, Leopard (*Panthera pardus*) is in Appendix I, while in Appendix II are the reptiles notably South African rock python (*Python sebae natalensis*) and Monitor lizard (*Varanus niloticus*); and one avian species Brown-headed Parrot (*Poicephalus cryptoxanthus* ).

**Table 4-3: List of species of conservation concern recorded during the study**

Species	Common name	IUN Status	CITES Appendix
<b>Mammals</b>			
<i>Panthera pardus</i>	Leopard	Near threatened	III
<i>Panthera leo</i>	Lion	Vulnerable	
<i>Lycaon pictus</i>	Africa wild dog	Endangered	
<i>Manis temminckii</i>	Ground pangolin	Endangered	
<b>Reptiles</b>			
<i>Python sebae</i>	South African rock		II

natalensis Varanus niloticus	python Monitor lizard		II
<b>Bird</b> Brown headed parrot	<i>Poicephalus</i> <i>cryptoxanthus</i>		II

### Graves at Project Areas

A total of 38 graves and 1 graveyard (with several graves) were identified on a proposed 30m wayleave. These graves were identified at Farkwa, Babayu, Zanka, Khubunko, Lukali, Masimba, Kitenge, Mayamaya, Makongoro villages and Mahomanyika Mtaa at Nzuguni Dodoma city (graveyard at TANROADS road reserve). These graves need to be removed in accordance with Graves (Removal) Act of 1969. The Act provides for the Removal of Graves from land required for public purposes. Subject to the provisions of subsection (1) of section 7 of the Act, every grave or dead body shall, as far as possible, be removed, transported and re-instated. Subject to the provisions of this Act, where any land on which a grave is situated is required for a public purpose the Minister may cause such grave and any dead body buried therein to be removed from the land and, in such case, shall take all such steps as may be requisite or convenient for the re-instatement of the grave and the re-interment of the dead body in a place approved by him for the purpose.



Figure 4-9: Some of individual graves and graveyard in project area

### Structures at Project Areas



ESIA team has identified a total of 121 structures which will be affected by the project. Out of 121 structures, 15 are incomplete houses, 86 are completed houses with families and 20 are business buildings.



**Figure 4-10: Some of Residential houses for Compensation in project area**





**Figure 4-11: Some of Business structures for Compensation in project area**

### **Summary of Impacts in Project Areas**

The following table gives a summary of land impacts and its associated project infrastructure

**Table 4-4: Summary of Impacts in Project Areas**

Project component	Impact	Land Ownership
Raw water Intake	Land to be acquired 15ha No. PAPs physical displacement 0 No. PAPs economically displacement 0 No. graves to be shifted 0	Ministry of Water (MoW)
Water Treatment Plant (WTP)	Land to be acquired 9.3ha No. PAPs physical displacement 0 No. PAPs economically displacement 11 No. graves to shifted 0	Individual community members at Farkwa Village

Transmission Main (TM)/Conveyance system	Land to be acquired 455.6 ha No. PAPs physical displacement 98 No. PAPs economically displacement 833 No. individual graves to be shifted 38	Community individual members and LGAs at Chemba - 4 wards (10 villages); Bahi – 4 wards (7 villages); Chamwino – 1 ward (1 village); Dodoma City – 9 wards (16 Streets); TARURA; Donsee Primary School; TANROADS; TFS; WAMI/RUVU Basin Water Board; Internal Drainage Water Basin; TANESCO; TPDF; JKT Makutupora; DUWASA; NICTBB TISS; OSHA; Immigration; TRC; UDOM; TPF; VTPLC; Kongogo irrigation scheme; (NIRC); and Bankolo Primary School
Storage Tanks	Land to be acquired 20.7ha No. PAPs physical displacement 0 No. PAPs economically displacement 4 No. graves to be shifted 0	TFS ; Bahi village ; Babayu village ; Farkwa village ; Buigiri village ; and UDOM

Apart from the above negative impacts, the proposed project is linked to the following socio-economic aspects;

- Improved access to clean and affordable water will reduce poverty for marginalized low income communities in rural areas;
- Improved access to clean water will reduce burden of fetching water on women and girls which will improve their health and increase their participation in economic opportunities
- Increased access to potable water will increase and open more economic activities in project areas
- Availability of clean water will improve health of communities and reduce water borne diseases

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## 5. STAKEHOLDER ENGAGEMENT

### 5.1 Introduction

This chapter describes the process of stakeholder engagement during the ESIA process. Stakeholder opinions were sought through discussions and public meetings. Feedback from these consultations has been considered when preparing the Environmental Impact Statement.

The aim of the engagement and consultation process is to solicit public views and concerns on the project, explore ways of avoiding or minimizing all concerns and reach a consensus that all concerns have been adequately addressed. The ESIA team core strategic approach was to encourage full participation in project implementation by national, district and local authorities and community stakeholders.

### 5.2 Objectives

Public consultations are essential for a meaningful ESIA process. Public consultations aimed to achieve the following objectives:

- Providing information about the design of the Project and its potential impacts to interested and or affected parties, and soliciting their opinions;
- Identifying additional impacts/issues and possible mitigation measures;
- Verifying the significance of identified environmental, social and health impacts;
- Providing opportunities to stakeholders to discuss and share opinions and concerns;
- Gaining a better understanding of people's practices, perceptions and conditions in the Project area;
- Managing expectations and misconceptions regarding the Project;
- Securing broad community support for the Project;
- Informing the process of developing appropriate mitigation measures;
- Providing stakeholders with an opportunity to contribute towards the identification of mitigation measures and the ESMP; and
- Establishing ways of incorporating stakeholder feedback into the design and the ESMP.

### 5.3 Stakeholder Identification

The identification of Stakeholders was initially based on a combination of literature reviews and discussions with officials from several GoT institutions. The main criteria in the stakeholder group selection process were:

- Those involved in Project preparation;
- Those whose activities coincide or overlap with those proposed by the Project (e.g. Relevant ministries, environmental and local authority officials); and
- Those who may be directly affected by the Project (local authorities and the local population found in the Project area).

The key stakeholders identified are listed in the following Table 5-1 below.

**Table 5-1: Stakeholder identification and their roles**

Institution	Stakeholders	Roles in the Project
Central Government	Ministry of Water (MoW)	<ul style="list-style-type: none"> <li>• Providing Policy, Institutional and legal framework of Water Resources Management and Water Supply and Sanitation;</li> <li>• Project Implementing Agency (PIA);</li> <li>• Overseer of the project undertakings;</li> <li>• Oversee the execution of the construction and direct implementation of ESMP, RAP and stakeholder engagements</li> <li>• Responsible for RAP implementation</li> <li>• Ensure compliance with E&amp;S standards</li> </ul>
	Vice President's Office - (Division of Environment, DoE)	<ul style="list-style-type: none"> <li>• Coordinates Environmental Management Policy, Act &amp; EIA Guidelines</li> <li>• Issuing of Environmental Certificate</li> </ul>
	Prime Minister's Office (Labour, Youth, Employment and Persons with Disability)	<ul style="list-style-type: none"> <li>• Issuance of work permits for foreign experts</li> <li>• Ensure labour law is adhered during Recruitment, deployment and retrenchment of workers</li> </ul>
	Ministry of Land, Housing and Human Settlements	<ul style="list-style-type: none"> <li>• Responsible for providing regulatory guidelines on land acquisition and resettlement processes in implementing the project</li> </ul>
	Ministry of Finance	<ul style="list-style-type: none"> <li>• Provide oversight and control of disbursement project funds to the implementing agency</li> <li>• Enabler in controlling of disbursement of project and financial management of the project</li> <li>• Overseer of the project undertakings pertinent to funding.</li> <li>• Custodian of the Project Credit Facility Agreement (CFA) on behalf of the Government.</li> </ul>
Local Government	Dodoma Regional Secretariat	<ul style="list-style-type: none"> <li>• Responsible for co-ordination of all advise on environmental management in Dodoma Region and liaison with the Director of environment and the Director General of NEMC on the implementation and enforcement of the Environment Management Act No. 20 of 2004</li> </ul>
	Dodoma City Director and District Executive Directors for Chemba; Bahi and Chamwino	<ul style="list-style-type: none"> <li>• Responsible for proper management of the environment in City and Districts;</li> <li>• Chief executive officer for development activities in municipality and district levels;</li> <li>• Land use approval;</li> <li>• Oversee enforcement of laws and regulations;</li> <li>• Land use planning at municipality and districts level;</li> <li>• Overseer of engineering activities in the municipality and district levels.</li> </ul>

Institution	Stakeholders	Roles in the Project
	Ward Executive Officers in Dodoma City, Bahi, Chemba and Chamwino districts	<ul style="list-style-type: none"> <li>• Ensure proper management of environment issues within their wards</li> <li>• Coordinate all activities towards protection of the environment within their wards</li> <li>• Local leadership representing persons directly and indirectly within the vicinity of proposed projects</li> <li>• Oversee general development plans for ward level</li> <li>• Provide information on local conditions and extension services</li> <li>• Project monitoring in their area of jurisdiction</li> <li>• Participate in operationalisation of GRM and ESMP</li> </ul>
Ward Level	Community members	<ul style="list-style-type: none"> <li>• Persons directly and indirectly within the vicinity of proposed project areas who will be impacted either positively or negatively</li> <li>• Participate in operationalisation of GRM and ESMP</li> <li>• Project beneficiaries</li> </ul>
Government Institutions/Agencies	National Environment Management Council (NEMC)	<ul style="list-style-type: none"> <li>• Enforcement of the EMA and its Regulations</li> <li>• Review of ESIA</li> <li>• Issuance of environmental certificate</li> <li>• Environmental monitoring &amp; compliance auditing</li> <li>• Advise Government on all environmental matters</li> </ul>
	DUWASA	<ul style="list-style-type: none"> <li>• Project beneficiary</li> <li>• Responsible for urban water supply in urban centres of Dodoma town</li> </ul>
	TANESCO	<ul style="list-style-type: none"> <li>• Regulator of electricity transmission and owner of transmission lines</li> <li>• Give advice to the project developer and contractors regarding power installations</li> <li>• Provide power supply to the project facilities transformers etc.</li> </ul>
	Tanzania National Roads Agency (TANROADS)	<ul style="list-style-type: none"> <li>• Responsible for developing and maintaining trunk and regional roads network</li> <li>• Issue permits for the use of trunk and regional road reserves falling under TANROADS jurisdiction</li> <li>• Responsible for providing permits for the project to use road reserves in trunk/regional roads</li> </ul>
	Wami Ruvu Basin Water Board	<ul style="list-style-type: none"> <li>• Ensure that water resources are managed sustainably through water governance and integrated water resources management principles</li> <li>• Collect water resources data and monitor its use and quality</li> <li>• Processing and granting of water use permits</li> <li>• Pollution monitoring and control</li> <li>• Prepare and implement Integrated Water Resources Management Plan</li> </ul>
	Energy and Water Utilities Regulatory Authority (EWURA)	<ul style="list-style-type: none"> <li>• Regulator of the electricity, petroleum, natural gas and water sectors, including licensing, tariff and standard setting in respect to water supply and sanitation</li> </ul>



Institution	Stakeholders	Roles in the Project
		<ul style="list-style-type: none"> <li>Monitor water quality and standards of performance for the provision of water supply and sanitation services</li> <li>Promote the development of water supply and sanitation services in accordance with recognized international standard practices and public demand</li> </ul>
	Tanzania Bureau of Standards (TBS)	<ul style="list-style-type: none"> <li>The Tanzania Bureau of Standards (TBS) is the designated national authority for the development and review of standards which include water quality and effluent discharge standards, among others.</li> <li>The water quality standards (TBS- TZS 789) is among the compulsory environmental standards which has been developed as part of the TBS' National Environmental Standards Compendium (NESC).</li> <li>The implementation and compliance to water quality standards by TBS (TZS 789) stand to be a mandatory requirement for all Water Supply and Sanitation Authorities including DUWASA.</li> </ul>
	Tanzania Rural and Urban Roads Agency (TARURA)	<ul style="list-style-type: none"> <li>Responsible for developing and maintaining rural and urban roads network</li> <li>Issue permits for the use of Rural and urban road reserves falling under TARURA jurisdiction</li> <li>Responsible for providing permits for the project to use road reserves in rural/urban roads</li> </ul>
	Tanzania Railways Corporation (TRC)	<ul style="list-style-type: none"> <li>Provider of rail transport services and manage rail infrastructure</li> <li>Railway reserve areas fall under TRC jurisdiction</li> <li>Responsible for providing permits for the project to use rail reserve areas</li> </ul>
	The Occupational Safety and Health Agency (OSHA)	<ul style="list-style-type: none"> <li>Responsible organ for labour management issues including OHS</li> <li>Follow up on occupational health &amp; safety issues</li> <li>Advise the contractors regarding national OHS requirements</li> <li>Responsible for providing permits for the easements for water pipeline to pass through OSHA land</li> </ul>
	Tanzania Police Force (TPF)	<ul style="list-style-type: none"> <li>Responsible for providing permits for the easements for water pipeline to pass through TPF land</li> </ul>
	Tanzania Peoples Defence Force (TPDF)	<ul style="list-style-type: none"> <li>Owner of land at Ihumwa where Ihumwa reservoir will be constructed</li> <li>Responsible for providing permits for MoW to use Ihumwa land for construction of reservoir</li> </ul>
	Tanzania Forest Services Agency (TFS)	<ul style="list-style-type: none"> <li>Responsible for conservation of forests and bee resources in Tanzania;</li> <li>Balance the socio-economic needs of local communities to safeguard Tanzania's forests;</li> <li>Responsible for implementation of forestry policies in</li> </ul>



Institution	Stakeholders	Roles in the Project
		Tanzania; <ul style="list-style-type: none"> <li>Responsible for mitigation of deforestation, promote reforestation initiatives, and foster responsible forest utilization practices;</li> <li>Owner of Land at Zamahero located at Chinene Forest Reserve where Zahahero reservoir will be constructed;</li> <li>Responsible for providing permits for MoW to use part of Chinene Forest Reserve land for construction of reservoir</li> </ul>
	University of Dodoma (UDOM)	<ul style="list-style-type: none"> <li>Owner of land parcel where conveyance system will pass</li> <li>Responsible for providing permits for the easements for water pipeline to pass through UDOM land</li> </ul>
African Development Bank (AfDB)	Development Partner/Funding Institution	<ul style="list-style-type: none"> <li>Funding institution</li> <li>Ensure that funds are available for completion of the Project</li> <li>Monitor project implementation including E&amp;S performance</li> </ul>

**Table 5.2: Stakeholdres to be Impacted**

Project component	Size/Capacity	Stakeholders to be affected
Water Intake and Pumping Station	128,000m <sup>3</sup> /d	Mombose, MoW
Conveyance from Intake to Farkwa WTP	1400DN	Farkwa ,Mombose,MoW
Conveyance from Farkwa WTP to Makorongo Junction	1200DN	Donsee Primary,kubhunko, Donsee,Farkwa
WTP Access road	544m	Farkwa
Conveyance from Makorongo junction to Makorongo storage tank	300DN	Makorongo,Kubhunko
Makorongo access road		Makorongo,
Conveyance from Makorongo junction to babayu Junction	1200DN	Babayu, Mkorongo
Conveyance from Babayu junction to Kongogo junction	300N	Babayu, Kongogo
Conveyance from Kongogo junction to Kongogo Storage tank	200N	Kongogo
Kongogo access road		Kongogo
Conveyance from Kongogo junction to Lamaiti Junction	300N	Kongogo, Lamaiti,Lukali

Project component	Size/Capacity	Stakeholders to be affected
Conveyance from Lamaiti junction to Lamaiti Storage tank	200N	Lamaiti
Lamaiti Access road		Lamaiti
Conveyance from Lamaiti junction to Bahi Storage tank	200DN	, Lamaiti, Bankolo,Mkakatika, Bahi sokoni
Conveyance from Babayu junction to Zamahero Junction	1200DN	Baabayu, Mayamaya, TFS, TANROAD
Conveyance from Zamahero junction to Ihumwa Junction	1200DN	Zanka, Mayamaya Makutupora, Mahomanyika, Kitelela,Ihumwa, TANROAD
Conveyance from Ihumwa junction to Ihumwa Storage tank	600DN	Ihumwa, TPDF, TPF,TANROAD
Ihumwa Access road		TPDF, Ihumwa
Conveyance from Ihumwa storage tank to Buigiri storage tank	250DN	TPDF Ihumwa,Mtumba,Majengo,Buigiri, TANROAD
Conveyance from Ihumwa junction to Iyumbu Balance & storage tank	1100DN	TPDF, Ihumwa, Iyumbu,TRC, TANROAD
Iyumbu access road		Iyumbu,
Conveyance from Iyumbu storage tank to Udom Storage tank	500DN	Iyumbu, UDOM, Nyerere, TANROAD
Iyumbu Storage Tank	30000m <sup>3</sup>	Iyumbu
Ihumwa Storage Tank	10000m <sup>3</sup>	Ihumwa, TPDF
Makorongo Storage Tank	500m <sup>3</sup>	Makorongo
Zamahero Tank Storage Tank	1000m <sup>3</sup>	TFS, Mayamaya
Kongogo Storage Tank	500m <sup>3</sup>	Kongogo
Bahi Storage Tank	500m <sup>3</sup>	Bahi
Lamaiti Storage Tank	500m <sup>3</sup>	Lamaiti

#### 5.4 Methods for Stakeholders Engagement

Letters: MoW distributed official letters to Dodoma Regional Secretariate informing them about the proposed project and the upcoming consultation activities and requesting them to further mobilize the lower-level stakeholders. Therefore, the first stage commenced by informing high-

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level stakeholders prior to consultations. Introduction letter was also provided to District Commissioners (Chemba; Bahi; Chamwino and Dodoma) and City Director and District Executive Directors of Dodoma; Chemba; Bahi and Chamwino to inform them about the project as well as seek permission to work in their respective wards and Mitaas. The letter was then channeled to the Ward Executive Officers (WEOs) for the same purpose and to seek appointments to consult the local officials at low-level. Letter were also distributed to government institutions (TANROADS, DUWASA, Immigration department, TARURA, TRC, TANESCO, UDOM, OSHA, TFS, TPF, TISS, Wami Ruvu Basin Water Board and Internal Drainage Basin Water Board).

### **Consultation Meetings with Government Institutions**

Consultation meetings were held with different government institutions. Consultative meetings with government institutions took place during ESIA process to disclose project information and solicit opinions. These institutions include TANROADS, DUWASA, Immigration department, TARURA, TRC, TANESCO, UDOM, OSHA, TFS, TPF, TISS, Wami Ruvu Basin Water Board and Internal Drainage Basin Water Board. A list of participants is included as part of appendix in ESIA report.

### **Consultation Meetings with Local Leaders (WEOs and Mitaa Chairpersons)**

Consultation meetings with local ward and street leaders were held at Farkwa, Babayu-Chemba, Babayu-Bahi, Zanka, Makorongo, Majengo, Lamaiti, Mpamatwa, Makutupora, Nzuguni, Chahwa, Ihumwa, Iyumbu, Dodoma Makulu, Tambukareli, Kilimani, Mtumba, Buigiri and Bahi wards between 10th – 28th February, 2025. During these meetings, ESIA team disclosed project information, duration, intended information to be shared with community members and lastly the team explained about expected environmental and social impacts. A total of 260 local leaders participated to these meetings. List of participants is part of annex 3 in ESIA report.

### **Consultation schedule**

The schedule of the consultation activities undertaken is shown in Table 5-2 below

**Table 5-2: Workplan for Engagement Activities**

### Community level Engagement Activities (Internal Meeting with local leaders:

#### Work plan

S/N.	DISTRICT	WARD	DATE OF PUBLIC AWARENESS (PA)
1.	CHEMBA	1. FARKWA 2. MAKORONGO 3. BABAYU	10th February, 2025
2.	BAHI	1. BABAYU 2. ZANKA 3. LAMAITI 4. MPAMANTWA 5. BAH	11-12th February, 2025
3.	DODOMA CITY	1. MAKUTUPORA 2. NZUGUNI 3. CHAHWA 4. IHUMWA 5. IYUMBU 6. DODOMA MAKULU 7. TAMBUKARELI 8. KILIMANI 9. MTUMBA	13-17th February, 2025
4.	CHAMWINO	1. BUIGIRI	18th February 2025

### Institutional level Engagement Activities:

#### Work plan

S/N.	INSTITUTION	DISTRICT	DATE OF ENGAGEMENT
1.	DUWASA	DODOMA CITY	19th February, 2025
2.	TANROAD		20th February, 2025
3.	TRC (MGR, SGR)		
4.	TARURA		
5.	TANESCO		21th February, 2025
6.	TPDF		
7.	TPF		
8.	UDOM		24th February, 2025
9.	INTERNAL DRAINAGE BASIN		
10.	WAMI RUVU BASIN		
11.	TFS	BAHI	25th February, 2025
12.	TISS		
13.	OSHA		
14.	TANZANIA IMMIGRATION		

## 5.5 Consultation Outcomes

Generally, all stakeholders pointed out the project will overcome current water shortage in Dodoma region. Stakeholders expect the project will bring improvement of water service delivery including provision of safe water within Chemba town, Bahi town, Chamwino town and Dodoma city.

### Government Institutions

The following is the summary of issues that were raised by government institutions during ESIA process.

- TARURA need a list of all roads which the pipelines will use its road reserve or road crossings;

- It was advised to have a jointly site visit between TARURA and MoW for physical verification of road reserves where water pipelines are expected to pass.
- It was advised that MoW to engage District Managers of TARURA in respective areas of road reserves in advance to avoid future misunderstanding and conflicts with communities and TARURA.
- It was advised that MoW to comply with road reserve management in order to avoid the conflict with other utility companies during implementation.
- It was advised that MoW should engage with TARURA DM to be informed about the size of road reserves and current remaining size.
- MoW advised to consult regional land planning department in order to avoid the unnecessary challenges because sometimes sizes for road reserves differ from land planning.
- MoW should write an official application letter (request for permit) to TARURA District Manager and thereafter MoW will receive officially all procedures required. The application letter should include specific drawings, size of the pipe, coordinates and explain the methodology that will be used in road crossings for all roads that are expected to be used.
- It was advised that during the implementation to ensure inclusive of social issues such as gender issues example women participation and decision and special attention to special group.
- Contractor should comply with safety aspects such as provision of safety gear to labors.
- MoW was informed by TANROADS that there is a provision of specific duct for pipe crossing which is 5 meters.
- MoW was advised to write an official application letter requesting permission to use TANROADS road reserves and it should elaborate and mention the areas and the distance where the road reserves are requested include sections of the road crossings expected for permission.
- A joint physical site verification between TANROADS and MoW shall be conducted to all road reserve areas where pipeline is expected to pass through.
- MoW was advised to use a simple method for road crossings so as to minimize cost for repair of the roads after crossing, minimize traffic disturbances during construction and ensure safety to road users during construction.
- MoW was requested by OSHA to write an official letter to General Director of OSHA, and attached all design details such as the size of pipeline for guidance.
- MoW to consider relocating and diverting the pipeline to minimize damage of OSHA structure.
- OSHA advised that the Contractor should adhere to all laws and regulations regarding OSHA at the working place and during construction.
- OSHA insisted that MoW has to ensures that precautions are taken to avoid damage and adhere to safety and health aspects during construction phase.
- MoW was advised to engage all stakeholders at the earliest stage of the project to collect concerns and views before commencement of construction works.

- WAMI RUVU Water Basin advised the MoW to write an official letter to request the Technical and environmental person for physical verification and the letter should include drawings with coordinates of the specific areas where the pipeline will pass.
- WAMI RUVU Water Basin requested MoW to provide ESIA report before permission form WAMI RUVU Water Basin is granted
- WAMI RUVU Water Basin should be involved in every stage of project implementation.
- The MoW was advised to submit an official letter that describes exactly the TANESCO infrastructures to be interrupted and crossing with specific coordinates and drawings of the location.
- It was advised that during construction work, TANESCO experts to be involved in order to assist on TANESCO infrastructures.
- It was advised that in case of any shift of the TANESCO infrastructures, MoW should seek permission.

### **Local Community Leaders**

Local community leaders shared the following opinions:

- MoW to engage communities at early stage of the project;
- Sacred and ritual places should not be touched, be avoided and protected during implementation of the project;
- MoW to ensure villages located adjacent to conveyance system becomes project beneficiary;
- Apart from domestic water use, MoW should also consider providing permit for community to use water from the project for irrigation purposes;
- Contractor should consider and give priority of temporary employment to local people;
- The project should consider environmental conservation during construction phase;
- Cooperation with local leaders should continue to enable timely dissemination of project information to community;
- The contractor(s) should be properly supervised during construction to avoid damage of people properties;
- Route for conveyance system should be disclosed to community members; and
- The project should be completed on time.

Apart from the above opinions, community leaders were keen to know the following issues:

- Expected completion date of the project;
- Sizes of water pipes in conveyance system; and
- Whether there will be compensation for trees/crops or damage of properties during implementation of distribution lines and water kiosks within villages locate within 24km corridor.

### **Stakeholder's Concerns**

Concerns raised by stakeholders were as follows:

#### **Sacred and Ritual Areas**



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It was presented that MoW and Consultant to ensure that all sacred and ritual areas be avoided and protected during project implementation.

#### Removal of graves from TANROADS road reserve

MoW was advised to consider removal of graves from TANROADS road reserve at Mahomanyika if the road reserve will be utilized by project infrastructures. TANROADS explained that the road reserve at Mahomanyika contains graves and compensation for those graves have not been done.

#### Installation of Storage Tank at Zamahero within Chinene Forest Reserve

- Tanzania Forest Services Agency advised the MoW to write an official letter to request permission of Tank installation within Chinene Forest Reserve.
- Tanzania Forest Services Agency Tanzania Forest Services Agency advised the MoW to make an inventory study or survey to know the numbers of the trees that will be removed for construction of storage tank at Chinene forest reserve.
- Tanzania Forest Services Agency advised MoW to request permission/consent from the relevant authorities for tree removal and to proceed with the project in protected areas.
- MoW shall pay compensation for the number of trees to be cleared at Chinene forest reserve
- Tanzania Forest Services Agency advised the MoW to involve forestry experts during the project implementation exercise.

#### Adjustment of water pipeline to avoid impact to Government structures

It was advised that MoW to consider adjusting the pipeline to avoid demolishing any of the government building. MoW to ensure relocating and diverting the proposed water pipeline to minimize damage of public structures.

#### Land Acquisition and Resettlement

Community members whose land will be acquired by the project should be compensated in accordance with Land Acquisition Act (Cap 118) and the Land Act, 1999 (Cap 113), ensuring fair and prompt compensation for those whose land rights are revoked or acquired for public purposes.

#### Compensation for Road Reserves

MoW was informed by TANROADS that the proposed pipeline shall pass on some of road reserves which were not compensated. MoW was advised to compensate individuals and business structures located at road reserves in Buigiri village, Sichelela Mtaa and Zanka village. In addition, TANROADS informed MoW that the proposed Kilimani road reserve was not compensated; and that DUWASA water infrastructure exists within the road reserve. Therefore, the space for road reserve is limited because it has also been utilized by DUWASA infrastructures.



**Figure 5-1: Stakeholder Consultation Sessions with Local Community Leaders**





**Figure 5-2: Stakeholder Consultations with LGAs and Government Institutions**

## 5.6 Grievance Redress Mechanism

### Grievance Process

The Ministry of Water has established standard grievance procedures which is adopted by all water related projects. Proposed project grievance process, description and timeframe is presented in table below.

Grievance Process	Description	Timeframe
<p><b>Step 1</b> Receive, log Grievance and sort</p>	<ul style="list-style-type: none"> <li>Face to face meeting with Stakeholder</li> <li>Take complainant details, phone, letter or email</li> <li>Record grievance and Sort by designated GRM focal person</li> <li>Completion and submission of grievance form</li> <li>Record grievance in Grievance Form and log on Grievance Database</li> </ul>	1 day
<p><b>Step 2</b> Acknowledge Grievance</p>	<ul style="list-style-type: none"> <li>Receipt of grievance acknowledged through appropriate communication medium, but to be recorded in writing</li> </ul>	2 days
<p><b>Step 3</b> Assess and Investigate</p>	<ul style="list-style-type: none"> <li>GRM Committee to assess and assign grievance significance</li> <li>Consult with relevant parties</li> <li>May require site visits and discussions with other stakeholders</li> </ul>	10 days
<p><b>Step 4</b> Grievance Resolution</p>	<ul style="list-style-type: none"> <li>Identify further action required</li> <li>Response provided to complainant including, if necessary, an indication of additional time and resources required to resolve grievance</li> </ul>	10 days after receipt of grievance
<p><b>Step 5</b> Sign-off</p>	<ul style="list-style-type: none"> <li>Confirm with complainant that grievance can be closed, or determine what follow-up is necessary</li> <li>If the grievance is to be closed, grievance sign-off is required</li> </ul>	25 days after receipt of grievance
<p><b>Step 6</b> Monitor</p>	<ul style="list-style-type: none"> <li>Record final sign-off of grievance according to significance</li> <li>If grievance cannot be closed return to step 3 to re-assess or recommend whether third-party arbitration is necessary</li> </ul>	25 days – 1 month, dependent on significance

**Figure 5-3: Grievance Process**

### **Channels to Make Complaints**

The Project shall establish channels through which stakeholders can forward complaints regarding project activities. The channels shall include: -

A dedicated Contacts of institutions implementing the project

**Table 5-3: Channels to Make Complaints**

Institution	Dedicated Phone Number	Email
Ministry of Water (MoW)		malalamiko@maji.go.tz

Letters to be sent to the Ministry through the following address:

Permanent Secretary,  
Ministry of Water,  
P.O. Box 456,  
DODOMA.

When verbal or written complaints to project staff is availed directly or through project meetings, project stakeholders shall provide verbal feedback or complaint and the project staff responsible for GRM will log the complaint on their behalf through Grievance registration form, and it will be processed through the same channels.

### **Project Grievance Committees**

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Generally, all project staff involved in the project will take on grievance handling as a responsibility. Gender balance shall be considered within the GRCs. There shall be established project grievance redress committees to perform the responsibilities as provided in this GRM. The Committees shall be as follows: -

#### **Village/Mtaa Grievance Redress Committee**

This Committee shall be composed of: -

- i. Village/Mtaa Chairperson – Chairperson;
- ii. Village Executive Officer (VEO) – Secretary;
- iii. Neutral Person/non-PAP – Member;
- iv. Representative from the PAPs Members;
- v. Extension officers from the Ward (CDO, Agriculture Officer, Health Officer, Livestock officer);
- vi. Representative from NGO within village level - Member

#### **Ward Grievance Redress Committee**

This committee shall be composed of: -

- i. Ward Councillor – Chairperson;
- ii. Ward Executive Officer (WEO) – Secretary;
- iii. Neutral Person/ Non-PAP – Member;
- iv. Representative from the PAPs Members;
- v. Extension officers from the Ward (CDO, Agriculture Officer, Health Officer, Livestock officer)
- vi. Representative from NGO within Ward level - Member

#### **District/Municipal Grievance Redress Committee**

This Committee shall be composed of: -

- i. District Commissioner – Chairperson
- ii. District/Municipal Executive Director – Secretary
- iii. District Administrative Secretary- Member
- iv. District/Municipal land officer - Member
- v. District/Municipal Land Valuer - Member
- vi. GRM focal person at District/Municipal
- vii. Lawyer - Member
- viii. Representative from DUWASA - Member
- ix. Representative from BWB - Member
- x. Ministry of Water – GRC Member
- xi. Neutral Person (Not PAP) – Member
- xii. PAP representative - Member
- xiii. Local NGO within District/Municipal level - Member
- xiv. Consultant - (depend on complaint)

#### **DRSWDSP Steering Committee**

This Committee shall be composed of: -

- i. A representative of Dodoma Region (Regional Health Officer Sanitation) - Chairperson
- ii. A representative of DUWASA – Secretary

- 
- iii. Nine (9) representatives from MoW (DWSS-2, DWR-1, DWQ-1, DPMU-1, DPCEM-1, DPP-1, DAHRM-1 and DLSU-1)
  - iv. The BWB representative – Member
  - v. A representative of Dodoma Municipal – Member

### **Regional Grievance Committee**

This Committee shall be composed of: -

- i. RC – Chairperson
- ii. RAS – Secretary
- iii. Chairperson of DRSWDSP Steering Committee – Member
- iv. Secretary of DRSWDSP Steering Committee - Member
- v. Regional Land Assistant Commissioner – Member
- vi. DUWASA Managing Director – Member
- vii. Basin Water Officer – Member
- viii. Respective DC – Member
- ix. Respective District/Municipal Director – Member
- x. Regional Community Development Officer – Member
- xi. Neutral Person - Member
- xii. PAP - Member
- xiii. NGO representative - Member

### **Ministerial Grievance Redress Committee**

This Committee shall be composed of: -

- i. Director Legal Service Unit (DLSU) – Chairperson
- ii. Head of Environmental Management Section – Secretary
- iii. Respective Water Authority of Dodoma Region (DUWASA)
- iv. GRM Focal - Social Specialist (CDO) from MoW
- v. Ministry's Complaints Officer

The committee may invite any person who is not a member to attend any meeting of the committee where his /her expertise required in that particular meeting.

Grievance Redress Mechanism is currently not in place, however as outlined above, the MoW shall establish Grievance Redress Mechanism and Grievance Committees in all Project areas to receive and resolve complaints arising from the implementation of the project. The objective of the committees is to ensure that all complaints received in writing (or written when received verbally) are documented and well addressed. The GRCs shall be trained by MoW and provided with grievance forms and logbooks for registering grievances at ward and Mitaa levels. More details about grievances procedures are presented in a separate RAP report.

### **Grievance Resolution Process for Land Acquisition or Resettlement Complaints**

In Tanzania, resolution of involuntary resettlement related grievances is handled by the existing land dispute resolution structures established at the Village/Mtaa level to the Ward and District level. The Project affected persons (PAPs) normally file the grievances to the local government (village/mtaa) office for mediation and resolution of disputes emanating from resettlement issues. In situations where PAPs are not satisfied with the village/Mtaa government decision on



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resettlement disputes, the PAPs can approach the relevant Land Council for mediation. Mediation may be obtained through series of conciliations and negotiations exercises between the two parties (the PAPs, the subproject proponents and head of the institution concerned). If disagreement on the resolutions persists, the PAPs submit their appeal to the Ward Tribunal, District Land and Housing Tribunal, Ministry of Land, Housing and Human Settlement Development before being transferred to the court of law and court of appeal, where necessary, with a view to determine claims validity and compensation required. The response time for cases handled depends on the issues addressed. The response time for cases handled will depend on the issues addressed but it will be as short as it is possible. Processing of land acquisition and resettlement complaints shall follow the following 6 levels detailed below: -

#### ***Level 1: Sub-Village Leadership***

PAPs will be expected to submit their complaints to the Community Liaison Officer directly or through their sub-village leader. At this level, received complaints will be registered, investigated and resolved by the project team, together with the sub-village leader and the complainant. A final decision on the way forward will be communicated to the complainant directly. In situations where both parties agree, the case will be closed at this level. Complaints at this level will mainly focus on identification of rightful owners of property and confirmation of boundaries between properties.

#### ***Level 2: Village Council***

All cases that cannot be resolved at the first level will be referred to the Village Council. In situations where both parties agree, the case will be closed at this level. Complaints at this level will mainly focus on identification of rightful owners of property and confirmation of boundaries between properties.

#### ***Level 3: Ward Tribunal***

All cases that will not be resolved by the village council will be forwarded to the Ward Tribunal. Normally, the ward tribunal can resolve cases of up to 3 million shillings worth. Cases with higher value will be forwarded to the district tribunals. Village authorities will be encouraged to witness the process.

#### ***Level 4: District Land and Housing Tribunal***

All cases that will not be resolved by the Ward Tribunal or cases beyond the Ward Tribunals capacity to handle will be forwarded to the District Land and Housing Tribunal if cases are land related, and not exceeding 50 million shillings. All complaints accruing out of the compensation value, payment process will be resolved at this level

#### ***Level 5: High Court (Land Division)***

All cases that will not be resolved by the District Land and housing Tribunal will be referred to the high court (Land Division).

#### ***Level 6: Court of Appeal***

PAPs who will not be dissatisfied by the resolution of the high court will have a right to appeal in the court of appeal.

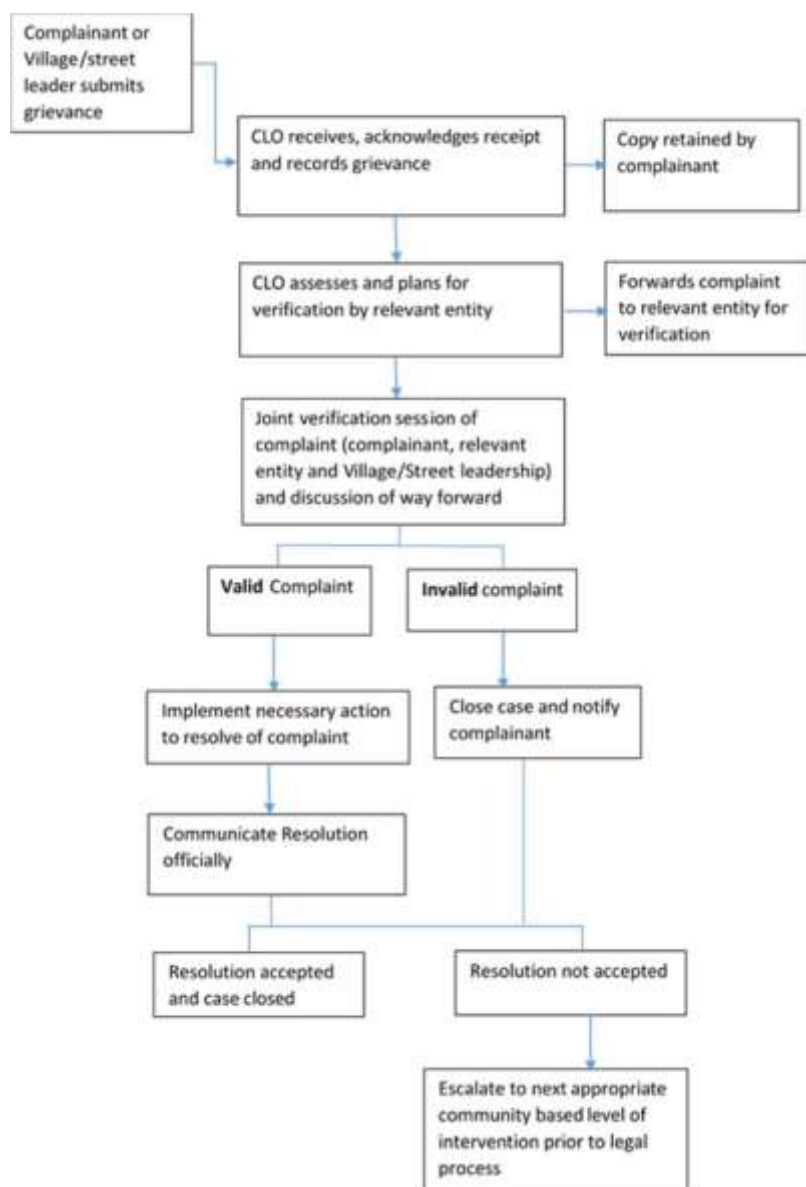


**Figure 5-4: Six Levels of Resettlement Grievance Management**

#### **Involuntary Resettlement Complaints Handling Process**

PAPs will have to submit their complaints to either **street leader** or **community liaison office (Implementing agency/grievance focal person)** corresponding to Level 1. All received grievances will be registered in the project database. After registration, the grievance will be assessed and forwarded to the relevant office. The concerned officers will then investigate the validity of the grievance and plan the way forward. A fact-finding mission will be conducted together with the complainant and sub-village leader. Proposals on how the grievance can be resolved will be discussed and the complainant will be advised accordingly.

Upon acceptance by the complainant and the actual implementation of the remedy actions, the complaint will be signed off as resolved. In situations where it will be difficult to reach a consensus the case will be forwarded to higher authorities (higher levels) for further mediation. Figure below illustrates the process of complaints handling.



**Figure 5-5: Process of complaints handling**

## Gender Assessment

### Introduction

Gender equality and social inclusion are critical for the success and sustainability of water and sanitation projects. This gender assessment examines the roles, responsibilities, challenges, and opportunities for women, men, boys, and girls in the context of the Dodoma Resilient and Sustainable Water Development and Sanitation Program Phase II. The aim is to identify gender-based disparities and provide recommendations for enhancing gender-responsive planning and implementation.

### Gender Roles and Responsibilities

In the project area, women and girls are primarily responsible for household water collection, sanitation hygiene management, and caregiving. These roles place a disproportionate burden

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on women, often limiting their time for income-generating activities and education. Men are typically involved in decision-making and control over financial resources.

### **Gender-Based Vulnerabilities**

- **Water Insecurity:** Inadequate access to clean water disproportionately affects women's health and economic opportunities.
- **Sanitation and Safety:** Lack of gender-sensitive sanitation facilities can lead to safety risks, especially for women and girls.
- **Participation Barriers:** Cultural norms and limited capacity often restrict women's active participation in community-level water governance.

### **Opportunities for Gender Inclusion**

- The project presents several opportunities to promote gender equity:
- **Employment:** Encourage equal participation of women in project-related jobs, including skilled and unskilled labor.
- **Capacity Building:** Provide gender-sensitive training and awareness-raising workshops.
- **Leadership and Governance:** Ensure women's representation in Water User Associations (WUAs), community committees, and decision-making bodies.
- **Infrastructure Design:** Design and construct water points, toilets, and sanitation facilities that ensure privacy, safety, and dignity for all genders.

### **Legal and Policy Framework**

The assessment aligns with national gender policies, including the Tanzania National Gender Policy (2000), and international commitments such as the UN Sustainable Development Goal 5 on gender equality. The project also aligns with the African Development Bank's Gender Strategy (2021–2025), which promotes inclusive growth and equal opportunities.

### **Recommendations**

- Conduct gender training for project implementers and local stakeholders.
- Establish gender-sensitive monitoring indicators.
- Develop grievance redress mechanisms that are accessible to all genders.
- Support the economic empowerment of women through targeted livelihood support linked to improved water access.

### **Conclusion**

Mainstreaming gender in the design and implementation of this project will improve equity, enhance community buy-in, and contribute to the long-term sustainability of water and sanitation services in Dodoma.



## 6. ASSESSMENT OF RISKS AND IMPACTS AND IDENTIFICATION OF ALTERNATIVES

### 6.1 Introduction

This section presents the potential E&S impacts of the interventions planned for the proposed project. The prediction of positive and adverse impacts is based on the Project activities described in Chapter 2 of this report, but without any additional mitigation measures. The impacts have been grouped according to the receptor or environment that they are likely to influence, i.e. the physical, biological and human environment. Hence, each impact is analyzed in relation to the baseline conditions as described in Chapter 4. Table 6-1 below gives a summary of ES impact evaluation of the proposed project.

**Table 6-1: Summary of ES Risks and Impacts Evaluation for the Proposed Project**

Project Phases / Type of Impacts													
Temporal Distribution of Impacts	No Impact	Positive Impacts	Negative Impacts									Likelihood	Overall -ve Impact
			5- Severe	4- Major	3- Medium	2- Minor	1- Negligible	Direct Impact	Indirect Impact	Commutative Impact	Residual Impact	1-unlikely to occur 2-not expected 3-Likely to occur 4-known to occur 5-common to occur	Combined likelihood and impact
Mobilization Phase													
Land acquisition, resettlement and livelihood restoration				4				✓			✓	4	(16) substantial
Temporary employment opportunities		✓						✓				-	
Local economy & increased local spending		✓							✓	✓	✓	-	
Influx of people seeking jobs					3			✓				3	(9) moderate
Construction Phase													
Emissions of air pollutants (dust, exhaust)						2		✓			✓	4	(8) moderate
Emission of GHGs							1		✓	✓	✓	3	(3) low
Generation of noise & vibration						2		✓				4	(8) moderate
Visual impact						2			✓		✓	4	(8) moderate
Vegetation loss through site clearance					3			✓		✓	✓	4	(12) moderate
Risk of Invasive plant species						2			✓		✓	3	(6) moderate



Project Phases / Type of Impacts													
Temporal Distribution of Impacts	No Impact	Positive Impacts	Negative Impacts									Likelihood	Overall -ve Impact
			5- Severe	4- Major	3- Medium	2- Minor	1- Negligible	Direct Impact	Indirect Impact	Commulative Impact	Residual Impact	1-unlikely to occur 2-not expected 3-Likely to occur 4-known to occur 5-common to occur	Combined likelihood and impact
Soil erosion					3			✓		✓	✓	3	(9) moderate
Disturbance and loss of flora and fauna					3			✓			✓	3	(9) moderate
Solid waste generation						2		✓				4	(8) moderate
Wastewater generation						2		✓				4	(8) moderate
Risks of Spills on land					3			✓			✓	3	(9) moderate
Soil pollution					3			✓	✓		✓	3	(9) moderate
Water pollution					3			✓	✓	✓	✓	3	(9) moderate
Traffic congestion					3			✓				3	(9) moderate
OHS risks to workers					3			✓				3	(9) moderate
Community health and safety risks					3			✓	✓		✓	3	(9) moderate
HIV/AIDS transmission risks					3				✓	✓	✓	3	(9) moderate
GBV and SEAH risks					3			✓	✓	✓	✓	3	(9) moderate
Influx of people seeking jobs					3			✓				3	(9) moderate
Increased pressure on social services					3			✓				3	(9) moderate
Temporary job opportunities for locals		✓						✓				-	
Local economy & increased local spending		✓						✓				-	
Project grievances					3			✓				3	(9) moderate
Risks of Damage to private properties					3			✓			✓	3	(9) moderate
Risk of Damage to archaeological resources					3			✓			✓	1	(3) low
Operation Phase													
Emission of GHGs							1	✓			✓	3	(3) low
Water pollution						2		✓	✓	✓	✓	2	(4) low
Solid waste generation (including chemical sludge)					3			✓				4	(12) moderate
Wastewater generation						2		✓				4	(8) moderate

Project Phases / Type of Impacts													
Temporal Distribution of Impacts	No Impact	Positive Impacts	Negative Impacts									Likelihood	Overall -ve Impact
			5- Severe	4- Major	3- Medium	2- Minor	1- Negligible	Direct Impact	Indirect Impact	Commutative Impact	Residual Impact	1-unlikely to occur 2-not expected 3-Likely to occur 4-known to occur 5-common to occur	Combined likelihood and impact
OHS risks to workers						2		✓			✓	3	(6) moderate
Improved Health Sanitation and Hygiene		✓						✓			✓	-	
Increased water supply to community		✓						✓			✓	-	
Local economy		✓						✓		✓	✓	-	
Decommissioning Phase													
Emissions of air pollutants (dust, exhaust)					3			✓				4	(12) moderate
Emission of GHGs							1	✓				3	(3) low
Generation of noise & vibration							1	✓				2	(2) low
Landscape and Visual impact				4				✓				4	(16) substantial
Solid waste generation					3			✓				4	(12) moderate
OHS impacts					3			✓				3	(9) moderate
Labour force				4				✓				3	(12) moderate

## 6.2 Impacts on the Physical Environment

### Noise, Vibration and Air Quality

#### Construction phase

*Construction noise:* Noise will be generated from vehicular movements, sand and aggregate processing, concrete mixing, excavation machinery, blasting operations, etc. Also, the presence of personnel will serve as a continuous source of low-level noise emissions. The noise will have a temporary impact which can only be significant to fauna at Chinene forest reserve.

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*Vibration:* Vibration will inevitably occur as a result of moving heavy construction machinery, the use of specialized equipment (e.g. jackhammers) and during rock blasting operations. Generally, these vibrations will be confined to a relatively small area and be of temporary nature.

*GHG emissions:* During the construction phase, greenhouse gas (GHG) emissions will inevitably be generated by construction traffic and diesel generators used to supply the construction machinery. However, the magnitude of these emissions is assumed to be insignificant in terms of climate change impact.

*Air Quality:* During construction the main impact on ambient air quality will result from elevated levels of dust arising from the movement of construction machinery, excavations, rock blasting, cement mixing and road transport. Emissions of particulate matter from diesel trucks as well as road dust cannot be reasonably quantified but the impacts will be intermittent and short term. In addition to emissions of particulate matter, there will be minor, localized and temporary emissions of NO<sub>x</sub> and SO<sub>2</sub> from construction machinery, vehicles and diesel generators.

#### Operation phase

*Noise and Vibration:* WTP and reservoir structures will be surrounded by walls and are not located in the vicinity of any sensitive receptors. No significant vibrations are expected from reservoirs and WTP to any sensitive receptors. These infrastructures are not located to immediate vicinity of settlements and sensitive receptors.

*Air Quality:* Ambient air pollution during the operation phase is expected to be limited and localized. The main source of air pollution will be from vehicle emissions and dust from traffic on unpaved roads. Notably, the WTP is expected to be supplied by grid power, which consists of a mix of hydroelectric and thermal generation. The Project's power demand, however, will be insignificant in terms of ambient air pollution and climate change impacts.

*Conclusion:* The magnitude of possible noise and vibration impacts during construction will be **moderate negative**, while it will be **low negative** during operation.

**Table 6-2: Magnitude of possible noise and vibration impacts during construction**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	%o-----%o-----%o-----%o-----%o				
Construction Operation		▲	▲		

*Conclusion:* The magnitude of the impact on air quality during the construction phase is **moderate negative**, while it is **low negative** during operation.

**Table 6-3: Magnitude of the impact on air quality during the construction**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	%o-----%o-----%o-----%o-----%o				
Construction Operation		▲	▲		

## Topography and landscape

### Construction phase

*Visual impact:* The aesthetic impact of infrastructure developments is largely a subjective matter determined by individual preferences and values. During the construction of the planned WS infrastructure there will be significant disturbance to the landscape, especially in relation to trench excavation works for the TM and site preparation for associated infrastructure such as WTP and reservoirs. However, the new infrastructure will affect areas where the landscape has already been converted from its natural appearance.

### Operation phase

*Visual impact:* During the operation phase, it is assumed that the pipeline corridor has been reinstated to its pre-project condition (either revegetated or farmed with annual crops). On the other hand, the above-ground infrastructure (WTP, and reservoirs) will become visible features, some of which can be viewed from afar. Spoil tips from the excavations will alter the terrain at the spoil disposal sites even though regrading and revegetation is envisaged. Large boulders and rocks that locally dominate the landscape will need to be removed especially at the rocky hillsides where the new reservoirs and access roads will be built. However, as these rocky hills are most common in the area the resulting visual intrusion is unlikely to be considered as a significant disturbance by the local communities.

*Conclusion:* The possible magnitude of impacts on topography and landscape is **moderate negative** during construction phase while it will be **low negative** during operation phase.

**Table 6-4: Magnitude of impacts on topography and landscape during construction**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰	‰	‰	‰	‰
Construction			▲		
Operation		▲			

## Geology and soils

### Construction phase

*Soil erosion:* During construction, soils will be impacted by activities like site clearance, blasting, grading, soil removal, backfilling, compacting, excavation and disposal of surplus soil, etc. This applies to all project activities along the TM and the proposed WTP and reservoir sites where the soil surface will be most disrupted. The excavations will generate excess material (soil, rocks) which will be disposed in spoil tips. In general, however, exposure of the ground, removal of vegetation cover and trenching will make the soil liable to wind erosion and surface runoff during heavy rains. Failure to re-vegetate temporary used land may exacerbate and accelerate such effects.

*Spills on land:* Construction activities pose a risk for the accidental release of hazardous petroleum-based products, such as lubricants, hydraulic fluids and fuels during their storage, transfer or use in equipment. Further hazardous components include paint and other

chemicals that will be used during the construction process. If such materials are not contained and handled in a professional manner, there is a risk of contaminating soils.

#### Operation phase

*Soil erosion:* Soil erosion is expected to be less severe at the operation stage due to a paucity of earthwork activities and re-vegetation of temporarily exposed soils. However, erosion and gully formation may occur during heavy rains, especially on steep surfaces in the environs of the new water reservoirs.

*Land contamination (spills on land):* During operation, impacts on soils could result from the spillage of hazardous wastes and materials, including hydrocarbons, mainly at the WTP. Failure or lack of spill prevention systems and inadequate handling of hazardous waste may cause accidental contamination of soils.

*Conclusion:* The magnitude of the impact on geology and soils is considered to be **moderate negative** during both construction and the operational stage.

**Table 6-5: Magnitude of the impact on geology and soils during construction**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰-----‰-----‰-----‰-----‰				
Construction			▲		
Operation			▲		

#### Water and hydrology

##### Construction phase

*Water pollution:* During construction, soil erosion from earthworks and runoff may be drained into receiving water bodies, causing increased turbidity in a limited area and possibly in Bubu river.

In addition, accidental spills of fuel and oil from construction machinery and leaching of ammonia and nitrogen from blasting and soil rock deposits, may cause water pollution in Bubu river and other water sources. Another possible source of water pollution is batching plants and particularly the effluent from concrete truck cleaning. Wastewater originating from these sources is characterized by a high pH and contaminants from the concrete additives.

Workers' camps are also expected to generate sanitary effluents which are potential sources for microbiological and organic pollution of surface and ground water. These workers' camps will also produce domestic waste, typically estimated at 0.5 kg/capita/day. Unless the waste and WW from domestic or construction origin (e.g. scrap metal, wood, plastic, cement bags, used tires and batteries, etc.) is adequately managed, it may result in pollution of water.

##### Operation phase

*Water pollution:* During the operation phase, the risk of water pollution will be significantly reduced as compared to the construction phase. However, accidental fuel and oil spills could still occur with inadequate handling of liquid waste and failure of spill prevention systems,



mainly at the water treatment plant. A particular issue at the water treatment plant is the use of chemicals for coagulation, disinfection and water conditioning, including chlorination used for water disinfection. The sludge from the clarification process may also be a potential source of water pollution although it will be monitored on a regular basis and disposed in a safe manner.

**Conclusion:** The magnitude of the impact on water pollution during the construction phase is **moderate negative**, while it is **low negative** during operation phase.

**Table 6-6: Magnitude of the impact on water pollution during the construction**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰-----‰-----‰-----‰-----‰				
Construction					
Operation		▲	▲		

## 6.3 Biological Environment

### Flora

#### Construction phase

**Vegetation loss through site clearance:** All constructions will inevitably involve vegetation clearing to prepare the ground for civil works and installations. The area to be cleared for the construction of the TM will be limited to a right-of-way, therefore overall loss of vegetation in that area will be limited. Further vegetation losses will result from site clearance for the construction of WTP at Farkwa area, reservoirs including at Chinene forest reserve and access roads of the same. Habitat assessment shows that species' diversity in these areas is relatively high especially at Chinene forest reserve. Rare or protected species were not identified at the site during the surveys. Vegetation losses resulting from the construction of the TM will mainly affect crops which can easily be replaced/replanted out of right-of-way.

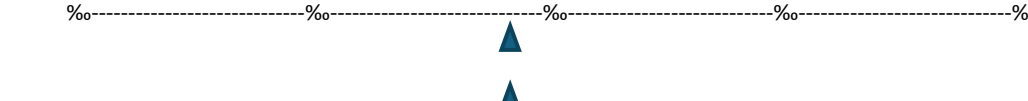
**Invasive plant species:** One of the possible negative effects of disturbing vegetation and soils during construction is the subsequent upsurge of invasive plants during site restorations. These invasive species have a high potential to suppress the native flora and change the structure and composition of the vegetation as they spread. Exotic and invasive plants may also be introduced to the project area for ornamental reasons. Once established, it is difficult to get rid of such species and further introductions of exotic species may cause the spread of more invasive plant species.

#### Operation phase

**Invasive plant species:** There is a possibility of introduction of invasive species during operation phase especially at reservoir sites. Ornamental plants to be introduced at reservoir and WTP sites may subsequently upsurge of invasive plants during the operational phase.

*Conclusion:* The magnitude of the impact on vegetation loss and invasive plant species is **moderate negative** during both the construction phase and the operation phase.

**Table 6-7: Magnitude of the impact on vegetation loss and invasive plant species**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰	‰	‰	‰	‰
Construction					
Operation					

## **Fauna**

### **Construction phase**

*Disturbance and habitat loss:* During the construction phase, noise will be generated from vehicular movements, sand and aggregate processing, concrete mixing, excavation machinery, rock blasting, etc. The presence of workers will also cause a continuous disturbance throughout the duration of construction. The disturbance is likely to take place in a limited area and likely affect small mammals and reptiles such as bird species, carnivorous reptiles (snakes), cercopithecidae (monkeys), dikdik in general and cause them to avoid or escape from the project area particularly at Zamahero reservoir site (Chinene forest reserve). However, most of the animal species recorded in the project area are highly mobile and will thus easily escape the construction site and move to equally suitable habitats nearby. Therefore, the impact is minimal.

### **Operation phase**

*Disturbance and habitat loss:* The reservoirs will mainly be located on small hills and on kopjes, characteristic rocky outcrops. The terrestrial fauna inhabiting the area is often found in and around these rocky outcrops as they represent the almost only areas with some natural vegetation and shelter left. In addition, the rocky outcrops provide some shelter and hiding places, especially for small mammals and reptiles. A factor that negatively affects the habitat potential of these areas is their limited size and physical isolation in a landscape that is dominated by anthropogenic activities. Generally, such circumstances will affect the development of valuable habitats and stable wildlife populations. Large reservoirs built in these locations will be at the expense of the fauna that currently inhabits these areas, inevitably entailing local, but long-term, irreversible losses for the terrestrial fauna. On the other hand, these rocky hills and kopjes are common throughout the wider area and the number of those affected by the project will be limited.

*Conclusion:* The magnitude of the impact on terrestrial fauna during the construction phase is **moderate negative**, during both construction and the operation phase.

**Table 6-8: Magnitude of the impact on terrestrial fauna during the construction**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰-----‰-----‰-----‰-----‰				
Construction			▲		
Operation			▲		

## 6.4 Impacts on the Human Environment

### Population

#### Mobilization Phase

*Land acquisition, resettlement and livelihood restoration:* WTP, Reservoirs and TM infrastructures will inevitably affect private property and/land and thus required land acquisition and compensation in line with the national policy and legislation and the applicable OS2 guidelines. In principle, the project requires the acquisition of land for the construction of WTP, Reservoirs and TM which is likely to lead to resettlement. Land acquisition may occur in localized at Farkwa areas for WTP and water pipe wayleave. A transect walk which was conducted in January 2025 identified approximately 946 Project Affected Person (PAPs). In such cases the project will consider to pay compensation and prepare livelihood restoration plan to PAPs in line with RAP report. Due to the fact that the number of identified PAPs is relatively large, the land acquisition and resettlement impacts is substantial.

*Influx of people seeking jobs:* The total number of workers is unknown at this stage but is expected to reach several hundred. The project is expected to recruit unskilled workers from the local communities, while others will come from outside and be resident in the respective project areas for the duration of construction. In addition to the mainstream workforce, construction activities typically attract job seekers, potential suppliers and camp followers. It is expected that one of the impacts during mobilization phase is influx of people seeking jobs from both within the project areas (locals) and outside project areas. Population influx, even though temporary, will put considerable pressure on resources and social services, especially on health and sanitation. An increase in population is usually also associated with a breakdown in social fabrics, norms, practices and conflicts.

#### Construction phase

*Population influx:* Construction activities will attract job seekers and camp followers and put considerable pressure on social services. Population influx during construction phase may also be associated with a breakdown in social fabrics, norms, practices and may results into conflicts. In addition, population influx may potentially result in an increased risk of exposure to HIV/AIDS and other STDs within the project area.

#### Operation phase

*Land acquisition and resettlement:* No additional properties or structures is expected to be affected during the operation phase.

*Population influx:* No population influx expected during the operation phase.

*Conclusion:* The magnitude of the impact on the human environment in terms of involuntary resettlement due to land acquisition and population influx is **moderate negative** during the construction and operation phases.

**Table 6-9: Magnitude of the impact on the human environment in terms of involuntary resettlement**

Phase	Impact magnitude				
	Positive ‰-----‰	Low -ve ‰-----‰	Moderate -ve ‰-----‰	Substantial -ve ‰-----‰	High -ve ‰-----‰
Construction			▲		
Operation			▲		

## Local Economy

### Mobilization phase

*Local economy & increased local spending:* It is likely that the project will provide temporary employment opportunities for the local population, both directly and indirectly. It is further likely that the Project will lead to an increase in the local demand for goods and services such as food for construction workers, housing, basic items, transport, etc. This represents an opportunity for the local population to generate some income from the provision of different services such as renting out accommodation, food vending and sales of agricultural and other local produce.

### Construction phase

*Local economy & increased local spending:* The project will provide temporary employment opportunities for the local population. Most of the jobs that will be open for the local population (semi-skilled and unskilled laborers). The Project will also open opportunities for unskilled workers to improve their skills and to gain experience in different trades which will be of permanent value to them at a later stage. An increase in the local demand for goods and services such as food for construction workers, housing, basic items, transport, etc are expected during construction phase. This is an opportunity for the local population to generate some income from the provision of different services such as renting out accommodation, food vending and sales of agricultural and other local produce.

### Operation phase

*Improved Health Sanitation and Hygiene; Increased water supply to community; and Economic benefits:* During the operation phase, the improvement of the water supply is likely to have an in improved health sanitation and hygiene to community; and an increase of water supply and availability to community. All these will have an economic effect in the form of reduced work burdens for fetching water and reduced mortality rates for large numbers of people in the region associated with water borne diseases. This will contribute to the release of human and economic resources for other productive and profitable activities.

*Conclusion:* The magnitude of the impact on local economy in terms of health, sanitation and hygiene is **positive** during the mobilization, construction and during the operation phase.

**Table 6-10: Magnitude of the impact on local economy in terms of health, sanitation and hygiene**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰-----‰-----‰-----‰-----‰				
Mobilization	▲				
Construction	▲				
Operation	▲				

## **Occupational Health and Safety (OHS)**

### **Construction phase**

*Occupational health and safety:* The OHS impact during construction are common to large infrastructure projects. Trenching may become risky in sections with unstable soils especially when the depth of excavations exceeds 1.2m. Blasting will be required in some locations in areas of the new reservoirs where some boulders exist and will need to be removed. In addition, reservoir sites are located on hillsides of which site workers will be exposed to several species of venomous snakes which could pose a threat to workers who are not aware of the risk and/or do not wear appropriate PPE during site clearance or other activities at or around these sites. The use of casual workers with limited exposure to health and safety standards can be considered as an additional risk.

*Community health and safety:* Particular risk (in terms of community health and safety) is related to increased traffic on the main roads leading to project areas/sites for the entire duration of the construction works. Additionally, there is a risk that people especially children to fall into trenches or excavations, or slide from the trench when the slope is not properly secured.

### **Operation phase**

*Occupational health and safety:* The staff responsible for operation and maintenance of the new WTP will be exposed to a range of OHS risks that are typically associated with accidents and injuries, chemical exposure (e.g. coagulants and chlorine) and noise.

Potential failure of the WTP, main pipelines or storage tanks may involve significant EHS risks, e.g. leakage of chemicals (chlorine) used in water treatment, pipeline burst, or accidental overflows from water tanks. However, the design has provided for adequate control and safety systems, including automatic operated valves in the WTP and water pipes and installations of spillways on the water reservoirs. Such emergency response systems are key design criteria. In addition, tailored trainings are planned for those individuals that will be exposed to such risks.

*Conclusion:* The magnitude of the impact on OHS is **moderate negative** during the construction and operation phase.

**Table 6-11: magnitude of the impact on OHS**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰-----‰-----‰-----‰-----‰				
Construction			▲		
Operation			▲		

## Project Grievances

### Construction phase

*Community grievances:* There is a risk that grievances may arise during construction works. Damage to private properties, frequent community accidents, conflicts over violation of cultural norms and practices etc may results into grievance between the project and community. It is emphasized that the Contractor to conduct regular engagement meetings with local to understand and comply with local norms and ensure workers have code of conducts to control their behaviors.

*Worker grievances:* Worker's mistreatment, poor conditions of labor or poor labor's welfare may results into worker grievances. Contractor has to put in place a transparent GRM to allow grievances to be received and resolved timely.

### Operation phase

Grievances may arise from

- the community living along the WTP, conveyance line and reservoirs
- customers
- DUWASA/RUWASA staff

Updated GRM procedure will be included in the operation procedure of the future operator of the conveyance system. A clear set-up for collection and treatment of grievances will be set. This should be prepared once the institutional framework of future system operation is set and agreed.



*Conclusion:* The magnitude of the impact on project grievances is **moderate negative** during the construction phase.

**Table 6-12: Magnitude of the impact on project grievances**

Phase	Impact magnitude				
	Positive	Low -ve	Moderate -ve	Substantial -ve	High -ve
	‰-----‰-----‰-----‰-----‰				
Construction			▲		

## Damage to Private Properties

### Construction phase



*Damage of properties:* During construction of water infrastructures in particular TM, there is always the risk of damage being incurred from or to surrounding structures. This is particularly the case when the construction work involves blasting, vibration and excavation works. Underground utilities will be subjected to risk of being damaged during trench excavation works.

#### Operation phase

Damage of properties during operation phase may only occur when TM burst. Water transmission main may burst when water hammer in water supply systems occurs due to rapid closure of valves and sudden shut off or unexpected failure of power supply to the pumps. The pressure rise due to water hammer may have sufficient magnitude to rupture the transmission pipe.

*Conclusion:* The magnitude of the impact on damage of properties is **moderate negative** during the construction and operation phases.

**Table 6-13: Magnitude of the impact on damage of properties**


Phase	Impact magnitude				
	Positive ‰	Low -ve ‰	Moderate -ve ‰	Substantial -ve ‰	High -ve ‰
Construction			▲		
Operation			▲		

#### Damage to Archaeological Resources/Cultural Heritage

##### Construction phase

*Damage to Cultural heritage:* There is a risk that certain places of cultural significance will be impacted during construction and installation works. During the survey, more than 38 graves was identified within the corridor of the TM. There is chance that during construction more graves or cultural heritage sites be discovered. A Chance find procedure shall be implemented in that case.

##### Operation phase

 No cultural heritage is expected during operation phase. The Project will not have any impacts on cultural heritage during the operation phase.

*Conclusion:* The magnitude of the impact on archaeological resources/cultural heritage is **low negative** during the construction phases.

**Table 6-14: Magnitude of the impact on damage of properties**

Phase	Impact magnitude				
	Positive ‰	Low -ve ‰	Moderate -ve ‰	Substantial -ve ‰	High -ve ‰
Construction	▲				

## 6.5 Summary Impact Assessment

The following Table summarizes the potential impacts on the physical, biological and human environment.

**Table 6-15: Summary of Impact Assessment (without additional mitigation)**

Project Phases / Type of Impacts			
Temporal Distribution of Impacts	No Impact	Positive Impacts	Negative Impacts
<b>Mobilization Phase</b>			
Land acquisition, resettlement & livelihood restoration			substantial
Temporary employment opportunities		✓	
Local economy & increased local spending		✓	
Influx of people seeking jobs			moderate
<b>Construction Phase</b>			
Emissions of air pollutants (dust, exhaust etc.)			moderate
Emission of GHGs			low
Generation of noise & vibration			moderate
Visual impact			moderate
Vegetation loss through site clearance			moderate
Invasive plant species			moderate
Soil erosion			moderate
Disturbance and loss of biodiversity			moderate
Solid waste generation			moderate
Wastewater generation			moderate
Spills on land			moderate
Soil pollution			moderate
Water pollution			moderate
Traffic congestion			moderate
OHS risks to workers			moderate
Community health and safety risks			moderate
HIV/AIDS transmission risks			moderate
GBV and SEAH risks			moderate
Influx of people seeking jobs			moderate
Increased pressure on social services			moderate
Temporary job opportunities for locals		✓	
Local economy & increased local spending		✓	
Project grievances			moderate
Damage to private properties			moderate
Damage to archaeological resources			moderate
<b>Operation Phase</b>			
Damage to private properties			moderate
Damage to archaeological resources	✓		

**Table 6-16: Project infrastructure Impact analysis**

Project Component	Activity	Impacts Associated	Mitigation Measures
Raw Water Intake and Pumping Station	Carbon footprint	Expected 113kgCO <sub>2</sub> /d emissions from pumping station operation	<ul style="list-style-type: none"> <li>Conduct vegetation replanting after</li> </ul>
• Raw water			

Project Component	Activity	Impacts Associated	Mitigation Measures
intake <ul style="list-style-type: none"> <li>• Pumping station</li> <li>• Powerhouse</li> <li>• Guardhouse</li> <li>• Parking</li> <li>• Workshop</li> <li>• Public toilet</li> <li>• Access roads</li> </ul>	<b>Site Clearance and Excavation:</b>	<ul style="list-style-type: none"> <li>• Loss of vegetation and habitat.</li> <li>• Soil erosion and sedimentation in nearby water bodies.</li> <li>• Disruption to local ecosystems.</li> <li>• Increase carbon footprint</li> </ul>	construction. <ul style="list-style-type: none"> <li>• Install erosion control systems like silt fences and sediment traps, contours, and terraces.</li> <li>• Restrict excavation activities during heavy rain to minimize runoff.</li> </ul>
	<b>Spoil Disposal and Backfilling:</b>	<ul style="list-style-type: none"> <li>• Improper disposal of excavated materials can contaminate soil and water.</li> <li>• Dust and particulate matter pollution.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement proper waste management procedures, for example, R3</li> <li>• Use dust suppression measures like water spraying during dry conditions.</li> </ul>
	<b>Steel, Concrete, and Masonry Works:</b>	<ul style="list-style-type: none"> <li>• Energy use and greenhouse gas emissions from material production.</li> <li>• Noise and vibrations affecting nearby wildlife and communities.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of sustainable energy, such as electrical equipment.</li> <li>• Use low-carbon construction materials wherever feasible.</li> </ul>
	<b>Pump and Electrical Installation:</b>	<ul style="list-style-type: none"> <li>• Potential oil or chemical spills during equipment installation.</li> <li>• Risk of groundwater or surface water contamination.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement noise barriers or restrict noisy activities to daytime hours.</li> </ul>
	<b>Social Impacts</b>	<ul style="list-style-type: none"> <li>• Potential oil or chemical spills during equipment installation.</li> <li>• Risk of groundwater or surface water contamination.</li> </ul>	
	<b>Occupational Health and Safety</b>	<ul style="list-style-type: none"> <li>• Dust and noise pollution affecting workers and nearby residents.</li> <li>• Increased traffic from transportation of materials can lead to congestion or accidents.</li> </ul>	<ul style="list-style-type: none"> <li>• Use spill containment measures and train workers in proper handling of hazardous materials.</li> <li>• Regularly monitor water quality near the site to identify contamination early.</li> </ul>
	<b>Transportation</b>	<ul style="list-style-type: none"> <li>• Potential injury on workplace</li> </ul>	<b>Social Mitigation Measures</b>

Project Component	Activity	Impacts Associated	Mitigation Measures
		<ul style="list-style-type: none"> <li>GHG emission from fuels</li> </ul>	<p>:</p> <p>Monitor air quality and establish noise-reduction measures.</p> <ul style="list-style-type: none"> <li>Schedule material transportation during off-peak hours.</li> <li>Implement traffic management plans and signage to improve safety.</li> <li></li> <li>Equip workers with personal protective equipment (PPE).</li> <li>Provide training to workers on OHS</li> <li>Introduce shifting on works with high levels of noise</li> </ul>
<b>WTP</b> <ul style="list-style-type: none"> <li>Treatments units</li> <li>Powerhouse</li> <li>Staff houses 9</li> <li>Administration Building</li> <li>Workshop</li> <li>Guardhouse</li> <li>Access roads</li> <li>Basket Ball Court</li> </ul>	<b>Carbon footprint</b>	16KgCO <sub>2</sub> /d emissions are expected from WTP operations	<ul style="list-style-type: none"> <li></li> </ul>
	<b>Site Preparation &amp; Excavation</b>	<ul style="list-style-type: none"> <li>Ground disturbance and soil erosion.</li> <li>Dust and noise pollution.</li> <li>Potential disturbance to local wildlife and vegetation.</li> </ul>	<ul style="list-style-type: none"> <li>Implement erosion control techniques (e.g., silt fences, stormwater management).</li> <li>Use water spraying to suppress dust.</li> <li>Use noise barriers and limit noisy activities to certain hours.</li> <li>Conduct environmental surveys to identify sensitive areas and minimize disruption</li> </ul>

Project Component	Activity	Impacts Associated	Mitigation Measures
	<b>Construction of Treatment Units (Aeration cascade, pH adjustment, Coagulation, Flocculation, Sedimentation, Rapid sand filtration, disinfection, sludge thickener, Sludge drying bed, and lagoon)</b> Impacts:	<ul style="list-style-type: none"> <li>• Generation of construction waste.</li> <li>• Risk of accidental spills of fuels or lubricants.</li> <li>• Potential worker injury due to heavy machinery.</li> </ul>	<ul style="list-style-type: none"> <li>• Implement proper waste management procedures (e.g., recycling, disposal of hazardous materials).</li> <li>• Ensure spill containment and cleanup procedures are in place.</li> <li>• Provide adequate training to workers and use personal protective equipment (PPE).</li> </ul>
	<b>Installation of Electrical and Control Systems</b>	<ul style="list-style-type: none"> <li>• Exposure to electrical hazards.</li> <li>• Noise from equipment.</li> </ul>	<ul style="list-style-type: none"> <li>• Adhere to electrical safety standards (e.g., lock-out/tag-out procedures).</li> <li>• Provide adequate PPE (e.g., insulated gloves, safety boots).</li> <li>• Proper grounding and testing of electrical systems to ensure safety.</li> </ul>
	<b>Transportation</b>	<ul style="list-style-type: none"> <li>• Traffic congestion and potential accidents.</li> <li>• Air pollution from vehicle emissions.</li> </ul>	<ul style="list-style-type: none"> <li>• Plan transport routes to avoid high-traffic areas.</li> <li>• Use low-emission vehicles where possible.</li> <li>• Schedule deliveries to minimize disruptions and improve traffic flow.</li> </ul>

Project Component	Activity	Impacts Associated	Mitigation Measures
	<b>Water Intake and Pre-Treatment</b>	<ul style="list-style-type: none"> <li>Potential alteration of local water levels or ecosystems.</li> <li>Chemical handling during coagulation/flocculation (e.g., aluminum sulfate).</li> </ul>	<ul style="list-style-type: none"> <li>Monitor and manage water intake to avoid negative impacts on the ecosystem.</li> <li>Ensure proper chemical storage and handling practices to minimize spills.</li> <li>Use non-toxic coagulants where possible.</li> </ul>
	<b>Filtration and Disinfection</b>	<ul style="list-style-type: none"> <li>Generation of chemical waste (e.g., chlorinated water, sludge).</li> <li>Airborne exposure to chlorine or other disinfectants.</li> </ul>	<ul style="list-style-type: none"> <li>Proper disposal of chlorinated waste and residuals.</li> <li>Install ventilation systems to reduce worker exposure to chlorine gas.</li> <li>Use alternative disinfection methods like UV if feasible to reduce chemical use.</li> </ul>
	<b>Sludge Management</b>	<ul style="list-style-type: none"> <li>Accumulation of chemical sludge that can be toxic and difficult to dispose of.</li> <li>Risk of contamination of soil and water bodies if improperly managed.</li> </ul>	<ul style="list-style-type: none"> <li>Implement sludge dewatering and treatment technologies (e.g., drying beds, centrifuges).</li> <li>Treat chemical sludge to neutralize toxicity before disposal.</li> <li>Explore opportunities for recycling or repurposing sludge (e.g., as fertilizer, in construction materials).</li> </ul>



Project Component	Activity	Impacts Associated	Mitigation Measures
	<b>Chemical Handling and Storage</b>	<ul style="list-style-type: none"> <li>• Risk of spills, leaks, or exposure to toxic chemicals.</li> <li>• Fire and explosion hazards from the handling of flammable substances.</li> </ul>	<ul style="list-style-type: none"> <li>• Design proper chemical storage and handling areas with containment measures.</li> <li>• Use spill containment equipment and train personnel in emergency response procedures.</li> <li>• Conduct regular inspections and maintenance of chemical storage facilities.</li> </ul>
	<b>Occupational Health and Safety (OHS) Considerations</b>	<ul style="list-style-type: none"> <li>• Workers are exposed to physical hazards like moving machinery, heavy lifting, and confined spaces.</li> <li>• Workers may be exposed to hazardous chemicals during water treatment, particularly chlorine, coagulants, and disinfectants.</li> <li>• Prolonged standing or repetitive motions in operational tasks can lead to musculoskeletal injuries.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct regular OHS training for workers.</li> <li>• Provide PPE (e.g., gloves, goggles, helmets).</li> <li>• Enforce lock-out/tag-out procedures and provide confined space entry training.</li> <li>• Provide ergonomic training and suitable equipment.</li> <li>• Rotate workers to reduce repetitive stress injuries.</li> </ul>
	<b>Water Discharge and Waste Management:</b>	The discharge of treated water and waste products into the environment must be managed to prevent pollution.	<ul style="list-style-type: none"> <li>• Ensure that effluent meets environmental discharge standards.</li> <li>• Develop plans for the safe disposal of waste, including sludge and spent</li> </ul>

Project Component	Activity	Impacts Associated	Mitigation Measures
			chemicals. <ul style="list-style-type: none"> <li>To establish an irrigation scheme to utilize water discharged from the backwash</li> </ul>
		Continuous operation of machinery, pumps, and motors can lead to noise pollution.	<ul style="list-style-type: none"> <li>Install noise barriers around noisy equipment.</li> <li>Perform regular maintenance on machinery to minimize noise.</li> </ul>

## 6.6 Analysis of Alternatives

This section describes and examines different alternatives to the proposed project interventions. Analysis of alternatives include no project option and the project option. The following is description of analysis of alternatives which were evaluated during project planning phase to achieve and maximize project objectives while minimizing environmental and social impacts. Alternatives were evaluated and compared on the basis of their potential environmental and social impacts, costs and feasibility.

### No Project Option

The “no project option” means that MoW must not implement the proposed project. This was used to compare with the other options available to assess the impacts that would be caused as a result of the project. This option would have the advantage of having no adverse environmental and social impacts associated with development of new infrastructure.

However, the disadvantages of “no project option” are as follows:

- No access to potable water and improved hygiene sanitation;
- Increased cases of waterborne diseases;
- Continued water scarcity in Dodoma region;
- increased cases and deaths associated with diarrheal disease; and
- Increased work burdens and time spent on fetching water among women and girls.

### The Project Option

DUWASA is facing difficulties to meet water demand leading to shortage of water in Dodoma region. One of the reasons for this situation is due to low water production that has affected implementation of water supply in Dodoma region. Existing water supply system capacity is less than the current demand which makes significant part of population to have no access to clear and safe water.

Efforts to meet current water demand by increasing water production is the only project option required to be undertaken by MoW. For this reason, the project option aimed at a long-term strategy by increasing production of water to meet demand up to year 2045 through establishment of new WTP at Farkwa and new reservoirs at Chemba, Bahi, Chamwino districts and Dodoma city. The infrastructure will increase both availability of clean and safe water as well as service coverage area in Dodoma region. The advantages of implementing the project are as follows:

- Increased access to potable water and improved sanitation services in Dodoma region;
- Reduced cases of waterborne diseases in Dodoma region;
- Increase access to clean and safe water to Dodoma region population;
- Increase water production (source capacity) to 128,000m<sup>3</sup>/day;
- Improvement of water quality to meet WHO standards;
- Provide reliable and affordable water services to Dodoma region; and
- Improvement of environmental Hygiene in Dodoma region.

However, the implementation of the project would have some environmental and social impacts which will require mitigation measures.

### Project Alternatives Analysis

The selection of key project components such as the source of water supply, treatment technology, and storage infrastructure was guided by a comprehensive assessment of environmental, technical, economic, and social considerations. This section provides a structured evaluation of the various options considered and justifies the preferred choices for the Dodoma Resilient and Sustainable Water Development and Sanitation Program Phase II.

### Alternative Water Sources for Dodoma City

The rapidly growing water demand in Dodoma City necessitates a long-term, sustainable, and climate-resilient water source. Multiple alternatives were evaluated based on reliability, availability, environmental sustainability, social acceptability, and cost-effectiveness.



**Table 6-17: Alternative source of water studied**

Alternative Source	Key Benefits	Key Limitations
<b>Mtera Dam</b>	<ul style="list-style-type: none"> <li>• Existing infrastructure</li> <li>• Large storage capacity</li> </ul>	<ul style="list-style-type: none"> <li>• Competing use for hydropower</li> <li>• Seasonal fluctuations</li> <li>• Limited allocation for urban water supply</li> <li>• Long transmission distance</li> </ul>
<b>Local Rivers</b>	<ul style="list-style-type: none"> <li>• Natural and local water sources</li> <li>• Potential for future storage</li> </ul>	<ul style="list-style-type: none"> <li>• Seasonal variability</li> <li>• Inconsistent flow during drought</li> <li>• High turbidity and sedimentation</li> </ul>

		<ul style="list-style-type: none"> <li>• Ecosystem sensitivity</li> </ul>
<b>Groundwater Aquifers</b>	<ul style="list-style-type: none"> <li>• Already in use</li> <li>• Distributed access points</li> </ul>	<ul style="list-style-type: none"> <li>• Over-extraction causing declining water tables</li> <li>• Salinity issues in some areas</li> <li>• Low recharge rates</li> <li>• Unsuitable for sole long-term supply</li> </ul>

### Preferred Option: Farkwa Dam

Farkwa Dam is selected as the **preferred water source** for the following reasons:

- **Long-Term Sustainability:** Unlike rivers and groundwater, Farkwa Dam offers a reliable surface water source that is not overly sensitive to seasonal or short-term droughts.
- **Design Capacity:** Engineered to serve not just Dodoma City but also Bahi, Chamwino, and Chemba districts, ensuring regional water security.
- **Climate Resilience:** Provides a buffer against climate variability and future water stress scenarios.
- **Environmental Efficiency:** Less ecological disturbance compared to river damming or aquifer overuse.
- **Economic Viability:** Though capital-intensive, lifecycle cost analysis shows Farkwa is more cost-effective than continually drilling boreholes or treating saline groundwater.

### Technology Options for Water Treatment

The following treatment technologies were considered based on the nature of the source water (surface water from Farkwa), cost, ease of operation, and energy use:

**Table 6-18: Alternative process**

Technology	Description	Pros	Cons
<b>Conventional Treatment (Sedimentation + Filtration + Disinfection)</b>	Well-established method using flocculation, sedimentation, filtration, and chlorination	<ul style="list-style-type: none"> <li>• Proven effectiveness</li> <li>• Suitable for surface water</li> <li>• Scalable</li> </ul>	<ul style="list-style-type: none"> <li>• Requires skilled operators</li> <li>• Higher chemical usage</li> </ul>
<b>Membrane Filtration (UF/RO)</b>	Uses semi-permeable membranes to remove particles and pathogens	<ul style="list-style-type: none"> <li>• High-quality output</li> <li>• Effective for saline or contaminated water</li> </ul>	<ul style="list-style-type: none"> <li>• Expensive</li> <li>• High energy demand</li> <li>• Not needed for low-salinity surface water</li> </ul>
<b>Slow Sand Filtration</b>	Natural filtration using sand beds	<ul style="list-style-type: none"> <li>• Low-tech</li> <li>• Environmentally</li> </ul>	<ul style="list-style-type: none"> <li>• Requires large land area</li> </ul>

Technology	Description	Pros	Cons
		friendly	<ul style="list-style-type: none"> <li>• Less effective for large-scale urban supply</li> </ul>

### Preferred Option: Conventional Treatment

Given the scale and raw water characteristics of Farkwa Dam, conventional treatment offers the best balance of effectiveness, affordability, and operational familiarity for the local context. It ensures treated water meets national and WHO quality standards without requiring complex systems like membranes, which are more suited for saline groundwater.

### Storage Tank Alternatives

Storage tanks are essential to maintaining water availability during peak demand, managing distribution pressures, and enabling routine maintenance. The options analyzed include:

### Preferred Option: Reinforced Concrete Tanks

Reinforced Concrete Tanks (RCC) are selected due to:

- **Durability:** They withstand Dodoma's high temperatures and resist corrosion without additional treatments.
- **Economies of Scale:** Despite higher initial costs, their longevity and minimal maintenance make them cost-effective over the system's life.
- **Thermal Stability:** Better suited to maintaining water quality in hot climates compared to steel or aluminum.

**Table 6-19: Alternative options**

Component	Preferred Option	Justification
Water Source	Farkwa Dam	Sustainable, climate-resilient, designed for regional coverage
Treatment Technology	Conventional (Flocculation + Sedimentation + Filtration + Chlorination)	Proven, cost-effective, and efficient for surface water
Storage Infrastructure	Reinforced Concrete Tanks	Long-lasting, low-maintenance, suited for Dodoma's climate

### Transmission Main Route Alternatives

To avoid and minimize E&S impacts, the Consultant decided to survey three TM routes order to determine the most feasible TM route and to quantify the impacts expected for each TM

route so as to avoid or minimize E&S impacts. The following TM routes with its impact are summarize below:

### Original Route

The original route (designed by another Consultant) was surveyed and observed to have 490 structures within the TM route. 37 graves and four graveyards were also within a wayleave. Total land parcels were 1,162 occupied by crops and trees were part of assets to be affected. In addition to that 1,148 PAPs were identified for compensation and livelihood restoration program.

### Route 1

Consultant redesigned the above original route to find an alternative route having minimal E&S impacts. Route 1 led to the following outcomes. 197 structures were found within a 30m wayleave of TM route 1. The structures included 116 houses, 15 unfinished house structures and 66 business structures. In addition, Consultant found 39 graves and 4 graveyards (with a substantial number of graves) and one of the graveyards was historical graveyard owned by Farkwa Catholic Church. A total of 1,028 land parcels including crops were also found to be within 30m wayleave and 1022 PAPs were identified for compensation and livelihood restoration program.

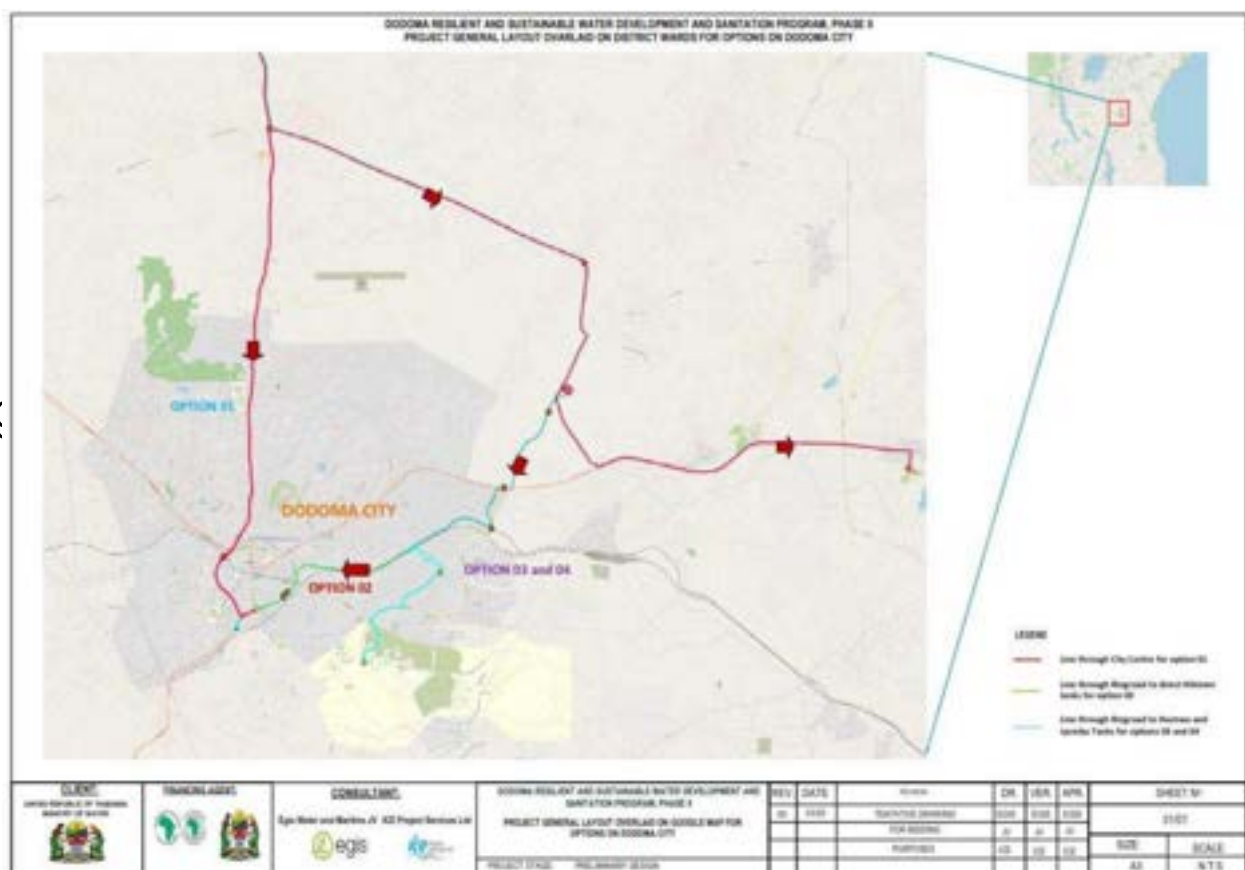


Figure 6-1: Conveyance System Map - Dodoma Area - Optimized Routing



## **Route 2**

Under Route 2, Consultant observed a presence of 117 structures. The structures included 82 houses, 15 unfinished house structures and 20 business structures. A total of 38 graves and 1 graveyard at Mahomanyika with several graves (at TANROADS road reserve) were also found within TM route 2. A total of 924 land parcels including crops and trees were found within 30m wayleave and a total of 918 PAPs were identified for compensation and livelihood restoration program.

## **Route 3**

Route 3 is similar to route 2, but considers an additional reservoir located at Iyumbu, before arrival to Kilimani 2.

Under Route 3, Consultant observed a presence of 121 structures. The structures included 86 houses, 15 unfinished houses and 20 business structures. Apart from building structures, 38 graves and 1 graveyard at Mahomanyika with several graves (at TANROADS road reserve) were identified within TM way leave. A total of 958 land parcels including crops and trees were found within 30m wayleave and a total of 946 PAPs were identified for compensation and livelihood restoration program.

## **Route 4**

Route 4: Under route 4 the consultant observed 121 structures. The structures included 86 houses, 15 unfinished houses and 20 business structures. Apart from building structures, 38 graves were identified within TM way leave. A total 958 land parcels including crops and trees were found within 30m wayleave and 946 PAPs were identified for compensation and a livelihood restoration program. Option 4 is unique as it proposes Iyumbu (being 30,000m<sup>3</sup> instead of 6000m<sup>3</sup> from option3) as main storage tank instead of kilimani in order to avoid mixing of fresh water from farkwa dam with salty water from the existing water sources.

**Table 6-20: Summary of E&S Impacts for each Route**

Route	No. PAP	No. Affected Structures	No. Land Parcels	Graves
ORIGINAL ROUTE	1,148	490	1,162	37 individual graves 4 graveyards
ROUTE 1	1,022	197	1,028	39 individual graves 4 graveyards
ROUTE 2	918	117	924	38 individual graves 1 graveyard
ROUTE 3	946	121	958	38 individual graves 1 graveyard
ROUTE 4	946	121	958	38 individual graves

## **Conclusion**

#### 6.6.4 Power alternatives

1. Original route had more E&S impacts compared to Option 1, 2 and 3
2. Option 1 had more E&S impacts compared to Option 2 and Option 3.
3. Option 2 had slightly less E&S impacts compared to Option 3; however, Option 2 had technical disadvantage compared to Option 3 as it covers less service area than Option 3.
4. Option 4 is unique as it proposes Iyumbu (being 30,000m<sup>3</sup> instead of 6000m<sup>3</sup> from option3) as main storage tank instead of Kilimani in order to avoid mixing of fresh water from Farkwa dam with salty water from the existing water sources. Therefore, Consultant opted for Route 4.

**Table 6-21: Power supply alternative**

Aspect	Solar Power (Alternative 1)	Diesel Generator (Alternative 2)	Utility (TANESCO - Main Source)
Source of Energy	Converts sunlight into electricity via solar panels. Requires inverters and optional battery storage	Uses diesel fuel to run an internal combustion engine that drives an alternator to generate electricity.	Electricity is supplied from the national grid (TANESCO) and distributed through transmission
Initial Cost	High: Requires investment in panels, inverters, batteries, and mounting structures.	Moderate: Generator purchase, fuel storage, and installation costs.	Low: Only requires grid connection fees and internal wiring setup.
Operating Cost	Low: Sunlight is free, but maintenance costs apply to batteries and inverters.	High: Fuel consumption, regular maintenance (oil changes, filters, engine servicing).	Moderate: Monthly electricity bills based on usage.
Reliability	Intermittent: Limited by sunlight availability; requires battery storage or hybrid system for night use.	Reliable if fuel is available, but long runtimes increase wear and maintenance.	Generally reliable, but outages may occur due to faults, load shedding, or grid failures.
Maintenance	Low: Occasional panel cleaning, inverter and battery checks. Battery replacement every 5-10 years..	High: Frequent servicing needed (oil, air filters, cooling system checks, fuel refilling).	Low: Limited to wiring and meter maintenance.
Environmental Impact	Clean energy, zero emissions, silent operation.	High emissions (CO <sub>2</sub> , NO <sub>x</sub> , particulate matter), noise pollution.	Moderate: Depends on TANESCO's power generation mix (hydropower, gas).

Aspect	Solar Power (Alternative 1)	Diesel Generator (Alternative 2)	Utility Power (TANESCO - Main Source)
Power Quality	Stable if inverter and batteries are properly sized; voltage fluctuations possible under high loads	Fluctuations possible due to fuel quality and load variations. May require voltage stabilizers.	Generally stable but may have voltage fluctuations or outages.

*Note:* Electricity source from TANESCO is chosen as it is more environmentally sustainable with less carbon emissions compared to other sources of power.

**Table 6-22: Alternative Water Treatment Technologies**

Treatment Unit	Purpose	Conventional Technology	Alternative Technologies	Advantages of Conventional	Disadvantages of Alternatives
<b>Cascade Aerator</b>	Removes dissolved gases and oxidizes iron/manganese.	Cascade Aerator	Packed tower aerators or Diffused aeration systems	Simple design, low maintenance.	High installation cost for advanced aerators.
<b>pH Adjustment Unit</b>	Optimizes pH for coagulation and disinfection.	Lime or CO <sub>2</sub> dosing	Other treatment technologies	Reliable and cost-effective.	Advanced alternatives may increase operational costs.
<b>Rapid Mixing Coagulation Unit</b>	Destabilizes particles for removal.	Alum/chemical coagulants	Electrocoagulation	Proven efficiency, easily available chemicals.	High energy demand in advanced coagulation technologies.
<b>Clariflocculator</b>	Combines flocculation and sedimentation.	Clariflocculator	Lamella clarifiers or dissolved air flotation (DAF).	Space efficient, reliable for particle removal.	DAF requires higher capital and operational costs.
<b>Rapid Gravity Sand Filter</b>	Filters out remaining suspended particles.	Rapid Gravity Sand Filter	Membrane filtration (e.g., ultrafiltration), Slow sand Filter	Cost-effective, robust for large-scale use.	Membranes are prone to fouling, higher operational costs.
<b>Disinfection Tank</b>	Ensures adequate contact time for microbial disinfection.	Chlorine or hypochlorite dosing	UV treatment or ozonation	Long residual effect, ensures long-term microbial safety.	UV lacks residual disinfection; ozone is cost-intensive.
<b>Clear Water</b>	Provides	Standard	Pressure vessels	Reliable and	Advanced

<b>Storage Tank</b>	storage and maintains water quality.	concrete or steel storage tanks	or advanced storage systems.	provides a buffer for supply.	systems can be expensive and may require special maintenance.
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**Table 6-23: Alternative Construction materials**

<b>1. Water Supply Pipelines</b>			
<b>Material</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Best For</b>
HDPE (High-Density Polyethylene)	Lightweight, flexible, corrosion-resistant, and easy to install.	Prone to damage under extreme temperatures and UV exposure.	Long-distance pipelines in areas with corrosive soils.
Ductile Iron	Strong, durable, and suitable for high-pressure systems.	Requires protective coating to prevent corrosion.	Urban water supply systems under high pressure.
PVC (Polyvinyl Chloride)	Affordable, lightweight, and easy to handle.	Becomes brittle in cold temperatures.	Shorter pipelines in low-pressure applications.
Copper	Corrosion-resistant and antimicrobial.	High cost and limited to small-scale use.	Small-scale domestic water lines.
Recycled Plastic Pipes	Environmentally friendly and durable.	Limited availability and often less pressure-resistant.	Eco-conscious projects with low pressure.
<b>2. Water Treatment Plant</b>			
<b>Material</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Best For</b>
Reinforced Concrete	Durable, widely available, and cost-efficient.	Heavy and time-consuming to construct.	Structural components like tanks and basins.
Ferrocement	Thin, strong, and lightweight.	Prone to cracking if poorly constructed.	Tanks, small structures, or basins in rural areas.
Composite Materials	Lightweight and resistant to corrosion and chemicals.	High initial cost.	Specialized components prone to chemical exposure.
Recycled Steel	Strong, durable, and eco-friendly.	Susceptible to rust if not treated.	Structural frameworks for plant buildings.
Geopolymer Concrete	Eco-friendly alternative to traditional concrete, offering high durability.	Limited availability in some areas.	Projects focusing on sustainability.
<b>3. Buildings</b>			
<b>Material</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Best For</b>

Bamboo	Renewable, strong, and lightweight.	Susceptible to pests and moisture if untreated.	Decorative elements and lightweight framing.
Rammed Earth	Sustainable, durable, and excellent thermal insulation.	Labor-intensive and requires skilled construction.	Low-cost, eco-friendly housing in warm climates.
Recycled Steel	Durable and sustainable.	Expensive and requires specialized handling.	High-strength frameworks for buildings.
Hempcrete	Lightweight, insulating, and environmentally friendly.	Not as strong as concrete for load-bearing walls.	Non-load-bearing walls and insulation.
Cross-Laminated Timber (CLT)	Strong, sustainable, and quick to assemble.	Expensive compared to conventional timber.	Multi-story wooden buildings.

#### 4. Intake Structures

Material	Advantages	Disadvantages	Best For
Stainless Steel	Corrosion-resistant and long-lasting.	High cost.	Intake screens and pipes in harsh environments.
Ferrocement	Cost-effective and durable.	Requires skilled labor to construct.	Intake chambers in rural or low-cost settings.
HDPE	Lightweight, corrosion-resistant, and flexible.	Limited to smaller structures due to strength limitations.	Pipes in areas with corrosive water or soils.
Recycled Concrete	Sustainable and readily available.	Strength depends on the quality of recycled material.	Construction of intake basins.
Recycled Plastic	Eco-friendly and cost-effective.	Limited capacity and structural strength.	Temporary or lightweight storage.
Recycled Rubber	Provides excellent cushioning and reduces joint impact.	Not as durable as concrete or asphalt.	Indoor or outdoor courts focusing on safety.

**Table 6-24: Alternatives to pipe materials**

Pipe Material	Advantages	Disadvantages	Best For
PVC (Polyvinyl Chloride)	Lightweight, corrosion-resistant, low cost, easy to install	Can become brittle over time, not suitable for high temperatures	Water distribution, low-pressure systems
HDPE (High-Density Polyethylene)	Flexible, resistant to corrosion and	More expensive than PVC, installation	Sewer lines, stormwater systems,

	chemicals, long lifespan	requires special tools	high-pressure systems
Ductile Iron	Strong, durable, can withstand high pressures and temperatures	Heavy, requires corrosion protection, expensive	High-pressure water distribution, fire hydrants

Ductile pipeline materials is proposed with compared to steel iron and other materials as ductile has the advantage of cost-effective, highly durability, easy installation during the construction, and high corrosion resistance compared to steel pipeline

**Table 6-25: Pipeline installation technologies**

Technology	Explanation	Advantages	Disadvantages	Best For
Open Trenching	Excavation of trenches to lay pipes, followed by backfilling.	Simple and widely understood. Suitable for all pipe sizes.	High environmental and landscape impact. Labor-intensive and time-consuming.	Rural areas with fewer underground utilities.
Horizontal Directional Drilling (HDD)	Pipes are installed underground using guided drilling techniques.	Minimal surface disruption. Suitable for difficult terrain and urban areas.	Expensive. Requires specialized equipment and skills.	Urban areas with significant obstructions.
Microtunneling	A remote-controlled machine bores tunnels for pipe installation.	High precision. Minimal impact on surface activities.	Very costly. Not suitable for smaller-diameter pipes.	Urban projects with high-traffic areas.
Pipe Jacking	Pipes are hydraulically pushed into position through the ground, often combined with tunneling.	Accurate and efficient for large-diameter pipelines.	Limited to straight alignments. Expensive for small projects.	Large-scale pipelines in stable soil conditions.



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## 7. MITIGATION MEASURES

### 7.1 Introduction

The mitigation measures presented in this chapter aim at avoiding, reducing or compensating for unwanted negative impacts of the planned water supply scheme. Opportunities for the enhancement of positive environmental and social impacts are also presented. Mitigation measures are described for each identified impact. The proposed mitigation measures include mobilization, construction and operation aspects as well as additional mitigation measures which go beyond the previously identified issues, especially regarding the social risks and impacts during construction.

Details on how the mitigation measures will be implemented and monitored are further described in the Environmental and Social Management Plan (ESMP) in Chapter 8 and the Environmental and Social Monitoring Plan in Chapter 9, respectively.


### 7.2 Physical Environment

#### **Compensate the Carbon footprint**

The absorption of carbon by plants must be compensated by replanting trees with high capacity of carbon absorption. Quantity of carbon emission released during operation and construction must also be compensated by planting trees with absorption of carbon equivalent to the carbon emission from the project

#### **Dust Emission, Noise and Vibration**

##### **Pre-construction/Mobilization phase**

- Limit construction to day time only unless with special permission;
  - Instruct the workforce to avoid unnecessary noise where sensitive receptors are present; and
  - Limit the hours of operation for specific equipment or operations close to sensitive receptors
- 
- Sprinkling of water on unpaved surfaces to suppress generation of dust
  - Provide PPEs such as dust mask, earplugs

##### **Noise and vibration**

##### **Construction phase**

##### *Construction noise*

- Prevent exposure of construction workers to unacceptable noise levels;
- Provide PPE such as ear plugs for workers operating machines that are generating noise and vibrations that can be injurious to their health;
- Limit construction to day time only unless with special permission;
- Locate noisy installations in adequate distance from sensitive receptors;
- Install noise control devices in construction equipment if noise levels exceed the limits;

- Instruct the workforce to avoid unnecessary noise where sensitive receptors are present; and
- Limit the hours of operation for specific equipment or operations close to sensitive receptors.

#### Operation phase

##### *Operation noise*

- Provide PPE such as ear plugs for WTP workers to minimize noise impacts from WTP unit processes

#### **Air quality and Dust**

##### Construction phase

- Prepare a ***Dust Management Plan*** to adopt best construction site practices for the effective control of dust nuisance. This shall include but may not be limited to:
  - Spraying water on unpaved grounds and roads to minimize dust dispersion if and where necessary;
  - Tarping trucks transporting loose/friable materials to minimize dust dispersion;
  - Covering stockpiles of excavated soils in areas near sensitive receptors;
  - Maintaining and storing piles of loose/friable materials and soil in a suitable manner to minimize dust dispersion; and
  - Provide dust mask to site workers when working in dust areas.

##### Operation phase

- N/A

#### **Topography and Landscape**

##### Construction phase

##### *Visual impact*

- Demarcate a wayleave for water pipeline construction and all other Project sites to ensure that vegetation clearance will be limited to the agreed work area;
- Remove and temporarily store topsoil for subsequent reuse in site restoration and landscaping;
- Landscaping of the spoil tips should take advantage of the natural terrain;
- Restore construction sites to pre-construction state.

##### Operation phase

- Restoration of project sites with native species

#### **Soil**

##### *Soil erosion*

##### Construction phase

- Limit clearance of vegetation only on the wayleave as much as possible to minimize

- exposure of soil to agents of erosion;
- Proper assessment of the drainage pattern
- Re-grade slopes and re-vegetate exposed areas;
- Put up barriers to protect soil from erosion along the pipeline route where there are steep edges; and
- Revegetate all landscaped area and ensure the plants/ vegetation are nursed to a stable condition

#### Operation phase

- Revegetate all landscaped area and ensure the plants/ vegetation are nursed to a stable condition

#### *Spill on land*

#### Construction phase

- Install secondary containment / oil separators at fuel/lubricant storage areas;
- Service machines, vehicles and heavy equipment to ensure there is no spillage of oil and greases during operations;
- Ensure proper spill control procedures and practices;
- Store fuel and hazardous chemicals/materials in properly designed storage areas; and
- Labelling all hazardous substances and providing work instructions in their use.

#### Operation phase

- Install secondary containment / oil separators at fuel/lubricant storage areas;
- Service machines, vehicles and heavy equipment to ensure there is no spillage of oil and greases during operations;
- Ensure proper spill control procedures and practices;
- Store fuel and hazardous chemicals/materials in properly designed storage areas; and
- Labelling all hazardous substances and providing work instructions in their use.

### Water Pollution

#### Construction phase

- Sanitation facilities shall be located within 100m from any point of work, but not closer than 50 m to any water body;
- The contractor shall ensure that no spillage occurs when the toilets are cleaned or emptied and that the contents are removed from site to an approved disposal site;
- Discharge of waste from toilets into the environment and burying of waste is strictly prohibited;
- Wash areas shall be placed and constructed in such a manner so as to ensure that the surrounding areas, which include groundwater are not polluted;
- Containers of chemicals and hazardous substances used on the sites should be confined in secure holding areas before disposal to approved sites by licensed waste handlers;
- Instructions for workforce to strictly refrain from any activities with potential for water

- 
- pollution; and
  - Ensure appropriate containment and disposal of construction wastewater, including sanitary water through onsite sanitation.

#### Operation phase

- Containers of chemicals and hazardous substances used on the sites should be confined in secure holding areas before disposal to approved sites by licensed waste handlers; and
- Instructions for workforce to strictly refrain from any activities with potential for water pollution;
- Ensure appropriate containment and disposal of wastewater, including sanitary water through onsite sanitation.

### **7.3 Biological Environment**

#### **Vegetation loss through Site clearance**

##### Construction phase

- Restore cleared areas as soon as the pipes are installed and ensure landscaping to minimize soil erosion;
- Earthworks in ecologically sensitive areas including steep hillsides and river crossings need to be carried with great caution;
- Prepare inventory of trees to be cleared and seek permission from authorities;
- Involve forest experts at Chinene forest reserve during construction works; and
- Leveling and replanting native species and should be made mandatory.

##### Operation phase

- Remove invasive plant species during routine maintenance; and
- Avoid importation of any exotic trees and soil from other places (e.g. for restoration or as ornamentals)
- Monitoring of restored areas



#### **Invasive Plant Species**

##### Construction phase

- Earthworks in ecologically sensitive areas including steep hillsides and river crossings need to be carried with great caution; and
- Use of minimal number of vehicles and other equipment in areas near sensitive receptors.

##### Operation phase

- Regular removal of invasive plant species.

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## **Disturbance/loss of Biodiversity**

### **Construction phase**

- Prohibit hunting of animals at project areas;
- Limit construction to day time at forest reserve or sensitive receptors;
- Locate noisy installations in adequate distance from sensitive receptors;
- Instruct the workforce to avoid unnecessary noise where sensitive receptors are present; and
- Limit the hours of operation for specific equipment or operations close to sensitive receptors.

### **Operation phase**

- N/A

## **7.4 Human Environment**

### **Population influx seeking job**

#### **Construction phase**

- Establish transparent recruitment procedures to avoid camp followers (job-seekers);
- Establish a recruitment policy that gives priority to local residents for less specialized services;
- Share recruitment procedures with the local authorities for further dissemination;
- Give priority for recruitment to local residents for less specialized and labor-intensive services;

#### **Operation phase**

- N/A.

## **Land acquisition, resettlement and livelihood restoration program**

RAP is a critical component of ESIA for DRSWDSP project that will involve land acquisition and may cause physical or economic displacement. In this context, the following key provisions to be addressed in the RAP report;

Legal and Institutional Framework, Overview of applicable laws and regulations governing land acquisition and resettlement.

Land Acquisition Procedures, Provision of clear process for land acquisition, including notifications, valuations, and transfers.

Compensation Criteria, highlighting fair compensation for affected assets, based on full replacement costs, through cash or in-kind options.

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Eligibility and Entitlements, Identification of affected persons and their corresponding compensation or resettlement entitlements.

Resettlement and Livelihood Restoration, highlighting support required by the displaced persons such as housing, income restoration, and social services.

Vulnerable Groups Support, Focus will be to ensure that provisions for vulnerable groups like the elderly or disabled are addressed.

Stakeholder Engagement and Grievance Mechanism, conducting consultation with affected PAPs and establishment of a formal system for resolving disputes.

Implementation Plan and Budget, define timeline, responsibilities, and financial planning for resettlement.

Monitoring and Evaluation establish a framework for tracking and assessing RAP implementation and effectiveness.

#### Mobilization and Construction phase

- Avoid or minimize land take and hereby avoid physical relocation of both formal and informal land owners/land users whenever possible during design stage;
- Where land acquisition and displacement are inevitable, prepare and implement a Resettlement Action Plan (RAP) and LRP before the construction starts in compliance with the applicable national and international requirements;
- Ensure all PAPs are compensated according to national regulations and International ES standards before commencement of construction;
- Possibly schedule construction activities to minimize the loss of crops;
- Establish transparent grievance mechanism to receive and resolve complaints;
- Complete compensation payments before commencement of construction works;
- Provide timely information to PAPs about the commencement of works; and
- Allow farmers to harvest their seasonal crops prior to construction.

#### Operation phase

- N/A.



#### Physical damage of public and private properties

##### Construction phase

- Carry out a condition survey to assess to identify and record any deficiencies in the site or property, such as the extent of existing damages such as cracking prior to work commencement;
- Notify the relevant service provider/property owner in-case of accidental damage;
- Repair the infrastructure/property to the original state
- In case of infrastructure utilities, ensure prompt repairs to minimize the duration of interruption of services; and
- Prepare incident register book.

##### Operation phase



- N/A.

## **Community Health and Safety**

### **Construction phase**

- Use barriers and install signage;
- Provision of security personnel in hazardous areas to restrict public access;
- Provision of adequate safe passageways for the public crossing the construction sites;
- Institute speed limits and traffic controls for Project vehicles and equipment near sensitive receptors;
- Ensure all contractors implement Codes of Conduct concerning employment and workforce behaviour;
- Contractor to comply with OHS regulation;
- Conduct public health campaigns addressing issues of water and sanitation, GBV/SEAH, HIV/AIDS and other STDs, etc.;
- Install safety and warning signs at high-risk sections of public roads or sensitive receptors;
- Ensure all community related H&S incidents (e.g. observations, accidents) on site are recorded and followed up properly (see template for incident reporting in **Annex 5** of this report); and
- Suitable warning signs should be placed at near site locations and should be visible at night.

### **Operation phase**

- Emergency preparedness and response including coordinated emergency procedures and training for personnel responsible for community safety
- Restricted access and warning signs: barriers, hazard notices, and visible warning signs to be installed to restrict public access to dangerous areas within and around the treatment plant.
- Routine public health outreach to be conducted for nearby communities to raise awareness of safety practices and inform them about emergency protocols in case of operational incident.



## **Occupational Health and Safety**

### **Construction phase**

- Contractor should prepare an Occupational Health and Safety Plan (OHS Plan);
- Identify all works requiring a permit and comply to permit's terms and conditions;
- Ensure that first aid station is always available;
- Providing of emergency response equipment such as fire-fighting equipment, fire extinguishers;
- Suitable warning signs should be placed at near locations and should be visible;
- Provide H&S induction and training and awareness to the workforce regarding H&S risks;

- Provide and ensure proper use of Personal Protective Equipment (PPE) for workers;
- Report any occurrence of any communicable diseases amongst the workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C);
- Ensure site is well fenced;
- Provision of potable water and adequate sanitation facilities to site workers;
- Provision of workers with adequate and well-ventilated camps, clean eating areas, and separate sleeping quarters for male and female workers;
- Use hazard notices/signs/barriers to prevent access to dangerous areas;
- Ensure speed limits on site and on transporting routes;
- Establish an emergency response plan to be implemented in the case of an accident;
- During blasting, prepare Method Statement for Blasting prior to blasting activity;
- Develop Job Hazard Assessment;
- Ensure provision of Health and Safety (H&S) facilities at the Project site, including shaded welfare areas, bathrooms, sanitary facilities and potable water;
- Establish a transparent grievance mechanism for workers and ensure that the workers will be informed about their rights;
- Ensure that the workers camp and construction areas are open only to formal employees;
- Ensure all H&S related incidents (e.g. observations, accidents) on site are recorded and followed up properly (see template for incident reporting in **Annex 5** of this report); and
- Ensure strict compliance to OHS standards.

#### Operation phase

- Use hazard notices/signs/barriers to prevent access to dangerous areas; and
- Develop an Emergency Response Plan.

#### **Community Grievances**

##### Construction phase

- In case of damage to properties, notify the property owner and immediately repair the infrastructure/property to the original state;
- Alternatives access ways should be communicated to the community; and
- Conduct regular project related feedback meetings with community.

##### Operation phase

- N/A

#### **Worker Grievances**

##### Construction phase

- Ensure that all workers have access to and are aware about the GRM;
- Ensure that minimum legal labour standards as per ILO regulations will be met:

- No child / forced labour
- No discrimination
- Working hours
- Minimum wages.
- Ensure the workforce has access to healthcare on site, providing first aid;
- Provide housing conditions in accordance with all applicable health and safety regulations and norms by ensuring the provision of
  - Adequate space
  - Supply of water
  - Adequate sewage and garbage disposal system
  - Appropriate protection against heat, cold, damp, noise, fire and disease-carrying animals
- Ensure adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services on site.

#### Operation phase

- N/A.

#### **Provision of Social Services**

#### Construction phase

##### *Pressure on water and sanitation facilities*

- Ensure the early installation of the Project's sanitation infrastructures on site to cater for influx of workers and job seekers;
- Provide sufficient water supply and sanitation facilities to workers at all work sites.

#### Operation phase

- N/A.

#### **Communicable diseases**

#### Construction phase

- Report any occurrence of any communicable diseases amongst the workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C) and set up disease prevention programme;
- Conduct awareness campaign to address issues of communicable diseases to project workforce and community (STD, HIV/AIDS, TB, malaria and hepatitis B and C).

#### Operation phase

- N/A.

#### **Violation of children's right and child labour force on site**

#### Construction phase

- All staff of the contractor to sign, committing themselves towards protecting children, which clearly defines what is and is not acceptable behavior;
- Children under the age of 18 years shall not be hired to work;
- Comply with all relevant local legislation, including labor laws in relation to child labor;
- Not to invite unaccompanied children to workers' home/campsite.

#### Operation phase

- N/A.

### **Sexual Exploitation and Abuse**

#### Construction phase

- Integrate provisions related to sexual harassment and sexual exploitation and abuse in the employee Code of Conduct (COC);
- Provide training and sensitization of staff on responsibilities related to the COC and consequences of non-compliance;
- Develop a confidential community-based complaints mechanism discrete from the standard GRM;
- Mainstreaming of Prevention of Sexual Exploitation and Abuse (PSEA) awareness-raising in all community engagement activities;
- Provide community-level information, education and communication (IEC) materials;
- Provide regular community outreach to women and girls about social risks and their PSEA-related rights;
- Ensure clear human resources policy against sexual harassment that is aligned with national law;
- Ensure appointed human resources, environmental, social and health and safety personnel is informed and well trained on PSEA.

#### Operation phase

- N/A

### **Gender Based Violence**

#### Construction phase

- Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported in the context of Project implementation.

#### Operation phase

- N/A.

### **Cultural Heritage**

#### Construction phase

- Ensure all chance finds of cultural heritage (e.g. graves, old ceramic, old building fragments) are reported immediately to the relevant authority;



- Immediate stoppage upon discovery of archaeological and cultural assets;
- If possible, avoid construction works in the ultimate neighborhood of a chance find, fence the chance find and await instructions from relevant authority.

#### Operation phase

- N/A.

## **7.5 Implications of Climate Change and Adaptation Measures**

### **Climate Change Context in Dodoma Region**

The Dodoma Region, characterized by semi-arid climatic conditions, is inherently vulnerable to climate variability. Projections indicate an increase in extreme weather events, including prolonged droughts and short bursts of intense rainfall. These pose serious risks to the sustainability of large-scale water infrastructure investments such as the Farkwa Dam, Water Treatment Plant, and Conveyance System intended to supply Chemba, Bahi, Chamwino District Councils and Dodoma City.

The African Development Bank's Operational Safeguard 4 (OS4): Pollution Prevention and Control, Greenhouse Gases, Hazardous Materials and Resource Efficiency explicitly calls for climate risk screening and the integration of appropriate adaptation measures in infrastructure projects. This project aligns with OS4 by embedding resilience and sustainability at every phase of its planning and design.

### **Climate Change Implications**

- **Water Scarcity and Drought Risk**

Climate change-induced shifts in rainfall and temperature are expected to increase the frequency and severity of droughts in Dodoma. These conditions will reduce surface runoff into the Farkwa reservoir and increase evaporation rates, putting pressure on long-term water availability and requiring more efficient water storage and demand-side management.



- **Flooding and Infrastructure Vulnerability**

Despite being drought-prone, Dodoma is increasingly exposed to flash floods caused by intense, short-duration rainfall. This threatens the structural integrity of water treatment infrastructure, pipelines, storage tanks, and intake points. Poor site drainage can worsen this risk by causing erosion and physical damage.

- **Catchment and Ecosystem Degradation**

Deforestation, land conversion, and changing climate patterns are contributing to catchment degradation. Vegetation loss reduces water infiltration, increases sedimentation in the reservoir, and contributes to declining water quality.

- **Public Health and Sanitation Risks**

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Increased water scarcity combined with heat stress and poor sanitation can lead to disease outbreaks such as cholera, typhoid, and dysentery. Stagnant water bodies created by erratic rainfall may also increase malaria and dengue fever risks, especially in vulnerable communities.

- **Socio-Economic Disruption**

Reduced water availability affects agriculture, leading to reduced household incomes and food insecurity, which in turn increases migration pressures. Vulnerable groups, especially women-headed and elderly households, are disproportionately affected.

### **Integrated Adaptation Measures**

In compliance with AfDB's Operational Safeguards, especially OS1 and OS4, the project adopts a multi-dimensional adaptation strategy:

- **Catchment Protection and Management**

- Implementation of afforestation and reforestation programs in upstream catchments.
- Promotion of erosion control techniques and controlled grazing to enhance water infiltration and reduce sedimentation.
- Upstream land-use planning to protect water sources and maintain hydrological balance.

- **Climate-Resilient Infrastructure**

- Construction of reinforced concrete storage tanks and pipeline networks designed to withstand thermal stress and hydrological shocks.
- Optimization of drainage systems to divert floodwaters away from critical infrastructure.
- Spillway and saddle dam integration to manage excess reservoir inflow safely during extreme rainfall events.

- **Sustainable Water Resource Management**

- Diversification of water sources including potential boreholes and decentralized reservoirs.
- Introduction of water-saving technologies and demand management approaches.
- Promotion of rainwater harvesting and the reuse of treated wastewater in irrigation and other non-potable applications.

- **Ecosystem-Based Adaptation**

- Restoration of degraded wetlands and riparian buffer zones to stabilize soil and regulate hydrology.

- Protection of biodiversity hotspots that contribute to water quality and ecosystem services.
- Integration of nature-based solutions into dam safety zones for erosion control and water purification.
- **Community Engagement and Capacity Building**
  - Education campaigns on climate-smart water use, sanitation, and disaster preparedness.
  - Support to local Water User Associations (WUAs) to incorporate climate adaptation into their governance and maintenance practices.
  - Inclusion of Community Health Fund (CHF) support and livelihood diversification programs for vulnerable PAPs.
- **Flood Control and Emergency Management**
  - The Saddle Dam enhances storage security and flood regulation.
  - The Spillway ensures safe discharge during peak flows to prevent overtopping.
  - Regular safety audits and simulation exercises to test responsiveness to climate emergencies.

## Conclusion

The Farkwa water supply project recognizes climate change as a critical development challenge. In line with the AfDB's Integrated Safeguards System, the project integrates both engineered and ecosystem-based adaptation solutions to minimize risks and enhance long-term resilience. Through robust design, catchment protection, and community empowerment, the project contributes not only to sustainable water supply but also to regional climate adaptation and disaster risk reduction.



## Emergency Preparedness and Response Plan

This section provides general guidance for handling emergency situation on the project site. An emergency is an unplanned event when a project operation loses control, or could lose control, of a situation that may result in risks to human health, property, or the environment, either within the project site or in the local community. Emergencies do not normally include safe work practices for frequent upsets or events that are covered by occupational health and safety. Proper emergency planning and response are important elements of the site.

### Responsibilities

- **Project Management:** The management must be committed to the principle of the safe working and ensure that no person shall ever put himself/herself to risk



- **Site Management:** It is the responsibility of the site management to review and ensure awareness of emergency procedure among all the site personnel
- **Employees:** It is also the responsibility of all employees to continually familiarize themselves with the assembly procedures for their relevant areas of work
- **General:** Any information being relayed about an emergency shall be clear and precise giving the exact location, the nature of the emergency and the seriousness of the emergency and contact numbers and names

### **Emergency Plan**

All actions will be coordinated with the overall emergency plan operated by the Engineer. The Project Manager has the overall responsibility of coordinating all emergency procedures along with the Health & Safety Manager.


All emergency telephone numbers and contact names shall be posted at strategic points on site. The following subsequent actions listed below shall be taken during emergency:

- Close all plant and equipment, if safe
- Stop all work and report to the nearest evacuation area / assembly area and await further instructions
- Stop all equipment and vehicles safely
- Contact the Health & Safety Manager and relay message to Engineer / Employer
- Ensure all personnel are aware of the emergency

### **(a) Emergency Alarms**

A combination of red warning lights and sirens as appropriate will be used in case of:

- Major fire or an Explosion
- Major transport accident/spill of flammable liquid
- Major equipment accident
- Entrapment of personnel

 Emergency alarms shall be placed in all areas with a gathering of employees including, camp sites, site offices, borrow pits, crushers and at specific workstations. The alarm shall be capable of being perceived above ambient noise or light levels by all employees in the affected portions of the workplace. Tactile devices may be used to alert those employees who would not otherwise be able to recognize the audible or visual alarm.

### **(b) Assembly Point**

In an emergency all personnel are to proceed in an orderly manner to the nearest safe assembly point. Adequate assembly points shall be provided in all areas where indoor works are done to provide a common meeting point in case of emergency. These assembly point shall all have the signs written "Assembly Point" and be easily accessed.

### **(c) Head Count**

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After all the peoples have gathered at assembly point, supervisors shall take a head count and check all employees are at the assembly point. He/she shall also inform the Engineer/ Employer of the result of the head count. The Evacuation Supervisor will use Evacuation Headcount Checklist to identify present and missing people and identify action to be taken.

**(d) Rescue Team**

For missing personnel, a rescue team will be formed in consultation with the Engineer and depending upon the type and status of emergency, all efforts will be made to rescue the missing personnel.

**(e) Fire Fighting**

In case of a fire, after the alarm has been sounded, all efforts will be made to put off the fire by the proper use of fire extinguishers, fire hydrants, hoses etc. until more professional help come by. Fire extinguishers will be available on site at strategic locations, such workshop/garage; offices; laboratories; and accommodations areas.

Employees shall be aware of the standards for fire safety:

- smoke alarm signals and locations
- how to use fire extinguishers and fire blankets, etc.
- where emergency exits are located
- where fire extinguishers and other fire equipment are located in their work areas
- the purpose of each type of fire extinguisher

**(f) All Clear**

Normal work will be resumed only after all clear signal is received from the Engineer. As such the supervisors shall make all arrangements to meet the concerned authorities.

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## 8. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

### 8.1 Introduction

One of the key objectives of the ESIA process is to develop an Environmental and Social Management Plan (ESMP) which outlines the environmental and social mitigation and enhancement measures costs, timeframes and responsibilities during implementation of the project.

This chapter presents the ESMP for the interventions relating to the project based on the field observation and information available at the current stage of the design. The ESMP is a living document and thus will need continuous revision and update.

### 8.2 Institutional Arrangements

In the context of the broader institutional arrangements the key Project stakeholders for implementation of this ESMP will be the following:

- Ministry of Water (MoW);
- Project Coordinator (PC);
- Regulatory Authorities;
- DUWASA;
- Contractors and sub-contractors; and
- Consultant.

#### **Ministry of Water (MoW)**

MoW provides Policy, institutional and legal framework of Water Resources Management and Water Supply and Sanitation. It also oversees the project undertakings.

#### **Project Coordinator (PC)**

PC will be responsible for the overall coordination and implementation of the Project, leads all required interactions and interlinkages with different stakeholders related to the Project at the national level as well as with the local level. MoW, regulatory authorities, the Consultant and the Contractor shall cooperate closely during the preparation and implementation of the Project.

#### **Regulatory Authorities**

For the purpose of this Project, the regulating body includes all those government institutions responsible for enforcing compliance with national standards in the different areas of specialization.

These include but not be limited to the following:

- National Environment Management Council (NEMC) ;
- Wami Ruvu Basin Water Board;
- Internal Drainage Basin Water Board;
- Occupational Safety and Health Authority (OSHA);
- Fire and Rescue Force;

- Energy and Water Utilities Regulatory Authority (EWURA);
- Tanzania Bureau of Standards (TBS);
- Contractors Registration Board (CRB); and
- Engineers Registration Board (ERB).

### **DUWASA**

DUWASA shall be responsible to oversee implementation of the project including monitoring compliance to ESMP. It is also responsible for the operation and maintenance of water supply distribution infrastructures in Dodoma region.

### **Contractors and Sub-Contractors**

The contractors and sub-contractors will be responsible for the implementation of the mitigation measures outlined in this ESMP in order to manage possible environmental and social impacts expected during construction phase.

Contractor(s) before commencement of construction works should be responsible for preparation of Project Area-ESMP/site specific ESMP as part of ES compliance to ESHS specification which will outline all resources (qualified ES personnels, qualified first aider, communications); ESHS trainings; Health and Safety Plan; Labor conditions; Traffic Management Plan; Noise, dust and vibration control; Waste management (liquid and solid waste); rehabilitation of project area after construction works and budget for implementation of PA-ESMP.

The PA-ESMP shall be approved by supervising engineer in accordance with ESHS specifications before commencement of any physical work.

### **Consultant**

The project consultant shall review and approve PA-ESMP/site specific ESMP before commencement of any physical work and thereafter will oversee and monitor implementation of PA-ESMP by the contractor and assess Contractors' compliance with the PA-ESMP, ESHS specifications and ES regulations and standards.



8.3

## **Construction Contractor's ESMP**

### **Introduction**

The present ESMP will apply equally to all contractors and to their sub-contractors. Each contractor will be expected to comply with the relevant requirements within their respective scope of work. Based on the requirements in the Contractors' ESMP (CESMP), each contractor shall develop a detailed Occupational Health and Safety (OHS) Plan, in accordance with their own policy framework and management systems to ensure that the organization can fulfil all tasks required to achieve the objectives. An Emergency Preparedness and Response Plan shall be explicitly included. The OHS Plan shall indicate the details of how and when the contractor plans to put the provisions of the ESMP into practice and how he will monitor and report compliance.

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The requirements for the Contractors' ESMP will be incorporated into the bidding and contract documents. Moreover, when evaluating the bidding documents, addressed environmental and social clauses and conditions will be assessed in each bid document as part of the basis for selecting the contractors.

It is noted that the costs associated with the Contractors' ESMP have not been estimated, as the E&S criteria will be included in the bid document upon which the tenderers will develop their base rates. Hence, the costs of the construction-related environmental and social management will be within the contract price. It is recommended that the environmental and social costs, as well as the OHS costs, are specified in the bid documents and that payments to the contractors are made conditional on performance.

### **General requirements**

*Contractor's EHS Plan:* Once the contract is signed and prior to the contractor's mobilization, the contractor shall prepare a detailed and Project-specific OHS Plan to show how he intends to meet the conditions of the owner's OHS requirements.

*Risk management:* The contractors shall ensure that critical operations within their respective scope of work are systematically identified, analyzed, evaluated and documented at the planning stage and by use of a recognized risk assessment method and that adequate control measures are put in place. At a minimum, the Contractor's risk management should comprise of Job Safety Analysis/Job Hazard Analysis (JSA/JHA) and toolbox talks.

*OHS induction and training:* The contractors shall establish an OHS induction program for all their personnel and the sub-contractor personnel planned to work at the Project site. In addition, the contractors shall establish and operate a register of all personnel and visitors who passed this induction OHS monitoring and inspection. They shall further establish an OHS monitoring and inspection plan in accordance with the Contractor's OHS Plan and in compliance with applicable rules and regulations. The Consultant and PC will have the right to participate in any site inspections. OHS topics to be monitored and inspection findings shall be documented and proper follow-up of inspection findings be ensured.

*OHS meetings:* The contractors shall participate in regular OHS meetings with the Consultant and PC. These meetings shall be used to assess the performance of the contractor's OHS management efforts, to resolve OHS problems relating to current activities, and to provide a forum for planning OHS tasks for upcoming construction activities. The OHS meetings may be integrated into the agenda of the weekly construction meetings to address the relevant OHS issues.

The Contractor shall prepare a Code of Conduct covering the main rules of interaction with local communities and the rules of conduct in case of conflict situations. A guidance for preparing such Code of Conduct is presented in **ANNEX 4** of this report.

*Incident reporting and investigations:* The contractors shall have a documented procedure for reporting and handling of incidents occurring during and outside work hours. All medium and major incidents, including near misses with a potential of major or medium consequences,



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shall be reported without delay to the Consultant and PC. **ANNEX 5** of this report contains a template for the structure and contents of such incident reporting

*Monthly OHS reports:* The contractors shall provide monthly reports to the Consultant and PC regarding OHS performance and compliance.

### **Summary of ESMP**

The predicted impacts, proposed mitigation measures, responsible institutions are summarized and outlined in Table 8-1. The cost for the respective measures will be established by the contractor(s) and be included in the overall contract price.

## Summary of Environmental and Social Management Plan (ESMP) PRE-CONSTRUCTION PHASE

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
Land acquisition	<ul style="list-style-type: none"> <li>▪ Avoid land take and hereby avoid physical relocation of both formal and informal land owners/land users whenever possible during design stage;</li> <li>▪ Should land acquisition and displacement be inevitable, prepare and implement Resettlement Action Plan (RAP) and Livelihood Restoration Plan (LRP) before commencement of construction works;</li> <li>▪ Provide compensation to PAPs in accordance with national regulations and OS2;</li> <li>▪ Establish GRM to allow PAPs raise their concerns during RAP implementation;</li> <li>▪ Possibly schedule site clearance operations such as to minimize the loss of crops;</li> <li>▪ Provide timely information to land owners about the commencement of works as part of stakeholder's engagement;</li> <li>▪ Allow farmers to harvest their crops prior to construction and to continue growing seasonal crops in the pipeline wayleave.</li> </ul>	<p>Number of compensation agreements signed; Percentage of grievances resolved</p> <p>Number of resettlement plans implemented</p>	<p>Consultant</p> <p>MoW</p>	<p>The ESMP budget typically does not include the costs for resettlement. Resettlement costs will be detailed in the RAP budget.</p> <p>-</p>



**Table 8-1: Summary of Environmental and Social Management Plan (ESMP) CONSTRUCTION PHASE**

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
Noise and vibration impact at the construction sites due to construction works, blasting, traffic and transport	<ul style="list-style-type: none"> <li>▪ Limit working hours for specific equipment or activity, especially mobile sources operating through community areas or close to sensitive receptors;</li> <li>▪ Restrict vehicle and equipment movements at night;</li> <li>▪ Install noise control devices in construction equipment if noise levels exceed the applicable guidelines;</li> <li>▪ Instruct the workforce to avoid unnecessary noise where sensitive receptors are present;</li> <li>▪ Ensure the use of modern and well-maintained equipment (e. g. use of silencers);</li> <li>▪ Limit the number of machines/equipment to operate simultaneously;</li> <li>▪ Provide PPEs (earplugs) for workers working in noisy activities;</li> <li>▪ Carryout blasting activities during daytime;</li> <li>▪ Schedule traffic activities to avoid peak hours on local roads if feasible;</li> </ul>	Noise level measurements within guideline limits	Contractors	15,000
Impact on air (air pollution) and dust emission	<ul style="list-style-type: none"> <li>▪ Spraying water on unpaved surfaces to minimize dust dispersion;</li> <li>▪ Covering stockpiles of excavated soils in areas near sensitive receptors;</li> <li>▪ Covering vehicles carrying construction materials with tarpaulin</li> <li>▪ Maintaining and storing piles of loose/friable materials and soil in a suitable manner to minimize dust dispersion;</li> <li>▪ Switch off vehicles /equipment when not in use.</li> </ul>	Air quality monitoring	Contractors	30,000
Visual impact and impact on vegetation clearing	<ul style="list-style-type: none"> <li>▪ Remove and temporarily store the good topsoil for subsequent reuse in site restoration and landscaping;</li> <li>▪ Landscaping of the topsoil should take advantage of the natural terrain;</li> <li>▪ Restore construction sites to pre-</li> </ul>	Percentage of vegetation restored post-construction; Number of trees replanted	Contractors	25,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
	construction state; <ul style="list-style-type: none"> <li>Strictly limit vegetation clearance for the wayleave pipelines and associated facilities to the required work strip;</li> <li>Revegetate all Project areas disturbed by the works (pipeline corridor; reservoir sites, WTP, camp areas etc.) and use native species</li> </ul>			
Impact on soils (erosion)	<ul style="list-style-type: none"> <li>Generally, ensure that all cleared surfaces and areas exposed to soil erosion are minimized on all project areas and that erosion risks are effectively controlled;</li> <li>Determine the appropriate locations and the type of erosion control measures required with Engineer's approval;</li> <li>Stabilize soils mechanically to minimize erosion risks;</li> <li>Re-grade slopes and re-vegetate exposed areas;</li> <li>Use native/excavated material to backfill the trench section around the pipes;</li> <li>Dispose of spoil earth/rock in appropriate approved areas;</li> <li>Take effective measures to avoid soil erosion at river crossings.</li> </ul>	erosion control measures implemented Soil stabilization success rate	Contractors	15,000
Mishandling of soil	<ul style="list-style-type: none"> <li>Ensure appropriate storing of topsoil removed;</li> <li>Limit stockpile height to 2 m maximum to avoid soil compensation;</li> <li>Reinstate construction working area to the best possible after construction activities are completed;</li> <li>If construction takes place on inclined surfaces/slopes, ensure preventive erosion control measures are applied (e.g. plan to retain trees and other vegetation, use of natural contours for access roads and drainage networks, excavated drainage channels).</li> </ul>	Compliance with topsoil storage procedures  Percentage of reinstated areas	Contractors	10,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
Spills on lands	<ul style="list-style-type: none"> <li>Install secondary containment / oil separators at fuel storage areas;</li> <li>Store fuel and hazardous chemicals/materials in properly designed storage areas;</li> <li>Fuel, oil or hazardous materials required to be temporarily stored onsite shall be stored within secondary containment located greater than 100m from any watercourse or water body;</li> <li>Ensure appropriate containment and disposal of construction wastewater, including sanitary water;</li> <li>Provide absorbent and intervention materials in sufficient quantities and at relevant locations for intervention in case of leakages/spills;</li> <li>Implement appropriate secondary containment and spill controls for maintenance or refuelling works;</li> <li>Ensure immediate cleaning of any spills and remediation of contaminated areas after construction.</li> <li>Dripping pans should be used to contain all fuel leakages on construction equipment;</li> <li>In case of fuel spills, the contaminated soil should be collected and treated to remove the fuel and prevent the fuel from being washed away in storm water or nearby water bodies</li> <li>Implement appropriate secondary containment and spill controls for maintenance or refuelling works.</li> </ul>	<p>Number of reported spills</p> <p>Number of corrective actions taken</p>	Contractors	20,000
Solid waste	<ul style="list-style-type: none"> <li>Collect and segregate wastes and ensure safe storage and in line with legal requirements;</li> <li>Ensure disposal through waste contractors licensed for removal and final disposal for each of the waste stream;</li> <li>Provide adequate number of dust bins on sites; and</li> <li>Designate special area for collection of different streams of waste including construction wastes</li> </ul>	<p>Volume of waste properly disposed</p> <p>Number of waste bins provided</p>	Contractors	30,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
Water Pollution	<ul style="list-style-type: none"> <li>▪ Dripping pans should be used to contain fuel leakages on construction equipment;</li> <li>▪ Restrict excavation activities during periods of intense rainfall;</li> <li>▪ Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters;</li> <li>▪ Carry out excavation works in cut off ditches to prevent water from entering excavations;</li> <li>▪ Ensure storage and handling of fuel to be kept away from the Bubu river and other small streams;</li> <li>▪ Ensure appropriate containment and disposal of construction wastewater, including sanitary water through onsite sanitation practice;</li> <li>▪ Install secondary containment / oil separators at fuel storage sites;</li> <li>▪ Store fuel and hazardous chemicals/materials in properly designed storage areas.</li> <li>▪ Fuel, oil or hazardous materials required to be temporarily stored onsite shall be stored within secondary containment located greater than 100m from any water source;</li> <li>▪ Implement appropriate secondary containment and spill controls for maintenance or refuelling works</li> </ul>	<p>Number of water quality monitoring events</p> <p>Compliance with spill prevention measures</p>	Contractors	20,000
Impact on areas of ecological value	<ul style="list-style-type: none"> <li>▪ Assess the occurrence of natural habitats at and around the construction site. Avoid these areas where possible through traffic management and site setup;</li> <li>▪ In case sensitive biodiversity are found, Biodiversity Action Plan (BAP) should be prepared and implemented</li> </ul>	<p>Percentage of habitat restored</p> <p>Number of biodiversity assessments conducted</p>	Contractors	15,000
Site Clearance - Vegetation removal and habitat disturbance	<ul style="list-style-type: none"> <li>▪ Limit vegetation clearing to areas within the site boundary where it is absolutely necessary;</li> </ul>	<p>Percentage of habitat restored</p> <p>Number of biodiversity assessments conducted</p>		

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
	<ul style="list-style-type: none"> <li>Avoid clearing mature trees;</li> <li>Avoid off-road vehicle traffic and use existing access roads;</li> <li>Ensure revegetation of cleared areas where possible after construction using native species.</li> </ul>			
Disturbance from construction activities	<ul style="list-style-type: none"> <li>Instruct workers to avoid unnecessary disturbance of any habitats outside the immediate construction area;</li> <li>Instruct workers that hunting or killing of wild animals shall be strictly forbidden.</li> </ul>			
Community and Worker Grievances	<ul style="list-style-type: none"> <li>Engage/ communicate with communities and plan sufficient time for participation;</li> <li>Ensure regular consultations with the local authorities and communities regarding the management of construction;</li> <li>In case of damage to properties, notify the property owner and immediately repair the infrastructure/property to the original state;</li> <li>Alternatives access ways should be communicated to the community</li> <li>Implement and monitor the approved Grievance Mechanism to allow potentially affected individuals to voice their concerns on the Project;</li> <li>Ensure that all workers have access to and are aware about the GRM;</li> <li>Ensure compliance with labour laws and standards;</li> <li>Observe labor conditions and ensure wage payment is not below minimum wage rate;</li> <li>Ensure the workforce has access to healthcare on site, providing first aid;</li> <li>Provide staff welfare in accordance with all applicable health and safety regulations and norms by ensuring the provision of rest area, supply of water, adequate sanitary facilities and garbage disposal system, appropriate protection against heat,</li> </ul>	<p>Percentage of habitat restored</p> <p>Number of trees replanted</p>	Contractors	15,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
	noise, fire and disease-carrying animals; ▪ Ensure adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services on site; ▪ Provide transparent grievance mechanism for workers and community.			
Influx of Population seeking jobs	▪ Conduct engagement meetings with community adjacent to project area to disclose project information and explain recruitment procedures including formal grievance mechanisms of the project; ▪ Establish transparent recruitment procedures to avoid camp followers (job-seekers); ▪ Establish a recruitment policy that gives priority to local residents for less specialized services; ▪ Share recruitment procedures with the local authorities for further dissemination; ▪ Give priority for recruitment to local residents for less specialised and labour-intensive services.	Number of local hires  Community feedback on job opportunities	Contractors	10,000
Physical damage of public and private infrastructures and properties	▪ Carry out a condition survey to assess to identify and record any deficiencies in the site or property, such as the extent of existing damages such as cracking prior to work commencement; ▪ Notify the relevant service provider/property owner in-case of accidental damage; ▪ Repair the infrastructure/property to the original state ▪ In case of infrastructure utilities, ensure prompt repairs to minimize the duration of interruption of services; and ▪ Prepare and record all incidents in an incident register book.	Number of damage reports logged  Percentage of damages repaired; Number of compensation agreements signed	Contractors	50,000
Community Health and Safety	▪ Use barriers and install signage; ▪ Provision of appropriately trained security personnel; ▪ Provision of adequate safe passageways for the public crossing	Number of grievances reported; Percentage of grievances resolved within the stipulated	Contractors	25,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
	<p>the construction sites;</p> <ul style="list-style-type: none"> <li>▪ Set speed limits and traffic controls for Project vehicles and equipment near sensitive receptors;</li> <li>▪ Ensure all contractors implement Codes of Conduct concerning employment and workforce behaviour;</li> <li>▪ Conduct public health campaigns addressing issues of water and sanitation, GBV/SEAH, HIV/AIDS and other STDs, etc.;</li> <li>▪ Install safety and warning signs at high-risk sections of public roads or sensitive receptors;</li> <li>▪ Suitable warning signs should be placed at near site locations and should be visible at night;</li> <li>▪ Ensure all H&amp;S related incidents (e.g. observations, accidents) are recorded and followed up properly (see template for incident reporting in <b>Annex 4</b> of ESIA report);</li> <li>▪ Prepare Traffic Management Plan in the Project area</li> </ul>	timeframe		



Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
Occupational health & safety	<ul style="list-style-type: none"> <li>Contractor should prepare an Occupational Health and Safety Plan (OHS Plan);</li> <li>Identify all works requiring a permit and comply to permit's terms and conditions;</li> <li>Ensure that first aid station is always available;</li> <li>Recruit qualified first aider;</li> <li>Providing of emergency response equipment such as fire-fighting equipment, fire extinguishers;</li> <li>Suitable warning signs should be placed at site locations and should be visible;</li> <li>Provide H&amp;S induction training and toolbox talks to the workforce regarding H&amp;S risks;</li> <li>Provide firefighting training, first aid training, OSHA trainings;</li> <li>Provide and ensure proper use of Personal Protective Equipment (PPE) for workers;</li> <li>Ensure site is well fenced;</li> <li>Provision of potable water and adequate sanitation facilities to site workers;</li> <li>Use hazard notices/signs/barriers to prevent access to dangerous areas;</li> <li>Set speed limits on site and on transporting routes;</li> <li>Establish an emergency response plan to be implemented in the case of an accident/accident or emergency;</li> <li>During blasting, prepare Method Statement for Blasting prior to blasting activity;</li> <li>Develop Job Hazard Assessment before construction works;</li> <li>Ensure provision of Health and Safety (H&amp;S) facilities at the Project site, including shaded welfare areas, bathrooms, sanitary facilities and potable water;</li> <li>Ensure that the workers camp and construction areas are open only to formal employees</li> <li>Ensure all H&amp;S related incidents (e.g. observations, accidents) on site are recorded and followed up</li> </ul>	<p>Number of safety training sessions conducted</p> <p>Number of incidents recorded</p>	Contractors	15,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
	<p>properly (see template for incident reporting in <b>Annex 4</b> of this report); and</p> <ul style="list-style-type: none"> <li>▪ Ensure strict compliance to OHS regulation and standards.</li> </ul>			
Labour rights	<ul style="list-style-type: none"> <li>▪ Establish a GRM for workers and ensure that all have access to and are aware about it;</li> <li>▪ Ensure that minimum legal labour standards as per ILO regulations are met: <ul style="list-style-type: none"> <li>- No child / forced labour;</li> <li>- No discrimination;</li> <li>- Working hours;</li> <li>- Minimum wages.</li> </ul> </li> <li>▪ Ensure the workforce has access to</li> </ul>	<p>Percentage of local workers hired</p> <p>Number of training sessions conducted</p>	Contractors	-

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
	<p>healthcare on site, providing first aid in case of emergency;</p> <ul style="list-style-type: none"> <li>Provide housing conditions in accordance with all applicable health and safety regulations and norms by ensuring the provision of <ul style="list-style-type: none"> <li>Adequate space,</li> <li>Supply of clean water,</li> <li>Adequate sanitation and garbage disposal system,</li> <li>Appropriate protection against heat, cold, noise, fire and disease-carrying animals,</li> </ul> </li> <li>Ensure adequate sanitary and washing facilities, ventilation, cooking and storage facilities and natural and artificial lighting, and in some cases basic medical services on site.</li> </ul>			
Communicable diseases	<ul style="list-style-type: none"> <li>Report any occurrence of any communicable diseases amongst the workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C) and set up disease prevention programme;</li> <li>Conduct awareness campaign to addressing issues of communicable diseases to project workforce (STD, HIV/AIDS, TB, malaria and Hepatitis B and C).</li> </ul>	<p>Number of community awareness programs</p> <p>Number of road safety measures implemented</p>	Contractors	25,000
Violation of children's rights and child labour force on site	<ul style="list-style-type: none"> <li>All staff of the contractor to sign, committing themselves towards protecting children, which clearly defines what is and is not acceptable behaviour;</li> <li>Strictly refrain from hiring workers under the age of 18;</li> <li>Comply with all relevant local legislation, including labour laws in relation to child labour;</li> <li>Strictly do not invite children to workers' camp.</li> </ul>	<p>Number of site inspections conducted</p> <p>Number of child labor violations reported and resolved</p>	Contractors	-
Sexual exploitation	<ul style="list-style-type: none"> <li>Develop and implement a <b>Sexual</b></li> </ul>		Contractors	25,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
and abuse and GBV	<p><b>Exploitation &amp; Abuse (SEA) Action Plan</b> as part of the Contractor's ESMP.</p> <ul style="list-style-type: none"> <li>Integrate provisions related to sexual harassment and sexual exploitation and abuse in the employee Code of Conduct (COC);</li> <li>Develop a confidential community-based complaints mechanism discrete from the standard GRM;</li> <li>Mainstreaming of Prevention of Sexual Exploitation and Abuse (PSEA) awareness-raising in all community engagement activities;</li> <li>Provide regular community outreach to women and girls about social risks and their PSEA-related rights;</li> <li>Integrate SEA in all job descriptions, employments contracts etc.;</li> <li>Provide a dedicated focal person in the project and trained community liaison officers to implement and monitor SEA;</li> <li>Ensure clear human resources policy against sexual harassment that is aligned with national law;</li> <li>Ensure appointed human resources, environmental, social and health and safety personnel is informed and well trained on PSEA; and</li> <li>Ensure adequate referral mechanisms are in place if a case of GBV at the community level is reported related to project implementation.</li> </ul>	<p>Number of training sessions conducted; Number of GBV cases reported and addressed</p> <p>Availability of survivor support services</p>		
Damage of Cultural Heritage	<ul style="list-style-type: none"> <li>Ensure all chance finds of cultural heritage (e.g. graves, old ceramic, old building fragments) are reported immediately to the relevant authority.</li> <li>If possible, avoid excavation in the ultimate neighbourhood of a chance find, fence the chance find and await instructions from the relevant authority.</li> <li>Stop the construction activities in the area of the chance find;</li> <li>Delineate the discovered site or area;</li> </ul>	<p>Number of cultural heritage sites preserved; Number of chance find reports recorded</p>	Contractors	15,000

Impact Source	Mitigation Measures	Implementation indicator	Responsible Party	Estimated Costs (USD)
	<ul style="list-style-type: none"> <li>Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities take over;</li> <li>Notify the Engineer who in turn will notify Division of Antiquities and the responsible local authorities immediately (within 24 hours or less).</li> </ul>			
	165,000 USD			

**Table 8-2: Summary of Environmental and Social Management Plan (ESMP) OPERATION PHASE**

Risk/Impact Source	Mitigation Measures	Responsible	Estimated Costs (USD)
Risk of Spills on lands	<ul style="list-style-type: none"> <li>Install secondary containment / oil separators at designated fuel storage areas;</li> <li>Store fuel and hazardous chemicals/materials in properly designed storage areas;</li> <li>Ensure immediate cleaning of any spills and remediation of contaminated areas.</li> </ul>	MoW/DUWASA	25,000
Water pollution	<ul style="list-style-type: none"> <li>Ensure effluent from WTP meets discharging standards before released to waterbodies</li> </ul>	MoW/DUWASA	25,000
Establishment of invasive species	<ul style="list-style-type: none"> <li>Removal of invasive plant species during routine maintenance;</li> <li>Restore disturbed areas immediately after maintenance works;</li> <li>Avoid importation of exotic trees and soil from other places (e.g. for restoration or as ornamentals).</li> </ul>	MoW/DUWASA	30,000
Solid waste	<ul style="list-style-type: none"> <li>Dewatering of sludge from WTP processes</li> <li>Drying of dewatered sludge</li> <li>Provide plastic UV resistant membrane to sludge storage area to prevent groundwater pollution</li> <li>Re-use sludge as soil conditioner for agricultural purposes</li> <li>Re-use the dried sludge for co-incineration in e.g. cement or steel factories</li> <li>Provide dust bins for domestic waste</li> </ul>	MoW/DUWASA	80,000
Liquid waste	<ul style="list-style-type: none"> <li>Provide drainage and leachate detention system</li> <li>Re-cycle water from filter washing</li> <li>Provide septic tank for sanitary wastewater</li> </ul>	MoW/DUWASA	15,000

Risk/Impact Source	Mitigation Measures	Responsible	Estimated Costs (USD)
Occupational health & safety risk	<ul style="list-style-type: none"> <li>Ensure strict compliance of operations with the applicable OHS standards;</li> <li>Establish an Emergency Preparedness and Response Procedures;</li> <li>Develop and implement a prevention program that includes the identification of potential hazards, written operating procedures, training, maintenance, and accident investigation procedures;</li> <li>Provide H&amp;S training and raise awareness to the employees regarding H&amp;S risks (i.e use of PPE, chemical handling)</li> <li>Provide guide notes/guide manual to WTP workers on safe use of coagulants and chemical disinfectants</li> <li>Use of proper PPEs (clothing, gloves, eye protection, and respirators) when exposed or mixing chemicals at WTP</li> </ul>	MoW/DUWASA	30,000
Stakeholder engagement	<ul style="list-style-type: none"> <li>Communicate regularly with neighbouring communities of the WTP to inform them of activities and address their concerns</li> <li>Implement a grievance mechanism to handle potential issues related to plant operations.</li> </ul>	MoW/DUWASA	5,000
180,000 USD			

### Summary of Environmental and Social Management Plan (ESMP) (DECOMMISSION PHASE)

Impact Source	Mitigation Measures	Responsible	Estimated Costs (USD)
Spills on lands	<ul style="list-style-type: none"> <li>Ensure immediate cleaning of any spills and remediation of contaminated areas after decommissioning.</li> </ul>	MoW/DUWASA	Part of rehabilitation cost
Water pollution	<ul style="list-style-type: none"> <li>Avoid indiscriminate discharge of waste through cleanup of the worksites</li> </ul>	MoW/DUWASA	Part of rehabilitation cost
Solid waste	<ul style="list-style-type: none"> <li>Provide waste skips for demolition wastes and use authorized waste contractor to collect and transport demolition waste to authorized disposal sites</li> </ul>	MoW/DUWASA	Part of rehabilitation cost
Occupational health & safety risk	<ul style="list-style-type: none"> <li>Ensure strict compliance of operations with the applicable OHS standards;</li> <li>Establish an Emergency Preparedness and Response Procedures;</li> <li>Provide H&amp;S training and raise awareness to the employees regarding H&amp;S risks (i.e use of PPE)</li> <li>Use of proper PPEs (clothing, gloves, eye protection, and respirators) during removal of structures and equipment from the site</li> </ul>	MoW/DUWASA	Part of rehabilitation cost

Impact Source	Mitigation Measures	Responsible	Estimated Costs (USD)
Influx of labour force	<ul style="list-style-type: none"> <li>▪ Provide awareness campaign, restrict movement of visitors to the work sites.</li> <li>▪ Establish transparent recruitment procedures to avoid camp followers (job-seekers);</li> <li>▪ Establish a recruitment policy that gives priority to local residents for less specialized services;</li> <li>▪ Share recruitment procedures with the local authorities for further dissemination;</li> <li>▪ Give priority for recruitment to local residents for less specialised and labour-intensive services.</li> </ul>	MoW/DUWASA	Part of rehabilitation cost



## **9. ENVIRONMENTAL AND SOCIAL MONITORING PLAN**

### **9.1 Introduction**

This chapter describes the monitoring plan for the proposed project. The monitoring program is based on the mitigation measures outlined in Chapters seven and eight. The monitoring plan outlines the reporting responsibilities, both the project proponent's requirements towards the contractors and the proponent's statutory responsibilities towards the respective government offices, as well as the auditing and evaluation system designed to verify the quality of the monitoring data and enforce compliance with the prescribed standards and requirements.

The objective of the Monitoring Plan is to provide checks on the implementation of the mitigation measures (activity monitoring) and early indications of progress, or lack thereof, with respect to achievement of objectives (outcome monitoring); Identify corrective measures or the redesign of mitigation measures (proactive action), if the originally planned mitigation measures are not sufficiently effective; and ensure that mitigation measures are implemented and that they are effective.

The total timeframe of the monitoring period is not time-bound and it should last until the project impacts have been mitigated or fully compensated.

### **9.2 Contractor's Monitoring Program**

#### **Introduction**

The Contractors' Monitoring Program sets out the monitoring responsibilities of the contractor(s) and will be contractually enforced by the project proponent. The detailed monitoring system should be further elaborated by each contractor and incorporated into their Environmental, Health and Safety Plan. Consequently, the monitoring costs have not been estimated, as the contractors' monitoring responsibilities will be included in the bidding document upon which the tenderers will develop their base rates. The costs of the construction-related environmental and social monitoring will therefore be within the contract price.

#### **Monitoring methods**

Generally, the monitoring of construction practices and mitigation measures will be based on visual inspections at the construction sites. In addition, the contractors will be responsible for monitoring the outcome of their management actions on the physical, biological and human environment. The proposed performance indicators, the means of verification and the monitoring frequency are described in Table 9-1. It should be noted, however, that the exact monitoring methods need to be defined and agreed upon at a later stage as part of the Contractors' Environmental, Health and Safety (EHS) Plan.

#### **Roles and responsibilities**

##### **Contractors**

The contractors shall self-monitor their compliance with the (approved) Contractors' ESMP. The contractors will perform routine monitoring inspections using pre-established checklists. The self-monitoring system shall be based on the methods outlined in Table 9-1.

The contractors shall prepare monthly reports to the Consultant describing the implementation of

the Contractors' ESMP, including key performance indicators, as well as any deviations, incidents or accidents and corrective measures taken.

When a non-conformance is detected and is not, or cannot be, immediately resolved, then a corrective action process will be initiated by the contractor. On completion of the corrective or preventive action, the Consultant will confirm and record all the necessary details.

#### Project Coordinator

The PC will monitor compliance with commitments included in the Contractors' ESMP. This will be achieved by routine inspections of construction activities and review of written documentation. For this purpose, the PC will prepare inspection checklists and regularly take part in the contractors' self-monitoring inspections.

The PC will review monthly reports on the overall ESMP implementation including the performance and compliance with the Contractors' ESMP. The report will be based on the corresponding monthly reports from the contractors and on the findings from the routine inspections. The monthly report will be submitted to MoW management and distributed to other relevant stakeholders as appropriate. The PC will organize weekly meetings with the contractors where environmental and social performance will be discussed and, where necessary, any additional mitigation measures will be agreed upon.

The PC will also review annual environmental and social management reports and submit the same to MoW management.

#### Regulatory Authorities

The concerned government institutions will carry out inspections and audits as they may deem fit. It is envisaged that, inter alia, the following government institutions will take part in the inspections and audits, either separately or jointly:

- National Environment Management Council (NEMC);
- Wami Ruvu Basin Water Office;
- Occupational Safety and Health Authority (OSHA);
- Fire and Rescue Force;
- Contractors Registration Board (CRB); and
- Engineers Registration Board (ERB).
- EWURA

The regional, district and ward administrations and their technical officers are responsible for coordination of all advise on environmental management in their respective regions and liaison with regulatory authorities on the implementation and enforcement of EMA.

### **9.3 Reporting System**

#### **Monthly reporting**

The contractor will prepare monthly reports on their environmental and social performance and their compliance with the Contractors' ESMP and the reports will be submitted to Consultant and PC.

The Consultant will compile monthly reports that will be forwarded to PC and shared with the concerned stakeholders and the Bank (for review and clearance). These

reports will be based on the monthly reports from the contractors and on monitoring of environmental and social aspects.

#### **Quarterly reporting**

While the contractor will be required to report monthly, the Consultant supervising implementation of ESMP will report on a quarterly basis. These quarterly reports will be submitted to PC, who will review approve and share with the Bank for review and clearance. Reports on any incidents or accidents (whether involving workers or community members) shall be included.

#### **Annual reporting**

Consultant will prepare annual reports on the Contractor's overall environmental and social management performance. The annual report will be submitted to NEMC and other government agencies as part of the Project Proponent's statutory responsibilities towards the Government. The report will also be disseminated to the other Project stakeholders. The Bank will also review and provide clearance. Reports on any incidents or accidents (whether involving workers or community members) shall be prepared using the standard accident/incident report format, and shared with the relevant authorities and the Bank as per the Bank procedures. .

#### **Auditing and Evaluation**

In addition to the monitoring and reporting system described above, the project proponent shall establish an auditing and evaluation system in order to obtain independent verification of its E&S performance and external checks on its compliance status.

Both, the Local authority (NEMC) and the AfDB requires independent E&S performance verification be done annually. It is required that the audits/evaluations will either be carried out by external consultants hired directly by the project proponent, or by a Panel of Experts appointed by the Development Partners. After full implementation of the project, a completion audit from a third independent party will be required.

### **9.4 Summary of Monitoring Plan**

A summary of the proposed monitoring parameters, means of verification and monitoring frequency are presented for each of the mitigation measure in table 9-1 below:

**Table 9-1: Environmental and Social Monitoring Plan**

Management Issue	Parameter	Performance Indicators	Means of Verification	Responsible Party	Monitoring Frequency	Cost (USD)
Land acquisition and Resettlement	<ul style="list-style-type: none"><li>• RAP &amp; LRP implementation</li><li>• Compensation and assistance</li><li>• Valuation method</li><li>• Grievances</li></ul>	<ul style="list-style-type: none"><li>• RAP &amp; LRP implementation reports</li><li>• Number of PAPs compensated</li><li>• Replacement cost valuation method</li><li>• Number of grievances related to RAP</li></ul>	MoW Consultant	Monthly	25,000	
Landscape and vegetation management	<ul style="list-style-type: none"><li>• Quantity (physical extent) and quality of vegetation clearing</li><li>• Quality of landscaping at restored sites</li><li>• Plant species used for re-vegetation</li><li>• Number and location of spoil heaps</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Photographic documentation</li><li>• Interviews</li></ul>	Contractors Site Engineer ESHS expert	Weekly inspections	10,000	
Soil erosion control	<ul style="list-style-type: none"><li>• Number and location of silt trap fences / sedimentation ponds</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Photographic documentation</li><li>• Interviews</li></ul>	Contractors Site Engineer ESHS expert	Weekly inspections	5,000	
Solid waste, hazardous waste and wastewater management	<ul style="list-style-type: none"><li>• Amounts and types of waste generated, sorted, recycled/reused, treated and disposed</li><li>• Number, location and status of waste disposal sites</li><li>• Number and status of toilet facilities</li><li>• Wastewater quality parameters</li><li>• Quality of secondary containment structures</li><li>• Labelling of hazardous waste</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Photographic documentation</li><li>• Interviews</li><li>• Wastewater quality measurements at source.</li></ul>	Contractors Site Engineer ESHS expert	Weekly inspections Weekly wastewater quality measurements	15,000	
Air pollution and dust emission control	<ul style="list-style-type: none"><li>• Turning off vehicles and equipment when not in use</li><li>• Ambient air quality (levels of reportable dust PM<sub>10</sub> &amp; PM<sub>2.5</sub>, at site, schools, residences and health facilities.</li><li>• Frequency of water spraying on roads and stockpiles;</li><li>• Community grievance regarding dust</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Photographic documentation</li><li>• Interviews</li><li>• PM<sub>10</sub> &amp; PM<sub>2.5</sub> monitoring data at construction sites</li><li>• Grievance register</li></ul>	Contractors Site Engineer ESHS expert	Weekly inspections Weekly air quality measurements	15,000	

Management Issue	Parameter	Performance Indicators	Means of Verification	Responsible Party	Monitoring Frequency	Cost (USD)
Noise management	<ul style="list-style-type: none"><li>• Timing of blasting operations;</li><li>• Controls in place relevant to blasting practices;</li><li>• Evidence of provision of hearing protection equipment used by workers;</li><li>• Evidence of noise control measures on site;</li><li>• Noise levels (dB) at site, schools and health facilities against the maximum permissible noise level for a particular workplace, or neighborhood, as stipulated in the First schedule of the The Environmental Management (Noise and vibrations standards) Regulations, 2011.</li></ul>	<ul style="list-style-type: none"><li>• Visual and auditory inspections</li><li>• Interviews</li><li>• Blasting records</li><li>• Noise level measurements (Leq, dBA) at construction and blasting sites, as well as receptor, using a standard sound level meter</li></ul>	Contractors Site Engineer ESHS expert	Weekly inspections Weekly noise measurements, or daily in case of non-compliance	5,000	
Chance finds (Cultural heritage)	<ul style="list-style-type: none"><li>• Number of chance finds recorded;</li><li>• Evidence of chance finds procedures.</li><li>• Evidence of notifications to Authorities</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Photographic documentation</li><li>• Interviews</li><li>• Records</li></ul>	Contractors Site Engineer ESHS expert	Weekly inspections	10,000	
Occupational health and safety	<ul style="list-style-type: none"><li>• Evidence of Occupational H&amp;S Management Plan;</li><li>• Evidence of Emergency Preparedness and Response plan;</li><li>• Number of safety trainings performed and numbers of workers trained in safety procedures;</li><li>• Percentage of workers using Personal Protective Equipment (PPE);</li><li>• Structural integrity of workers' accommodation &amp; sanitary facilities;</li><li>• Access to health services by workers;</li><li>• Access to adequate portable water by workers;</li><li>• Malaria prevalence rate in workforce;</li><li>• HIV/AIDS prevalence rate in workforce;</li><li>• Incident statistics (Total Recordable Injuries, Fatalities, Lost Time Injuries, Restricted Work</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Interviews</li><li>• Photographic documentation</li><li>• Incident reports</li></ul>	Contractors Site Engineer ESHS expert	Daily monitoring	15,000	

Management Issue	Parameter	Performance Indicators	Means of Verification	Responsible Party	Monitoring Frequency	Cost (USD)
Traffic and transportation safety	<ul style="list-style-type: none"><li>• Evidence of traffic and transportation safety plan;</li><li>• Traffic incident rate (including workers, community and livestock);</li><li>• Observed speed of construction vehicles;</li><li>• Number of drivers trained and equipped with license;</li><li>• Evidence of signing, warnings and controls.</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Speed checks</li><li>• Photographic documentation</li><li>• Interviews</li></ul>	Contractors Site Engineer ESHS expert	Weekly inspections and checks	5,000	
Security arrangements	<ul style="list-style-type: none"><li>• Evidence of training of security personnel in the use of force and arms;</li><li>• Number of security related grievances raised by the communities and workers.</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Photographic documentation</li><li>• Interviews</li></ul>	Contractors Site Engineer ESHS expert Social expert	Weekly inspections	5,000	
Labour management	<ul style="list-style-type: none"><li>• Proportion of local population on overall project workforce;</li><li>• Proportion of women &amp; youth employees on overall project workforce;</li><li>• Evidence of signed contracts;</li><li>• Number of worker grievances;</li><li>• Age of workers;</li><li>• Quality of workers accommodation;</li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Interviews</li><li>• Employment contracts</li></ul>	Contractors Site Engineer ESHS expert Social expert	Weekly inspections	5,000	
Community relations	<ul style="list-style-type: none"><li>• Number of community grievances;</li><li>• Incidence of damages to crops and structures along work corridor and access roads.</li><li>• <b>Record of community engagements</b></li></ul>	<ul style="list-style-type: none"><li>• Visual inspections</li><li>• Photographic documentation</li><li>• Interviews</li></ul>	Contractors Site Engineer ESHS expert Social expert	Weekly inspections	20,000	
	Total Estimated Environmental & Monitoring Plan					135,000

## 10. COST BENEFIT ANALYSIS

### 10.1 Project Cost

A cost/benefit analysis (CBA) is a systematic evaluation of the economic advantages (benefits) and disadvantages (costs) of a set of investment alternatives. The analysis evaluates incremental differences between the base case and the alternative(s). In other words, a benefit-cost analysis tries to answer the question: What additional benefits will result if this alternative is undertaken, and what additional costs are needed to bring it about.

The CBA have covered the financial analysis, economic analysis of the original project proposal and an extended cost-benefit analysis for the project. However, for a project to be judged viable or not, a comprehensive feasibility study that includes the costs related to mitigation/enhancement of environmental impacts of the project have to be included.

The initial investment cost of the proposed project will be given at later stage of design. In addition to cost directly related to the project, there will be other cost for addressing environmental issues including cost of implementing mitigation measures to offset foreseen impacts. The total additional cost for implementation of ES mitigation measures is about 900 million Tsh (345,000 USD).

#### Preliminary Project Cost Estimation

Component	Estimated Cost (EUR)	Details
Conveyance System	167,000,000millions	Excludes operation and maintenance costs.
Treatment Plant and Raw Water System	111,000,000millions	Includes costs for testing and commissioning.
Compensation, Social, and Environmental Mitigation Measures	18,052,779millions	Currently not estimated in detail
Lifecycle Costs	To be determined	Final costs will follow detailed design and may increase by ~20%, including Risk Reserve (RR).

#### Additional Notes:

- The cost estimates are preliminary and subject to change.
- Final evaluations will comply with National Standards for project cost estimation.

### 10.2 Non-Quantifiable Benefits and Costs

The proposed project is expected to bring benefits to local communities, Dodoma municipality, districts and to Government at large. Local communities expect to benefit in terms of employment opportunities directly from the enterprise or from jobs created in the local economy as a result of other auxiliary economic activities. This ESIA is proposing enhancement measures to ensure that this actually happens. The project will also benefit



the community by resolving the long-lasting problems caused by shortage of clean and safe water for domestic use as well as inadequate sanitation facilities in Dodoma region. The community will benefit in terms of the improvements to health of men, women and children as a result of improved water supply and sanitation, reduction in time spent collecting water, thus utilization of saved time in other family activities and therefore improvement of quality of life, significant improvements in household income levels and thus improvement of economic status of the households, improvement of security of livelihoods due to limited travel times especially in the evenings in search of water, as well as increased school attendance resulting from better child care arising from improved water supply and sanitation.

Local communities expect the project will stimulate growth of municipal economy and increase revenue, hence contribute to municipality's efforts to reduce poverty. The areas that are likely to grow because of project include increase commercial activities, employment and increase market for farm products inside and outside the area. The project will create a market for food products, livestock products and auxiliary services. The money spent locally will again generate multiplier effects to the local economy.

The Central Government (MoW) and its institution responsible for water supply and sanitation (DUWASA) are also expecting to derive benefits from the proposed development in terms of revenue generation, employment creation and development of associated infrastructures. The project will diversify the economy of the area and the government will gain through corporate tax payable from time to time. This is in addition to other taxes such as Pay As You Earn (PAYE), which is paid monthly on the basis of the payroll and the Value Added Tax from various established enterprises.

The local government will benefit from local taxes payable and dividends paid from various investments. The presence of the project is expected to boost the tax collection in the area. The municipal and districts treasury expects to increase its revenue from own sources through increased property tax and taxes from small businesses in Dodoma region. In general, the proposed development will stimulate improvement of infrastructure and improved livelihoods for the people. Thus, although these benefits cannot be quantified due to unavailability of data, if they are added on to the quantifiable ones, the value of benefits will increase greatly. This ESIA is proposing mitigation and enhancement measures to reinforce those activities that will increase the benefits to local people, local government and central government.

### **10.3 Cost to Local Communities and Government**

Despite the benefits, there are also possible costs to local communities and central government, which include the following:

- Increased prices for commodities and cost of living;
- Increase in levels of accidents (from construction activities and road traffic);
- Possible increases levels of crime due to the increase of population in the area;
- Cost of maintaining law and order in an area that is growing fast due to construction activities;

- The government will bear some costs such as provision of infrastructure for the maintenance during operation phase.

These costs are expected whenever a new investment is planned in an area that previously did not have such an investment. Thus, in a way they are unavoidable. What is important is to propose a series of mitigation measures as proposed in chapter 7 and 8 covering the cost to communities so as to minimize the negative effects and impacts of the project on these aspects.

Communities may also incur costs due to excessive use of local materials by the project, environmental pollution, increased pressure on local resources and illness and diseases (respiratory) associated with the project development in the area.

## **11. DECOMMISSIONING**

### **11.1 Introduction**

Once the operational phase of the proposed project comes to an end, decommissioning of the project will be required. This may be because the water mains, pipe networks and other technical components, due to wear and tear, cease to function. Other reasons for decommissioning may be that Farkwa dam becomes inadequate due to changes in climate and/or water quality issues that cannot be rectified. Finally, other and more effective and cheaper ways of providing safe water supply may be developed.

A decommissioning plan will be prepared prior to the start of the decommission operations, taking into account the applicable legal requirements and the prevailing environmental/social conditions. Due to the obvious uncertainties related to the future scenario, the potential impacts and mitigation measures described below should only be considered as a preliminary analysis.

It is anticipated that the life span of the project facility will be 20 years based on the design of structures and materials to be used for construction. At the end of the life span when the developer decides to rebuild the facility, there will be arrangements for an alternative facility for water treatment, storage and distribution.

Regarding the aspect of environmental impact, demolition waste will have to be disposed of at the designated disposal site. In the course of demolition and removal some environmental impacts may occur. Therefore, preparation of the decommissioning plan is aimed at ensuring that demolition, transportation, disposal and overall closure are done in a way that does not adversely affect the people or surroundings.

### **11.2 Decommissioning Process**

The decommissioning of the water supply scheme may include demolition of all or parts of the structures including treatment works, pumping stations, reservoirs and pipe networks. As it will be costly to remove the main water pipes, the option of leaving them in the ground will have to be considered. Additionally, digging up the main water pipes will most probably entail environmental impacts and temporary loss of land if the decision to remove them are taken. The issue of reusing installations such as reservoir tanks and building infrastructure will also need to be considered.

All waste resulting from decommissioning (e.g. pump sets, DI pipes and other metal parts) will need to be sorted into re-recyclables and non-recyclables prior to being disposed of at approved and licensed recycling stations and landfills.

### **11.3 Decommission Process**

Decommissioning may involve dismantling various structures and other activities leading to temporary increase in noise and vibration as well as air pollution due to dust emissions. The demolition of buildings and dismantling of pumps and electric equipment will also result in

the creation of both hazardous and non-hazardous waste which needs to be handled according to waste management regulations.

#### **11.4 Decommission Plan**

Decommissioning plan is prepared to comply with environmental legislations and regulatory requirements. For the case of projects that cause massive changes of land scape and biodiversity, the law requires that the land used for project facilities is rehabilitated and returned to the state that is usable by others after the project is decommissioned. However, the WTP, Reservoirs and pipeline facilities are not in such category but the decommissioning plan may involve the removal of following components but not limited to:

- Electric pumps and various electrical items;
- Steel material items;
- Valves;
- Water pipes; and
- Demolition of various structures.

#### **11.5 Decommission Cost**

The developer will fund and implement all aspects of project decommissioning, including but not limited to, all engineering, environmental monitoring, permitting, construction and mitigation activities associated with decommissioning.

#### **11.6 Decommission Permits and other Requirements**

The developer will ensure that all permits required for decommissioning process are sought. The permits may include permit to dispose of hazardous materials (if any), and permit from relevant bodies to dispose waste around the site or on unpaved feeder roads close to the demolition site.

Standard procedures of demolishing techniques shall be used, and all identified hazardous materials will be collected and disposed of in accordance with the respective laws, practice and regulations. Equipment will be re-used or sold to steel rolling mills to be recycled. Concrete works will be broken into small pieces and used for road surfacing or other uses. Pits will be filled with soil and compacted.

#### **11.7 Decommission Task Force**

When the time for decommissioning is due, the developer will form a team of experts with a representative from NEMC and any other relevant authority to monitor the implementation of decommissioning plan so as to ensure that decommissioning is done

according to the plan. The table 11-1 below entails activities and responsible party to be involved during decommissioning phase of the project.

**Table 11-1: Decommissioning Plan**

S/N	Activity	Responsible	Budget
1	Provide information about the decommissioning to residents' employees and local government leaders	Developer	To be determined during decommissioning time
2	Seeking decommissioning permits from NEMC	Developer	Pay requisite fees as prescribed
3	Prepare workers psychologically about the fears of losing livelihoods, jobs and business	Developer	To be determined during decommissioning time
4	Informing neighbors of anticipated decommissioning	Developer,	To be determined during decommissioning time
5	Demolition of the structures and/or rebuilding of new structures	Developer	To be determined during decommissioning time

A decommissioning plan will be prepared prior to the start of the decommission operations, taking into account the applicable legal requirements and the prevailing environmental/social conditions. Due to the obvious uncertainties related to the future scenario, the potential impacts and mitigation measures described below should only be considered as a preliminary analysis.

### **11.8 Potential Impacts**

Decommissioning may involve destroying various structures and other activities leading to temporary increase in noise and vibration as well as air pollution due to dust emissions. The deconstruction of buildings and dismantling of pumps and electric equipment will also result in the creation of both hazardous and non-hazardous waste which needs to be handled according to waste management regulations.

People working on Water supply scheme facility will inevitably be laid off but during the decommissioning phase there may be short-term jobs created by the decommissioning works.

Decommissioning works will involve OHS risks similar to those associated to the initial construction.

### **11.9 Mitigation Measures**

Mitigation measures to address HS risks during decommissioning would be as follows:

- Undertake decommissioning works in liaison with the relevant regulatory

authorities and adhere to applicable safety guidelines to ensure that the decommissioned facilities do not become a hazard to the public or the environment;

- Restore all disturbed sites to pre-construction conditions through landscaping and bio- engineering measures;
- Safely dispose of hazardous waste, concrete and similar non-recyclable construction materials, and recycling of scrap metal;
- Provide PPE and training to all workers, and ensure that all sub- contractors will abide by the applicable health and safety procedures.

## 12. SUMMARY AND CONCLUSIONS

The ESIA study results show that although there are some negative environmental implications of the project expected to take place in short period during construction phase, the proposed water supply project will have very high long-term socio-economic benefits to the people of Dodoma region especially during the operation phase. The associated negative impacts have been largely minimized through good engineering design and envisaged construction practices. Specific mitigation measures have been suggested in this report to offset some of the inherent adverse impacts during construction phase. Proper monitoring of the implementation of these mitigation measures would increase environmental soundness of the proposed water supply project.

It is, therefore, concluded that, implementation of the proposed project will entail no detrimental impacts provided that the recommended mitigation measures are adequately and timely put in place. The identified adverse impacts shall be managed through the proposed mitigation measures and implementation regime laid down in this Environmental Impact Statement (EIS).

The DRSWDSP Water Supply Project aims to provide a reliable, safe water supply to significantly improve the socio-economic conditions of the serviced areas, while being environmentally feasible. Although land requirements for infrastructure caused some localized displacement of structures, the resettlement impact has been minimized through careful design, including rerouting the TM.

The ESIA study identified potential temporary environmental impacts during construction. However, these are largely mitigated through effective engineering design and planned construction practices. The long-term benefits, particularly the permanent supply of high-quality water from Farkwa Dam, will offer substantial socio-economic gains to the people of Dodoma Region.

Chemba District is excluded from the current phase due to a separate initiative by the Ministry of Water, which has already benefited 28 towns in the area. Future phases will address Chemba, with plans for an off-take to extend water services to areas still lacking supply.

The ESIA concludes that the project can proceed successfully, provided that necessary mitigation measures, as outlined in the EIA Statement, are implemented. Effective monitoring of these mitigation measures will ensure the project's environmental soundness and minimize any potential adverse impacts.



## REFERENCES

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- 2 EGIS/ICE Project Services, Preliminary Design Report for Dodoma Resilient and Sustainable Water Development and Sanitation Program, Farkwa Water Treatment Plant and Water Conveyance System To Chemba, Bahi, Chamwino District Councils and Dodoma City, Dodoma Region (2025)
- 3 IUCN: Red List of Threatened Plants species. <https://www.iucnredlist.org/>
- 4 National Bureau of Statistics, Administrative Units Population Distribution Report (2022)
- 5 The Environmental Management (Environmental Impact Assessment and Audit) (Amendment) Regulations, (2018)
- 6 The Environmental Management (Standards for Control of Noise and Vibration Pollution) Regulations (2010)
- 7 The Environmental Management (Standards for the Control of Noise and Vibrations Pollution) Regulations (2014)
- 8 The Environmental Management Act (2004)



# **ANNEXES**

**ANNEX 1   MAPS AND DRAWINGS**

**ANNEX 2   LISTS OF ENGAGED PARTICIPANTS AND MINUTES OF MEETINGS**

**ANNEX 3   CODE OF CONDUCT GUIDANCE**

**ANNEX 4   INCIDENT REPORTING TEMPLATE**

**ANNEX 5   HEALTH AND SAFETY MANAGEMENT PLAN (HSMP) GUIDANCE**

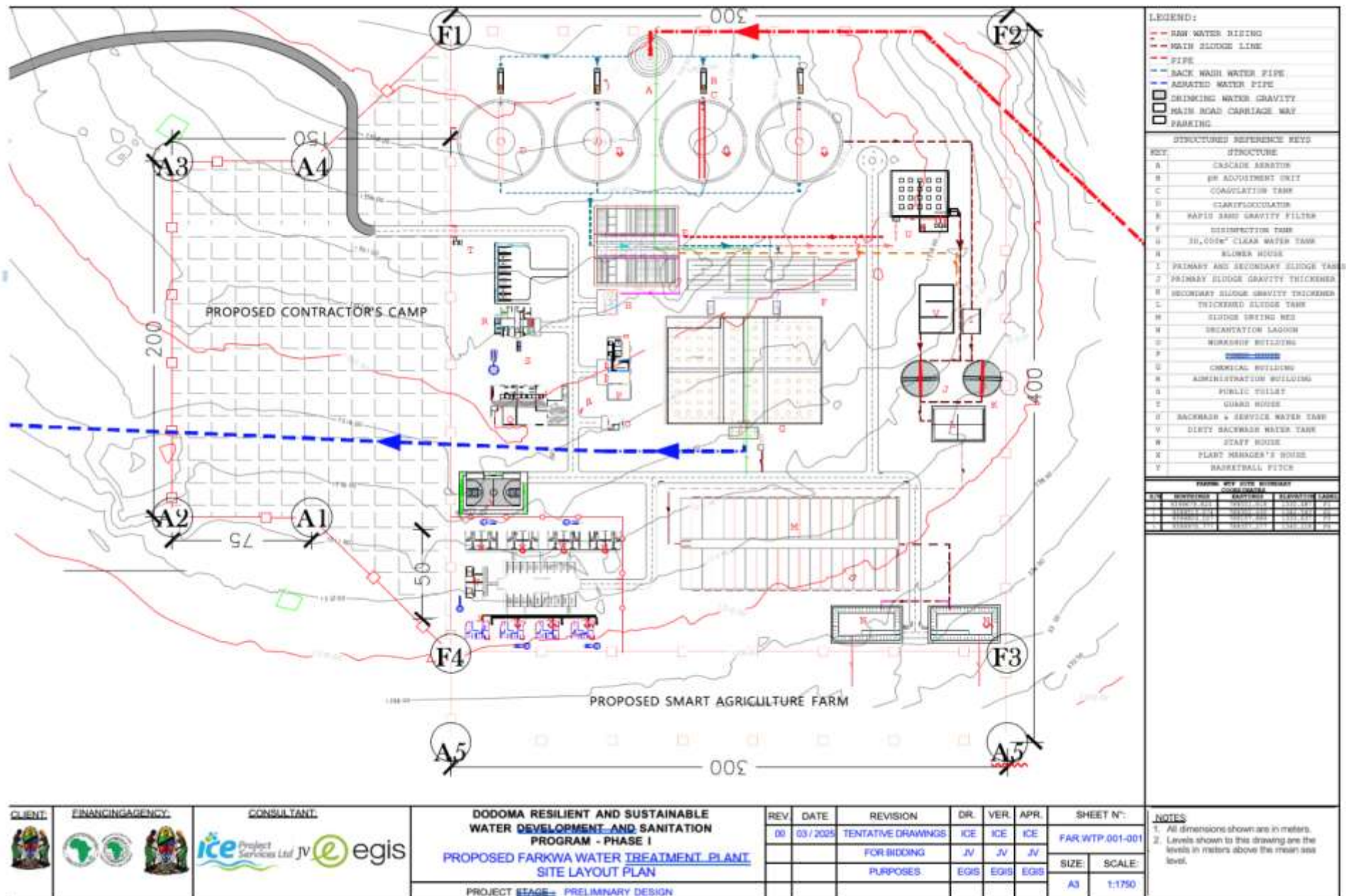
**ANNEX 6   CARBON EMISSION QUANTIFICATION**



## **ANNEX 1: MAPS AND DRAWINGS**











## **ANNEX 2: LIST OF ENGAGED PARTICIPANTS & MINUTES OF MEETINGS**

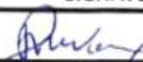


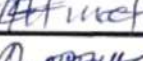


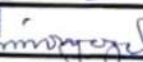
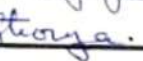


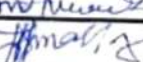
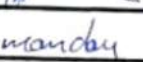
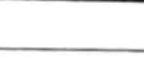



ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, W  
TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMV  
DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD LAMATI

DATE 13/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	PAULO S. MKONONGA	M/KIJI	LAMATI	ME	0629110818	
2	CHARLES N. MPOLLO	M/KIJI	LUKALI	ME	0624066348	
3	BHOKE M. MAGANCHA	VED	LAMATI	KE	0621743720	
4	BENJAMINI J. FUNDO	Mw. WED	LAMATI	ME	0624446434	
5	ABUUBAKARI M. ISIF	VED	LUKALI	ME	0628703065	
6	SILVIA J. MBIBULE	VED	BANKOLO	KE	0624643049	
7	MYEMO N. MWALUKO	MW/KIIONGOSI	BANKOLO	ME	0623482529	
8	JOSIA E. CHIMONYOCHA	MW/KIIONGOSI	LAMATI	ME	0628499213	
9	GABRIEL A. NIIONTA	MW/KIIONGOSI	LAMATI	ME	0624075265	
10	ALEXE M. MBASHA	MW/KIIONGOSI	BANKOLO	ME	070077939	
11	JELEMAN M. MPINGA	MW/KIIONGOSI	BANKOLO	ME	0626145084	
12	EMANUEL N. MWALUKO	M/KIJI	BANKOLO	ME	0629110815	
13	JOHN A. MAKUWA	M/KIIONGOSI	LAMATI	ME	0628863919	
14	YOSHIA CH. MANDAY	M/KIIONGOSI	LUKALI B	ME	0628130665	
15	VICTORIA S. MWILIKO	Mjumba Jm	BANKOLO	R	0621239613	

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINI

DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD LADALI

DATE 13/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	BAKARI PAULU NDALU	MW/Kilengesi	LUKALI	ME	0622463170	<i>Paulu</i>
17	SAYELA M MACHEA	MW/Kijani	LUKALI	KE	0628053916	<i>Machea</i>
18	YOHANA J. MPOLO	KITONGORI	LUKALI(N)	ME	0627101960	<i>Y. MPOLO</i>
19	NATHANIEL S. MKUNGU	M/KITONGORI	BANKOLO	ME	0628949514	<i>Nathan</i>
20	JOSEPH Y TETEA	M/KITONGORI	LAMAITI	ME	0626514416	<i>Joseph</i>
21	PASKALI S. MUKUNGU	M/KITONGORI	LAMAITI	M	0629922799	<i>Paskali</i>
22	IBBY S. MUKUNGU	KITONGORI	LAMAITI	ME	0624562046	<i>Ibby</i>
23	AMISI R. LUNGWA	KITONGORI	Lamaiti	ME	0628139552	<i>Lungwa</i>
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ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, W  
TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMW  
DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD ZANKA DATE 14/08/2025

VENUE: PRIMARY COART ZANKA.

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	MATATA LSAYA	A/TARAKA	MUNDERU	ME	0677-969259	
2	ALATIKENGELA MUKALA	A/KATA	ZANKA	KE	0766874929	
3	YOHANA TARIKI	M/KITI KITI	ZANKA	ME	0625670851	
4	ASSA ENOCK MUKONZA	MJUMBE	MAYANZA	ME	0624071909	
5	JOSEPH A. SUPAY	MJUMBE	ZANKA	ME	0657497270	
6	DAUDI D. MKONONGO	MW/KITONGA	MAYA MAYA	ME	0628844638	
7	ATANASIO MUKALA	M/KITI KITI	MAYAMAYA	ME	0626178198	
8	PAULI I. NDUMIKO	M/K. ZANKA	MAYANZA	ME	0626143492	
9	MUSA M. CHAMBILA	M/K. ZANKA	ZANKA	ME	0654538153 0614879202	
10	PIRO G. MAFAYO	M/KITONGA	MAYANZA	ME	0652871799	
11	ERNEST SONGO	MW/KITONGA	ZANKA	ME	0626038313	
12	EMMANUEL S. MKOMBE	MW/KITONGA	MAYA MAYA	ME	0628824302	
13	JOYCE T. BOMA	MJUMBE	ZANKA	KE		
14	WILSON MAZIMBA	M/KITI-KITI	MAYAMAYA	ME	0628016165	
15	ANGELA MALEWA	MJUMBE	MNASE	KE	0756914357	

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, V  
TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMU  
DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD ZANKA DATE 14/07/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	IBRAHIMU-BAKARI	KITOI	SANKA	ME	06289956	IB
17	ELIA NDINDE MAKACHA	Mtumbwe	ZANKA	ME	0620495895	Elia
18	RICHARDI MANDAV	M/KITOI	ZANKA	ME	0624202484	Rich
19	BWANAHOTA MARION	M/KITOI	ZANKA	ME	0672862674	Marion
20	JENEPHATHS-MAHEWA	M/Jumbo	ZANKA	MKE	0752-861174	J.W. Mahewa
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ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINI

DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD MPAMPAWA

DATE 13.02.2024

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	BAHATI R CHA	A-TARAFI	1	ME	0629945084	R
2	SOSTHEVEJ MPAMWA	DIWANI	BAHI-MAKULU	ME	0783-830387	S. Pandu
3	ROSEMARY G. KAZUREGE	WEO	MPAMPAWA	KE	0621-779998	K. Bimbo
4	THERESIA J KITALE	VEO	MKAKATIKA	KE	0627276032	J. Kitale
5	FRANCIS J. MPAKICH	MJUMBE	MKAKATIKA	ME	0788623491	F. MPAKICH
6	GEORGE CHILITE	MW/KITONGA	MKAKATIKA	ME	0628728308	G. Chilite
7	MARIA D. MAMUNGA	MJUMBE	MKAKATIKA	KE	0629790538	M. Darnian
8	PASCHAL A. MILAMBO	M/KITI KITONGA	MKAKATIKA	ME	6694953897	P. Milambo
9	NYASHIRO M. MAKUMBO	M/KITI KITONGA	MKAKATIKA	ME	0693265326	N. Makumbo
10	LEMMY J. MESA	M/KITI	MKAKATIKA	ME	0788626294	L. MESA
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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT  
CONSTRUCTION OF RAW WATER INTAKE, TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE  
TANKS TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD.....NZUGUNI

DATE.....19/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.	ALOYCE M. LUHEGA	CHIEF	NZUGUNI B	M	0786-416921	
2.	WILFRED A. CHIMOSA	MJUMBE	NZUGUNI 'A'	M	0754296241	
3.	LEONARD N. DAFULU	J.H	ZIATA	M	0655897913	
4.	Ashley B. Mtema	MJUMBE	NZUGUNI B	M	0756222746	
5.	Mohammed O. Ally	MJUMBE	NZUGUNI 'A'	M	0762900255	
6.	KHADISA MUSSA	MJUMBE	NZUGUNI	F	0785887671	
7.	ENOCK N. GANDAMBA	MJUMBE	NZUGUNI B	M	0692797823	
8.	ZENA SAIDI BAKARI	MJUMBE	NZUGUNI C	F	0756865102	
9.	ILHAMAIN J. NDALU	=	NZUGUNI	M	0759680805	
10.	VIDLET C. MAJALIWA	L.F.O	NZUGUNI	F	0787667275	
11.	WILFRED S. LUGANO	MJUMBE	NZUGUNI	M	0752233535	
12.	MARGRETH S. NJAMASI	MJUMBE	NZUGUNI	F	0767-001318	
13.	VERONICA T. MHAHAMA	L.O	NZUGUNI	F	0620 196826	
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ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD FARKWA

DATE 10/02/2025

VENUE: FARKWA WARD

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	KAPILI F. MUKISA	AS DEB	CHEMBA	M	0786577580	Kfidele
2	MAJIDAT KASUGA	ALIMARI	FARKWA	M	0653011561	M. Kasuga
3	EMILIAN B. MOTA	WEO	FARKWA	M	0786243132	Emilian
4	APAP MAGINGILA	P/KATA	FARKWA	M	0759253074	Apap
5	ANABURSI N. AMATA	M/KITI	DONSEE	M	0682655270	Ana
6	KHALIFA SALUMU SONGO	M/KITI	MOMBOSO	M	0656466179	Khalifa
7	NAIBU HARUNA GAWA	LGTH FIELD JUDGE	FARKWA	M	0775996353	Naibu
8	ALBERT G. SOILA	K/VEO	FARKWA	M	0757076704	Albert
9	GABRIEL M. MADIGE	M/KITI	FARKWA	M	0786767459	Gabriel
10	SAKIFAH M. MUSSA	VEO	DONSEE	F	0759903275	Sakifah
11	JAFARI A. GAWA	VEO	MOMBOSO	M	0673260294	Jafari
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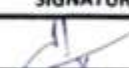
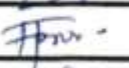

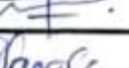
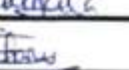



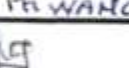








ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINI DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD BABAYU (BAHI)

DATE 13/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	HUSSEIN A. KAMAU	DUTAWI	KONGOGO	ME	0625895311	
2	FELTIER F. PROPPER	WEO	BABAYU	FE	0625964813	
3	NATATA LSAYA	A/TARATA	MUNDENI	ME	0671-969759	
4	AMON M. MADEHA	VEO-KONGOGO	KONGOGO	ME	0626-160620	
5	ELITA M. ODAGALA	MIKITI	BABAYU	ME	0621333676	
6	EVER CHARLES	VEO-BABAYU	BABAYU	KE	0717 814715	
7	SAMUEL S. MUKULU	KUCHI KITA	BABAYU	ME	0629145844	
8	CHARLES E. KENJIKI	MWEHSAH	ASANJE	ME	07763589743	
9	DAVID H. MATEWA	MT. KONGOGO	KONGOGO	ME	0687747799	
10	VICTORIA CH. MWAMO	MT. KONGOGO	KONGOGO	KE	0688397054	
11	GEORGE C. LUNYUNGU	A. MIFUGO	BABAYU	ME	0628.123302	
12	FRANK L. LUGUO	M/KIT	KONGOGO	ME	0719011129	
13	YUTANIA T. NYABERO	VEO-ASANJE	ASANJE	ME	0697635656	
14	KULWA R. HUSSEIN	CHW	BABAYU	ME	0779603019	
15	SALIMU HAMIS	CHW	KOPOTOGI		0678779207	

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, W  
TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMV  
DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD...BABAYU (BAHI)

DATE...13/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	JOAR MATHANZI	Mt. Kilimanjaro	Kongogo	ME	0626656123	<i>[Signature]</i>
17	ALY. HENRI	M. Kilimanjaro	Kongogo	ME	0624472676	<i>[Signature]</i>
18	NASIBU A. SAIDI	CDO	BABAYU	ME	0653811262	<i>[Signature]</i>
19	SAMUEL D. DUSHA	MW/Kilimanjaro	Kongogo	ME	068265809522	<i>[Signature]</i>
20	ANJELINA D. MROGALI	CHW	BABAYU	KE	0689765485	<i>[Signature]</i>
21	MCHUNO K. SANINGI	MW/Kilimanjaro	KONGOGO	ME	0678132349	<i>[Signature]</i>
22	MOST MDUTE	PROVERT...ND	KONGOGO	ME	062854078	<i>[Signature]</i>
23	HOSEA A. MCHANGA	MW/Kilimanjaro	KONGOGO	ME	0614990209	<i>[Signature]</i>
24	ENESTY CHAMOLA	Mt. Kilimanjaro	KONGOGO	ME		<i>[Signature]</i>
25	JUMA MCHAMBEWA	MW/Kilimanjaro	BABAYU	ME	0629640646	<i>[Signature]</i>
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ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINI, DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD CHAHWA DATE 17/02/2025

VENUE: CHAHWA WARD OFFICE

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	MARIAM NDAHANI	MEO	Pembamoto	KE	0755200880	Mariam
2	BARAKA KASASI	MEO	MUUNGANO	ME	0765610595	Baraka
3	ROSE LUCAS	MJUMBE	PEMBAMOTO	KE	0713582448	Rose Lucas
4	JOSEPH M. CHAHUNZA	M/KITI	MUUNGANO	ME	0622608359	Joseph M. Chahunza
5	KABIYA L. ZAKAYO	MJUMBE	PEMBAMOTO	ME	0745137343	Kabiya
6	HILARI BARONGO	MEO	MUONGUZO	ME	0762564776	Hilari
7	LANCE JOEL	WREG	MUONGUZO	KE	0762162237	Lance Joel
8	SARA CHUWE	MJUMBE FIELD	MUUNGANO	KE	0765879157	Sara Chuwe
9	JOSEPH NDAHANI	M/KITI	Chibetu	ME	0672173127	Joseph
10	KUTONA DAVID	M/KITI	PEMBAMOTO	ME	062672641	Kutona
11	JOSEPH N. MATENGO	MUUNGANO	CHAHWA-WARD	ME	0751814771	Joseph N. Matengo
12	KETALON S. CHITALELA	M/KITI	MUONGUZO	ME	0628564499	Ketalon S. Chitalela
13	MULCHI S. MANICHEZI	MJUMBE	MUONGUZO	KE	0746522682	Mulchi S. Manichezi
14	ISAACK G. CHAHUNZA	MJUMBE	MUUNGANO	ME	0658766474	Isaack G. Chahunza
15	BARAKA S. NYANGHOTA	MJUMBE	MUUNGANO	ME	0766004653	Baraka S. Nyanghota

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINDI DISTRICT, DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD ...CHAKIWA... DATE 17/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	Sofia Mitele	msimbe	muungano	KE	0697758602	Mitele
17	Joyce Mnyani	msimbe	MUUNGANO	KE	0672156686	Mnyani
18	Mariam Msimbe	NURSE	MUUNGANO	KE	0763257707	Msimbe
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MAHUDHURIO YA WASUMBE WA KAMATI  
YA MAENDELEO YA KATA-KATA YA MUMBA

JINA	CHEO/WADIHA	NA. SIMU	SAINI
1. EDWARD N. MABOTE	DIWANI	0716956549	
2. ALIAS P. BAKINDIKIJE	WEO	0710918469	
3. GOOBLUCK MUKIBINGA	AFUA MAMUNDA	075671017	
4. MELA I. KATAMBA	SUD	0784743079	
5. THILEMON CHIGUBWE	MJUMBE/MTAMBA	0766418693	
6. DAVID N. MALLIGO	M/Kat. Mamba	0256-245554	
7. FRANCIS J. FELIX	MEO-MTUMBA	0752505552	
8. HURUMA E. MUGUNDU	CDO-MTUMBA	0769606019	
9. HASSAN KADDE	MEO-VIKANGA	0625659392	
10. YORAN D. MELETO	MJUMBE MASENGO	0712163065	
11. GEORGE L. SAKANGU	M/KITI, MASENGO	0776-059320	
12. HELENA MAKUYA	MJ/MAJENGO	0658-233869	
13. JENIVA NGHAGWA	MJ/MAJENGO	0713092835	
14. LUKE MSAJILA	MJ/MAJENGO	0768718390	
15. BEATRICE LYATI	MJUMBE MTUMBA	0749991024	
16. ERASTO Y. MUGI	MJUMBE MAMUNDA	0717070976	
17. DAUDI J. CHIBADA	M/KITI-VIKANGA	0718-049089	
18. JULI LEMBILE	MJUMBE	0762-923060	
19. JOEL M. MZABILE	MJUMBE	0696-750371	
20. ZENA B. KARUMUNA	" " MTUMBA	0621588875	
21. ELIAS T. MUGISI	" "	0718-071721979	
22. EDWARD J. SEGUNDE	" "	0713736410	
23. BEATRICE LYATI	" "	0749991024	

AFISA MTEBARI KATA  
MUMBA  
S.L. 1249  
BOGOMA



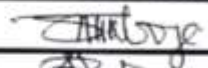
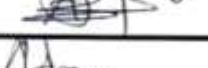
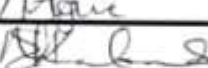
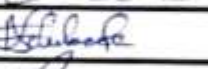

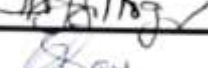
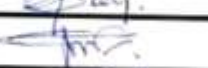

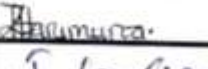
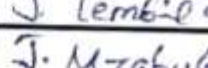
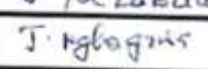
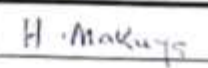



MAHUDHURIO YA WASUMBE WA KAMATI  
YA MAENDELEO YA KATA-KATA YA MUMBA

JINA	CHEO/WADIHA	NA. SIMU	SAINI
1. EDWARD N. MABOTE	DIWANI	0716956549	
2. ALIAS P. BAKINDIKIJE	WEO	0710918469	
3. GOOBLUCK MUKIBINGA	AFUA MAMUNGA	075671017	
4. MELA I. KATAMBA	SUD	0784743079	
5. THILEMON CHIGUBWE	MJUMBE/MTAMBA	0766418693	
6. DAVID N. MALLIGO	M/KATAMBA	0256-245554	
7. FRANCIS J. FELIX	MEO-MTUMBA	0752505552	
8. HURUMA E. MUKIGIRO	CDO-MTUMBA	0769606019	
9. HASSAN KADDE	MEO-VIKORWE	0625659392	
10. YORAN D. MELETO	MJUMBE	0712163065	
11. GEORGE L. SAKANGA	M/KITI, MAFUKA	0776-059320	
12. HELENA MAKUYA	MTI/MAJENGO	0658-233869	
13. JENIVA NGHAGWA	MTI/MAJENGO	0713092835	
14. LUKE MANTILA	MTI/MAJENGO	0768718390	
15. BEATRICE LYATI	MJUMBE MTUMBA	0749991024	
16. ERASTO Y. MUGI	MJUMBE MTAMBA	0717570976	
17. DAUDI J. CHIBADA	MIKITI-VIKORWE	0718-049089	
18. JULI LEMBILE	MJUMBE	0762-923060	
19. JOEL M. MZABILE	MJUMBE	0696-750371	
20. ZENA B. KARUMUNA	" " MTUMBA	0621588875	
21. ELIAS T. MUGISI	" "	0718-071721979	
22. EDWARD J. SEGUNDE	" "	0713736440	
23. BEATRICE LYATI	" "	0749991024	

AFISA MTENDAJI KATA  
MUMBA  
S.L. 1249  
BOGOMA

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WA  
TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWIM  
DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST  
WARD MTUMBA DATE 17/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	EDWARD N. NABOJE	DIWANI	MTUMBA	M	0716956549	
2	ALETAS P. BAKINDIKILE	WEO	MTUMBA	F	0710918469	
3	HURUMU E. MWIGUNU	CDO	MTUMBA	F	0769606019	
4	MELLA E. KATAMBA	MEO	MAJENGO	F	0784743079	
5	DAUDI J. CHIBADA	M/KITI	VIKONJE B	M	0718-049089	
6	PHILEMON CHIKULUBE	M/MIAA	MTUMBA	M	0766418693	
7	DAVID M. MUKOGU	M/MIAA	MTUMBA	M	0756245554	
8	GEORGE L. SATANGU	M/KITI	MAJENGO	M	0676-059320	
9	YORAM D. MELETO	MSUMBE	MAJENGO	M	0712163065	
10	FRANCIS J. FELIX	MEO	MTUMBA	M	0752505552	
11	ZENA B. KARUMUNA	MSUMBE	MTUMBA	F	0621588875	
12	JULI LEMBILE	MSUMBE	VIKONJE	F	0762-923060	
13	JOELY MZABULE	MSUMBE	VIKONJE	M	0696-750391	
14	JANE GILAWA	MSUMBE	MAJENGO	F	0713692835	
15	HELENA MAKUYA	MSUMBE	MAJENGO	F	0658233869	


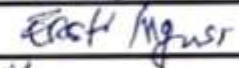
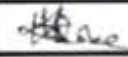


ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINI

DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD MIUMBA DATE 17/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	EDWARD S. SEZANJE	MJUMBE	MTUMBA	M	0713736410	
17	ERASIO Y. NGUSI	MJUMBE	MTUMBA	M	0717270976	
18	HASSAN KADUKE	MEO	VIKUNJE B	M	0625699392	
19	JANEETH NJANI	MJUMBE	VIKUNJE B		0782-001571	J. NJANI
20	AGNES MAZEMBO	MJUMBE	VIKUNJE B		0789089598	A. Msongo
21	PXUJO LENGXI	MJUMBE	VIKUNJE B		0615-337934	P. Lengxi
22	BEATRICE LYATI	-II-	MTUMBA	F	0749991024	B. Lyati
23	LIKA MSANJILA	II	MAJENGU	M	0768718390	L. Msanjila
24						
25						

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT  
CONSTRUCTION OF RAW WATER INTAKE, TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE  
TANKS TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD DODOMA MASHAURI

DATE 18/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.						
2.	Dennis D. Katumwa	MEO		MALE	0718065483	
3.	SHARACK H. MKUMBE	MJUMBE		MALE	0620264475	
4.	JOHN C. NIMWAYA	M/KITI			0755381381	
5.	MATIAS ELIA NJAJO	MJUMBE			0763435915	
6.	DEVID J. CHALO	MJUMBE/MTA		M	0654122038	
7.	FATUMA ABDULAZIZ MBAPA	MJUMBE/S/M		F	0763409675	
8.	RASHID A. MDOE	MJUMBE/MTA		MALE	0776801303	
9.	FRIDRUS L. MATULINI	MJUMBE		F	0763437622	
10.	ADELA P. SOLYA	M/KITI	N/MASHARIKI	F	0767287813	
11.	IWEKELEGE KABERU	MEO	MWANGAZA	F	0624465704	
12.	SOPHIA ALIY	CDO	D/MAKULU	F	0717-762240	
13.	LUCY NKOMA	MEO	N/MAGHARIBI	F	0765915390	
14.	SIDDIQAH B. NQUNIKI	MEO	M/MASHARIKI	F	0626280408	
15.	JOSEPH L. MNYAMBUR	MJUMBE	M/MASHARIKI	M	078592090	
16.	ASHA SELEMA THABITI	MJUMBE	M/MASHARIKI	F	0728917190	
17.	DIMILI MUSSA HASI	M/KITI	NJEDENGWA/WO	MALE	0766300104	
18.	JOHN A. KOMBA	MW/KITI KISASA	BWAWANI	M	0678601005	
19.	LEAH PETER MSHAGILA	MEO	NJEDENGWA/WO	FEMALE	0718-426581	
20.	JANEIH U. ERNEST	SWO	D/MAKULU	F	0757632613	
21.	LEONARD H. NDANDA	MEO	D/MAKULU	M	0762529944	
22.						

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT  
CONSTRUCTION OF RAW WATER INTAKE, TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE  
TANKS TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD: KILIMANI

VENUE: KILIMANI WARD

DATE: 18/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.	Mheshimiwa Neema Mwaluko	DIWANI	KILIMANI	F		
2.	Lucy B. Rutamurwa	M/kiti	Mtaa Nyerere	F	0713 777706	
3.	ELIADA A. NGUTA	WEO	KILIMANI	F	0713310449	
4.	ZAITUNI -H. MWEZUNDO	MBO	KILIMANI	F	0675786286	
5.	MILCA -M. MJUMBE	VOLUNTEER	KILIMANI	F	0788 347368	
6.	JANEH -C. CHIBA GO	M/kiti	KILIMANI	F	0769 853702	
7.	FRUSTINA BENDERA	M/kiti	CHINYOTO	F	0658110037	
8.	LORENES IHIMO	PETO	KILIMANI WARD	F	0784784783	
9.	MARY CHIMA	SCDO	KILIMANI WARD	F	0754538662	
10.	MARGARETH MAFANJA	MED	NYERERE	F	0753 409390	
11.	HASSAN R. KASUBIRI	MED	IMAGE	M	0713451704	
12.	JOYCE J. MUMBIKI	MJUMBE	CHINYOTO	F	0757610606	
13.	SAMUEL S. SAGUMU	MJUMBE	CHINYOTO	M	0693277295	
14.	JONASI J. MASANIKA	MJUMBE	CHINYOTO	M	0755-840396	
15.	ANDREA PH-ANDREA	MJUMBE	CHINYOTO	M	0755106949	
16.						
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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PRO  
CONSTRUCTION OF RAW WATER INTAKE, TREATMENT PLANT, TRANSMISSION MAIN AND STA  
TANKS TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD... I Tumbuli .....




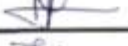











DATE... 19/02/2025 .....

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.	AMBU DANIEL MANDARAGA	KIDWANI	<del>ITUMBULI</del> NYERERE	ME	0758 942609	
2.	JAKES MUNYAMALI	MJUMBE	MWINYI	ME	0657504334	
3.	VENANCE S MWIBALA	MJUMBE	UDOM	ME	0753 891103	
4.	NASOM JOSIA MWIBALA	MJUMBE	ITUMBULI	ME	0718544492	
5.	JODANITHA ANDLO	MED	ITUMBULI	KE	0758327300	
6.	KALISA M. SEVERIN	LEO IYUMBU	IYUMBU	KE	0656888419	
7.	SIA STEPHEN MAKINDI	MED 1	MWINTI	KE	0689200578	
8.	ELIZABETH F KIMUNYU	MED	NYERERE	KE	0742094627	
9.	BETRICE JOHN NYAGAWA	MED	UDOM	KE	0658 887880	
10.	RUTH JEBRON JIZYA	MED	IYUMBU	KE	0716993929	
11.	HISAYA KASAMBAGANYA	CDO	IYUMBU	KE	0763-693375	
12.	MONICA E. MDENDEMI	MEDICAL OFFICER	IYUMBU	KE	0753765793	
13.	DAVID J. MSASA	DIVISION OFFICER	—	ME	0713633518	
14.						
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**ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WA  
TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWU  
DODOMA CITY IN DODOMA REGION, TANZANIA.  
STAKEHOLDER CONSULTATION PARTICIPANT LIST**

S/N	DATE	NAME	INSTITUTION	POSITION	GENDER	PHONE	SIGNATURE
16	20/02/2025	Eng. Colman G. Ramadhani	TANROADS	Incharge Dev. Projects	Male	0719 049270	
17	20/02/2025	Eng. BRIGITON B. NDALIVALE	TANESCO-HQ	Planning Eng.	Male	0767103612	
18	20/02/2025	Eng. NOEL R. MUHI	WRBWB	C.O	Male	0713173773	
19	20/02/2025	RABABU MWINYIALIRO	WRBWB	EMO	Male	0653235489	
20	24/2/2025	Eng. Mjawa Shenduli	CSHA	CONV MANAGER	Male	0762904593	
21	24/02/2025	James E. Sango	TFS-CZ	AMPU:	Male	0768174375	
22	25/2/2025	Eng. Edward Lendo	TARURA	PM	M	0767083111	
23	25/02/2025	Jane R. Meda	TARURA	EMO ADMIN	K	0713327380	
24	26/02/2025	RAINA M. MLAWA	BAHI DC	DED	F	0754232552	
25	26/02/2025	Eng. Philipo P. Sango	BAHI DC	Eng.	M	0672888198	
26	27/02/2025	AMIR R. MAINGO	STATE	PLANNING OFFICER	M	0713077347	
27	28/02/2025	Eng. Bundala A.K	UHAMIASI	CoW	M	0715669843	
28	-/-	Eng. James AM	UHAMIASI	Eng	M	0769249585	
29	-/-	Eng. Amos ZABWA	UHAMIASI	Eng	M	0767878543	
30							

**ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.**  
**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

S/N	DATE	NAME	INSTITUTION	POSITION	GENDER	PHONE	SIGNATURE
1	17/02/2025	Sakina Mbugi	DC Office - Dom	DAS	Female	0713898384	
2	17/02/2025	JABIR M. SHAMBA	—	DC	MALE	0752409546	
3	19/02/2025	PSF IB-CHANYIKA	FIRE & RESCUE	MANAGER	MALE	0625574194	
4	19/02/2025	NLEZA NYALELI	CHAMWINO DC	DAS	FEMALE	0785905799	
5	19/02/2025	GODFREY MNYAMBA	CHAMWINO DC	ASSTED	M	0713765353	
6	19/02/2025	SILKHAMANI MANMBA	CHAMWINO DC	SEMO	F	0719616122	
7	19/02/2025	ILUWIH E. NYUNJI	CHAMWINO DC	DFO	M	0745786611	
8	20/02/2025	Mary Taro	TARURA HO	SWO	F	0781115078	
9	20/02/2025	Joyce Maguti	TARURA HO	SWO	F	0717443376	
10	20/02/2025	Agneta Shengwa	TARURA HO	SWO	F	0657-417711	
11	20/02/2025	Ruvie Mnyamba	TARURA HO	SO	M	0782718245	
12	20/02/2025	Begum Awa Man	TARURA HO	EOI	M	0764933445	
13	20/02/2025	Dr. MH Makenye	TARURA HO	HES	M	0762780984	
14	20/02/2025	ENG. FILBERT M. BIEKO	TANROADS - Dom	ENG	M	0629204760	
15	20/02/2025	ENG. PETER M. MNYAMBA	—	SE	F	0767586625	



**ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINO DODOMA CITY IN DODOMA REGION, TANZANIA.**

**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

S/N	DATE	NAME	INSTITUTION	POSITION	GENDER	PHONE	SIGNATURE
1	17/02/2025	Sakina Mbugi	DC Office - Dom	DAS	Female	0713898384	
2	17/02/2025	JABIR M. SHABAN	—	DC	MALE	0752409546	
3	19/02/2025	ADF IB. CHAMWIKI	FIRE & RESCUE	MARSHAL	MALE	0625574194	
4	19/02/2025	NZENZA NYALELI	CHAMWINO DC	DAS	FEMALE	0785905799	
5	19/02/2025	GODFREY MNYAMBA	CHAMWINO DC	AS DED	M	0713765953	
6	19/02/2025	SILKHAM MANMCH	CHAMWINO DC	SEMO	F	0719616150	
7	19/02/2025	ILUHH E. NYUNI	CHAMWINO DC	DFO	M	0745786611	
8	20/02/2025	Mary Taro	TARURA HO	SWO	F	0789115078	
9	20/02/2025	Joyce Magoti	TARURA HO	SWO	F	0717443376	
10	20/02/2025	Agneta Ishungu	TARURA HO	SWO	F	0657-417711	
11	20/02/2025	Ruthie Immani	TARURA HO	SO	M	0782718245	
12	20/02/2025	Benjamin Phua Mwa	TARURA HO	EOI	M	0764433405	
13	20/02/2025	Dr. M.H. Makenzi	TARURA HO	HES	M	0767690989	
14	20/02/2025	ENG. FILBERT M. BISEKO	TANROADS - Dom	ENG	M	0629204760	
15	20/02/2025	ENG. ABDELHAKIM J. MURUGU	—	SE	F	0767386625	

# MUHTASARI WA MKUTANO WA WANANCHI WA KIJITI KUHUSI NA NA MRADI WA MAJI (BWAWA LA FARKWA) KILICHOFA

NYIKA LED TAPEHE 06/03/2025, OFISI YA KIJITI.

## AGENDA ZA MKUTANO

1. KUFUNGUUA MKUTANO
2. KUEKIMISHA KUHUSU MRADI
3. ELIMU YA FIDIA (COMPESATION)
4. KUFUNGA MKUTANO

1. KUFUNGUUA MKUTANO: Mheshimiwa M/kiti alifungua mkutano mnamo saa 11:00 Asubuhi, kwa kushukuru kwa wananchi kwa kuhudhuria mkutano huu. Aidha aliwahi watahiti wa wakulima na kumliza mamali pale ambapo watahiti wafanuzi.

### 2. ELIMU KUHUSU MRADI

Mwazeshaji alieleza kuhusu mradi wa maji unaoanana Mombasa kupita vijiji vyote kuzuka Barabara kuu inayoelekea Dodoma. Hiiyo maeneo yote yanayopitiwa watahiti wa maji kilomita 12. Pia watahiti wathamini ambao watachukua vipimo vya eneo linalohitajika. Pia maswali yalulizwa na wafanuzi watahiti.

### 3. ELIMU YA FIDIA:

Fidia itatokana na ukubwa eneo na vitu vilivyomo kama viti, majengo na makaburi. Alivitaja vitu vy muhimu vmayohitajika kama vile NIDA, kufambishwa au kura au Namba ya Nida ni muhimu kwa nayo. Aidha alieleza kwa watahiti watahiti watahiti na mtu mwingi na ambao itaya imetoka aye mwakilishi.

### 4. KUFUNGA MKUTANO:

M/kiti aliwashukuru sana wananchi kwa uwezo wa alimshukuru mwazeshaji kwa uwakilishi: mawili wa agenda zote. Pia aliwastahika safari njema ya kurudi nyumbani.

Yusuf Yusuf  
KATIBU.

MRADI WA MAENDELEO ENDELEU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

KATA..... MAFARUKU..... KIJILI.....  
TAREHE..... 06/03/2025..... ENEO LA MKUTANO..... VIA KIJILI.....  
MKUTANO NA WAATHIKA WA MRADI.....  
MAHUDHURIO

S/N	JINA	KATIKA	JINSI	SIMU	SAHIHI
1	MARIA EMMAWELI	WEKESSE	KE		MARIA
2	PHABIAN JOSEPH MUKU	NAANIE	ME	0689792639	Phabian
3	KARIMU KASIM	VIREKISE	ME	0685963670	Kasim
4	TIONASI LAZARO	SAPZAWA	ME	0685384521	Tionasi
5	ABDULAH I. HASSAN	A	ME	0692878382	Abdullah
6	KIPARONI REMU	B	ME	0785880535	Kiparoni
7	KORADI OMERA MAFARUKU	B	ME		Koradi
8	MABINI KAMBI	A	ME	0822446608	Mabini
9	MUSA RAMADAN BUNA	A	ME	0674558755	Musa
10	MATHIAS RENZI MUTILWA	B	ME	0687580527	Mathias
11	VIGISTONE RENZI	B	ME	0686946569	Vigistone
12	HAT ALU	WEKESSE	ME	0788100930	HAT
13	SAMSON ZEPHANIA	WEKESSE	ME	0617198601	Samson
14	JUMANNE GREGORU	A	ME	0632760561	Jumanne
15	LUKASI ZEPHANIA	WEKESSE	ME	0692320009	Lukasi
16	FULKENI MONEGA	WEKESSE	ME	0787618434	Fulkeni
17	MOHAMEDI ALU	WEKESSE	ME		Mohamedi
18	VIGINT ROMAN MACKIM	MAKORONGA "A"	ME	0699852987	Vigint
19	MAMUNDA MFINZE RENISELE	MAKORONGA	KE	0789796071	Mamunda
20	JAKI MUKUNA ZEPHANIA	WEKESSE	ME	0699660947	Jaki

MIRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA... KIJILI... KIJILI MAKORORORO

TAREHE... 06/03/2025... ENEO LA MKUTANO... KIJILI MAKORORORO

MAHUDHURIO

S/N	JINA	WADHIFA	JINJI	SIMU	SAHIHI
21	TERESA I LEYI	KITOPORORORO WERENSE	KE		
22	N'WALIMO ZEFUWA MUKUWA	WERENSE	ME	0821642134	N'WALIMO
23	PAULINA M. MWAHIDELEWA	A	KE	0684661247	<del>PAULINA</del>
24	HANISI STEPHAN DANIE	MAREKUNZO A	ME	0789721858	HANISI
25	JERAD KIRUWA	NINANTE	ME	0775493437	<del>JERAD</del>
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WEADI WA NAEDELEO ENDELEVO NA STAHIMILU WA WAJI NA USAFI WA MATEINGISA DODORWA

KATA MAMBOPE N/MT  
 MKUTANO NA WAATHIRWA WA MKADI  
 KUSI JIJINYO BOMBE

TAREHE 06/03/2025 ENDO LA MKUTANO OFISI YA VEO

MAHUDHURIO

S/N	JINA	WADHIFA	IMSI	SMU	MAHITI
43	ANDREW CHILEWE	WEO	ME	078099124	<i>Handwritten signature</i>
44	ADRISSA NUGUNOH	VEO	ME	0688028133	<i>Handwritten signature</i>
45	HAUSI STEPHAN DANIEL	MW/MT	ME	0789721853	<i>Handwritten signature</i>
46	STANLEY JUMANNE KHAMANGO MW/KITI WA KIJANI	ME	ME	0687996409	<i>Handwritten signature</i>
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MUKUGANO  
MUHTASARI WA KIKAO KIJIKI CHA KONGOLU

AGENDA

1. KUFUNGUA KIKAO MUKUGANO
2. UTAMBULISHO
3. UFAFANUZI WA MRADI
4. UFAFANUZI WA UHAMINI NA FIDIA
5. KUFUNGA KIKAO.

Agenda 01. KUFUNGUA KIKAO

Katika agenda hii katibu wa kikao (veo) alimkaribisha mwenyekiti wa kijiji kisha alitea maelezo mafupi na kumsakaribisha waathinika wa mradi akafungua kikao majira ya saa 11:15 asubuhi.

Agenda 02: KIJIKI

Agenda 02: UTAMBULISHO

Katika agenda hii mwenyekiti aliwao ngoza waathinika na wajumbe walioathinika kijitambuli sha na baada ya utambulisho waka kubachana kuendelea na agenda zinazofuata.

Agenda 03: UFAFANUZI WA MRADI.


Katika agenda hii mwenyekiti alimkaribisha Afisa wa jamii wa mradi kwa ajili ya ufafanuzi wa mradi ndipo mtaalamu aliwaeleza wanao hii na waathinika juu ya utekelezaji wa mradi bwalwa la Falaka pamoja na ujenzi wa miandombini ya maji kutoka kwenye chanzo cha maji na ukaeleza maeneo yote yaliyo pitiwa na mradi na maeneo ambayo mataniki ya maji yatajengwa baada ya maelezo walengwa walioidhiza na kuyapokea maelezo

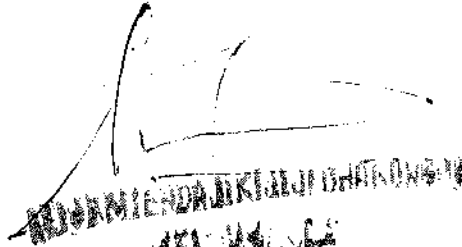
ya mradi pia walishukuru kwa mradi kupita  
katika kiji kwani watafaidika na kumfa  
ika na mradi kwa kupata maji safi.

Agenda 04: UFAFANUZI WA UTHAMINI NA FIDIA  
Katika agenda hii mtaalam aliwaeleza waathini  
wa wote ambao bomba litapita kwenye maeneo ya  
kwa utaratibu wa uthamini utasiza ambapo eneo  
la mita 10 litachukuliwa na baada ya utha  
mini formu maa hema zitajazwa na kueleza  
na taratibu za uhakiki ili kila muathini  
aweze kupata fidia kisha mtaalam aliwaeleza  
juu ya aina za fidia na wadau wakaelewa  
viziwi kisha wakapelele nafasi ya kumiza maswali  
juu ya uthamini na fidia baada wakajibiwa maswa  
li na kuridhika, hivyo kwa pamoja wakakubalia  
na kujitokeza kwa miji siku hiyo kwenye  
maeneo yao ambapo mradi utapitia.

Agenda 05. KUFUNGA KIKAO.

Mwenyekiti aliwashukuru watu wote waliojitokeza  
na kuwazhimiza kujitokeza kwenye maeneo yao  
siku ya uthamini kisha akafunga kikao majira ya  
Saa 7:30 mchana.

  
FRANK L. LUJAO

U.E.O  
  
AMON M. MAFAHA.

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA BABANYA (BABANYA) KIULI KALIA  
TAREHE 06/02/2025 ENEO LA MKUTANO OFISI YA SERIKALI YO KITITI CHO KOUKOU

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	FRANK L. LUSUO	MKISITI Kauloio	ME	071401124	
2	AMON M. MADETHA	VEC - KONGOGO	ME	0626160620	
3	NASIBU A. SATIDI	CD-KAIBABAYU	ME	0653811262	
4	DAMEI H. MTHAMBOI	MUTHIRIRA	ME	0789899450	
5	Sauvee d. duka	maol Kifungu	ME	0684362474	
6	Joss S. Kaulenze	Mwasilikwa	ME	0626656123	
7	Saudi KALANI	Mwasilikwa	ME	0697647880	Saudi
8	HABIBU SADY	mwasilikwa	ME	0677799889	H.S.D
9	Ramadhun Hussein	mwasilikwa	ME	07899910761	Ramadhun
10	SAID MAZIM	Mwasilikwa	ME	0628957444	S.M.U
11	MOS NDUJE	M. KITONGORI	ME	0628540715	Mos
12	ALY. HENSI	M. K. KANGA	ME	0629472476	ALY
13	Dobari TERASI SAKALANI	Mwasilikwa	ME	0785910474	Dobari
14	MZUNGU-CHILUMA-CHINANI GUA	Mwasilikwa	ME	0628132326	Mzungu
15	KALINDALA SANINGO MUIPI	Mwasilikwa	ME	0686967577	K
16	MLEWA SANINGO MUIPI	Mwasilikwa	ME	06944415055	
17	Rabani. mlewa SANINGO	Mwasilikwa	ME	0687238737	
18	NYAMBI-CHILUMA- NYAMBI	<del>062859346</del>	KE	0783039246	
19	NDONDA KANO' MUNDU	Mwasilikwa	ME	0628501545	NDONDA
20	STEPHANO NENO HILIA	Mwasilikwa	ME	0628131881	Stephan

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MRUTANO NA WAATHIKA WA MRADI

KATA... BABANI BABANI..... KIJILI... KUJILI.....  
TAREHE... 06/02/2025 ENEO LA MRUTANO... OFISI YA DEPIKOLI YO KIJILI (HA) KUJILI

MAHUDHURIU

S/N	JINA	WADHIFA	JINSI	SIMU	SAHINI
21	LUKASIJULIAS FILIPI	MURASIKKA	ME	0625680236	MAAS
22	Mashaka Zefania	Murakidishi	ME		
23	Wakaba Magde	Murakidishi	ME	0776099418	
24	Sikika Kachulele	Murakidishi	ME		
25	Solaka Aledi Samila	Murakidishi	ME	0688550000	
26	Chavua Yuma	Murakidishi	ME		
27	Mshaka Zefania	Murakidishi	ME		
28	Murakidishi Kachulele	Murakidishi	ME	0689766058	
29	Kukwa-Ramabhani	Murakidishi	ME	0682448570	
30	Josua Samila	Murakidishi	ME	0699179083	J. SAMBA
31	Murakidishi Kachulele	Murakidishi	ME	0697309144	
32	FAJUNA CHIPOTWA MUKHID	MURAKIDISHI	ME	0782967787	MURANO
33	PILI CHIPOTWA MUKHID	MURAKIDISHI	ME	-	
34	MERY JOHANA MURASIKKA	MURASIKKA	ME	0698335400	OT. Y. MURASIKKA
35	MURASIKKA MURASIKKA	MURASIKKA	ME	0699297853	O. MURASIKKA
36	MURASIKKA MURASIKKA	MURASIKKA	ME	0699297781	
37	EMILI KACHULELE	MURASIKKA	ME	0699297853	MURASIKKA
38	MURASIKKA MURASIKKA	MURASIKKA	ME	0688114943	M. MURASIKKA
39	MURASIKKA MURASIKKA	MURASIKKA	ME	0685384896	
40	MURASIKKA MURASIKKA	MURASIKKA	ME	0682342633	

MIRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MIRADI

KATA: BABAYI (BATH) KIJI: KUNYAGO  
TAREHE: 06/02/2025 ENEO LA MKUTANO: OPILI YA JERIKALI YO KIBITI CHA KUNYAGO

MAHUDHURIO

S/N	JINA	WADHIFA	JINJI	SIMU	SAHHI
41	BAKALI HALI	MWASILIKA	ME	0678612279	
42	MWE MWA NDAMANI	MWASILIKA	KE	0629981370	
43	KIWA MUGUZA	MWASILIKA	KE	-	
44	Katolima Pima	MWASILIKA	KE		
45	Sailevi Kevai	MWASILIKA	KE	0675569941	
46	Chiolodoko Mwakabwa	MWASILIKA	KE	0622247730	
47	Yuma Kevai	MWASILIKA	KE	0623208112	
48	Ng'ambi Kevai	MWASILIKA	KE	0694578985	
49	Yuma Mwangaji	MWASILIKA	KE		
50	Sangua Zola	MWASILIKA	KE		
51	Sesa Mwakabwa	MWASILIKA	KE		
52	MWOS Chisica	MWASILIKA	KE	0698648731	
53	KENDITH MUDENE KARATA	MWASILIKA	KE	0625838033	K. KARATA
54	YAKIRO DAMIANO MURUKO	MWASILIKA	KE	0775870734	M. KARATA
55	Amani Jonas Sakalan.	MWASILIKA	KE	0699161372	
56	DAVID MURUKO N. SANGU	MWASILIKA	KE		D. N. SANGU
57	ELIYA MATHU MAMPUMBA	MWASILIKA	KE		E. MAMPUMBA
58	FRANSISCA. H. MIZI	MWASILIKA	KE	0629112080	F. MIZI
59	MARIAMU SIAURI	MWASILIKA	KE	0622336533	M. SIAURI
60	JOHAN KIBUO	MWASILIKA	KE	0682305778	

MIRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA... *BDBAYU (Babai)* KUUH... *KALUOYO*

TAREHE... *06.02.2025* ENEO LA MKUTANO.....

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
61	MAGAWA CHIBATO	MWATHIKA	WE	0629883492	
62	RAIMADHANI HAWADI MWIZA	MJUMBE	WE	0785554805	<i>MWATHIKA</i>
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MRADI WA MAENDELEO ENDELEU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI

KATA... *KATA KENYU* ... KUUJI... *KUTABUNDO* ...

TAREHE... *06/03/25* ... ENEO LA MKUTANO... *CHAI YA CCM* ...

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	PEIRA PAUL MUKUPA	Niwani	ME	0786455100	<i>[Signature]</i>
2	Laurenzi William Kibundo	M/Kuu H/ KUUJI	ME	0685509552	<i>[Signature]</i>
3	ABDUL SAUD MUSTAFA	VEO	ME	0781929800	<i>[Signature]</i>
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TAREHE 03/03/2025 KILIMO NA MOMBOTI KUDA  
 0741 YA RARI ENDELEO.

MRADI WA MAENDELEO ENDELEU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA.

MAUDHURIO YA USHIRIKISHWALI WA WADAU.

NO.	JINA	WADHIFA	KATA	KUJILI/MTAA	JINSIA	BARUA PEPE	SIMU NO	SAHIHI
1.	STEPHANUS PERICE	DIWIKUJI	FARUKWA	FARUKWA	ME		0758454981	07/03/2025
2.	Majimad Masugwa	Mtamboni	FARUKWA	FARUKWA	ME		065301156	07/03/2025
3.	Emilia B. MORA	WEO	FARUKWA	FARUKWA	WE		0786024032	07/03/2025
4.	SUNCEA-S. NAWUWA	WEO	FARUKWA	FARUKWA	KE		0742465975	07/03/2025
5.	GODFREY N. MATHIAS	MKILI	FARUKWA	FARUKWA	ME		0786747459	07/03/2025
6.	GODFREY C. MATHIAS	WEO	FARUKWA	MOMBOTI	ME		0782175111	07/03/2025
7.	SATHIYAH M. MUSA	WEO	FARUKWA	DONJEE	ME		0684973568	07/03/2025
8.	ANIANASI AMATA	M/KITI	FARUKWA	DONJEE	ME		0687685270	07/03/2025
9.	KHABIRIA Salemu	M/KITI	FARUKWA	MOMBOTI	ME		0656466179	07/03/2025
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# MUHATASARI KIKAO CHA MICADI FAKUWA KWA

WAATHILIWA WA BONBA LA MAJI 06/03/2025

## AGENDA

1. KUFUNGUWA KIKAO
2. UTAMBULISHO
3. UFAFANUZI WA FIDIA
4. MASWALI NA MASIBU
5. KUFUNGA KIKAO

### AGENDA NO 1.

#### KUFUNGUWA KIKAO

Muung'iti alifunga kikao kwa kuwasilimiza na kuwakaribisha wabw huchungu kalika kikao

### AGENDA NO 2

#### UTAMBULISHO

Utambu Gisho ulianza kuanzia mwa kubwa mpyaka kwa wageni na wa taalamu.

### AGENDA NO 3

#### UFAFANUZI WA FIDIA

Alise tarafa ulianza kuwa eleza juu ya miradi wa maji wa bonba la Farkwa na maeneo ambayo bonba lita pita. Alise tarafa alibainisha kwa atapita katika eneo la khabunka pia kuna wamandali ambao bonba la maji lita wachini, alisisitiza na kusta kila mmoja ambaye eneo lake lita athiliwa atapewa fidia kulingana na eneo lake

#### AGENDA NO 4

##### MASWALI NA MASIISI

Wananchi kutika kijiiji cha Kibumbuka walio kuhudhuria keta  
ika mkutano walijitunga fursa ya kuuliza maswali na  
kupata majibu kutoka kwa mtaalamu na Afisa tawala  
mkoani. Ni yapi maelikwa yanayo utazaji itakazwa. mtaalamu  
alieleza maelikwa kadhaa kama athari za bomba kupas-  
uka na kutokana na ukubwa wa kipanga oltate kinautazwa  
eta ulimwengu kwa wakazi kama litawelwa kamba na maki-  
pia kwa Suala la maeneo ya kilivisio au makabuni  
ni vipi yatazinguliwa pia mtaalamu alijibu kwa kuse-  
ma fidia zita tolewa pia kwa kila sekona bomba lita  
kapa athari.

#### AGENDA NO 5

##### KUFUNGA KIKAO

Murungu kati alifunga kikao kwa kuwasindikana wote wali-  
hudhuria kikao na kuagiza zoezi la kuwatembea wali-  
atambulwa lifuata lile.

M/KITI H/KITI  
LAURENTI WILLIAM KIBUMBA

Katibu  
ABDUL SHAI MUSAJIMA

MAHURIRIO YA MKUTANO KWA WATIMLWA WA MRAZI <sup>WAMAB</sup>  
KISISI CHA KAHUBUNGU TAREHE 06/03/2025

JINA KAHILI	CHEO	SHAWI
1 ABDUL SAID MUSTAPHA	VEU	<del>AM</del>
2 IATU HUSEIN	Mjumba	C
3 HAMISI HUSEIN	Mjumba	H.H
4 TAMBA FESITO	Mjumba	Key
5 MAMANG WILLIAM	Mjumba	A.V.F
6 RAMADHAN IDDI	Mjumba	Res
7 LEBBA MUKDEL	Mjumba	th
8 JUMANE MAMANI	Mjumba	th
9 SILVANO FESITO	Mjumba	th
10 IDDI ALI	Mjumba	th
11 HASSAN IBRAHIM	Mjumba	th
12 MICHAEL WILLIAM	Mjumba	th
13 FESITO DANIEL	Mjumba	th
14 MATTHIAS LUGERT	" "	th
15 JUMANE PAUL	" "	th
16 KHALIFA HAMIS	" "	th
17 WILSON SIFUMASI	" "	th
18 MUKANO S. JUMA	Mjumba	th
19 ROMAN FESITO	" "	th
20 ALI H. K. U. U.	" "	th
21 EVARISI JULIUS	" "	th
22 ZAKOBA	" "	th
23 LINDA P. J.	" "	th
24 ARISO CHUMWAKA	" "	th
25 ELIUS PIRAB	" "	th
26 TAMBA DANIEL	" "	th
27 GEORGE SUMBA	" "	th
28 PAUL PATRICK	" "	th
29 SEVESTIAN FESITO	" "	th
30 JOSEPH MARCEL PLES	" "	th
31 PAULA HUMAR	" "	th
32 GASPARY PAUL	" "	th
33 JUMA TAMBA	" "	th
34 BIRILA KIBWANDA	CHU	th
35 JUMALI ARCEIN	CHU	th





HAKUMASHAURI YA WILAYA YA CITEMBA  
YAH: MUKTASARI WA MKUJANO KUHUSU ELIMU YA MRADI  
KWA WAATHIRIKA KISISI CHA FARTWA  
TORRE 05/02/2025.

AGENDA

1. KUFUNGUA MKUJANO
2. UTAMBULISHO
3. ELIMU YA MRADI KWA WAATHIRIKA
4. KUFUNGA MKUJANO.

1. AG. 01/2025: KUFUNGUA MKUJANO.

Mwenyekiti amefungua mkutano rasmi saa 4:50 arubulu kwa kuwashukuru wazanzishi walionatheshwa kicua waki pikiwa na barabara la maji kutoka kiji cha Fartwa kwenye Dabona mjini, Mushi amewakaroba wathirika wakiwacha mradi Elimu itakayotolewa na wataalamu kutoka mradi huu.

2. AG. 02/2025: UTAMBULISHO.

Mwenyekiti amewatambulisha wongozi waliokuhika mkutano ambao ni Duxani wa kati, Mtendaji wa kiji na wongozi wengine na kuwakabisha wataalam wakitambuliwa kwa vyao yao Baada ya wataalam kigitambuliwa, mwenyekiti amewamhuru ili wataalamu kwa wananchi kuanza agenda inayofuata.

3. ELIMU YA MRADI KWA WAATHIRIKA

Ufangukili - Wataalam wameleza kwa Bomba la maji litapita kiji cha Fartwa kutoka kiji cha Mombasa kwenye Dabona mjini, Mradi umetathuliwa na Benki ya Maendeleo ya Afrika (AfDB).  
- Bomba kudu la maji litachukua nafasi ya mita 30 kuanza  
- Mtambo wa kutika maji utajengwa kiji cha Fartwa kitenyeji cha Mushi.

- Lengo kubwa la mradi ni kuongeza upatikanaji wa maji Salama na uhakika.

Wananchi wameleza kwa wataalamu kuathirika ardhio yao ili kupata mradi.

- Wananchi watafanywa uthamini kwenye ardhio na mazingira yao na mazingira yao za kushikwa, pia sekta ya uthamini wame na utambuliwa na taarifa kamali kwenye daktari.

- Taalimni na fidia itaingitia vifungo vya gharama za masoko za sekta husika.

- Mushi wananchi wameleza kuwagharibika Magoni ya mipaka mapema ili kuondoa uharibifu hapo baadaye.

AG. NA Ozi. Doss / Kufanya Mkuu

Muonyaji mwanachama wanaoibi kwa mabwano ya  
na uhalimi wa Kipindi Chote chis dhambi ya mwaliki kila  
wathabiti. Na kuwambwa wote uhaba kwa kila mwaliki  
zima la kufanikishwa mwaliki wa mji, unayika lengi lake.  
Na mwaliki akafunga mbutano. Bwana ka 6'10' mbutano

M/KUJI

Mamadige  
GABRIEL M. MAMIGE

KOIBU

Wajibu  
Sindia Mwanachama

AFISA MTENDAJI  
KICHAU CHA KWA  
C. YE MBA

MRADI WA MAENDELEO ENDELEU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....FARUKA..... KIJILI.....FARUKA.....  
TAREHE.....05/03/2025..... ENEO LA MKUTANO.....KIJOJO CHA FARUKA.....

MAHUTHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	STEPHANO PARICE	DIWANI	ME	0788484951	Stephano
2	GABRIEL M. MADGE	M/KITI	ME	0786747459	Mamadge
3	SUNGU -S- NANGWELA	VEO FARUKA	KE	0742465975	Nangwela
4	MATHIAS YZAVIER	MJUMBE	ME	0685999293	Mymafuu
5	LOBOVIKI PETR	MJUMBE	ME	0688484788	L.P
6	ALVIS MARTINI	MJUMBE	ME	0785695280	A.M
7	BENITUSI XABIER	MJUMBE	ME	0682457397	B.X
8	GABRIEL LEO LINUS	MJUMBE	ME	0784594499	GL
9	GODDARD MUSHI	MJUMBE	ME	8788457997	GUSLI
10	PERINA KEMILI	MJUMBE	KE	0748612837	PK
11	PAMUNA BERNARD	MJUMBE	KE	078360540	P.B
12	FERNANDA FRANCIS	MJUMBE	KE	0788278398	F.F
13	MARIA PETRO	MJUMBE	KE	0695209149	M.P
14	EXAVERY DAMIANU	MJUMBE	ME	0788900995	Damiansi
15	FLAVIANA FRANCIS	MJUMBE	KE		F. Francis
16	LEVINA PATRIS	MJUMBE	KE		L.P
17	RAFAELY. JOHN	MJUMBE	KE		R.J
18	UMBERIO EMANUELY	MJUMBE	ME		U.E
19	LUDOVICK GERVAS	MJUMBE	ME	0788278398	L.G.
20	TIMOTEO KALOR. JOHN	MJUMBE	ME		T.A

MRADI WA MAENDELEO ENDELEU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA FARUWA KIJILI FARUWA  
TAREHE 05.03.2023 ENEO LA MKUTANO KIJILI CITA FARUWA

MAHUDHURIO








S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
21	FRANCO JOHN MINDA	MJUMBE	ME	0683-398-361	
22	MARTINI ADORCE MURINI	---	ME	0787-914-665	
23	CHRISTINA EMANUELI GELLE	MJUMBE	ME	0692672066	CH-EM
24	ZAWADI MATHIAS FRANCIS	MJUMBE	ME	0687138718	
25	LUSIANA NISMAU LAUREN <sup>SIKIKO</sup>	MJUMBE	ME	0694085847	L.N Laurent
26	AUGUSTINO E. ANDREA	MJUMBE	ME	0692-980019	
27	KORIDINY SEATHI	MJUMBE	ME	0680618107	
28	JOSEPH MATEI	MJUMBE	ME	0688308519	
29	ESTO SEVERINI	PIDILISI	ME	0657087849	
30	HERMANI PETRO	MJUMBE	ME	0785973729	Herman
31	DONATAS SEBASTIAN	MJUMBE	ME	074444069	DS
32	JUSTINIAN PETER SHAWI	11	ME	0679127930	
33	ALNO SEBASTIAN	MJUMBE	ME	0687687639	ASA
34	PATRICK JOHN	MJUMBE	ME	0755409370	
35	HYACINT DEGERA OTTO	MJUMBE	ME	0756674131	
36	JOSEPH KORNELI	MJUMBE	ME	0688332327	J.K
37	OYANI YASIN SHAMINGORI	MJUMBE	ME	0688232327	
38	ELIAS KAMU, SATU	M/KITONGORI	ME	0684218660	FK Samsu
39	FRANCIS SEATHI LOBOKA	M/KITONGORI (ND)	ME	0785887763	
40	JOSEPH VICENT KURUA	MJUMBE	ME	0789636393	

MRADI WA MAENDELEO ENDELEVU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MRADHAWA NA WAATHIKA WA MRADI

KATA..... FARUKA..... KUUJI..... FARUKA.....  
TAREHE..... 05/03/2025..... ENEO LA MIKUTANO..... KIJITI CHA FARUKA.....

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
41	LANCELU CHARLES KAMUTO	MJUMBE	MALE	0982548193	
42	LAWRENCE MUSAHA	MJUMBE	MALE		
43	MICHAEL PUSSEKEMU	MJUMBE	MALE	06952989	
44	AMOSI JOSEPH ZAKARIA	MJUMBE	MALE	0689234357	
45	WILLIAM LEO	MJUMBE	MALE	0694403823	
46	SANTOS MANGWELA	AJ			
47	MODESTILA JANH	KLI	KE	0697762825	
48	EMILIAN B. MOYA	WEO FARUKA	MALE	0786243132	
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MRADI WA MAENDELEO ENDELEVU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI

KATA.....

FAKURUWA

KUJILI.....

FAKURUWA

TAREHE 10/03/2025

ENEO LA MKUTANO.....

FAKURUWA

WARD

OFFICE

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	STEPHANO PATRICE	DIKKUMI	ME	0758484951	ST-Stephano 'P
2	GABRIEL M. MABIGE	MUKITI	ME	0786747459	MABIGE
3	SUNGITA S. MANGWIZA	VED FAKURUWA	KE	0742465975	Female.
4	EMILIAN B. MOTA	WED-FAKURUWA	ME	0786243132	Male
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MPINKASARI WA KIKAO KILIMHOJANYIKA CHA WASHIRIKA WA HADASI  
WA MCHANGANYO CHUMVINE NA USIAHUMIKILWA WA MARI NA USARI WA MACHANGANYO

11 Kufungwa Kikao

2. Kucingmabulista mabulista

3 ULIPATI WA FIDA (molezo)

Alcorno no: 1

Kufunelwa kiko

Wadumyekihi udu Senkali ya kiji alikuwa kisha wazembe wote ulalichu huna wito  
hwa na kuwaomba undiraji masikali kabajifu ya ulewa zaidi ili kuwaza kuondoa  
sintu satham kulaapo baada ya kati mchuli ulakapuka ulimanya.

AGENDA NO: 2

Muteseshaji alikalibishwa ili aonege kuhua kaelezo juu ya utambuzi wa Hradu huu wa khandeleo endeleo na stabilizasi ya maji na usafi wa mazingira. Kaulima - hae kukamilika kutaka 2027 na kula upande wa kiji cha Bunkho Hradu ulatumiwa kila kumi kula upana Bomba lita kavyo pita na Hradu unadoka kiji cha Ahemba na kusambazwa heneo mbalimbali elopezi na kipo vijiji ambavyo Hradu huu ni litapita Bomba kuhua na aye baadaye litapita dogo hwarajili. Akiwa no 3 za vionanchi kunysaika wa kiji usiku.

## Agenda no 3

1. Palazzo ya whiposi xoo tibia

Matarashaji alieleza kuba maelezo kula wananchi walakao alitinda Haja kula Haja na Hradi huu wa mazi kula fidia ilakwepo kula wananchi nchi na lathimini ilaangalin kina kibu kifakacho kuwepo kama ni nyumba, Shamba, Haraa mbali mbali. kipindi cha lathimini Muathimika alikua na Hachaguo ya fidia yake kama ni fedha lathimini ama alifeshewe kibu kama vile Shamba ama nyumba kutika eneo jingine na Huarani ilaendana na fidia kula kipindi husika na kilihopo Hivyo kabira ya Hradi kuanza ilapita lathini kuanza na Hanga yafafanyika Hapema Davidi.

Kulunga kikao

Mulenyekiti alipitukana alawa shaji kuu yafamazi na haswali yalitowili'zua  
kutu ulaham zaidi na namndu wachchitwa waliyofika

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA  
 KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI

KATA..... KUUJI.....  
 TAREHE..... ENEO LA MKUTANO.....  
 MAUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	Silvia J. Mbilile	Mtembezi wa kufisi	KE	0604643049	<i>[Signature]</i>
2	Emmanuel M. Mwanusha	Mudumishi wa kufisi	ME	0829110815	<i>[Signature]</i>
3	Mahmud S. Mkwinda	M/K. Taka	ME	0628949514	<i>[Signature]</i>
4	Abdulla M. Mwanusha	M/K. Taka	ME	0710077939	<i>[Signature]</i>
5	Abdulla M. Mwanusha	M/K. Taka	ME	0628148084	<i>[Signature]</i>
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MAHURUO WA MAFUNDISHO ENDELEVI NA STAHIMILVI WA MAJUMA USAPU WA MAFUNDISHO DODOMA

MKUTANO NA WAATMIKA WA MAFUNDISHO

KATA: KIMATI 1 KUMBE: BAWIKILE  
TAREHE: 21/03/2025 ENDO LA MKUTANO: UTISI YA KIJiji 12/04/2025

MAHURUO

S/N	JINA	WADHA	JINSI	SIMILI	SAMBA
1	Baifance	gaxaxidin	ME	-	
2	Milhami	James	ME	0721407827	
3	Freddie	Wami	ME	0636425721	
4	Joseph	Milinda	ME	-	
5	Samson	Pablo	ME	-	
6	Mariam	Atundi	KE	0625277515	
7	Laila	Luka	KE	-	
8	Evelin	Milinda	KE	0627569901	
9	Laila	Milinda	KE	0629292322	
10	Milinda	Milinda	ME	0624215986	
11	Pasfina	Milinda	KE	0621799224	
12	Pasfina	Felix	KE	0624034174	
13	Daniel	Milinda	ME	0628703605	
14	Tutu	Milinda	ME	0628115941	
15	Pasfina	Milinda	ME	0613336835	
16	Pasfina	Milinda	ME	0612920376	
17	Simon	Milinda	ME	0623452442	
18	Pascal	S. Milinda	ME	0626344135	
19	Milinda	Milinda	ME	06234482529	
20	Richard	Milinda	ME	0615166416	

KIRAZI WA MAMBOLEO ENDELEO NA STIMULU WA WAI NA USAFI WA Mazingira Dodoma

MKUTANO WA WATATHIKA WA MRAZI

KATA: ID MARI

KUM: B. B. K. K.

TARIFE: 07/03/2025. ENEO LA MKUTANO: 04/01 YA KISIJI BAKOLO

MAHURURO

S/N	JINA	WADHIFA	JINSI	SABU	SAMHI
21	PSALIDHEE L. MGAZI	MAMPANGU	ME	0626619496	B...
22	1/4 GABEL S. MROGOL	CHAMUVE	ME	0522840514	P...
23	JOHN M. CHUMBA	MAMPANGU	ME	0622-266213	Ch...
24	ASA SEPHIRO MUGELI	USAMBARA	ME	0623650969	Ch...
25	MATUA CHUMBA HESINA	MAMPANGU	ME	0620653261	Ch...
26	ALDOCE M. MABASA	CHUMBA	ME	071077933	Ch...
27	GABEN K. DORRO	MAMPANGU	ME	0624222396	Ch...
28	PHILIP A. KIAMUPO	MCHIMBARI	ME	0625696895	Ch...
29	TELENT M. MINGI	MCHIMBARI	ME	0626145084	Ch...
30	Zephira Mungu	Chumbe	ME	0626332169	Ch...
31	JUMEN KIMBA	MCHIMBARI	ME	0621588038	Ch...
32	MABASA M. MABASA	CHUMBA	ME	0618033336	Ch...
33	MWALIKI CHUMBA	CHUMBA	ME		M.
34	MAIKE JENSI	MUMANGU	ME	0781107887	M.
35	MUGU PUMUTHAI	MCHIMBARI	ME		M.
36	HERNESS SEMFUKU	CHUMBA	ME	0781539438	H...
37	LUSIA CHUMBA	CHUMBA	ME	0622617892	
38	TELEZIA KAMULE	CHUMBA	ME		
39	MARIAMU POKU	MAMPANGU	ME	06228619290	
40	MESIAK Y. BAWILA	MCHIMBARI	ME	0628139543	M...

IMBADI WA MGENGESHO GIDDELSYO WA SIAMINDA WA MAJALI NA USAB WA MIZINBIRA DOGOMI

IMUTANDI NA MIAATIRIKA WA IMBADI

KATA

IMUTATI

KUMI

BANKOLE

TARICHI

7.3.2025

ENEO LA MCHANO

CHISI YA KILITI

BANKOLE

MAHURUMU

S/N	JINA	MAHIRA	IRIS	SHIRI	SAMBI
51	BANKOLE	ANION CHURUMBII	CHENICHEM	ME	06082433173
52	SHINA	U MABIBU	CHENICHEM	KE	060645449
53	madui	mugetumba	Alimani	ME	
54	Relencia	Mapela	Kambala	KE	06228174834
55	Selene	Pita	Alimani	KE	0618299725
56	Kuluse	manueli	Alimani	ME	06228388396
57	Dora Fera	mutike	Kambala	KE	0623754487
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MUFIASARI WA KIKAO CHA KUTAMBUA  
WAATHIRIKA WA MRADI WA MATI  
BWANA LA FARUKA KIJISI CHA LAMAITI

AGENDA NA 1 :- KUFUNGA KIKAO :-

Mfichi wa Senkali y, Kijiji ametunguwa  
kwa mnamo Jan 11.30 asubuhi kwa kuwa  
shukuru wajumbe kwa kuhudhuria na  
kuwakaribisha wageni.

AGENDA NA 2 :- UTAMBULISHO

Ulifanyika utambulisho kwa wageni pamoja na  
wengineji

AGENDA NA 3 :- UFAFANUZI WA MRADI KUTOKA  
KWA MIAALAMU.

Mtjalamu ameleza kwa mradi huu wa Maji kutoka  
Buzwa la Faruka, Mabomba, bomba dogo litachepushwa  
kutoka bomba kubwa linalopeleka Maji Dodome Kuanzi  
a Kijiji cha Babaya, Kongogo, Lukali Lamaiti Bankolo  
mukakatika hadi Babai wibayeni.

Hivyo Kijiji cha Lamaiti kinaingia Maji kwa  
majaji kwenye mradi. Na kwamba waathirika wa  
tatakiwa kuruhusu ardhi yao itumike kwazipili  
ya mradi ambapo bomba litapite kile upande,  
Zingatikiwa kuachwa mita 5.



## AGENDA NA 4:- LIFAFAKUTZI WA FIDIA

Kuhusu fidia Mwaridhaji ameleza kuwa teratibu zilizozingatwa kwa Miji wa Shamba za Tanzania na za Kimataifa kutokana na hali halisi mnamo madi huu unafadhiliwa kupitia Benki ya Africa Pia katika fidia vitu vitavyozingatwa ni vitu vingi hamaisha, Ardhi, miti na Aidha malipo yote zingatia shamba ya Ardhi eneo kwa eneo mawone bei ya njini hawazi kulingana na bei ya Ardhi kwa Kijijini (Kwa mawone ya Sawa mita mraba).

## AGENDA NA 5:- MASWALI

1. Waathiriwa walitaka kujua bei ya Sawa mita
2. Je. Ipi kuhusu fidia ya makaburi
3. Je baada ya mita 5 za kile upande bombali na Popote kutokana na tatizo tena.
4. Je malipo yote zingatia shamba ipi ya Tanzania au ya Kimataifa.

5. Wakati wa kuhakiki maeneo je wananchi watazibikishaje hizi sura niti kama zime ndizo maana katika hali ya kawaida wao hawa jini.
6. Je itakuwaje kama baadhi ya wananchi uzitoke kumbe moja.

### MASIBU YA MASWALI

- Bei ya sawa niti itajulikana tu wale hakitakuwa na kificho kila kitu kitawakwa wazi
- Ulipaji wa fidia ya Makaburi unatambuliwa kisheria na Masuala ya Mite na desturi kama zipo nazo zitake shimiwa
- Baada ya mite 5 kila upande tuka bomba linakopita shughuli ziteendelea bila shida yoyote.
- Malipo ya tezingatia sheria zote ilimwadi tu, sheria hiyo inamlinda muathirika (iwa ya kimataifa au ya Tanzania).
- Kuhusu wakati wa uhakiki wa maeneo kama kuna mashaka, Viongozi watahusika kusaidia (Na ieleweke kuna hata katika hali ya kawaida ni kwamba ~~ni hatua~~ niti moja ni sawa na hatua moja ya mti mizima. Hivyo mtu anawezakaji richiwa kwa kuhesabu hatua mwenyewe.

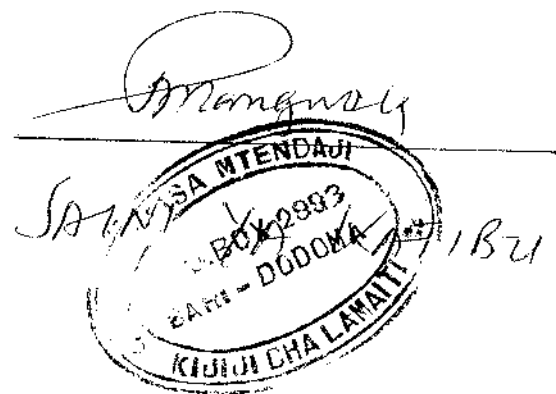
- Kama kutikana na wawendi, wawatakuwa kumbe na wabafuata maelekezo ya Ruwisi naam baada ya madi kukamilika ndio watakuo kabidhizi ku Endeshe na kutimamiza madi.

## AGENDA NA 6 KUFUNGA KIKAO

M/Kiti alifunga kikao mnamo saa 7-05  
mchone kwa kuwashukuru wajumbe kwa  
michango ya mizuri, ya kutsika kuelewa.

*Shukuru*

SATINI YA M/KITI



MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....

LAWAHA 1111

KIJI.....

LAWAHA 1111

TAREHE.....07/03/2025.....

ENEO LA MKUTANO.....

WARD OFFICE

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	PASCAL N. MANIGWIZA	WEO	ME	0621 355330	Manigwiza
2	PAULO S. MKONONGO	M/KITIS/KWU	ME	0629110818	Manigwiza
3	KIZUNGO A. MERELEA	CDO	ME	0614145769	Manigwiza
4	FRANK A. MARENGA		ME	0628 865142	Manigwiza
5	JOHN S. SAKU		ME		Manigwiza
6	AKSA J. MARENGA		ME	0629292501	Manigwiza
7	MOLENI X. CHIBANGASI		ME		Manigwiza
8	ANNA J. MARENGA		ME		Manigwiza
9	LENDA MARENGA		ME		Manigwiza
10	SAMSON MARENGA		ME		Manigwiza
11	MAIT S. SAKU		ME		Manigwiza
12	AMOSI MARENGA		ME	0628500912	Manigwiza
13	RAPHAEL C. STEPHEN		ME	0629292214	Manigwiza
14	SALUM R. KAMWAYA		ME	0628501087	Manigwiza
15	ANEX Z. MARENGA		ME	0628501171	Manigwiza
16	SAMSONI F. SAKU		ME	0620236871	Manigwiza
17	MATHIA MARENGA		ME		Manigwiza
18	ELISHA MARENGA		ME		Manigwiza
19	BABAKA KAMUNGETA		ME	0628139525	Manigwiza
20	ANISA MARENGA		ME	0629335455	Manigwiza

MRADI WA MAENDELEO ENDELEU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA... LAPATA... KUIJI...

TAREHE... 07/03/2025... ENEO LA MKUTANO... LAPATA WARD OFFICE

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
21	DANIEL S. KANUNGWA		ME	062812536	06/03/2025
22	RAY MLOSA		ME	062279886	06/03/2025
23	JOHN A. MAKUYA		ME	0628863919	06/03/2025
24	EMI J. KANUNGWA		ME	0624525833	06/03/2025
25	MARIKA ZEPHANIA		ME	0629645065	06/03/2025
26	RABEKA MARZENO		ME	0617376312	06/03/2025
27	SAGA MALAWISA		ME	0622102039	06/03/2025
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MIRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA  
 KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI  
 KATA LAMATI KIJU LAMATI  
 TAREHE 07/03/025 ENEO LA MKUTANO LAMATI BOARD OFFICE

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	FRANCIS N. MANGWAZA	WEO	ME	0621355330	<i>Francis</i>
2	PAULO S. MUKONONGO	M/KITI S/KWU	ME	0629110518	<i>Paulo</i>
3	KIRUNGO A. MENEGETA	CDO	ME	0614145169	<i>Kirungo</i>
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# MUHITASARI WA MUKTANO WA WATHIRIKA WA MRAD PAMBO

## AGENDA ZA KIKAO

01. KUFUNGUUA MUKTANO
02. UTAMBULISHO
03. MAELEZO YA UTAMBUZI WA WATHIRIKA NA  
HATUA ZIFUATAZOE
04. KUFUNGA KIKAO

## AGENDA NO 1. KUFUNGUUA MUKTANO

Mwenyekiti alisimama na kuuasakiana wathirika wa mradi wa buawa la for la, ambapo bamba kubwa la maji litopite. Pia akawambia wewe wathirika pindi mmetawa upiendelea; hoto hingo akawasibi wasisite kufika masuti. Mwenyekiti alikuwa fursa hingo kutambua ukweli wa mtekuu na hingo kuuakaribisha. Mara baada ya kusema hingo Mwenyekiti alisimama kutawa mwanasae 12:30 mchana.

## AGENDA NO 2. UTAMBUKISHO

Mwenyekiti aliwatambua viingizi mbalimbali pameji na wanauchi kiji tembulsho. Hingo wote wakipoko fursa ya kiji tembulsho.

AGENDA NO 3. MATLEZO YA UTARUBUZI WA WAATHIRIKA NA HATUA  
ZIFUATAZO

Mwenyekiti alimkaribisha Mtelemu kuwajili  
ya kutoka mekese ya kimo jira ya utambuzi  
wa waathirika wa mrosi wa bwawa la farusi  
ambapo alaita mekese amesema kuwa muathiri  
ko ni nita yeyote ambaye ameguswa na Bamba  
kiubwa la maji kwenye Enuo liliopo ndani ya  
mita therethini (3). Ambapo ameleza kuwa  
mara baada ya zoezi la utambuzi. Hata itaku  
kuwajili ya kufanya kalmuini ya Mkeno ya  
watu waliopitwa na Bamba kiubwa la Maji.  
Kilo muathirika alirimama kwenye Enuo lake

alimwambia vito vitokasyo fanyina  
vito vifuatayo  
- Enuo/maeneo  
- Mzee/muda mrefu na mfupi  
- Mojangi  
- mabiki

Hata kimo amewahimiza waathirika wa madi  
kuwaamsha majina ya kuhitika wa madi  
kupokea migogoro kimo ya kuhitika. Pia amesema  
Zoezi kwenye kimo la kimo.

Mtelemu alijibu Swali kufika kwa wanandui  
ameleza kwa kimo jira ya faida za madi,  
ikina ni pamoji na upatikanaji wa maji safi  
na salama, pamoji na miji.

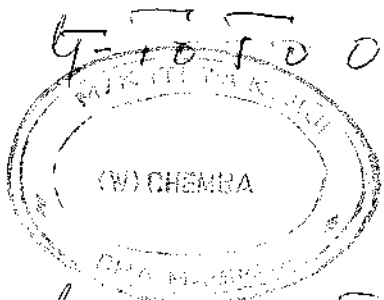
Mtoto ameelewa kaula mwa. huu Mtoto  
wa bwana, ambao unajenge chini ya Benki ya mwan-  
ao (DB) laa ushikikiano wa serikali ya jukumu  
ya Mungano wa Tanzania una kushika wakazi site  
ambazo ni:

- wilaya ya chemba
- wilaya ya baki
- wilaya ya chawuma
- wilaya ya dofome mji

Hata hivyo mtoto ameelewa kaula mwa  
kwa mawitiko wa mwan

Agenda No 4. Kufika alkeri

Mwenge kiti alkeri na kushikika mtoto  
kwa wakazi mwan ya kaula mwa kaula mwa  
wamachi. pia ameelewa kaula mwa kaula mwa  
kwa wakazi na jina wamachi kaula mwa  
Amachi kaula mwa kaula mwa kaula mwa  
Mw ya kaula mwa kaula mwa kaula mwa  
kita amachi kaula mwa kaula mwa kaula mwa  
na kaula mwa kaula mwa kaula mwa kaula mwa  
chafungo Mtoto kaula mwa kaula mwa kaula mwa  
kaula mwa kaula mwa kaula mwa kaula mwa



GABRIELI JONASI TOTO

Alkeri  
SHISA ITENDANI  
KILILI MASIMBA  
GEORGE P. MHAHO

KATA: **BABAYO**  
TAREHE: **06/03/2025**

MAKUTANO NA WAATHIRIKA WA MRADI: **MASIMBA**  
KUU: **MASIMBA**

ENEO LA MKUTANO: **CENTER**

**MAHUFURIO**

S/N	JINA	WADHIFA	INSI	SIRU	SANHI
1	NGADU MAHANO	MJUMBE	ME		
2	KADUSU RENEE	MJUMBE	ME		
3	CHISANZA RENEE	MJUMBE	ME	0789719127	CHIR
4	FRANK KOLONGANASA	MJUMBE	ME	0624004167	F=B
5	CHIEYO MAHANO	MJUMBE	ME	068771841	CHIR
6	LOPETO NGADU MAHANO	MJUMBE	ME	0678848792	CHIR
7	BAKARI JOLOLO MAHANO	MJUMBE	ME	0615592407	CHIR
8	JOSEPH NDAHANU	MJUMBE	ME		
9	SAMUEL JIMBARUKA	MJUMBE	ME	0623618996	CHIR
10	WAZA FUMBT	MJUMBE	ME	0787387366	WAZA
11	OMBENI NGADU MAHANO	MJUMBE	KE	0622790530	CHIR
12	LUCY BILINJE	MJUMBE	KE	0620743436	CHIR
13	ANNA JONAS NKARELI	MJUMBE	KE		
14	DEDE MUSA MACHECHWA	MJUMBE	ME	0693847896	DEDE
15	JUMA JUSITHUMA	MJUMBE	ME	0621192380	
16	MKAPA MKAMBA	MJUMBE	ME	0672-909946	MKAPA
17	MORINBE KOWELELE	MJUMBE	ME	0627182973	M.B.
18	ISAKA JIMBARUKA	MJUMBE	ME	0694533369	
19	YOHANA TABULU	MJUMBE	ME	0622860595	
20	BAKARI MCHERO	MJUMBE	ME	0622100622	CHIR

KURADI WA MAFUNDISHO ENDELEO NA STAHIMILIVU WA MAJUMA USAFI WA MAZINGIRA DODOMA

KATA: GABONI CHAPIBA KUU Msimba  
 TAREHE: 06/03/2025 ENEO LA MKUTANO: Msimba Center

MAFUNDISHO

S/N	JINA	MAJUMBA	JINZI	SIMBU	SARUNI
21	MIAFARI MIAFARI	MJUMBE	ME	0687883391	M. M.
22	SALAH MUKOYI	MJUMBE	ME		
23	PATRICK ABDOLAH NYABAY	MJUMBE	ME	0684523080	UP P. T. Z. C. C.
24	JENA MAFATI MIAFARI	MJUMBE	KE	0623914925	Z. F. N. A.
25	DINA UYAT MIAFARI	MJUMBE	KE	0624199183	
26	YUSUFA LORALO YOHANA	MJUMBE	KE	0684710037	
27	ABDAS SATOK	MJUMBE	ME	0629141435	ABASI
28	SHOMI HAMISI MAHARLO	MJUMBE	ME	0789719022	SHOMI
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MIRADI VIA KWAENDILEO ENDELEVU NA STAHIMVU VYA MANI NA USAFI VYA Mazingira Dondoma

KIKO CHA NDAMINA VIONGOZI KUTAMBA MATHERIKA WA MIRADI

KATA..... **4844U**..... KIMI **MASIMBA**

TAREHE **06/03/2025** ENED LA MUKUTANO **MASIMBA**

MAMUDHURIO

S/N	INA	WADHIFA	JINSI	SIKUU	SANHI
1	<del>GEORGE</del> <b>PETER MHALEO</b>	<del>MURDOJI</del> <b>KALIKO</b>	<b>ME</b>	<b>0788473728</b>	<b>Phandu</b>
2	<b>ABRIEL JORDAS</b>	<b>TOLOO</b>	<b>MURUTUKU KUTI ME</b>	<b>0628923420</b>	<b>GT TOLOO</b>
3	<b>MKEYI MUMA</b>	<b>BALOI</b>	<b>ME</b>	<b>0628675663</b>	<b>MHC-1</b>
4	<del>ISAHA</del> <b>MURRAY MURRAY</b>				
5	<b>CHARLES JORDAS NYAGEDI</b>	<b>MURUTUKU</b>	<b>ME</b>	<b>0621162348</b>	<b>S. J. J. J. J.</b>
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07/03/2025

# MUKHTASARI WA MKUTANO WA HADHARA KISIJI CHA MKAKATIKA AGENDA.

ALISA NYERURU  
KISIJI CHA MKAKATIKA  
L.P. 2493 - 8111  
DODOMA

## 1. KUFUNGUHA MKUTANO.

Mkutano ulifunguliwa na Mwenyekiti wa Kijiji mnamo wa saa 7:30 Mchana na kumwambia Wamanchi wawe watikifu kwa watakapo eleza na kumkaribisha Mgeni wa Mradi kutika.

## 2. UTAMBULISHO

Uongozi wa Kijiji (M/Kiti na VED) walivaza kutambulisha vitongoji vinne (Mselhe, Bweseti, Mienbeni, Nkomango) kwa kumwambisha wenge viti wa vitongoji hivyo ambapo vipo kwenye Mradi.

## 3. UFAFANUZI WA MRADI

Mgeni wa Mradi / Msimamizi wa Mradi alieleza kwa kirefu ni nini lengo la Mradi na ni mambo yapi ambayo wamanchi / Waathirika wa Mradi wanapaswa kuzingatia.

## 4. UFAFANUZI WA FIDIA NA UTHAMINSHAJI

Msimamizi wa Mradi alieleza pia kwa kirefu ni namna gani kwa filia Mwathirika wa Mradi, alivaza kupata fidia kutokana na eneo litakaloguswa na Mradi.

## 5. KIPINDI CHA MASWALI

Waathirika wa Mradi walipata nafasi ya kuuliza Maswali yao yote na kupatana Majibu hapo papo.

## 6. KUFUNGA MKUTANO

Mwenyekiti wa Kijiji alivafukua Wamanchi au Waathirika wa Mradi kwa kumwambia watikifu kwa watakapo eleza na kumkaribisha Mgeni wa Mradi mnamo wa saa 8:30 Mchana alifunga mkutano.

K/VED - MKAKATIKA  
NDELE KINGU

ALISA NYERURU  
KISIJI CHA MKAKATIKA  
L.P. 2493 - 8111  
DODOMA



MRADI WA MAENDELEO ENDELEVU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI

KATA..... KIJUJI..... UKAKAUKA.....

TAREHE..... ENEO LA MKUTANO.....

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	LEMMY J. MESAY	M/KM	ME	0676963977	
2	MARINDRY E. LITHUMAM	K/M YEO	ME	0624474042	
3	FRASIS M. MNYATUA	M/KITONGORI	ME	0788389602	
4	PASCHAL AITHANAS MILAMBO	M/KITONGORI	ME	0694953897	
5	JOEL CHITUTE MPULULE	M/KITONGORI	ME	0699428976	
6	NYALWEMBO MUGU MAKUMIZO	M/KITONGORI	ME	0693265326	
7	NDEW - G. KINGU	A/KICILIND	ME	0689487577	
8	JOSEPH P. KOSI	KATIBU CCM	ME	0615250295	
9	PATRIK GHISENJE SANGULA				
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MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA M.P.M.A.T.I.W.A..... KIJIDI M.K.A.K.A.I.L.I.K.A.....  
TAREHE 07.03.2022 ENEO LA MKUTANO OFISI YA CITA MA M.K.A.K.A.I.L.I.K.A

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHINI
1	ISACIA NDEDE MOMBRA	MASIRIKA	ME	0782727229	ISACIA
2	MAMBUVA NYABU NYANANE	PAP	ME	0710956143	NYABU
3	GABAGARI MEHWA MAHAYARI	PAP	ME	0772222554	GCHINWA
4	MIEWA CHISANZA FUNDI	PAP	ME	0624222613	MACHO
5	PASCHAL AHHANAS MULAMBO	PAP	ME	0694953897	P. MILAMBO
6	JOSEPH PAULINI VOSEI	PAP	ME	0615250295	JOSEPH
7	GODFREY ERNEST KANYA	MWASILAKA	ME	0697070130	ERNEST
8	JOSEPH MARCK NDAHANI	MWASILAKA	ME	0788388480	JOSEPH
9	DEVIDI NENEU RUSOGA	PAP	ME	0789836348	DEVIDI
10	MATTHIAS KANIERCHWA	PAP	ME	0611092747	MATTHIAS
11	NGAINA MURIMA CHARUKA	PAP	ME	0613400452	NGAINA
12	THOMAS MZOGOLE MANGA	PAP	ME	0616457667	THOMAS
13	HAMISI MANGUMBA	PAP	ME	0684598908	H. MANGUMBA
14	STEPHANO CHITUTU	PAP	ME		CHITUTU
15	BONIPHACE AHHANAS MILAMBO	PAP	ME	0783570339	BONIPHACE
16	GODBLESS ERNEST KANYA	PAP	ME	0689018022	ERNEST
17	ERNEST AFITWA KANYA	PAP	ME	0766312189	ERNEST
18	MASVUBUKO MJIJIMA GABUGUKE	PAP	ME	0615660041	MJIJIMA
19	MIKAEEL DANIEL CHIKONOSI	PAP	ME	0783601674	MIKAEEL
20	MICHAEL JAMUARI MATIATYO	PAP	ME	0652749121	MATIATYO

MRADI WA MAENDELEO ENDELEVU NA STAHIAMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....MPANANJWA..... KUUJI.....MAKAKATIKA.....  
TAREHE.....13/12/2025..... ENEO LA MKUTANO.....OFISI YA CHAMA MKAATIKA

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
21	DAUDI STEPHANO MAMUKU	PAP	ME	0683604201	<u>Samaka</u>
22	MAREGO MISIMAKO	PAP	ME	0786034682	<u>MADENGO</u>
23	FRANCIS JOSEPH MARIK	<u>MWATHILIKA</u>	ME	0788623491	<u>MAKAKI</u>
24	RICHARD TORAM MAMULO	<u>MWATHILIKA</u>	ME	0687718910	<u>MAJI</u>
25	ROZI NDARANISUMA	<u>MWATHILIKA</u>	KE	0697530386	<u>R. JUMA</u>
26	ABELIMASI SANGULA	PAP	KE	0694334053	<u>MAKAKATIKA</u>
27	COSMAS JEROME ANDREA	PAP	ME	0752618970	<u>MAKAKATIKA</u>
28	OMAR MALISAWA	PAP	ME	0622455013	<u>MAKAKATIKA</u>
29	PENDO MGALILWA	PAP	KE	0687763998	<u>MAKAKATIKA</u>
30	ROZA MZINZI GOIGEL	PAP	KE	0627607817	<u>MAKAKATIKA</u>
31	TATU MIKAELI	PAP	KE	06297097100	<u>TATU</u>
32	SALOME EPIMAK	PAP	KE	0629802618	<u>MAKAKATIKA</u>
33	ANNA CHIMALE	PAP	KE	0788626715	<u>MAKAKATIKA</u>
34	FELDIPANDI MATIASI	<u>MWATHILIKA</u>	ME	0783329269	<u>MAKAKATIKA</u>
35	SABIRU MTENZU KUNDA	<u>MWATHILIKA</u>	ME	-	<u>MAKAKATIKA</u>
36	PAIRIKI CHIBELENJE SANGULA	PAP	ME	-	<u>MAKAKATIKA</u>
37	YOHANA DANIEL LUNGWA	PAP	ME	0694326317	<u>MAKAKATIKA</u>
38	SAMUEL NKOKA MWENZI	PAP	ME	0692100772	<u>SAMUEL NI MWENZI</u>
39	PACASU WAMU MAGOMBA	PAP	ME	0789553260	<u>MAGOMBA</u>
40	REJIMA RICHARDI MUMWEPI	PAP	KE	0787088948	<u>REJIMA</u>

MUHITAJARI WA KIKAO JUU YA MAKUDANO YA WAATHIRIKWA  
WA MRAAI WA FARUKWA KATIKA KATA YA  
BABAYU HAIMASHURI YA WILAYA YA BXH1  
06/03/2025.

### Agenda No. 1. Kufungua Kikao

Mwenyekiti alifungua Kikao Mnamo Saa 10:30 A.M  
pamoja na kuwakaribisha wajumbe waathirika na Mradi  
wa Farukwa

### Agenda No 2. Utangulizi wa Maelezo yafuaya Farukwa

Mtaalamu ameelezea Maana ya Mradi, Faida ya  
Mradi na athari zitakazokutana na mradi huu.

Pia ametoa maelezo juu ya zoezi jirani litakayoyanyika  
ibiwa ni pamoja na fidia za Maeneo yatakapodimbuliwa  
ili kuhusu shughuli za Mradi.

### Agenda No. 3. Faida za Mradi na Athari za Mradi

Mtaalamu ameelezea kuwa watu wa Kijiji watafaidika  
na maji safi yafokanayo na Mradi huu. Pia mradi  
utathiri wanakijiji pale eneo litakapodimbuliwa kwa  
ajili ya shughuli za Mradi.

### Agenda No 4. Ufanyanuzi wa Uthamini na Fidia.

Mtaalamu ameelezea kuwa maeneo yote yatakapodimbuliwa  
kwa ajili ya shughuli za Mradi yafapitiwa na kutathminiwa  
ili kujua ni kiasi gani Mtu anapaswa kulipwa. Ameelezea  
kuwa eneo litakalotkiaminiwa na kulipiwa fidia hainuhusiwa  
kuanza shughuli zote. 14th

## Agenda No. 5. Muundo kamati za Malalamiko

Mradi utalimwizia na uendaji wa kamati za malalamiko ambazo zitashughulika na kutatua malalamiko yanayotokana na Mradi. Zitaundwa kulingana na ngazi ya kuti, ngazi ya wizaru, ngazi ya mkoa, ngazi ya wilaya, ngazi ya kuta na ngazi ya iji au mtaa.

## Agenda No 6. Maswali na Majibu

Swali 1. Makabuni yanayopitiwa na Mradi yatafanyajwa?

Majibu:- Kwa makabuni yasiyo na Masharti yatafanyajwa eneo-jingine na kulipiwa fidia

Swali 2. Mradi ulipita katikati ya shamba, je mamluriwa kuendelea na shughuli katika shamba au naliachia shamba lote?

Majibu:- Eneo la katikati ndilo ambalo halita endelewa na shughuli zote bali eneo lilobaki upande na upande shughuli zinaweka kuendelea.

Swali 3. Ni miti gani itafanywa fidia?

Majibu:- Miti yote itafanywa uhamini kulingana ukwaji.

## Agenda No 7. Kufunga Kikao

Mwenyekiti aliwapongeza waathirika wa Mradi wote kwa kufika, kuwa na utulivu na usumivu kwa kuachia shughuli zao. Pia alimshukuru Mtaalamu kwa ufanuzi Mzee. Na Mwenyekiti alijunga kikao mnamo saa 12:00 pm

Imechukwa

MAJIBU MIENDEJI  
KATA YA BABAYU  
RAH. DOGAMA  
FEELTER PROJEKTRIMM.

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI

KATA.....BABATU..... KIJILI.....BABATU  
TAREHE 05/03/2025 ENEO LA MKUTANO.....DOLU YA KATA BABATU

MAHUDHURIO

S/N	JINA	WADHIFA	JINJI	SIMU	SAHIHI
1	FELISTER F. PROSPER	WEO	KE	062964813	<i>[Signature]</i>
2	EUGEN CHARLES	VED - BABATU	KE	0621 292475	<i>[Signature]</i>
3	AMON M. MAENDELEO	VED - KONGOSI	ME	0626160620	<i>[Signature]</i>
4	ALLEN HAMISI	M. KILIMANGARI	ME	0629472678	<i>[Signature]</i>
5	MOSI N. MAHURA	M. KILIMANGARI	ME	0628540718	<i>[Signature]</i>
6	CHARLES MAENDELEO	KATIBU KILIMANGARI	ME	0624247853	<i>[Signature]</i>
7	Samueli danieli chuka	Mw/KILIMANGARI	ME	0684262479	<i>[Signature]</i>
8	NASIBU A SATO	AFISA MAENDELEO	ME	0653811262	<i>[Signature]</i>
9	ERNEST SELE	MW. WEO KILIMANGARI	ME	0621874471	<i>[Signature]</i>
10	HAMISI JASHUA	MW/KILIMANGARI	ME	0622335608	<i>[Signature]</i>
11	HAMISI MATAWA	MW/KILIMANGARI	ME	0624196020	<i>[Signature]</i>
12	ELINA M. NABAGALA	M/KISI KISI	ME	0887911012	<i>[Signature]</i>
13	FRANK L. LUSUO	M/KITI KILIMANGARI	ME	0719011129	<i>[Signature]</i>
14	ELWATA JULIUS AFISI	POLISA KATA	ME	0658 835331	<i>[Signature]</i>
15	JOSEPH P. NATHANZI	MW/KILIMANGARI	ME	0621588829	<i>[Signature]</i>
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MRADI WA MAENDELEO ENDELEVU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....BABAYU (CH. BOBAYU) KUUJI.....BABAYU (CH. BOBAYU)  
TAREHE.....06/02/2022..... ENEO LA MKUTANO.....OFISI YA KOTA BOBAYU (BOBAYU)

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	ELITA M. ADAGILA	M/KITI SIKULI	ME	0887911012	ADAGILA
2	CHAZUWA KALUNGU MWAJIA	MWASILIKA	ME	0699688011	CHAZUWA
3	MUSAFIRI MUSSA KAHAMELE	MWASILIKA	ME		M. MUSSA
4	KAHAMELE MUSSA KAHAMELE	MWASILIKA	ME	0682449738	K. MUSSA
5	STAN DAVIEL KAZALO	MWASILIKA	ME	0628137119	STAN
6	PIEL JAMES MSAFIRI	MWATHIRIKA	ME	0789907067	PIEL
7	DALDI TALUBJI MAZINGIRO		ME		D. MAZINGIRO
8	MWALUKU WICHEYO CYEL	MWASILIKA	ME	0786815246	MWALUKU
9	SALAMBAWE NGUTUMI MIZENGO	MWASILIKA	ME	0612561637	SALAMBAWE
10	MUSAMBI MWAJIA KATI	MWASILIKA	ME	0633126786	MUSAMBI
11	WILIAM AIDAN LABAR	MWASILIKA	ME	0782657268	WILIAM
12	MWAMBE MZOTO MWAJIA	MWASILIKA	ME	0699345423	MWAMBE
13	TIBU MZOTO MLETO	MWASILIKA	ME	0782517287	TIBU
14	STEVEN ISACK TIMBILI	MWASILIKA	ME	0625595176	STEVEN
15	HAMISI AHMED TIBULI	MWASILIKA	ME	0713 383832	HAMISI
16	SELEMANI TAMBWA MLETO	MWASILIKA	ME	0699284662	SELEMANI
17	MWALUKU CHALO FENDE	MWASILIKA	ME	067776238	MWALUKU
18	JOSEPH PETRU NGUTUMI	MWASILIKA	ME	0621555534	JOSEPH
19	FAUSTINO PGIRO MZOTO	MWASILIKA	ME	0785057557	F. P
20	ELIKA MANZENGO CHOLO	MWASILIKA	ME		ELIKA



MIRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA... BABARI (BARI)..... KUUJI... BABARI (BARI)

TAREHE... 06/02/2025..... ENEO LA MKUTANO... OHUSI YA KATA BABARI (BARI)

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
21	MULEMA NGATUKU	MWASILIKI	ME	0636138456	
22	ERIZABETHI NIMAZI PEABO	MWASILIKI	ME	0696735067	
23	DAHA CHIRIASHA MWAHO	MWASILIKI	KE	0782657470	(2) MWAHO
24	ANNA MPELEGE CHIDOGA	MWASILIKI	KE	0788607644	A. mawango
25	RUBENI DRI KAUURU	MWASILIKI	KE	0780351297	VALETA KAUURU
26	FOSIATA ENNA SOGO	MWASILIKI	KE		
27	ANYES FRACIE MHEMBANO	MWASILIKI	KE	0620763581	A. mawango
28	HEHERY ELIASI OUDIBI	MWASILIKI	ME	0695189495	1. M. mawango
29	IPKISOZI MANGANI CHIBABWA	MWASILIKI	ME	0622087515	
30	JUMA RUBERETE NAMBBI	MWASILIKI	ME	0678534401	
31	SUMA MAMBO MANDI	MWASILIKI	ME	0622115283	
32	ERINZI CHIBACHI ERISHA	MWASILIKI	ME	0627020476	
33	JWE PODWA MEMBO	MWASILIKI	ME	0670416714	
34	NVAMBU MEMBO CHITURANI	MWASILIKI	ME	0692089527	
35	SABAGA MEMBO CHITURANI	MWASILIKI	ME	0689775053	
36	PINA MUSELESE ZHIPABI	MWASILIKI	ME	0772100123	P. Mawango
37	WOMU MUVAMPALE MAMBO	MWASILIKI	ME	0788576556	1. B. S.
38	SIMPUKEZI MAMBU MAMBO	MWASILIKI	ME	0755362500	
39	NYUKIYE NYUKIYE	MWASILIKI	ME		NYUKIYE
40	ESHA WILIMU MAMBO	MWASILIKI	KE		

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA...*B.A. BABU*...*B.B.H.*...*KUJI. BABU (BABU)*...  
TAREHE...*06/02/2025*... ENEO LA MKUTANO...*OFILI YA KATA BOBAYU BAHU*

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SANHI
41	<i>EZEKIELI SEURE RUBERE</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0621872721</i>	<i>B. Sunde</i>
42	<i>JOSEPH PETERO NABAZI</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0625169983</i>	<i>R. R.</i>
43	<i>MURRAY MUALIMA MANLOLO</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0688248230</i>	<i>N. R.</i>
44	<i>ISAIAH CHYOGA MIMONYA</i>	<i>MUASILIKA</i>	<i>ME</i>		
45	<i>DANIEL KOSVIA LACINIGA</i>				<i>D. K. V. A.</i>
46	<i>MURRAY MUALIMA</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0780650324</i>	
47	<i>DAVID MURRAY MIMONYA</i>	<i>MUASILIKA</i>	<i>ME</i>		
48	<i>JULIUS M. MAHILI</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0625227223</i>	<i>T. H. S.</i>
49	<i>ABIELEI MATHAYO MHILA</i>	<i>MUASILIKA</i>	<i>KE</i>		<i>A. MATHAYO</i>
50	<i>MATHAYO MHILA MAGAWA</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0680436058</i>	<i>M. M. S.</i>
51	<i>EMMANUEL JUMIAS EDWAGA</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0658835331</i>	<i>E. J. S.</i>
52	<i>MUSOMBE KIMONYA NATHANIELA</i>	<i>MUASILIKA</i>	<i>ME</i>	<i>0629786990</i>	<i>N. S. S.</i>
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MUHITASARI WA KIKAO CHA WAATHIRIKA  
WA MRADI WA MAJI BWAWA LA FARUKA KISIJI CHA  
BA-BAYU TAREHE 06/03/2025

AGENDA ZA KIKAO

1. KUFUNGUUA KIKAO
2. UTAMBULISHO
3. UFAFANUZI WA MRADI
4. MASWALI NA MASIBU
5. KUFUNGA KIKAO

AGENDA NO 1 KUFUNGUUA KIKAO

M/Kiti wa kijiji alifungua kikao mnamo saa  
05:19. asubuhi kwa kuwakambisha wajumbe pamoja  
wagani waliohudhuria kikao

AGENDA NO 02 UTAMBULISHO

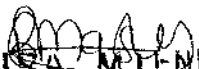
Baada ya kufungua kikao kila mjiembe aliyehudhuria kikao alipata nafasi ya kuyitambulisha

AGENDA NO 03 UFAFANUZI WA MRADI

Baada ya utambulisho Mlaalamu kutoka kati  
mradi alitoa ufafanuzi kuhusu lengo la mradi  
ambapo alieleza kwa lengo la mradi ni kuongeza  
upatikanaji wa maji katika mkoa wetu wa Dodoma  
ambapo mradi utianze/utadumu kwa muda 2025-2027  
pia mradi utatumia shena 2 ambapo ni Sokozi ya Tazara  
na Bank ya mndeleo ya afrika, mradi utagusa  
utaga 4 chembe Bani, Chamwina na Dodoma mjini na mta  
mbe wa maji utaguzwa katika kijiji cha mabere ambapo  
litapata katika kijiji cha Babayi pia kwa wale ambao  
watagusa na mradi watafanywa Tathmini na kulipwa  
ndani ya mizi 06 ambapo tutatumia shena ya Tanzania  
na shena ya kimataifa.

AGENDA NO 04 MASWALI NA MIBU  
Katika kikao kupindi cha maswali nyumba aluli-  
za kuhusu utofauti wa ardhi thamani ya ardhi  
aliyibiwa kuwa utofauti wa ardhi upo kikatiba  
kuwa maona maeno ambayo yanagusa huduma za kys-  
mii thamani yake ni kubwa  
Swali lingine Nyumba aluliza ni hivi kutoa eneo au  
lazima pia kwanini walibadili njia ya kamba ya mwanee  
nyibu ni kuwa waliona kuwa nyumba zingizungwa  
nyingi huyo wakaona itakuwa ni usumbufu kwa wana  
nda pia ghorama kwa Sankali dh-tathmini haku-  
wa kubwa pia aluagibu kuwa linapokeja k.  
Swala la matendeleo tunapaswa kupisha matendeleo.

AGENDA NO 05 KUFUNGA KIKAO  
Mikiti wa kijiji alifunga kikao mnamo Saa  
06.43 mchana kwa kuwashukumu wajumbe walisio  
hudhuma kikao.

  
AFISA MIENDAJI  
KIWIJCHA BABAYU  
CHEMBA  
Benjamin Mshingiri

BARAZI WA MIAENDELEO ENDELEVU NA STAHIMILIVU WA MAJINI NA USARI WA MACHINGIRA ODOBONZA  
 KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAAATHIRIKA WA MRADI  
 KATA: BABAYU  
 TAREHE: 06/03/2025 KUNE: BABAYU  
 ENEDLA MKUTANO

MAHUCHUMIRO

S/N	INA	WADHIFA	INSI	SABU	SABHI
1	THOMAS E MASHUMBA	M/KITI	ME	0699844003	Machumbi
2	BENEDICTA B MASHINGA	YEO	KE	0682 089333	Ban
3	ABDALLAH GUNDA SAID	A/MISITU	ME	0624-008094	Mula
4	MWESHISHIMWA RABIBU	DIWANI	ME	0699 839999	M. Rajagu
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MKUTANO NA WAATHIKA USA MRAZI

KATA... BABAYU

KUNU... BABAYU

TARHE 06/03/2025

ENEO LA MKUTANO

MAHIDHORO

S/N	JINA	WACHIFA	JINSI	SIRAU	SARASI
1	THOMAS E. MASHAUKA	MASHAUKA	ME	0699844003	MASHAUKA
2	BENADETHA B. MASHAUKA	MASHAUKA	KE	0692099333	MASHAUKA
X3	SAMUEL K. MASHAUKA	MASHAUKA	M.	0623618996	MASHAUKA
4	Rev. Gen. Wilson Seyinenge	- do -	ME	0625955931	Winyangwe
5	S. JAPATA HASSANI	.	KE	0689746979	S. J. H.
6	ASHA ALI	MASHAUKA	KE	0685385879	KE
7	EDINA MPANDA	MASHAUKA	ME	06097705258	KE
8	LUGALU MASHAUKA	MASHAUKA	ME	0624121515	0624121515
9	MALINIAI MKONDO	MASHAUKA	ME	-	MALINIAI
10	MOTHEMEDI MATHEBANGA	MASHAUKA	ME	0622147263	KE
11	Ronald Khat Tsune	MASHAUKA	ME	0624547979	KE
12	Tusuph H. Npawase	MASHAUKA	ME	0628137240	THA
13	DEWISI MAZENGE	MASHAUKA	ME	0781201215	DEWISI
14	JAKSON RICHARD KUTIMBE	MASHAUKA	ME	0625529133	MASHAUKA
15	PETRO CHAZRESI BAKALI	MASHAUKA	ME	06-84028997	MASHAUKA
16	TANISA TEPA CHABIRIHA	MASHAUKA	ME	-	MASHAUKA
17	MUSUNU-ICELESI NYALUKU	MASHAUKA	-	0692138961	MASHAUKA
X18	CHABEN DAN MASHAUKA	MASHAUKA	KE	0622780530	C. MASHAUKA
X19	WAIZA FUMBI MASHAUKA	MASHAUKA	ME	078738366	W. MASHAUKA
20	SABASTIAN MPONDO	MASHAUKA	ME	-	S. MPONDO

KABUPATEN MAENDOLO ENDELEU NA SIYAMWILU WA MAJI NA USAFI WA MATINSIRA DODONG

MUKOTARO NA WAATIKI WA MAADI

KATA: BABACU

KUH: BABACU

TARIHE: 06/03/2025

ENSO LA MUKUTARO

MAHUCHURIO

S/N	IRI	WACHIFA	JINSI	SHALI
21	MOLINI NYAMWANJI MBANDA	MJUMBE	KE	-
22	LYATI SAMUEL LYATI	MJUMBE	ME	068209985
23	ABIMAH GUNDA SAIN	AKUSITU	ME	0684-008094
24	GRISI JOSEPH YAKOBO	MJUMBE	KE	-
25	CHASHA DABACHA	MJUMBE	ME	0625-23267 A
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MUHITASARI WA MKUTANO / KIKAO CHA WAA  
THIRIKA WA MRADI WA MAENDELEO ENDELEVU  
NA STAHIMILIVU WA MAJI NA WAFI WA MAZ  
INGIRA DADOMA

AGENDA NO 1/2025, KUFUNGUA KIKAO/

MKUTANO

Mwenyekiti wa kikao alifungua kikao/mk  
utano mnamo saa 5:00 asubui, kwa kuwaambia  
wajumbe kwa kuandaa, na kuwaambia wajum  
be wawe watulivu pindi agenda zitakavyosomwa  
na kuchangia hoja hizo

AGENDA NO 2/2025, KUFITAMBULISHA

Mwenyekiti wa kikao aliwamiza na kusom  
a leo hapa mbele yetu kuna mgeni kutoka wizar  
a ya maji huyo basi, nafenda nafasi hii tuji  
tambulisho sekatu yangu ya kiji pamoja na waju  
mbe na aliku mgeni anamaliza. Basi sekatu  
ya kiji litatambulisha na pia mgeni aliwamiza  
na kwa kijiambulisha. Kuwa na mwandisi  
mndizi wa bwawa la maji la mto wa Atukw  
a na ametoka wizar ya maji, anamba kuwasili  
ha.

AGENDA NO 3/2025, KUTICA ELIMU  
YA WASHIRIKA WA MRADI WA MAJI NA  
KUTHATHIMINI

Mwenyekiti alisimama na kumuomba muu ezeshaji / mwandisi msaidizi ili aweze kutoa elimu huyo, Basi mwandisi msaidizi alisimama na kutoa maelezo kuwa kufitia serikali ya awamu wa sita tumepele moadi wa maji kutoka mto wa maji wa farukwa kwe nda bali, hivyo moadi huu unapita vijiji vingi lakini pamoja na vijiji hivyo na kukali na hizi upo ambapo moadi huu. Umeangalia athari za mazingira ikiwa wanayama, binada mu, na mali zao pamoja na hayo serikali mata mbua uwepo wa maele ya wananchi ambayo walikuwa wanayamiliki, kama vile shamba, nyumba za kusha, Bafara, makaburi, n.k, hivyo kuta kuwa na 2021 la kuatibu wananchi na kuwa kupi "fidia" kwa kila mwenye eneo. Ili kupitisha moadi huo, pamoja na kutakuya kuthathimini na maele hayo. na pia endapo wananchi wakisho kupi fidia Uazima waachio eneo hilo kwaajili ya moadi na eneo la moadi huo litaChukwa mita 15 kwa upande wa magharibi na mashariki mita 15, basi muwezesha alomba kuwapa nafasi wananchi nafasi ya kubwa maswali. Basi wananchi mmoja "jes" paulo MAZAYA alianza je ambapo moadi huo utapita

Kuna makaburi utaratibu wake unakuwaje,  
Basi mwandisi msaidizi alisimama na kumjibu  
upo utaratibu wa kisheria ambao ni kumjibu  
fidia na kumuhamishia kaburi selomunyingi  
ne. Na mwingine aliuza je fidia ni makaba  
liano ya mwenye eneo au adhi na serikali.  
Nalo aliyibiwa kuwa itaangalia thamani ya  
maeneo yenu manyo uziana miaka mitatu ngu  
ma mpaka sasa na pia aliongozea kuwa  
siku ya kufanya tathmini lazima kila  
mtu aweko kwenye lake na mo muwakilishi.  
Basi wananchi wahazimiza kuwa tumepokea  
moadi huu na tupo tayari kupitia moadi huu.

AGENDA NO 4/2025 KUFUNGA KI

KATO

Mwenyekiti wa mkutano/kikao alitunga  
mnamo saa 9:00 mchano kwa kuwa mkutano  
wananchi kwa kutoa mchango mzuri wa mawa  
20 na pia kupokea moadi, na pia kuwaomba  
wananchi siku itakayotangazwa kuwa ni ya  
tathmini basi wajitokeze kila mmoja wenu na  
pia kama eneo lina mgogoro basi atatusa  
pema kabla ya tathmini hii. Basi alitaka  
Phukubani na kuhatisha mkutano huo mpya  
ka siku nyingine



SAINI YA VEO

APOLLO

SAINI YA  
MWENYEKITI

Nasmba kuwaridisha muhtasari wa  
mkutano/kikao cha wanawanchu walio  
athirika na maadhi wa maadhi wa maend  
eleo endolevu na stahimilivu wa maji  
na usafi wa mazingira wa tarehe 07/03/  
2025

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI

KATA.....

LA MPAATI.....

KIJIJI.....

LUKALU.....

YAFI KUTITI LUKALU

TAREHE..... 11/3/2025

ENEO LA MKUTANO.....

LUKALU

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	CHARLES-N. MPOLO	LUKALU SIKULU	ME	0624066348	VERBOD
2	ABUUSAPARI MOHAMMED SEIF	VER-LUKALU	ME	0628708065	A- <del>MAJUMBE</del>
3	YOHANNA MANDARA	M/KUTONGOZI (B)	ME	0628130665	4 MANDARA
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MRADI WA MAENDELEO ENDELEVU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....LUKALA.....KIJU.....LUKALA.....  
TAREHE.....7/03/2025.....ENEO LA MKUTANO.....SELI YA KIJU CHA LUKALA

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	CHARLES - N. NPOLO	MUKUNJI/S/KUSI	ME	0624066348	PPoto
2	ABUUSAKARI MOHAMED SEIF	VEO-LUKALA	ME	0628703065	Abuusakari
3	LUKAS CHITANO	MJUMBE	ME	0628130673	Lukas
4	KINYARA NKOTA	"	"	0622265652	Kinyara
5	AMOSI MADEITE	"	"	0786236165	Amosi
6	ALEX JUMBE	"	ME	0622084102	Alex
7	SEMBU P. MKOBO	"	ME	0625864231	S. mko
8	JOSEPH P MATZOLA	"	ME	0628130841	Joseph
9	CLINEST. JUMBE	"	ME	0629598573	Clinest
10	PAULI MAZOTA CHAULEMA	"	ME	0620103884	P. chaulema
11	SEVELINI EZEKIEL MLEKWA	"	ME	0621178544	S. matechela
12	MJILIMA MATONTA CHAMBILA	"	ME	0626864739	M. Chambila
13	JOSIA ISPYA PAULO	"	ME	0612121193	J. Isaya
14	MUSA S GELE	"	ME	0628922294	M. SEVERIN
15	TORAM M CHAMBILA	"	ME	0625664500	Torambila
16	NAMUNU KILLO	"	ME	0622366084	Namunu
17	DAUDI E NIMUNGAUTU	"	ME	0624908890	Daudi
18	LUCAS NJOLIBA LEMUNGU	"	ME	0628131164	Lukas
19	NIGOLU KOSUHI	"	ME	0627722750	Nigolu
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MRADI WA MAENDELEO ENDELEVU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....LAMBATI.....LUKHALI  
 TAREHE.....07/02/2015.....ENEOLA MKUTANO.....CHAI ZA KIJiji CHA LUKHALI

MAHUDHURIO

S/N	JINA	WADHIFA	JINJI	SIMU	SAHIHI
21	BAHATI SEVELANI	11	ME	0622521132	B1 TC
22	YETANA MAMUWA	M/KITANGOJI (B)	ME	0628130665	Y. mamuwa
23	MUTHICA KALANI	M/KITANGOJI (B)	ME	0680600983	M. MUTHICA
24	RICHARDI OGABANA	M. KITANGOJI (B)	ME	0626230039	R. OGABANA
25	MURADI MARSITA	M/KITANGOJI (B)	ME	0621715900	M. MARSITA
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MUHARIRI WA KUKAO CHA WATHANGA WA TROHI  
ITAKATOPITIWA NA BOMBA LA MARI UNALOTOKEA HUKO  
FAUKUWA ULILAYA YA CHENIBA.

Agenda ya kwanza: kufungua kikao.

Mwenyekiti wa kiji alifungua kikao  
mnamo saa 4:00 kambi asubuhi kwa kuwacha  
kumi wahanga wa bomba hilo la Mari kwa  
kutitika wito luo na kutika kwenye kikao

Agenda ya pili: Elimu kwa waathirika wa madi

Wataalamu kutoka wizara ya Mari walifika  
kiji cha Marymura na kutoka elimu kuwa serika  
li ululipa gwarimu la watu wote wulakwathirika  
na Madi luo kutokana na Samani ya Ardi  
iliyo katika sehemu luo luo hio Sambamba  
na hilo wahanga wamewambwa kutoka kipaka  
ya sambamba kwa kila Chumba au eneo -  
lililowathirika na bomba hilo pia wataalamu wa  
mama kwa kila kiji kutachopitiwa na  
Madi luo kutanuka na Mari luo

Agenda ya Tatu: kufunga kikao

Mwenyekiti alifunga kikao mnamo saa  
5:30 kwa kuwachukimu wjumube kwa kutitika  
wote mwan' kwenye kikao na kutitika bomba  
hilo la Mari kupita kwenye maeneo ya -  
kwan' na maendeleo pia.

MWENYEBITI/

AFISA MTENDAJI  
CHA CHA MAYAMAYI  
S. & P. 29  
TAMU 68

MRADI WA MAENDELEO ENDELEVU NA STAHIHILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA  
 KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI  
 KATA.....ANKA..... KIJILI.....  
 TAREHE.....10/03/2025..... ENEO LA MKUTANO.....CHISI KAT. KURUJI

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	WILSON RICHARD MARIANTA	M/KUJI-KURUJI	ME	0628016105	
2	ELIZABETH GEORGE N'FAMBO	VED-N'FAMBO	KE	0712-088612	
3	EMMANUEL S. MKOMOCIT	M/KUJI KIJONG'OSI	ME	0625-824302	
4	ABERSON FRANCIS MADIMILIO	M/KUJI KIJONG'OSI	ME	0625099344	
5	PAULO -IGITHA NEDUJUKA	M/KUJI KIJONG'OSI	ME	0626193992	
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MRADI WA MAENDELEO ENDELEU NA STAHIIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA ZAUKA

KIJIU

MAYA MAYA

TAREHE 16/03/2025

ENEO LA MKUTANO

VILLAGE OFFICE

MAHUDHURIO

MAYAMAYA

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	RICHARD, NTHONJA	MKULIMA	ME	0624633602	VAD
2	NESMA NTWAVE	MKULIMA	F	071998762	T. D. D.
3	GRACE JUCHI	MKULIMA	K	0622335258	Edina
4	HUSSENI MAFETA	MKULIMA	ME	1781968641	H. M. S. M.
5	LUSIBANI MZANI	MKULIMA	ME	0593000366	L. M. S. M.
6	JOSEPH JORIN	MKULIMA	ME	0657962430	Edina
7	VALENTE B. NUNDA	MKULIMA	ME	0713754080	Edina
8	SOSPITA E. KANGWE	MKULIMA	ME	0629635514	S. K. M. S.
9	ERNEST Y. AKIDA	MKULIMA	ME	0626160035	Edina
10	PASHIDY A. MWEENUNGE	MKULIMA	ME	0628-849124	Edina
11	ELIA A. LIGOTHA	MKULIMA	ME	0627116620	Edina
12	JOHNSI MAKUWA	MKULIMA	ME	0621158375	Edina
13	STANLEY L. BOMBA	MKULIMA	ME	0613648394	Edina
14	DHYLINDANI M. MCHUSA	MKULIMA	ME	0623929752	Edina
15	ZAKARIA MACHUMBA	MKULIMA	ME	0714016142	Edina
16	BENEZETH K. RUTA	MKULIMA	ME	0754-210496	Edina
17	WILSON RICHARD MZINGIRA	MKULIMA	ME	0628016105	Edina
18	ABEDSON FRANCIS MAMILLO	MKULIMA	ME	0625099344	Edina
19	PACCO - GITHANA MUDUAKA	MKULIMA	ME	0626193992	Edina

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA  
MKUTANO NA WAATHIKA WA MRADI

KATA..... KUUJI.....  
TAREHE..... ENEO LA MKUTANO.....

MAHUDHURIO

S/N	JINA	WADHIFA	JINJI	SIMU	SAHIHI
21	DUTASETH W. NYARUBO	VEO	KE	0712-330612	<i>[Signature]</i>
22	EMMANUEL S. MKOMOLIT	M/KITONGOTI MIFAPA MC	MC	0625-824302	<i>[Signature]</i>
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MRADI WA MAENDELEO ENDELEVU NA STAHIILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMIA

KIKAO CHA NDANI NA VIONGOZI KUTAMBUA WAATHIRIKA WA MRADI

KATA.....ZANUZA..... KIJILI.....ZANUZA.....  
TAREHE.....10/3/2023..... ENEO LA MKUTANO.....OFISI YA KIJiji..... (LIA ZANUZA)

MAHUDHURIO

S/N	JINA	WADHIFA	JINJI	SIMU	SAHIHI
1	Yohana TAPNET	M/KITI 5/KIJI	ME	0625670852	YJ
2	REBECCA A. MALULI	UEO - ZANUZA	KE	0621101078	R MUSE
3	LISIAN P. MAMALI	M/KITI KIONGOZI	ME	0689988884	Alhassani
4	BWANAGORA MARIJANI	M/KITI KIONGOZI	ME	0672822674	Baranyani
5	RICHARDI MANDAU	M/KITI KIONGOZI	ME	0624022488	Bain
6	EMMANUEL MZUWITA	M/KITI KIONGOZI	ME	0629892996	Baranyani
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MUHTAJARI WA MKUTANO WA WANANCHI WA ZA-  
NKA WA KUTOA ELIMU NAMNA YA KULIPWA FI-  
DIA ILI KUPISHA MRADI WA MAJI FARUKA 10/3/2021

## AGENDA

01. KUFUNGA MKUTANO.
02. KUTAMBULIHA MRADI
03. KUTOA ELIMU
04. KUFUNGA MKUTANO.

## AGENDA 01: KUFUNGA MKUTANO.

Mwenyekiti alisimama na kuwa Salimia wananchi  
na kuwa karibisha kwenye Mkutano juu ya  
utaji Elimu juu ya Mradi wa Maji wa Faruka  
na kuwambua wawe wasikivu na kuchanganyika  
wa Maada Mara baada ya kusoma hayo.  
Mwenyekiti alifunga Mkutano Mnamo Saa  
10:45 Asubuhi.

## AGENDA 02: KUTAMBULIHA MRADI

Mwezeshaji kutoka kwa Mshauri wa Mradi  
ICE/ETIS DODOMA alisimama na kutambulisha Mradi  
wa Maji Faruka kwa wananchi kuwa Mradi  
huu utapita kwenye Kijiji cho zina kwenye  
Baadhi ya vitungu. Kama Lusinde, Azimio, Nyea  
na B na Mnase na utapita kwenye Maeneo ya

Wananchi wa vitungoji hivyo; wananchi walipokea Mradi huo vizuri kabisa.

### AGENDA 03: KUTOA ELIMU.

Mwezahaji kutoka kwa Mshauri wa Mradi: ICF/EGL/DODOMA, alisimama kwa klang'ani ngine fona kwa kuanza kutoka Elimu juu ya Mradi huo; Aliwambia wananchi wasiwe wagan kupisha Mradi kwa kila Mwananchi atazaye pitiwa na Mradi huo alalipwa fidia na wathamini walapita kwa kila Mlongwa kujua ukubwa wa Maeneo yao na fidia hazitalingane kutoka na ukubwa wa Maeneo yao. Wananchi walipokea Elimu hivyo bila shida yeyote na wapo tayari kupisha Mradi huo wa Mafi. Na mwenyekiti aliongeza pia kuwa Siku ya Wathamini hata wali waliopo Mbali pasi wakitahidi kufika Siku hivyo.

### AGENDA 04: KUFUNGA MKUTANO

Mwenyekiti alisimama na kuwashukuru wafu wanchi kwa kufika kwao, Na walipokea Mradi huo wa Mafi wa farawa, kuchangia moja vizuri aliwashukuru wananchi. Mara baadhi ya kusema hayo Mwenyekiti alifunga Mkutano Mnamo Jaa 11/38 Asubuhi.

KATIBU

R. Maluh.

Rebecca Atilio Maluh.

AEISA MTENDAJI  
KIDJOI CHA ZANKA  
CHS BAH

MWENYEKITI

~~Yohana~~  
YOHANA SAPHET



MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....ZANZA.....KUUJI.....ZANZA  
TAREHE.....16/3/2023.....ENEO LA MKUTANO.....OFISI YA KUUJI CHA ZANZA

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	Dkt. Baudilio Chidambali	MWANAANCHI	ME	0756906599	
2	PASCO YOHANA SHABANI	MWANAANCHI	ME		
3	SHABANI ALY ATTHUMANI	MWANAANCHI	ME	0753175152	
4	PETRO S. KUSILA	MWANAANCHI	ME	0621122278	P. Kusila
5	PATRICK B. ELIAH	MWANAANCHI	ME	0675286001	Patrick
6	MOSES B. MASAMBALI	MWANAANCHI	ME	0624086766	Moses
7	PETRO N. MAGAJI	MWANAANCHI	ME	0626037274	Petro
8	RAMADHAN S. SALIM	MWANAANCHI	ME	0638624415	Ramadhan
9	CHARLES B. LEMGOLA	MWANAANCHI	ME	0618881457	Charles
10	DANIEL JELENTA	MWANAANCHI	ME	0625986846	Dani
11	KENETH MUGU MASAMBALI	MWANAANCHI	ME	0629398074	Keneth
12	DEUSINDETI KASANGIPI	MWANAANCHI	ME	0626038255	Deusindeti
13	JULIUS STEPHANO BALISHO	MWANAANCHI	ME	0685211521	Julius
14	GODFREY BLASSUS NGWU	MWANAANCHI	ME	0713638103	Ngwu
15	DANUADHANU RASHIDI	MWANAANCHI	ME	0626-114633	Rashidi
16	JOSEPH H. UZIGANTIRA	MWANAANCHI	ME	0628407025	Joseph
17	YOHANA MISA ANDREA	MWANAANCHI	ME	0677809469	Yohana
18	TARIKET H. MAKATICHIGO	MWANAANCHI	"	0620805995	TariKET
19	MATHIAS B. MKUNTA	MWANAANCHI	"	0653513565	Mathias
20	JENIVA STEPHANO MATZINGO	MWANAANCHI	KC		

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....ZANUZA.....KUUJI.....ZANUZA  
TAREHE.....16/3/2020.....ENEO LA MKUTANO.....GIFIJI YA KUUJI (HA) ZANUZA

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAMHI
21	LESIA ELIAS LYOLA	MWANANCHI	KE	0628684058	
22	JAPHET JOBU MLONGA	MWANANCHI	KE	0672454366	S. Mlonge
23	ABIGAIL STEPHANO MAHULO	MWANANCHI	KE	0614180680	M. Mahulo
24	JOYCE TIMOTHEO BOMA	MWANANCHI	KE	-	J. Boma
25	ZENA JOB MLONGA	MWANANCHI	KE	0718749937	
26	FATUMA PETRO MANIARO	MWANANCHI	KE	0616962646	F. M.
27	VALONIKA PATZENIGO CHINYA	MWANANCHI	KE	0713097224	V. M.
28	SUZANA NDIHIDE MARENGU	MWANANCHI	KE	0616705774	S. M.
29	SIAMILI MAHEMBE NEMANGU	MWANANCHI	KE	0674506038	S.
30	ANNA MELE MUTHUMPHA	MWANANCHI	KE	0617458973	
31	ANGELINA MAREUDA MASHUGISA	MWANANCHI	KE	0717955385	A. Mareuda
32	SEIF S. GAWA	MWANANCHI	KE	0625110507	
33	SALAPHINA MAHEMBE NYANGU	MWANANCHI	KE	0625345889	S. Mahembe
34	PETER WILLIAM	MWANANCHI	KE	0624159495	B. Mwananchi
35	ANDEREA SHIBACANO	MWANANCHI	KE	0627157175	
36	JENIPHA S. MAHEMBE	MWANANCHI	KE	0752861174	J. Mahembe
37					
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HAIMBAHURI YA WILAYA YA CTEMBA

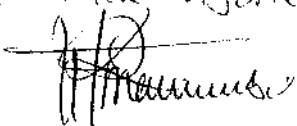
OFISI YA MTEENZI  
KINDI CHA MOMBWE  
C.L.P 830  
CTEMBA  
05/03/2025

YATI: NAOMBA YA KUWAZILIANA MUKTASANI WA  
KUKAO CHA WAMWAZI WAMWAZIWA NA MANDIWA  
BOMBA LA MANDI KIKOZI MOMBWE MANDI DADIMA MANDI

Husika na Mado Lajwa hapo jini.

Naomba kuwasichana Muktasani wa Kukao cha  
Wamwazi wamwaziwa na bomba la Madi ambalo  
Litaharika Mando mbini yao kutoka kutika hawa  
la Faraka.

Wako Katiika Kionzi wa Faraka.

  
GODFREY C. MUTTANY

AFISA MTENDA-  
KINDI CHA MOMBWE  
W/CTEMBA

## AGENDA

1. KUFUNGA KIKAO
2. UTARABUCHU
3. UFAFANUZI WA TIA NA VINA DAIKE
4. MASWALI NA MAJIBU
5. KUFUNGA KIKAO

### 1. AGENDA KUFUNGA KIKAO

Mwengesi wa Kiji cha Mombasa alifunga kikao Mnamo Juma'a 05/03/2025 Muda saa 13:53 Mhema. Katika eneo la kikao ambako Lipo Katika Kitongoji cha Shuleni na Kikundi la Wanyosi na Waataalamu wawote. Kusitambukha na mtondaji wa kikao awote kuoma agenda kwa watumbe watohiriki kikao.

### 2. AGENDA UTARABUCHU

Mtondaji wa Kiji aliwotea kusitambukha kwa watumbe watohiriki kikao hicho na baada ya huo aliwakaribisha wageni watihika kuwotea mtondaji wa kikao la Kiji kutoka Faraka mwanachama kikao kusitambukha kwa watumbe watohiriki kikao na baada ya hao mtondaji alisoma agenda mayafuta kwa watumbe na kuoma wataalamu wawote kuwotea agenda hiyo.

AFISA MTENGA  
KIJILI CHA MOMBASA

### 3: AGENDA UTAFWANZI WA FIDIA WA AWIA ZAKE:

Wataalamu watakuja wahisima kuma bomba la maji  
litakipita kwenye maeneo yetu kutoka Katiba  
(Kiji) cha Mombasa hadi dodoma mjini hiyo litakipita  
kwenye maeneo yetu na usawa wa bomba hila litakuwa  
na mta 1 hilaithini (30) kwa hiyo wata ambao  
Mundo mbere yao itaharabiwa na bomba hili watakipita  
fidia ya kiasi mochi huu. Lakini watu wawo  
na utambuliwa vyote Muhimu yam kati ya  
mida au kutambuliwa cha mochi kara kwa maana  
hizi jumlaosea kuandikwa juu kuto wakati wa  
fidia.

### 4: AGENDA MAJUMBA NA MARIKI:

Mwongozi wa kisihi atomba wajumbe wabishuhia  
kutoa wawo kuyitza Maswali kwa wataalamu wabo  
muhimu kutoa mugu mwa mkenndi atakiza Swati  
kutusu baadhi ya jumla wanasoma kuma mto wa  
kuto awazi kuandikishwa kutiwa fidia kwa maana  
yeye angaandhi lakini wataalamu wabishi kwa  
usini kuma mto wa hiki anabaki sana na Mwanam  
mugo wote ni sawa tu.

### 5: AGENDA KUFANCON KIKO:

Mwongozi wa kisihi cha Mombasa alitunga  
kiko Minamo Jiroho 05/03/2025 Mula wa saa  
14:41 mchana katika eneo la Mbutano la (Mungosi)  
cha Shulemi.

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA Pirbright KUUJI Mumbezi  
TAREHE 05/03/2025 ENEO LA MKUTANO S/M Onkweneto

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	HADJA S. KUEKUE	MKULIMA	WE	0694381067	U.S. Kuekue
2	GERVASI KASIANI MUKIA	MKULIMA	ME	0694175351	GSK
3	ZAKARIA STEPHAN JULIA	MKULIMA	ME	0689158832	<del>U.S. Kuekue</del>
4	JACK PETRO BATHOMBE	II	KE		V.A
5	RIZIKI DAMIANI JOSEPH	MKULIMA	ME		
6	MARTIN FABIAN DOMICK	MKULIMA	ME	0687678524	A.T.S.B.
7	PETERC DIDAC DOMICK	MKULIMA	ME		P.D.D
8	INHACIA JOSEPH KELEMA	MKULIMA	MKE		M.Y.J.K
9	ROZIMILIA MURIELI AMBES	MKULIMA	MKE		R.M
10	SEBESTINI KACHIM NIKANORY	MKULIMA	ME	0783010952	<del>U.S. Kuekue</del>
11	DENIS JOHN ALOIS	MKULIMA	ME	0754814313	D.J.A
12	ANTON ALOIS MATHIAS	MKULIMA	ME	0685301989	A.A.M
13	JOSEPH LAKO	MKULIMA	ME		J.LAKO
14	CLAUDIO. PETER TAMORA	MKULIMA	ME		<del>U.S. Kuekue</del>
15	ABDULAH S. NATAID	ELECTRICIAN	ME	0757482225	<del>U.S. Kuekue</del>
16	JAGUARY E. MANGWA	MKULIMA	ME	0692051811	<del>U.S. Kuekue</del>
17	DIDACI TAMMILIA	MKULIMA	ME		<del>U.S. Kuekue</del>
18	TEREZINA PATRIS	MKULIMA	KE	0703-281705	T.P.
19	ERNESTI PATRISI NIETA	MKULIMA	ME		
20	BASIKA PATRISI NIETA	MKULIMA	KE		B.P

AFISA MTENOZI  
KIJILI CHA MOMBASA  
M/CHENBA

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MKUTANO NA WAATHIKA WA MRADI

KATA.....

FALGUNA

KUJIJI.....

KOMPASE

TAREHE.....

25/03/2023

ENEO LA MKUTANO.....

MOMPABELE

PRIMARY SCHOOL

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
21	Dominick Paulo Anastini	Mkulima	UCE	068624844	D.P
22	MARKI JUMA MAROBE	Mkulima	ME	076235949	<del>ME</del>
23	MAGEI MUKANORI MARIE	Fwati	ME	0783-281705	<del>ME</del>
24					
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AFISA MTENDAJI  
AFISA MOMBASA  
AFISA MOMBASA  
AFISA MOMBASA



HAJIMASIKURI  
MUHIASARI WA KIKAO CHA UFAFANUZI WA MRADI WA  
MAJI JAFI NA JALAMA KATIKA KIJiji CHA DONSEE  
TAREHE 05/03/2025

AGENDA

1. KUFUNGUA KIKAO
2. UTAMBULISHO
3. UFAFANUZI WA MRADI
4. UFAFANUZI WA FIDIA NA UHAMINI
5. MASWALI NA MAJIBU
6. KUFUNGA KIKAO

AG. NO. 1. KUFUNGUA KIKAO

Mwenyekiti alifungua kikao mnamo 08:45 Arubai baada kuona akiidi silahiiki imetimi. Mwenyekiti aliwaomba wanakijiji ukuwa walulivu na wanihivi kua ajili ya kuwasikiliza wageni waliopo. Baada ya hayo alitamka faimi kuwa kikao kimefunguliwa.

AG. NO. 2 UTAMBULISHO

Mwenyekiti alimkaribisha mtendaji wa kijiji ili aongoze utambuli. Mtendaji wa kijiji aliongoza utambulisho na kumkaribisha mgeni mmoja kwa ajili ya kuingoza utambuli wao.

AG. NO. 3 UFAFANUZI WA MRADI

Mtaalamu wa mradi wa maji alitoa ufafanuzi juu ya huo mradi wa maji ya kuwa kulakuwa na mtambo wa kulibu maji (DWTP). Maji yatakayo toka kwenye bwawa Lililoko kati Kijiji cha Mombere, kata ya parkwa na pia matenki yatajagwa sehemu mbalimbali ikiwa ni chemba, baki, chamwino na Jiji La Sodoma. na mtaalamu kuwaiteza wananchi wa donsee kuwa maji haya yatakawa dafi na jalama.

AG. NO 4, UFAFANUZI WA FIDIA NA UTHAMINI

Mtaalamu aliwaeleza wananchi wa dionee kuwa kuna aina mbili za fidia ambazo ni Fidia ya ela mkononi {cash} au fidia ya kulafutiwa eneo lingine au kujengwa nyumba nyingine na hizi fidia zote zitatolewa kwa mtu aliye pitiwa na mradi wa maji, Pia mtaalamu kuwaeleza kuwa watakuja wathamini. Kwa ajili ya uthamini, waathinika watafanyiwa uthamini kwenye maeneo bomba litapita ambayo ni mita 30 kulingana na sherika za maji, Pia uthamini utafanyika kulingana na thamani ya soko la ardhi kwa jara.

Yilevile mtaalamu kuwaeleza kuwa kutaundwa kamati za malalamiko zenye jukumu la kushulikia malalamiko ya mradi katika utekelezaji wa mradi.

AG: NO: 5: MASWALI

- i) Muathiriwa akiathiriwa kiasi kidogo kwenye nyumba inakuwaje?
- ii) Je kuna sehemu maalumu ya kupeleka malalamiko yotokanayo na huu mradi wa maji?
- iii) mtu aliyeko kwenye mpaka wa kijiji cha donseo na kijiji cha parkwa je ataandikishiwa wapi?
- iv) Je shule inagurwa sehemu gani na je kutakuwa na uthibiti gani kwa walama kwa watoto?
- v) Je mtu atahama kabla ya kulipwa fidia?
- vi) Je maeneo yenye mambo ya kimila utarahibu upoje?
- vii) Je wananchi walafaidika na maji kutokana na vituo vya kutibia maji?

AG NO: 6 KUFUNGA KIKAO

mwenyekiti aliwashukuru wataalam kwa ufafanuzi na wanaoishi  
kwa usikifu, baada ya hapo alitamka rami kikao kimofungwa ili  
aliwambia kuwa wanatakiwa kujiorodhesha kwenye mfumo kuto-  
dofwa na kuwataka wazee na wamama wasio kuwa na wanaume  
waje kujiorodhesha na kuondoka na kikao kili bainishwa mnamo 12:32  
mchana.

AFISA MTENDAJI WA KIJIKI  
KIJIKI CHA DUNSEE  
FARKWA-CHENBA

Sa'ini ya M/Kh  
A-NA  
ANANBU N. AMATA

MRADI WA MAENDELEO ENDELEU NA STAHIILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MRADUHUURIO

KATA..... FARKWA

TAREHE..... 05/03/2025

KIJI..... DONSEE

ENEO LA MKUTANO..... CHSI YA NJI DONSEE

MAHUDHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
1	ANTANASI N' AMATA	M/KITI	ME	0687685270	A.A.A
2	SABITH M' MUSSA	VED DONSEE	KE	0684973568	SAI
3	SABA S. MACHEYA	ALUKU DONSEE	KE	0782034104	SAI
4	AURELIAN M. AMANE	M/KIABISI AMANE	ME	0684460089	SAI
5	JEREMIA J. STEPHEN	M/KIABISI BURE	ME	0684634105	SAI
6	IRIMWA EMANUEL-I	MJUMBE	KE	0787403056	BURUNDI
7	Joseph F. ALLOIS	M/DUDE	ME		J.F.A
8	PIERE PETER TAMBA	MJUMBE	ME	0782609579	SAI
9	SAMOKI W. KEREKE	MJUMBE	ME		SIMON
10	MICHAEL S. BELLE	MJUMBE	ME	0692238360	SAI
11	PANCRAZI K. MACUA	MJUMBE	ME		SAI
12	GRASIANO T. DOMINIKI	MJUMBE	ME		SAI
13	WILLIAM YUENS LESSI	MJUMBE	ME	0799652092	SAI
14	ANDREA JULIAS STEPHAN	MJUMBE	ME	0688530566	A.T.S
15	KALANI EMANUELY BATHOLAN	MJUMBE	ME	0699207006	K.E. Batholome
16	STON THONASI BATHOLAN	MJUMBE	ME	0653361365	J.T.B.
17	JULIANE JERAD. JOHN	MJUMBE	ME	0689560452	SAI
18	LONGINI L. FERRE	MJUMBE	ME	07855501474	SAI
19	GERARDI JEREMIA FIDELIC	MJUMBE	ME	0603607001	P. GERARDI
20	FAUSTINI SILVESTI KOLIMEE	MJUMBE	ME		

AFISA MTEGOSHI NA KIJUJI  
KIJUJI CHA DONSEE  
FARKWA - CHENBA

MRADI WA MAENDELEO ENDELEVU NA STAHIMILIVU WA MAJI NA USAFI WA MAZINGIRA DODOMA

MRADHIMU WA MAATHIKA WA MRADI

KATA FARNWA

KIJI DONSEE

TAREHE 05/03/2025 ENEO LA MKUTANO OFISI YA KIJILI DONSEE

MAHATHURIO

S/N	JINA	WADHIFA	JINSI	SIMU	SAHIHI
21	JUMAATANA SONGO	MJUMBE	ME		J. S. SONGO
22	CLEMENT OSEKAR	BALONE	ME	0717798147	C. O. B.
23	PAULO GREGORY	KANGA	ME	068476499	P. G. KANGA
24	DAUD JOSEPH FRANCIS	MJUMBE	ME		D. J.
25	NIKOLAUS THOMAS	MJUMBE	ME	07957252229	N. T. B.
26	FELISIA PEIRO LERO	MJUMBE	KE		E. P. L.
27	ELIZABETH JOHN JERAB	MJUMBE	KE		E. J. JERAB
28	RESINA YUVENC JULIUS	MJUMBE	KE	0782412773	R. Y. JULIUS
29	GAUDENSIA VENAS PIUS	MJUMBE	KE	0699686991	G. V. PIUS
30	AUGLIA CHISTFA LEBDA	MJUMBE	KE		
31	JEROME SYLVESTER NDAGALA	MJUMBE	ME	0717152410	J. S. NDAGALA
32	MAZUGUNA MANYANGA	MJUMBE	ME	0689657356	M. N. MANYANGA
33	VICTOR NIKAUSERT SEXTA	MJUMBE	ME		V. N. SEXTA
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AFISA NTENDAJI WA KIJILI  
KIJILI CNA DONSEE  
FARNWA - CHENSA

▪ **RESULTS OF STAKEHOLDERS CONSULTATION (OPINIONS/CONCERNS)**

**STAKEHOLDER CONSULTATION MEETING**

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**Project** : Dodoma Resilient and Sustainable Water Development and Sanitation Program.

**Stakeholder** : TARURA

**Date** : 20/02/2025

**Venue** : TARURA HQ and Regional office Dodoma

**Time** : 0800hrs

Attendance List Attached

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**Objective of the Meeting:**

The objective of the meeting was:

- To disclose information about the planned Dodoma resilient and sustainable water and sanitation program from Farkwa Dam, raw water intake, Drinking Water Treatment Plant pumping station storage tank and conveyances water system Bahi, Chamwino, Chemba and Dodoma City Districts in Dodoma region and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the project so as to guide ESIA preparation.

**Agenda:**

1. Introduction
2. Presentation of the Project and Environmental and social impact assessment
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b>  All participants introduced themselves one by one by mentioning their names and designations
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Agenda 2	<p><b>Presentation of the Project</b></p> <p>Consultant presented the spatial layout and coverage of the project aided by printed schematic layout. According to the design, in some of the project areas water pipelines are designed to pass within TARURA road reserves. The sections where pipelines are expected to pass within TARURA road reserves were presented. Further to that, Consultant presented the need and requested permission to use the road reserves and to be guided on the process. It was presented that the pipelines are expected to pass Babayu via Lamaiti to Bahi District</p> <p>It was further presented that MoW needs guidance on two key issues;</p> <ul style="list-style-type: none"> <li>▪ The use of road reserves</li> <li>▪ Road crossings</li> <li>▪ Distance of road reserves</li> </ul>
Agenda 3	<p><b>Stakeholder Concerns and Issues</b></p> <ul style="list-style-type: none"> <li>▪ TARURA need to know which roads the water infrastructure will pass or cross</li> <li>▪ It was advised TARURA and MOW to conduct a physical verification to the road reserves where water pipelines are expected to pass.</li> </ul>

	<ul style="list-style-type: none"> <li>▪ It was advised that MoW to engage District Managers of TARURA in respective areas of road reserves in advance to avoid future misunderstanding and conflicts with communities and TARURA.</li> <li>▪ It was advised that MoW should ensure road reserve Management in order to avoid the conflict during implementation.</li> <li>▪ It was advised that MoW should make a close contact with TARURA DM to know the size of road reserves and current remaining size.</li> <li>▪ They advised us to consult Regional land planning in order to avoid the necessary challenges like wayleave of the road sometimes they differ with land planning.</li> <li>▪ MoW should write an official application letter (request for permit) to TARURA District Manager and thereafter MoW will receive officially all procedures required. The application letter should include specific drawings, size of the pipe coordinates and explain the methodology that will be used in road crossings for all roads that are expected to be used.</li> <li>▪ It was advised that during the implementation to ensure inclusive of social issues such as gender issues example women participation and decision and special attention to special group.</li> <li>▪ Contractor should ensure safety issues such as provision of safety gear to labor.</li> <li>▪ MoW should arrange an official visit to District Manager for physical verification.</li> <li>▪ <b>Question 1:</b> What is the source of water in this project?</li> <li>▪ <b>Answer 1:</b> The project has several components and one of them is construction of Farkwa dam and the water come from different river such as river Bubutole Mkingi river. The purpose is to increase the volume of water to carter for future demand.</li> <li>▪ <b>Question 2:</b> What is the project time frame</li> <li>▪ <b>Response 2:</b> The project implementation time frame is 2023 up to 2027</li> </ul>
Agenda 4	<p><b>Conclusive Remarks</b></p> <p>TARURA strongly supports the project and concluded that MoW should visit TARURA Regional Manager office with request for permit letter.</p> <p>MoW and District Manager should conduct physical verification to all locations of road crossing and road reserves intended to be used including the distance.</p>
Agenda 5	<p>The meeting was closed at 11:00hrs. Participants were thanked for their time and inputs provided.</p>



## ▪ STAKEHOLDER CONSULTATION MEETING

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**Project** : Dodoma resilient and sustainable water development and sanitation program.

**Stakeholder** : TANROADS

**Date** : 20/02/2025

**Venue** : TANROADS Regional Office Dodoma

**Time** : 1115hrs

Attendance List Attached

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### **Objective of the Meeting:**

The objective of the meeting was:

- To disclose information about the planned Dodoma resilient and sustainable water and sanitation program from Farkwa Dam, raw water intake, Drinking Water Treatment Plant pumping station storage tank and conveyances water system Bahi, Chamwino, Chemba and Dodoma City Districts in Dodoma region and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the project, so as to guide ESIA preparation.

### **Agenda:**

1. Introduction
2. Presentation of the Project and Environmental and social impact assessment
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b>  All participants introduced themselves one by one by mentioning their names and designations
----------	---

Agenda 2	<p><b>Presentation of the Project</b></p> <p>Consultant; presented the spatial layout and coverage of the project aided by the printed schematic layout According to the design, in some of the project areas water pipelines are designed to pass within TANROADS road reserves. The sections where pipelines are expected to pass within TANROADS road reserves were presented. Further to that, Consultant presented the need and requested permission to use the road reserves and to be guided on the process.</p> <p>It was further presented that MoW needs guidance on two key issues;</p> <ul style="list-style-type: none"> <li>▪ The use of road reserves</li> <li>▪ Road crossings</li> </ul>
Agenda 3	<p><b>Stakeholder Concerns and Issues</b></p> <ul style="list-style-type: none"> <li>▪ They explained that some of their road reserves have the water infrastructures proposed to pass there are not paid compensation for land acquisition example (Mahomanyika grave yard) so if the water infrastructure is affect the property of people, they will need to be compensated.</li> <li>▪ It was advised that the use of proposed Kilimani road they advised to use the Kilimani reserve road is not enough because the road has 40 meters and it is not compensated and there already DUWASA water infrastructure.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ It was advised that there is the specific duct for pipe crossing which is 5 meters.</li> <li>▪ MoW should write an official application letter requesting permission to use TANROADS road reserves and it should elaborate and mention the areas and the distance where the road reserves are requested include sections of the road crossings expected for permission.</li> <li>▪ Once TANROADS receive the application, the physical verification by TANROADS officers will be conducted together with MoW officers to those areas.</li> <li>▪ MoW should use simple methods for road crossings so as to; <ul style="list-style-type: none"> <li>➤ minimize cost for repair of the roads after crossing</li> <li>➤ Ensure road management policy</li> <li>➤ minimize traffic disturbances during construction</li> <li>➤ ensure safety to road users during construction.</li> </ul> </li> <li>▪ <b><u>Question 1:</u></b> How is the project designed to take care of the environment?</li> <li>▪ <b><u>Answer 1:</u></b> Afforestation of the cut down trees to restore the missing carbon footprint. However, project will ensure compliance of NEMC standard.</li> <li>▪ <b><u>Question:</u></b> What are the size of the pipe pass through TANROAD reserve</li> </ul>

	<ul style="list-style-type: none"> <li>▪ <b>Answer:</b> The size of pipe is from 900DN to 1600DN</li> </ul>
Agenda 4	<b>Conclusive Remarks</b>  TANROADS strongly supports the project and concluded that MoW should make an official application for the permit to use road reserves to TANROADS and state clearly the locations of road crossing and road reserves intended to be used including the distance.
Agenda 5	The meeting was closed at 1330hrs. Participants were thanked for their time and inputs provided.

#### ▪ **STAKEHOLDER CONSULTATION MEETING**

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**Project :** Dodoma Resilient and Sustainable Water Development and Sanitation Program.

**Stakeholder :** TFS Dodoma zone

**Date :** 19/02/2025

**Venue :** TFS Mid zone office Dodoma

**Time :** 02:40hrs

Attendance List Attached

**Objective of the Meeting:**

The objective of the meeting was:

- To disclose information about the planned Dodoma resilient and sustainable water and sanitation program from Farkwa Dam, raw water intake, Drinking Water Treatment Plant pumping station storage tank and conveyances water system Bahi, Chamwino, Chemba and Dodoma City Districts in Dodoma region and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the project, so as to guide ESIA preparation.

**Agenda:**

1. Introduction
2. Presentation of the Project and Environmental and social impact assessment
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b>  All participants introduced themselves one by one by mentioning their names and designations
Agenda 2	<b>Presentation of the Project</b>  Consultant; presented the spatial layout and coverage of the project aided by the printed schematic layout According to the design, in some of the project areas water pipelines are designed to pass and installation of Tank within Tanzania Forest Services (Chenene Magharibi) at Bahi District. Further to that, Consultant presented the need and requested permission to use the TFS reserves and to be guided on the process.
Agenda 3	<b>Stakeholder Concerns and Issues</b> <ul style="list-style-type: none"><li>▪ It was advised that MoW should write the latter to request permission of Tank Instillation.</li><li>▪ It was advised that MoW should make an inventory study or survey to know the numbers of the tress that will be affected</li><li>▪ It was advised that MoW should request permission/consent from the relevant authorities for tree removal and to proceed with the project in protected areas.</li><li>▪ It was advised that MoW to pay compensation for trees affected by the project</li><li>▪ It was advised to involving forestry experts during the project implementation exercise .</li></ul>
Agenda 4	<b>Conclusive Remarks</b>  TFS expressed their gratitude for the understanding of the project and the participation that took place and are ready to provide support in the implementation of the project.
Agenda 5	The meeting was closed at 3:30hrs. Participants were thanked for their time and inputs provided.

## ▪ STAKEHOLDER CONSULTATION MEETING

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**Program.** : The Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP).

**Stakeholder** : OCCUPATION SAFETY AND HEALTH SAFETY AUTHORITY (OSHA).

**Date** : 24/02/2025.

**Venue** : OSHA HEAD QUARTER.

**Time** : 10 HRS.

Attendance List Attached

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### **Objective of the Meeting:**

The aim of the meeting was:

- To reveal information about the planned, Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) Project from Farkwa Dam, which aimed to improve and expand the water supply for Dodoma City, Bahi, Chemba, and Chamwino. its distribution networks (Water Treatment Plant(WTP), Reserve Tanks & Supply lines) and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the program to guide ESIA preparation.

### **Agenda:**

1. Introduction
2. Presentation of the Project and Environmental and social Impact assessment (ESIA)
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b>  All participants introduced themselves one by one by mentioning their names and designations
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Agenda 2	<p><b>Presentation of the Project</b></p> <p>CONSULTANT presented the spatial layout and coverage of the project reinforced by a printed schematic layout. According to the design, in some of the project areas water pipelines are designed to pass within the OSHA headquarters office in Tambukareli ward at Salmin mtaa in Dodoma city, where by design indicated that some part of their office fence and security office will be within the pipeline wayleave.</p>
Agenda 3	<p><b>Stakeholder Concerns and Issues</b></p> <ul style="list-style-type: none"> <li>▪ <b>Question 1.</b> Which area of their property is going to be affected by the project?</li> <li>▪ <b>Answer 1.</b> Only part of the fence and security office is within the way leave.</li> <li>▪ <b>Question 2:</b> What are the project timeframe</li> <li>▪ <b>Answer 2:</b> The project implementation was start from 2023 up to be complete on 2027.</li> <li>▪ It was advised that the contractor/consultant consider adjusting the wayleave tonsures to offset the demolished fence in the wayleave.</li> </ul>
	<ul style="list-style-type: none"> <li>▪ Also, they directed to write a letter addressed to GENERAL DIRECTOR, attached with details design draft such as the size of pipeline to as to advice accordingly.</li> <li>▪ To consider relocating and diversion the pipeline to minimize the refunding and rebuilding of the structure.</li> <li>▪ They advise the Contractor adheres to all laws and regulations regarding OSHA at the working place.</li> <li>▪ They insist that to ensures that precautions are taken to avoid damage, safety and health during the construction is taken.</li> <li>▪ Moreover, they advise that during the construction they have to engage all stakeholders at the earliest to have a collective bargain during the execution</li> </ul>
Agenda 4	<p><b>Conclusive Remarks</b></p> <p>OSHA strongly supports the project as it is intended to improve the water capacity of Dodoma city and its Districts</p>
Agenda 5	<p>The meeting was closed at 12:00hrs. Participants were thanked for their time and input provided.</p>

▪ **STAKEHOLDER CONSULTATION MEETING**



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**Program.** : The Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP).

**Stakeholder** : WAMI/RUVU Water Basin

**Date** : 20/02/2025.

**Venue** : Dododa WAMI/RUVU office

**Time** : 10 HRS.

Attendance List Attached

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**Objective of the Meeting:**

The aim of the meeting was:

- To reveal information about the planned, Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) Project from Farkwa Dam, which aimed to improve and expand the water supply for Dodoma City, Bahi, Chemba, and Chamwino. its distribution networks (Water Treatment Plant(WTP), Reserve Tanks & Supply lines) and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the program to guide ESIA preparation.

**Agenda:**

1. Introduction
2. Presentation of the Project and Environmental and social Impact assessment (ESIA)
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b>  All participants introduced themselves one by one by mentioning their names and designations
Agenda 2	<b>Presentation of the Project</b>  CONSULTANT presented the spatial layout and coverage of the project reinforced by a printed schematic layout. According to the design, in some of the project areas water pipelines are designed to pass within the WAMI/RUVU Water Basin at Mayamaya village and Makutupora street where by design indicated that some part of their land to be acquired and tress will be affected.
Agenda 3	<b>Stakeholder Concerns and Issues</b> <ul style="list-style-type: none"> <li>▪ It was advised that MoW should write a letter to request the Technical and environmental person for physical verification and the letter should include drawings with coordinates of the specific area where the pipeline will pass.</li> <li>▪ It was requested that ESIA should provide before permission is granted</li> <li>▪ It was recommended that WAMI/RUVU Water Basin should involve in every stage of project implementation.</li> </ul> <p><b>Question:</b> When exactly the construction work will commence</p> <p><b>Answer:</b> Project construction is expected to start immediately after the land acquisition is completed. It is anticipated to commence in end of this year.</p>
Agenda 4	<b>Conclusive Remarks</b>  WAMI/RUVU Water Basin expressed their gratitude for the understanding of the project and the participation that took place and are ready to provide support in the implementation of the project.
Agenda 5	The meeting was closed at 12:00hrs. Participants were thanked for their time and input provided.

## ▪ **STAKEHOLDER CONSULTATION MEETING**

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**Project :** The Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP).

**Stakeholder :** TANESCO

**Date :** 20/02/2024

**Venue** : TANESCO Regional Office Dodoma

**Time** : 1030hrs

Attendance List Attached

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**Objective of the Meeting:**

The objective of the meeting was:

- To reveal information about the planned, Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) Project from Farkwa Dam, which aimed to improve and expand the water supply for Dodoma City, Bahi, Chemba, and Chamwino. its distribution networks (Water Treatment Plant(WTP), Reserve Tanks & Supply lines) and expected potential impacts (positive and negative).

- To collect stakeholder's perceptions and concerns on the program to guide ESIA preparation.

**Agenda:**

1. Introduction
2. Presentation of the Project
3. Stakeholder Concerns and Issues and Environmental and social impact assessment
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<p><b>Introduction</b></p> <p>All participants introduced themselves one by one by mentioning their names and designations</p>
Agenda 2	<p><b>Presentation of the Project</b></p> <p>Consultant presented the spatial layout and coverage of the project aided by the printed schematic layout. According to the design, in some of the project areas water pipelines are designed to pass within the road reserves where will also interpret the TANESCO infrastructure.</p>
Agenda 3	<p><b>Stakeholder Concerns and Issues</b></p> <ul style="list-style-type: none"> <li>▪ The MoW was advised to submit the letter that describes where exactly the TANESCO infrastructures will be interrupted and crossing with specific coordinates and drawings of the location.</li> <li>▪ It was advised that during construction work, TANESCO experts to be involved in order to assist on their infrastructures.</li> <li>▪ It was advised that in case of any shift of the TANESCO infrastructures, MoW should seek permission.</li> </ul> <p><b>Question:</b></p> <ul style="list-style-type: none"> <li>▪ What are sizes of the piles and their respective pressure</li> </ul> <p><b>Answer:</b></p> <ul style="list-style-type: none"> <li>▪ The size of the pipelines differs from one place to another, where the minimum and maximum are 900DN to 1600DN respectively.</li> </ul>
Agenda 4	<p><b>Conclusive Remarks</b></p> <p>TANESCO strongly supports the project and insist that they should continue to be involve</p>

	during the project implementation especially at their area.
Agenda 5	The meeting was closed at 1100hrs. Participants were thanked for their time and inputs provided.

HALI MASHAURI YA WILAYA YA BAHU

ATISA MTENDAZI

KATA YA LAMATI

S.L.P 2993

BAHI - DODOMA

12/02/2025

MURUGENDI MTENDAZI

HALI MASHAURI YA WILAYA YA BAHU

S.L.P 2993

BAHI - DODOMA

YAH! KUWASILICHA MUHTASARI WA

KIKAO CHA IDARA YA MAJI,

UANCISHWAZI WA MRADI WA MAJI?

Tafadhali luvika na maeleleziwa hapo juu,  
ninaspenda kuwasilisha Muhtasari wa kikao  
cha Uancishwazi wa mradi wa maji kutoka  
Wilaya ya Chemba, Bahi na Dodoma mjini. Kikao  
lichu kimefanyika katika Kata ya Lamati,  
Muhtasari wa kikao nimeambatanisha nyuma  
ya barua hii. Naombe kuwasilisha.

Ahsante.

Kiny. 

NGULUCHILA P. MANGWELA

WEO-LAMATI

**RECEIVED**  
**ATISA MTENDAZI**  
**P.O. BOX 2993**  
**BAHI - DODOMA**

HALMASHAURI YA WILAYA YA BAHI  
MUHTASARI WA KIKAO KATA YA LAMAITI NA WATU  
WA MASI

AGENDA:

1. KUFUNGUUA KIKAO
2. UTAMBULISHO
3. KUTOA UFAFANUZI KUTUSU MRADI WA MASI (Bwana)
4. KUFUNGA KIKAO

AGENDA 1: KUFUNGUUA KIKAO:

M/Kiti alifungua kikao saa 12:00 mchana kwa kuwakaribisha wajumbe wote kwenye kikao licho na kuwakaribisha wageni na wajumbe kwenye kikao na kisha kusoma kikao kimefunguliwa na kuwacambia wajumbe wake hivi na wachangie heji kwenye kikao.

AGENDA 2: UTAMBULISHO:

M/Kiti alianza kwa kuwatambulisha wajumbe wote waliopo kwenye kikao alianza kwa kutambulisha wajumbe wa Lamaiti, Lunkali na Baada Baadalo. Baada ya kujumbe wote kujitambulisha mwenyewe kit: alijika-ribisha Afisi Tanze kuwatambulisha wageni alioambotana nao pamoja na kusoma Machache.



## AGENDA 3: KUTOA UFATANUZI WA MRADI WA MAJI (BWAWA)

Mtaalamu alieleze Mvuli wa Bwawa la maji ambalo linakuwepo FALUKWA na maji hayo yatafuniwa Chembe, Bahi na Dndomo jiji.

Pia mtaalamu alieleze atharizo kijamii na kimaungira ambazo zitapasababisha na mradi wa maji, alitaja baadhi ya hasara za kimaungira pamoja na kijamii, lakini pia Mwezeshaji alieleze kuwa waathirika wote watalipwa fidia kuwa maelere wafukayo pitia.

Mwezeshaji pia alieleze kuwa ujio wa mradi huu utaleti ajira kuwa vijane na watu wote ambao mradi utapitia.

## AGENDA 4: KUFUNGA KIKAO

Mfiki alisimama na kufunga kikao kuwa kuwapongera wajumbe wote kuwa kushiriki katika kikao hicho na kuwaomba wawe wajumbe kuwa wananchi na kuwatatia safari nje.

Muhutari huu umedhibitishwa na:

PAUL M'KONONGO  
M/KITI





BENJAMIN FUNO  
KATIBU

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.**

**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

WARD LAMPILI

DATE 13/12/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	PACLO-S. MKONONGA	M/KU	LAMPILI	ME	0629110818	
2	CHARLES-N. KIPALO	M/KU	LUKALI	ME	0624066398	
3	BHOKE N. MAGANDHA	VED	LAMPILI	KE	0621943920	
4	BENJAMIN-J. FUNDO	M/KU	LAMPILI	ME	0624446454	
5	ABUBAKARI M. KILI	VED	LUKALI	ME	0628703065	
6	SILVA T. MIBULE	VED	BANKOLO	KE	0624643049	
7	MIGIRO B. MUPETILO	M/KU	BANKOLO	ME	0623482579	
8	YUSUA-E. CHIMWOTOLA	M/KU	LAMPILI	ME	06284499213	
9	CHABIELA N. MUDZWA	M/KU	LAMPILI	ME	06264075265	
10	MAYCE M. MUBASHA	M/KU	BANKOLO	ME	0710077939	
11	JELEMAN M. MFININ	M/KU	BANKOLO	ME	0626145084	
12	EMMANUEL N. MUMUTUKO	M/KU	BANKOLO	ME	0629110815	
13	JOHN A. MUKULUFA	M/KU	LAMPILI	ME	062883919	
14	YOSHIMORI CH. MAMBA	M/KU	LUKALI	ME	0628180665	
15	MICHAEL S. MUMUTUKO	M/KU	BANKOLO	KE	0621239613	

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINO AND

DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD LAMALI

DATE 13/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	BAHARI PAULO UDZU	Mw/Kibungo	Lukali	ME	0622463170	Pilali
17	Saveta m machea	Mw/Kijini	Lukali	KE	0628053916	Machea
18	Mohana j. MPOLA	Kibungo	Lukali	ME	0627101960	y. MPOLA
19	NATHANIEL S. MUKUNGA	Mw/Kibungo	BANKOLO	ME	0628949514	Nathan
20	JOSEPH Y TETE	M/Kibungo	LAMALI	ME	0628514416	Joseph
21	PASKALI S. MUKUNGA	M/Kibungo	Lamali	m	0629922799	Paskali
22	IBBY S. MUKUNGA	Kibungo	LAMALI	ME	0624562046	IBBY
23	ANTSI R. LUNGWA	Kibungo	Lamali	ME	0628139552	Antsi
24						
25						
26						
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28						
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# HALMASHAURI YA WILAYA YA BAHI

## MUHTASARI WA KIKAO CHA MRADI WA MAJI WA FARKWA - BAHI 14/2/2025

### AGENDA NA. 1 KUFUNGUA KIKAO

Mwenyekiti wa kikao alisimama na kufunga kikao mnamo saa 10:36 asubuhi

### AGENDA NA. 2 UTAMBULIHO

Mwenyekiti aliwaomba wajumbe waliohudhuria kikao kuimama na kujitambuliha kwa majina yao, vyao na mahali wanapotoka.

### AGENDA NA. 3. KUTAMBULIHA MRADI WA MAJI.

Utaalamu kutoka Wizara ya Maji alisimama na kuanza kutoa utambuliho wa Mradi wa maji wa FARKWA kwa kuelezea kwa ufupi kwamba mradi huo unahusiana na nini. Hata hivyo alitoa faida na Madhara ya mradi huo ambazo wananchi watakumbana nao pindi mradi huo utakopo-tekelezwa kwani utaathiri makazi na hata Mazao pia kutokana na upitishaji wa Mabomba katika maeneo yao.

Aidha, wajumbe walipata nafasi ya kuuliza maswali yanayohusiana na mradi huo wa maji na wataalamu walijibu kulingana na swali lililoulizwa kwa waluhii kabisa.

Mradi huo wa Maji kwa kata ya Zanka utagawa vijiji viwili Zanka na Mayamaya -

- katika vitungo vya Mnaze, Azimio, Lusinda, Nyenene A, Mhitaa, Zamahero, Njiapanda.
- Hata hivyo, mtaalamu alitoa/tanka nda utakaotunika katika utekelezaji wa mradi ambapo ni kuanzia 2023-2027.
  - Pia mradi huu utazalisha maji mengi ambayo yatawafaidiisha wananchi lakini hata ajira kwa wananchi ambao watapitiwa na mradi pia na majirani wa vijiji kwa vya Zanka na Mayamaya.

#### AGENDA NA. 4 - KUFUNGA KIKAO

Kikao kilifungwa na Mwenyekiti mnamo saa 11:50 asubuhi na kuwaruhusu wajumbe kuendelea na ratiba zingine binafsi.



MWENYEKITI

MATATA ISAYA  
AFISA TARAFU - MUNDEMU.



KATIBU

WE

AFISA MENDAJI

KATAYAZAKA

S. A. P 2023 NKA







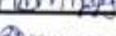








BAB-00000

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD ZANKA DATE 14/05/2025

VENUE: PRIMARY COURT ZANKA.

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	MATATA ISAIA	A/TARBA	MUNDU	ME	0677-969259	
2	ALATUKENGELA MUKALA	A/KATA	ZANKA	KE	0766874929	
3	Yakupia TARIKI	M/KITI KIKU	ZANKA	MG	9675676851	
4	ASSA ENOCK MATONYA	M/JUMBE	MAYAMAYA	ME	0624071909	
5	JOSEPH A. SUPAY	M/JUMBE	ZANKA	ME	0657497270	
6	DAUDI D. MKONONGO	MW/KITONGO	MAYAMAYA	ME	0625844638	
7	ATANASIO MUKALA	M/KITI KIKU	MAYAMAYA	ME	0626178198	
8	PAUL G. MUDUNGA	M/K. ZANKA	MAYAMAYA	ME	0626193492	
9	MUSA M. CHAMBILA	M/K. ZANKA	ZANKA	ME	065453515 0644879202	
10	DAVID G. MATONYA	M/KITONGO	MAYAMAYA	ME	0652877799	
11	ERNEST JONGO	MW/KITONGO	ZANKA	ME	0626038313	
12	EMMANUEL S. MKOMBE	MW/KITONGO	MAYAMAYA	ME	0625820202	
13	JOYCE T. BOMA	M/JUMBE	ZANKA	KE		
14	NILSON MAZIMBA	M/KITI KIKU	MAYAMAYA	ME	0628016155	
15	ANGELIA MARENGA	M/JUMBE	MAYAMAYA	ME	0756914359	

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD ZANKA DATE 14/07/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	IBRAHIMU-BAKARI	KITOJI	SANKA	ME	06289956	IBrahimu
17	ELIA NDINDE MAKACHA	MTUMBE JUMU	ZANKA	MS	0620495875	Elia Makacha
18	RICHARDI MAKACHA	MTUMBE JUMU	ZANKA	ME	0624202994	Richard
19	BWANAHOTA MARIANO	MTUMBE JUMU	ZANKA	ME	0672862674	Bwanahota
20	EMILIOHIS-MUKHACHA	MTUMBE JUMU	ZANKA	ME	0752-861174	Emiliohis
21						
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23						
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25						

WILKIE NALUMU ICA FAKUJAL



MUNHTASARI WA KIKAO MAAJUMU WA SHUGHULI  
ZA UTEKELEZAJI WA MRADI WA BWAWA LA FARKWA  
ZEC ZAREHE 10/02/2025

### AGENDA ZA KIKAO

1. KUFUNGA KIKAO
2. KUTAMBULISHA SHUGHULI ZA MRADI WA BWAWA LA FARKWA NA KUTAMBUA AJHARI ZA MARINSHIRA
3. MENGINEYO
4. KUFUNGA KIKAO

### AGENDA NO.1 KUFUNGA KIKAO

Kikao kilifunguliwa na Mwenyekiti wa kabayu Nelson Thomasi ELIA madumba. Mnamo saa 03:40 Afosini. Kwa kumakumbisha wajumbe wa kikao jambo wa wageni.

Mwenyekiti alikasitiza wajumbe kuwa Makiini mudi kikao kikendeleo iki kumweza kufota ufahamu juu ya kile kilichohitwa na wageni.

### AGENDA NO.2. KUTAMBULISHA SHUGHULI ZA MRADI WA FARKWA (BWAWA)

Mitochu kutoka ofisi za ICE/EGIS alisimama na kutoka macho juu ya kuaga shughuli za macho wa bwawa la farkwa. Ambapo amesema kuwa Mare baada ya kufanya Sayari kwa njia ya za kumazingira, na kuamua sasa kinachotokana kufanyika ni kuendelea kuhararisha jamio juu amezisa faida za ujio wa macho hii itika na jamio wa upatikaji wa maji, njia n.k



Mtashauri ameeleza kuwepo kwa mtekiniki  
ya Moji kwenye baadhi ya vituo, ikiwa ni pamoja  
na Faruka, Babayu na Babayu Chumba

Kwakwa mtashauri ametoa maoni nafasi  
kwa Viongozi kutoka maoni yao juu ya ule  
kikazi wa shughuli za Mada wa Bwana la  
Faruka.

Hata hivyo Viongozi wa Vijiji wameitoa  
maoni yao mawazi, huku wakitaka kuwa  
watokelezi mstari wa ubeki kutika kuhimiza  
sioha jamii kumpokea mada na kutoka uhinika  
na iki kuleta matokeo chevyo ya utekezaji  
wa Mada wa Bwana la Faruka.

### AGENDA No. 3. MEXTINEYO

Kutika Agenda hii. Viongozi wameomba kujiua  
kama kutokana na fidia busurani kwa wawandi  
wotakao guswa na ujio wa mada hii.

Mtashauri kutoka ofisi ya ICE/EGIS, ametoa  
maelezo kwa mara baada ya kukamitisha kote  
zote za maji wa mada hii watafama  
kutika Hukuma hii na ICE/EGIS kwa kuhinika  
na Viongozi wa serikali za Vijiji watawatambua  
wakusika na maeneo yao iki kupewa Elini na  
miche juu ya fidia zao.

Hata hivyo, Miongozi wa Kito ya Babayi  
Wameonyesha kuwa jamii ipo tayari kuamua  
kuteleka tayari kumpokea mwalimu wa Burawa  
la Faruka. Hii ni kutokana na fada ayingi  
ambazo zimeainishwa.

Akanda 164. Kufika kwa Kikao

Mwenyekiti alikuwako Watatani kutoka  
Ofisi za Holmadhuni ya uraya ya chumba na  
Wataalamu kutoka Ofisi za CE/EGIS kwa ujio  
wao. Hata hivyo kwa wakazi yanayotoka  
Elimu jina ya ujio wa madi wa Burawa  
la Faruka. Jambo kinabonyesha ujio wa  
fursa za Kiuchumi kwa wakazi wa mwenye  
ya Babayi na mwenye jirani. Mara baada  
ya kusoma hayo mwenyekiti ameahidi kuwa  
mtaazi wa uhale kutika kuhamisiwa kwa  
kumpokea mwalimu wa Burawa la Faruka  
Mara baada ya kusoma hayo mwenyekiti  
aliofunga kitao amemo saa 4:15 Jioni

*Hando*  
AFISA MTENDAJI  
KATA YA BARAVU

GEORGE PETER MHANDO



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN

DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD. BABAYU (CHEMBA)

DATE 10/02/2025 VEDUE BABAYU LOVED OFFICE

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	Yechke P. Mthanda	UEO	Babayu	ME	0776473728	Mthanda
2	Yachkei J. Toio	M/KITI	Masimba	ME	0628923420	Ch. Toio
3	THOMAS E. MTHANDA	M/KITI	BABAYU	ME	0699244005	Mthanda
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Algebra 1: Kurosawa

Agenda on 2: Unpublished

Agenda ya 3: Ufufua juu ya miradi pamoja na pamoja za kazi zilizokwa zinadhihirishwa

AGENDA NA 4: MMSWALI

Na majibu yake ni kuwa maji ni kinyaga & mawimbi  
kibinadamu na kama mli atakavyo kulimbia kinyaga & kulimbia  
mawimbi kulimbia japo uharoma ilikuwa kwani maji hay. yatawiza.  
Uo kimsingi mawimbi ni kinyaga & mawimbi & kinyaga.

Murungutulu na lili' damba kama itawetake wajengene bak timalo  
jilumana kabito lili' de Atakaleto kama' malomda, mungene lomalle!  
lili' ... ..

Algebra 5: Exercises

Kelompok kami ingin mengucapkan terima kasih kepada semua pihak yang telah membantu dalam proses pembuatan makalah ini.

AFISA MENDAJ  
GATA (A) KPARANTHA  
S. I. P. 2000/000000  
JUNE 12/02 (24/2)

**ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.**  
**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

WARD: M. PAMPILWA

DATE: 13/02/2024

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	BAHATI R CHA	ATARAFI		MC	0629945080	R
2	SOSTHOMES MIMWA	DIWANI	BAHI-MAKULU	ME	0783-830387	Sosthomi
3	ROSEMARY G. KADIRIGE	WEO	M. PAMPILWA	KE	0621-779998	Kadirige
4	THERESIA J KITALE	VEO	MKAKATIKA	KE	0627276032	Theresa
5	FRANCIS J. MUPICK	MJUMBE	MKAKATIKA	ME	0788623491	Francis
6	GEORGE CHILITE	MW/KITANGA	MKAKATIKA	ME	0628728308	Chilite
7	MARIA D. MAMUNGA	MJUMBE	MKAKATIKA	KE	0629790538	M. Mamunga
8	PASCHAL A. MILAMBO	M/KUU KIRANGU	MKAKATIKA	ME	0694958897	P. Milambo
9	HYACINTH M. MAKURU	M/KUU KIRANGU	MKAKATIKA	ME	0693265326	Hyacinth
10	LEMMY J. MUSA	M/KUU	MKAKATIKA	ME	0788626290	Lemmy
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## ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR

THE PROPOSED PROJECT CONSTRUCTION OF RAW WATER INTAKE,

TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE TANKS TO  
CHEMBA, BAHU, CHAMWING AND DODOMA CITY.

### AGENDA ZA KIKAO

1. KUFUNUKUA KIKAO

2. UTAMBULISHO

3. KUTAMBULISHA MRADI WA MAJI WA FARUKA

4. KUFUNUKUA KIKAO

### 1. KUFUNUKUA KIKAO

Mwenyekiti wa kikao (diwani) aliwakaribisha wajumbe wote waliohudhuria na kuwakaribisha wachangia mawazo yao juu ya mradi wa maji wa bwawa la FARUKA. Kikao kilfunguliwa rasmi saa nne na nusu asubuhi.

### 2. UTAMBULISHO,

Mwenyekiti wa kikao aliwakaribisha wajumbe wote waliohudhuria ili kujitambulisha na kufahamiana.

### 3. KUTAMBULISHA MRADI WA BWAWA LA FARUKA.

Mjumbe kutoka wizara ya Maji Mr. Kunami alitambulisha mradi wa maji wa bwawa la FARUKA kwa kuelezea mradi huo na kuelezea juu ya fidia itakayofanyika kwa wazazi kuli maeneo yote yatakayochukuliwa na mradi huo. Pia alieleza kwa watu wote waliokaribu na mradi watanufaiwa moja kwa moja. Lakini pia alieleza mradi utakapopita kutoka kwenye bwawa la Matanki yote yatakayojengwa katika mradi huu. Mjumbe alieleza faida za mradi huu ambazo ni kupata maji safi na salama katika mkoa wa Dodoma,




Pia watu (vijana) watajiipatia ajira mhalimbali na wananchi watajiipatia kipato kupitia biashara mhalimbali. Madhara ambayo yanaweza yakatokana na mradi huu ni kama wananchi kuchukuliwa maeneo yao pia kutokana na shughuli ya mradi huu kutokua na ongezeko la vumbi ambapo madhara hayo yote yatatafutwa ufumbuzi.

Mwenyekiti wa kikao alitua swali kutaka kujua mradi huu katika kata ya Nzuguni utapita ~~wa~~ sehemu gani ambapo atijibiwa kuwa utapita mtaa wa Kitelela, ~~na~~ Mahomanyika na Nzuguni 'A'.

#### 4. KUFUUA KIKAO.

Kikao kilifungwa rasmi na mwenyekiti wa kikao mnamo saa tano na dakika arobaini asubuhi, kwa mwenyekiti kuwashukuru wajumbe wote waliofika na kwa kuchangia mauzo yao.

  
ALOYCE M. LUHAKA  
MWENYEKITI

AFISA MTENDAJI  
KATA YA NZUGUNI  
S.L.P 1249  
0000MA














  
VERONICA T. MHAGAMA  
KATIBU.

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT  
CONSTRUCTION OF RAW WATER INTAKE, TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE  
TANKS TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY.**

**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

WARD..... NZUGUNI

DATE..... 19/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.	ATYCE M. LUNGGA	CHWANA	NZUGUNI B	M	0786-416921	
2.	WILFRED A. CHAMOSA	MJUMBE	NZUGUNI A	M	0754296241	
3.	LEONARD T. DAFUGA	J.H	JAHA	M	065-5877715	
4.	Achley B. NIEMA	MJUMBE	NZUGUNI B	M	0756 222246	
5.	Muhamadu - O. ALY	MJUMBE	NZUGUNI A	M	0762900255	
6.	KHADISA MUSSA	MJUMBE	NZUGUNI	F	0765563671	
7.	ENOCK N. CHAMWISA	MJUMBE	NZUGUNI B	M	0692797823	
8.	ZENA SAIDI BAKARI	MJUMBE	NZUGUNI C	F	0756865162	
9.	UDMAIN J. NDALU	=	NZUGUNI	M	0759680805	
10.	VIOLET C. MASALIWA	L.P.O	NZUGUNI	F	0787667275	
11.	WILFRED S. LUGANO	MJUMBE	NZUGUNI	M	0752233535	
12.	MARGRETH S. NJUMASI	MJUMBE	NZUGUNI	F	0757-201318	
13.	VERONICA T. MHAHAMA	L.O	NZUGUNI	F	0620 196826	
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HAKIMASHAURI YA WLAYA YA CHEMBA

OFISI YA AFISA MTENDAJI KATA YA FARKWA

YAS: MUHTASARI WA KIKAO CHA KUTAMBULISHA  
SHUGHULI YA UPIISHAJI WA BOMBA LA MAGI  
MRADI WA BWAWA LA FARKWA

TAREHE 10/02/2025

AGENDA

1. KUFUNGUUA KIKAO
2. KUTAMBULISHA MRADI
3. KUFUNGA KIKAO

AG. NO 1. KUFUNGUUA KIKAO

A. Utaaraguzi Mwenyekiti wa kikao aliwa karibisha wajumbe na kushukuru kwa heshima aliyopewa kwa sababu ya kutokuwepo kwa mh. Biwani. Huyo yeye aliomba kikao kiende Salama na kuleta rufanisi.

Baada ya kusema hayo alitamba kufungua kikao. Kikao kilitfunguliwa mramo saa 6:00 mchana.

B: utambulisho - kufande wa utambulisho wengine walijitambulisha kwanza na baada wageni walijitambuli kwa majina na nafasi zao za kikongosi.

AG. NO. 2 KUTAMBULISHA MRADI WA BOMBA

Mradi huu umetambulishwa kwa kiongozi wa wa vijiji vya Mombasa, Farkwa na Dorsee kwa wenge witi wa vijiji wataandaji wa vijiji na kaka akiwemo Afisa Tarehe na polisi wata.

Mtaalamu kutoka wizara ya maji amaye shughulika na maswala ya mazingira na eneo ambalo bomba lina pita.



Mtaalamu wa Mazingira alieleza kuwa bomba lita  
pita eneo la kulia kuu mfande wa magharibi kutoke  
Diverge barawa. inafita mbali na eneo la malazi ya  
watu. Kwa sababu ya kupunguza gharama zinazo  
weza kuunganag kuelekika.

Matawizi yata jengwa maeneo ya biotango babayi  
ndio itawekwa kichujio na matawizi mengine yata  
jengwa maeneo ya ukom na Ihumwa.

ATHARI ZA KIMISUNGUATHARI Zingine ni kuwa  
nchi kwa malazi ya baadhi ya kumbe ekolojia  
athari ambazo hazi kuelekika.

Athari zinazo epukika ni kuwepesha mbombu  
kupita km 1.7. kutoke kwenye eneo la malazi  
ya watu kwani fidia ya majengo ni kubwa  
kukika maeneo ya mashamba.

Maswali je kama kati kufidia majengo ni  
gharama kubwa je adoma majini itafitishwa wapi  
Majibu kati hivyo itafitishwa eneo la kufidia ya  
bari bari na bomba inachukua eneo la mita 30.

Wajumbe wameomba Elimu itangulie ndipo hazi  
luta

Wataalamu wame eleza kuwa kinaachafata  
Kitakachofata sasa ni Elimu kwa umme (warichi)  
baadaye itafuta kutambesha maeneo ya watu  
Sehemu ambayo mbombu lita pita.

### AG. NO 3. KUFUNGA KIKAO.

Mwenyekiti alior shukuru wajumbe pamoja  
na wataalamu kwa michango yao. na kuwa  
hakia Serani njema huko waendako na vikao  
vinavyo fuata kati za Makorongo na Babayu.

baada ya kuseme hayo alitoka kufunga  
kikao.

Kimefikia kimefungwa saa 06:57.

KATIBA.

~~Shirika.~~

MWENYEKITI,

MATHIAS KASUGA.

EMILIAN B. MOYA.

WTO FARKWA

AFISA MTENDAJI

KATA YA FARKWA

(W) CHENRA

AFISA MTENDAJI

KATA YA FARKWA

(W) CHENRA



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.**

**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

WARD FARKWA

DATE 10/02/2025

VENUE: FARKWA WARD OFFICE

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	KAMALI F. MUKHISA	AS DEB	CHEMBA	M	0786577580	Kifideli
2	MALIAS KASUGA	MTARAIN	FARKWA	M	0653011561	<del>MTARAIN</del>
3	EMILIAN B. MOTA	WEO	FARKWA	M	0786243132	<del>MTARAIN</del>
4	ADIP MAGINGILA	P/KATA	FARKWA	M	0750253074	<del>MTARAIN</del>
5	ANILIAS N. AMBIA	M/KITI	DONSEE	M	0687765270	AND
6	KHALIFA SAMUHA SONGO	M/KITI	MOMBOSSE	M	0656466179	Mbisa
7	NAIBU HARUNA GAWA	LGII FIELD JUDGE	FARKWA	M	0775996353	Mbisa
8	ALBERT L. SILLA	WEO	FARKWA	M	0757076704	Mbisa
9	GABRIEL M. MADIGE	M/KITI	FARKINA	M	0786747459	Mbisa
10	SAKIFAH M. MUSSA	WEO	DONSEE	F	0759903275	Mbisa
11	TATARI A. GAWA	WEO	MOMBOSSE	M	0673260294	Mbisa
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# KIKAO CHA MRADI WA MASI BWANA

LA FARUKA CHA TAREHE 13/02/2005

## AGENDA.

### 1. KUFUNGA KIKAO

- (1) Utambulisho kwa wachu wote/vibunguzi na wataakimu.

### 2. KUTAMBULISHA MRADI

#### (1) Faile za Mradi

- \* Ajira kwa Vijana
- \* Ajira kwa Mama Atilie
- \* Maji safi ya kunywa

"FISA MTENDA"  
"ATA YA BABAYI"  
"RAHI-DODOMA"  
Hfn. Felister F. Propag.

#### (2) Athari za Mradi

- \* Eneo litakulopita bomba la mradi litachukuliwa moja kwa moja
- \* Makolele mde wa ujenzi
- \* Mwingitiano wa wageni kwenye maeneo yetu mde wa ujenzi

#### (3) Malipo ya Fida kwa maeneo yatakapochukuliwa kwa ajili ya Mradi.

#### (4) Maaleso ya sekemu/maeneo ya mradi itakapopita na ukubwa wa bomba la mradi pamoja na rituo ya matuniki ya Maji.



3. MASWALI NA MASIBU.

MASWALI

- ① Vijana wanapataje Xiji mradi ulapotea?
- ② Mradi umeanza au mmedaija baadhi ya kazi hufuoni kinaachwa kwenye Mradi?
- ③ Ni utaratibu upi unaorahisisha vifanya kulipwa kiasi kinachotakiwa?
- ④ Ni hatua gani inachukuliwa kuwaelimisha wakazi wetu juu ya giza zao kutokana na mwingiliano wa wageni wa mradi?

IDA MTENDA II  
ATA YA BABAYII  
GARI-DODOMA

For  
Felixster F. Propper.

MASIBU





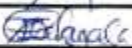


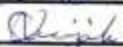






- ① Kupitia mkandarasi kwa shughuli za kila siku za iyenxi
- ② Mwesi wa 6 na wa 7 na kuendelea mkandarasi atakwani amefika na kazi itaanza.

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD BABAYU (BAHI)

DATE 13/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	HUSSEIN A. KAMAU	DUTY	KONGOGU	ME	0625895311	
2	FELTER F. PROPPER	WEO	BABAYU	FE	0625964813	
3	<del>NATATA LISA</del> A/TABASHA MUNDUMU			ME	0671-969757	
4	AMON M. MADEHA	VEO-KONGOGU	KONGOGU	ME	0626-160620	
5	ELITA M. ODAGALA	M/KITI	BABAYU	ME	0621333676	
6	EVEE CHARLES	VEO-BABAYU	BABAYU	KE	0717 814715	
7	SAMUEL S. KULULU	KACHA KFA	BABAYU	ME	0629145811	
8	CHARLES E. LENTIKA	MWU ASANJE	ASANJE	ME	0763589743	
9	DARIN H. MATEWA	MT. KONGOGU	KONGOGU	ME	0687747799	
10	VICTORIA CH. MWAMO	MT. KONGOGU	KONGOGU	KE	0688397054	V. MWAMO
11	GEOFFRAY C. LUNYUNGU	A, MURUGU	BABAYU	ME	0628123302	
12	FRANK L. LUGUO	M/KIT	KONGOGU	ME	0719011129	
13	YUTANA T. NYATERO	VEO-ASANJE	ASANJE	ME	0697635656	
14	KULWA R. HUSEIN	CHW	BABAYU	ME	0779603019	
15	SALYMU HAMUS	CHW	KONGOGU		0678779207	

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD BABATI (BAHI)

DATE 13/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	JOSIA MATHANZA	Mkuliki	Kongogo	ME	0626656123	<i>Josias</i>
17	Aliy. Hengzi	M. Kikigaji	Kongogo	ME	0629472676	<i>Aliy</i>
18	NASIBU A. SAIDI	CDO	BABAYU	ME	0653011262	<i>Nasibu</i>
19	SAMUEL D. NUSU	MW/Kuliki	Kongogo	ME	06266589542	<i>Samuel</i>
20	ANJELINA D. NYOGOLI	CHW	BABAYU	WE	0689765485	<i>Anjelina</i>
21	MCHILINDO H. SANINGI	MW/Kuliki	KONGOGO	ME	0679132349	<i>Mchilindo</i>
22	MOSI MDUTE	MW/Kuliki	KONGOGO	ME	062354078	<i>Mosi</i>
23	LUSCA A. MCHANGA	MW/Kuliki	KONGOGO	ME	0614990207	<i>Lusca</i>
24	E. NESTYCHAMOLA	Mtumba	KONGOGO	ME		<i>E.C</i>
25	JUMA MCHAMBA	MW/Kuliki	BABAYU	ME	0629640646	<i>Juma</i>
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27						
28						
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MUKHTASARI WA KIKAO CHA WENYEVI, WATUMBE  
NA WATENDAJI KATIKA KATA YA CHATWA PAMOJA NA  
WATAAMU WA MRADI WA MAJI WA FALKWA LED 17/02/2025.

## AGENDA ZA KIKAO

01. KUFUNGUA KIKAO

02. UTAMBULISHO

03. UFAFANURI JUU YA MRADI WA MAJI WA FALKWA PAMOJA  
NA ASHARI ZA KIMAZINGIRA NA KIJAMII

04. KUFUNGA KIKAO.

### 01. KUFUNGUA KIKAO.

Mwenyekiti aliwishukumu wajumbe wote waliojitokeza  
na kuwa wanumilivu mpaka kufanikisha kuanza kikao  
hiki, aliwakanibisha kuwaza kushiriki kikamilifu. Baada  
ya kuyasema hayo alikifungua kikao mnamo saa saba na  
dakika uhirini (13:20pm).

### 02. UTAMBULISHO

Mwenyekiti aliwakanibisha wajumbe kujitambulisha ili  
kuwaza kufahamiana na zepzi hilo lilifanyika kikamilifu.

### 03. UFAFANURI JUU YA MRADI WA FALKWA...

Mwenyekiti alimkanibisha mwezechaji kuwaza kutoa ufafanuri  
zi juu ya mradi wanaohusika nao.

Mwezechaji (Ndug HULDA NKYA) alieleza na kufafanua  
kwa kingi juu ya mradi wa maji ambapo mradi huu umepi  
ta katika kata ya Chatwa na maeneo mengine mengi hapa  
Dodoma na mikoa mingine. Mwezechaji (Ndug  
alitoa taarifa ya uangalizi na tahadhari kuwa baadhi ya  
maeneo ya watu yatapitiwa na mradi huu, hivyo watu  
watapatiwa fidha kutokana na maeneo yao kuwa yapo  
katika mpango wa kutokeza mradi huu.



X Mwezeshaji alieleza juy ya Athari chanya na hasi za mradi (faida na hasi) baadhi ya hizo ni kama aliyoye ma

Athari hai ni kama @ kelele wakati wa utkelezaji,

⑥ Watu kuhama/kuhamishwa makazi yao kwa fidia, Pia baadhi ya Athari chanya (faida) @ kuondoa koro ya maji kwa wananchi ⑥ Upatikanaji wa maji safi na salama.

Mwezeshaji huyo (Ndug Hulda NKya) alinukuu wajumbe kuuliza mawali ili awapatie ufafanuzi zaidi. Mjumbe mmoja aliuliza mradi huu wa maji utakamilika muda gani?, Ndipo mwezeshaji aliwaeleza wajumbe kuwa mradi huu utakamilika katika mwaka 2027 kwani mradi huu umepangwa kuanzia 2023 hadi ifikapo 2027.

Mjumbe mwingine aliuliza kuwa je, bomba la maji litakuwa ni kwaajili ya watu kufuata maji pale au?

Ndipo mwezeshaji (Ndug Hulda NKya) aliwaeleza na kufafanua kuwa Bomba la maji litakuwa na mabomba madogo ambayo yatakuwa <sup>ya kusanibazaji maji</sup> <sup>haya</sup> wa kilometa kumi na mbili (12 Km) kutoka katika Bomba kuu kila upande.

Mwenyekiti alimshukuru mwezeshaji kwa uwasilishaji mzuri wa maelekezo na wajumbe waliridhika na ufafanuzi huo.

#### 04. KUFUNGA KIKAO

Mwenyekiti alipotea kumshukuru mtaalamu (Mwezeshaji) na aliwashukuru wajumbe kwa utulivu na usikivu wao na uchangiaji wao wa agenda zote zilizokuwa zimeandaliwa. Baada ya shukrani hizo aliwaeleza wajumbe kuwa mabalozi wazuri kwa jami wawe tayari kuipokea mradi na watu watakoku wa wanautekeleza mradi huo. Baada ya yote hayo mwenyekiti aliahirisha kikao mnamo saa nane na dakika tano (14:25pm) Alast?

SOSPETER MAZENGO

MWENYEKITI

LEIDA, ILEDA  
ELIA TA CHANJA  
JOEL

KATIUBU






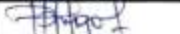

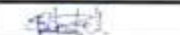


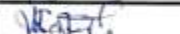

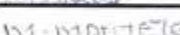
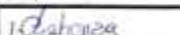

ENVIRONMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND

DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD CHAHWA DATE 17/02/2025

VENUE: CHAHWA LODGE OFFICE

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	MARIAM NDAHANI	MEO	PEMBAMOTO	KE	0755200880	
2	BARAKA KASALI	MEO	MUUNGANO	ME	0765610595	
3	ROSE LUCAS	MJUMBE	PEMBAMOTO	KE	0713582443	
4	JOSEPH M. CHAHUNZA	M/KITI	MUUNGANO	ME	0622608359	
5	KABIRU L. ZAKARI	MJUMBE	PEMBAMOTO	ME	0795137843	
6	HILARI BIRONDO	MEO	MUUNGANO	ME	0462564776	
7	LANCE JOEL	WGO	MUUNGANO	KE	0762162237	
8	SARA CHUWE	FIELD	MUUNGANO	KE	0765870157	
9	JOSEPH NDAHANI	M/KITI	CHICHELE	ME	0672173127	
10	KUTOMA DAVID	M/KITI	PEMBAMOTO	ME	062672641	
11	SCAPETER M. MATWESU	MJUMBE	CHAMWINO	ME	0757814771	
12	KERIMON S. CHITALE	M/KITI	MUUNGANO	ME	0678364490	
13	MURPHI SHAMULEZI	MJUMBE	MUUNGANO	KE	0746522682	
14	ISACK G. CHAHUNZA	MJUMBE	MUUNGANO	ME	0658766874	
15	BARAKA S. KYANGHOTI	MJUMBE	MUUNGANO	ME	0766004653	

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD CHAFIYA : DATE 17/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	Sofia Mitiela	MTJUMBO	MUUNGANO	KC	0697758602	Mitiela
17	Joyce Mtyani	MSIMBE	MUUNGANO	KA	0672156686	Mtyani
18	Mariam Msimbe	NURSE	MUUNGANO	KD	0763257707	Msimbe
19						
20						
21						
22						
23						
24						
25						



# MUHITASARI WA KIKAO CHA DHARULA CHA WDC - KILICHOFANYIK A KATA YA MUMBA MAMMO TAREHE 17/02/2025.

## AGENDA ZA KIKAO

1. KUFUNGUA KIKAO
2. UTAMBULISHO
3. UTAMBUZI WA ATHALI ZA MAZINGIRA
4. KUFUNGA KIKAO.

## AGENDA NA:1, KUFUNGUA KIKAO

M/Kiti wa Kikao, alifunga kikao mnamo saa 10:00 Jioni Alasri kwa kuwapongeza wajumbe wote katika wito huo wa kikao muhimu cha kuleta maendeleo katika kata.

## AGENDA NA:2, UTAMBULISHO

M/Kiti wa Kikao aliwakaribisha wajumbe wote wajitambulisho majins yao na selamu wanakotoka.

## AGENDA NA 3, UTAMBUZI WA ATHALI ZA MAZINGIRA

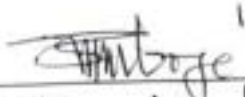
### ZINAZOPITIWA NA MRADI WA BOMBA KUBWA LA MAJI


M/Kiti wa Kikao alimkaribisha mgeni kutoka Madi wa Falkwa ili aweze kueleza lengo mahususi lililobitwa katani. Hapo ndipo Mgeni, Goodluck Mwakimbinga alieleza umuhimu wa bomba kubwa la maji kutoka Buigiri → Ihumbwa → Mtumba hadi Chamwino. Kuwa mradi huo utajikita na mitaa 3 ambayo ni Mtaa wa Mtumba, Mtaa wa Vikonje B na mtaa wa Majengo. Baada ya maelezo hayo pia aliweza kuwa Athari mbalimbali za mradi huo zinazoweza kujitokeza, kuwa mradi umejipanga kutoka fidia kwa wale watakapathiriwa na mradi wa maji.

Baada ya maabizi hayo kutolewa M/kiti wa kikao aliwalasibisha wajumbe wote kuchangia maoni yao. Hapo ndipo hoja ziliibuliwa kuwa upo mtaa wa Vikonje 'A' hautopitwa na mradi kwa sababu upo mbali kilometa 12 hivyo utanufika na mradi baada ya mradi yote 3 kusanbaziwa maji na bomba dogo. Vilevile wajumbe walomba kikao kijacho cha utekelezaji wa mradi Uungozi wa mtaa wa Vikonje 'A' ushiriki ili na wao wawe huru kujua kinachoendelea ndani ya kata ya Mtumba. Baada ya majadala mrefu kufanyika wajumbe wote walikubaliana kwa taratibu za utekelezaji wa mradi ziendelee ili kuleta matokeo chanya kaka kaka.

#### AGENDA NA 4, KUFUNGA KIKAO

M/kiti wa kikao alihitisha kikao koo kuwashukuru wajumbe wote kwa wumilivu wao na usikivu mnamo saa 11:05 jioni na kuwataka safari njema huko waendako.

  
EDWARD N. MABOZE  
MH. DIWANI

  
ALETAS P. BAKINDIKILE  
KATIBU

AFISA MENDAJI KATA  
MTUMBA  
S.L.P 1249  
DODOMA



# MAHUDHURIO YA WAJUMBE WA KAMATI YA MAENDELEO YA KATA-KATA YA MTUMBA

JINA	CHEO/WADIIFA	NA. SIMU	SAMINI
1. EDWARD N. MABOYE	DIWANI	0716956549	<del>Edward</del>
2. ALIAS P. BAKINDIKIJE	WEO	0710918469	<del>AP</del>
3. GOOBLUCK MUKIBINGA	AFUA MAZUNG'IRA	075671017	<del>GOO</del>
4. MELLA E. KATAMBA	SUD	0784743079	<del>ELLA</del>
5. PHILEMON CHIGUGUBE	MTUMBE/MTAMBA	0766418693	<del>Philemon</del>
6. DAVID N. MALIBO	MKA MTUMBA	0756-245554	<del>David</del>
7. FRANCIS J. FELIX	MEO-MTUMBA	0752505552	<del>Francis</del>
8. HURUMA E. Mwigiruzi	CDO-MTUMBA	0769606019	<del>Huruma</del>
9. HASSAN KADOKI	MEO-VIKOJEE	0625659392	<del>Hassan</del>
10. YORAN D. MELETO	MTUMBE MASENGO	0712163065	<del>Yoran</del>
11. GEORGE-L. SATANGU	M/KITI, MAJENGO	8876-059320	<del>George</del>
12. HELENA M. MAKUYA	MTI/MAJENGO	0658-233869	<del>Helena</del>
13. JENIVA NGHAGWA	MTI/MAJENGO	0713692835	<del>Jeniva</del>
14. LUKA MSANJILA	MTI MAJENGO	0768718390	<del>Luka</del>
15. BEATRICE LYATI	MTUMBE MTUMBA	0749991024	<del>Beatrice</del>
16. ERASTO Y. MUGSI	MTUMBE MTAMBA	0717270976	<del>Erasto</del>
17. DAUDI J. CHIBADA	MIKITI-VIKOJEE	0718-049089	<del>Daudi</del>
18. JULI LEMBILE	MTUMBE	0762-923060	<del>Juli</del>
19. JOEL M. MZABILE	MTUMBE	0696-750371	<del>Joel</del>
20. ZENA B. KARUMUNA	" " MTUMBA	0621588875	<del>Zena</del>
21. ELADIO Y. MUGSI	" "	0717270797	<del>Eladio</del>
22. EDWARD J. SEGANGE	" "	0713736440	<del>Edward</del>
23. BEATRICE LYATI	" "	0749991024	<del>Beatrice</del>

AFISA MTEENDAJI KATA  
- MTUMBA  
S.L. 1249  
DODOMA

ENVIROMENTAL AND SOCIAL IMPACT ASSESMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHI, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST  
WARD MTUMBA DATE 17/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	EDWARD N. NABOSE	DIWANI	MTUMBA	M	0716956549	
2	ALETAS P. BAKIADIKILE	WEO	MTUMBA	F	0710918469	
3	HURUMA E. MWIGUNU	CDO	MTUMBA	F	0769606019	
4	MELLA E. KATAMBA	WEO	MAJENGO	F	0784743079	
5	DAVID J. CHIBADA	M/KITI	VIKONJE	M	0718-049087	
6	PHILEMON CHIKUGUBE	M/MIAA	MTUMBA	M	0766418693	
7	DAVID M. MUKOGU	M/MIAA	MTUMBA	M	0756-245554	
8	GEORGE L. SATANTO	M/KITI	MAJENGO	M	0676-059320	
9	YORAM D. MELETO	MSUMBE	MAJENGO	M	0712163065	
10	FRANCIS J. FELIX	WEO	MTUMBA	M	0752505552	
11	ZENA B. KARUMBA	MSUMBE	MTUMBA	F	0621588875	
12	JULI LEMBILE	MSUMBE	VIKONJE	F	0762-923060	
13	JOELY MZABULE	MSUMBE	VIKONJE	M	0696-750591	
14	JANE GACAWA	MSUMBE	MAJENGO	F	0713692835	
15	HELENA MAMUNDA	MSUMBE	MAJENGO	F	0638233869	

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD MUMBA DATE 17/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
16	EDUAFAL - S. SEZAUJE	MUMBE	MUMBA	M	0713736410	
17	ERASTO Y. NGUSI	MUMBE	MUMBA	M	0717210976	
18	HASSAN KADDOKE	ALZO	VIKUNJE B	M	0625691392	
19	JANEETH MIAHI	MUMBE	VIKUNJE B		0782-001571	J. MIAHI
20	AGNES MAKEMBO	MUMBE	VIKUNJE B		0789089598	A. MARGA
21	PAULO LEMBA	MUMBE	VIKUNJE B		0615-337934	P. LEMBA
22	BEATRICE LITATI	-/-	MUMBA	F	0749991024	B. LITATI
23	LILKA MSAJILA	//	MUMBA	M	0768718390	L. MSAJILA
24						
25						



MUHTASARI WA KIKAO CHA KAMATI YA MAENDELEO  
YA KATA (VWX) NA WAJUMBE WA SERIKALI ZA MITAA  
MIEDENGA WEST NA MSANGULALE KOTIARIKI PAMOJA NA  
WADAU WAT MIZADI NA MAJI FARANA CHA TAREHE

### AGENDA

1. KUFUNGA KIKAO.
2. UTAMBULISHO.
3. KUTAMBULISHA MIZADI NA KUPEANA ULEWA JUU YA MIZADI.
4. KUFUNGA KIKAO.

#### 1. AGENDA NO: 1 KUFUNGA KIKAO.

Mwenyekiti alifunga kikao mnamo saa 8:00 mchano  
kwa kushikiliwa wjumuote

#### 2. AGENDA NO 2 : UTAMBULISHO

Mwenyekiti alishikiliwa wjumuote kujitambuliwa  
baada ya mwingine na kumaliza utambuliwa  
kwa wageni waliofika



3. KUJANIBULISHA MRADI NA KUPANA ULLENA JUU YA MRADI

Kitibu aliloro kune alipokea unalekora toka  
Ofisi ya Mkuu wa Wilaya Dodoma njini kuitisha kikao  
cha kamati ya unandolea ya kato na wajumbe wa  
Birokati za mtaa wa unangalala washiriki na yodangaji  
hust ili kupokea wagaji ambao wanakuya kubambulusha  
mradi wa maji. Kitibu alimkabisha ulalamu wa mradi  
ambao aliloro kune Birokati kutokolea mradi wa  
maji baraka na aliloro aia ni viongozi ambao w  
wawakilishi wa wananchi kufika ufahamu wa mradi huo  
na kuagatisa afari ya zidakara letwa wa mradi.  
Wajumbe kwa pamoja waliufika mradi wa kuahidi  
kuna mabalozi wazuri kuahidisha wananchi na kuna  
fahari kushiriki kwa namna ngiza na unyungu.

4. KUFUNGA KIKAO

Mkiki alimashukumu wajumbe kwa unhangu yao na  
kuwataka afari yama akiahidisha kikao.

MUKITI



Dkt. D. Katuma

KATIBU

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT  
CONSTRUCTION OF RAW WATER INTAKE, TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE  
TANKS TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD: Dodoma Mawene.

DATE: 18/02/2025.

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.	Devis - D. Katuru	cto		male	0718065487	
2.	SHARAFU A. MUKWESA	NGUMBE		male	0620264475	
3.	JOHN C. NYAWANYA	M/KITI			0755391381	
4.	MATIAS ENYA NDOJE	NGUMBE			0762943545	
5.	DEVID B. CHALO	NGUMBE		M	0684122038	
6.	FATUMA ABDULAZIZ MIBARA	NGUMBE		F	0768409675	
7.	RASHID A. MDODI	NGUMBE		male	0776801303	
8.	FRANCIS L. MATULIMI	NGUMBE		F	0763437622	
9.	ADELA P. SOLYA	M/KITI	N/MASHARIKI	F	0767287813	
10.	IWEKELEGE KAGEFU	NGO	MWANGAZA	F	0624465704	
11.	SOPHIA ALLY	CDO	D/MAKULU	F	0717-767240	
12.	LUCY MKOMA	NGO	N/MASHARIKI	F	0765915390	
13.	SIBINGH D. MUMBA	NGO	M/MASHARIKI	F	0626280408	
14.	JOSEPH L. MUMBA	NGO	M/MASHARIKI	M	078592090	
15.	ASHA SELEMA THABITI	NGO	M/MASHARIKI	F	0723917190	
16.	SMILY MUSA	M/KITI	N/MASHARIKI	MALE	0766300104	
17.	JOHN A. KOMBA	MW/KITI	MASHARIKI	M	0678601005	
18.	LEAH PETER MSHAMGILA	NGO	M/MASHARIKI	FEMALE	0718-426581	
19.	JANEH U. ERNEST	SWO	D/MAKULU	F	0757632613	
20.	LEONARD H. MIBARA	NGO	D/MAKULU	M	0762529944	
21.						
22.						

HALMASHAURI YA JIJILI LA DODOMA

AFWA MTENDAJI,  
KATA YA KILIMANI,  
S.L. P 1249.  
DODOMA.  
18/02/2025.

MKUREGENZI MTENDAJI,  
HALMASHAURI YA JIJILI.  
S.L. P 1249  
DODOMA.

YAH: KUWASILISHA MUHTASARI WA KIKAO  
CHA WATAALAM IDARA YA MAJI, WATAALAM  
OFISI YA KATA KILIMANI, WENYEVIITI NA  
WAJUMBE WA MITAA WA CHIMYOYA.

Tafadhari husika na mada tajwa hapo juu.  
Naomba kuwasilisha muhtasari wa kikao cha wataalamu idara  
ya maji, wataalamu wa ofisi ya kata, Wenyeviiti wa mitaa yote  
4(mitaa) na wajumbe wa mitaa wa chimyo ya kilechafanyika  
tarehe 18/02/2025 ofisini kwa Afwa Mtendaji Kata ya  
Kilimani.

Naomba kuwasilisha

Klako

~~ELIADA~~  
ELIADA A. MUSA.  
AFWA MTENDAJI KATA  
KATA YA KILIMANI  
DODOMA.



LAUHTASARI WA KIKAO CHA WATOALAM IDARA YA MAJI  
NYATOALAM WA KATA, WEMEVENI WA MITAA NA WAJUMBE  
WA MITAA WA CHINYOYA.

AGENDA

1. Kufungua Kikao
2. Utambulisho
3. Tathmini ya athali za Kimazingira
4. Kufunga Kikao

AGENDA NO 1: Kufungua Kikao.

Kikao kilifunguliwa mnamo saa 1:43 mchana na mwenyekiti wa Kikao kwa kuwashukuru wajumbe kwa mwenzi wao mweni na kuwaomba wawe warikuvi kipindi chote cha Kikao.

AGENDA NO 2: Utambulisho

Katibu wa Kikao aliwaeleza wajumbe kuwa kwa sababu hatujui bari ni vizuri kila mmoja akasimama na kuyitambuliha kwa jina na cheo chake, ili tufahamiane na wajumbe wote walifanya hivyo.

AGENDA NO 3: Kufanya tathmini ya athali za Kimazingira.

Mtaalamu kutoka Idara ya maji alirimama na kuwaeleza wajumbe kuwa mradi wa maji ambao walishakuya kuyitambuliha na kufanya Survey unakaribia kuana, ambapo wao kulicho waleta ni kutoka taarifa kuwa, kwa sasa wanatakuwa kuya kufanya tathmini ya asali za Kimazingira ambazo zinaweza kujitokeza kipindi mradi ukiwa unatekelezwa, ambazo ni:

- > Mradi kuweza kupita kwenye Viwanja vya watu,
- > Mradi Kupita nyumba za Watu.
- > Mmomenyoko wa Urdongo unaoweza kutoka Kipindi warachimba mtaro
- > Vumbi linaloweza kutoka wakati wa utekelezaji, pamoja na mishi unaoitokana na mashine, na kelele za mashine

ambavyo alivieleza kwa lengo la kuwaeleweha lakini kwa wale ambao nyumba zao na Viwanja vyao taratibu za kuhara za kuwalipa zifanyike.

Lakini pia Mtaalamu aliwaeleza faida za mrazi kama Upatikanaji wa maji kwa wingi na Urahisi, na Utunzaji wa Mazingira, Agra kwa Vijana.

### Azimio

> Wajumbe wote walikubaliana na mrazi huo na kuwaambia wataalamu kuwa tathmini itakayofanyika, iwe na majibu ya haraka ili kuto wakwamisha wananchi kuleta maendeleo yao.

### AGENDA NO 4: Kufunga Kikao

Kikao kilifungwa mramo saa 14:35 mchana.



ELIADA A. NWITA.

A-ISA MIENDAJI KATI  
KATA YA KIJAMANI  
DODOMI.

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT  
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TANKS TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD.....KILIMANI

AVENUE.....

KILIMANI WARD OFFICE

DATE.....18/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.	Mheshimiwa Nema Mwalu	DIVANI	KILIMANI	F		
2.	Lucy B. Rutainurwa	M/kiti	Mtaa Pyerere	F	0713 777706	<i>[Signature]</i>
3.	ELIADA A. NGUTA	WED	KILIMANI	F	0713310449	<i>[Signature]</i>
4.	ZAITUNI -H. MWE LONDO	MBO	KILIMANI	F	0675786286	<i>[Signature]</i>
5.	MILCA M. MJIUNGU	VOLUNTEER	KILIMANI	F	0788 347368	<i>[Signature]</i>
6.	JANEI -C. CHIEBA GO	M/kiti	KILIMANI	F	0769 853702	<i>[Signature]</i>
7.	FRANSTINA BENIDERA	M/kiti	CHIMWINO	F	0658110037	<i>[Signature]</i>
8.	LORENES IJIMO	PERTO	KUMANI WARD	F	0784784783	<i>[Signature]</i>
9.	MART CHIMA	SCDO	KILIMANI WARD	F	0754538662	<i>[Signature]</i>
10.	MARGARETH MAGANHA	MED	NYERERE	F	0753 409350	<i>[Signature]</i>
11.	HASSAN R. KASIBIRI	MED	IMAGE	M	0713451704	<i>[Signature]</i>
12.	JOYCE J. NYINZIKI	MJUMBE	CHIMWINO	F	0757610506	<i>[Signature]</i>
13.	SAMUEL S. SAGUMO	MJUMBE	CHIMWINO	M	0693277295	<i>[Signature]</i>
14.	JONASI J. MASANIKI	MJUMBE	CHIMWINO	M	0755-840396	<i>[Signature]</i>
15.	ANDEA PH. ANDREA	MJUMBE	CHIMWINO	M	0755100949	<i>[Signature]</i>
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KUUNTASARI WA KIKAO CHA WAJUMBE WA SERIKALI  
YA Mtaa WA HUMWA NA MIONGOZI WA KATA  
YA HUMWA KIKICHOFANYIKA TARHE 17/02/2025

### AGENDA ZA KIKAO.

1. KUFUNGA KIKAO.
2. KUTAMBULISHA MRADI MKUBWA WA MASI
3. KUFUNGA KIKAO.

#### 1. KUFUNGA KIKAO

Kikao kilifunguliwa na Mwenyekiti Muenzi saa  
9:54 Jioni na Mwenyekiti kwa kuweshukuma wajumbe  
wote waliofika.

#### 2. KUTAMBULISHA MRADI MKUBWA WA MASI KWA WAJUMBE.

Ambapo Mgeni/Mtaa mado alieleza kuwa kuna  
Mradi Mkubwa wa Masi ambao utatekelezwa  
kwa Mwaka 2023-2027. Ambapo Mradi huo  
utaamirika FARUKWA

Pia katika Mradi huu wa Masi kutokana  
na kuwa la kutambuliwa sehemu zote ambapo  
mradi unepita pia kuanza vikao na mikata  
na kwa wachuli wote watacaadhirika  
na sehemu ambazo bamba kubwa la miji  
kilepita.

Pia alieleza fide na Mradi kuwa  
kutokana na ajira kwa vijana na wakaungu  
mama, pia maelezo kwa ujumla kwa wana  
wchi.

Faida yingine ni kuondokana na Magonjwa yanayotababikiwa kwa kukosekana kwa maji safi.

- usafi wa mazingira kwa jumla.

## Athari za Mradi

- i. kelele za mitambo.
- ii. Muingiliano baine ya wageni na wenyaji hivyo ni muhimu kuhamasisha jamii kujitunde.
- iii. Kutowaliwa kwa Maeneo ya wananchi.

Maswali ya wajumbe.

Mjumbe 1: Je ihumwa hakutakuwa na tanki katika Mradi huu?

Akijibiwa kuwa Ihumwa Maeneo ya Gesini wafuweke tenki.

- kuhusu teretibu za fidia je tunaiakiki shia nini kuhusu watu kupata fidia sawa

Akijibiwa kuwa fidia nitatolewa kwa maji bu wa miongozo na alimu itatolewa kwa waliopitiwa na Mradi wote, Na fidia nitatolewa kwa mujibu wa sharia na Miongozi.

Mjumbe 2: Yeye kuo upande wake alisema Mradi amepokea na amapongeza kwa jitihada hizo za serikali hivyo anaomba ufukuzaji wake - ufanyike kama uliyowasilishwa.

Mjumbe pia alichangia mradi huu ukikamika anaomba basi bei ya kuvuta maji

ipungue mchane ipo juu sana kwa rasa.

Mjambe: Mvadi anapokea na anashukuru lakini changamoto iliyopo pia mabomba yaliyopo na ya mude mrefu pia anaomba yafanywe kazi mchane yanapokea. Na kwa upande wake Mvadi anapokea na kuwapongeza sana kwa mvadi huu utakaokuja kutatua kero ya maji kwa Ihumwa.


KUFUNGA KIKAO.

Kikao kilifugwa na Mwenyekiti Mchano saa 10:46 Jioni kwa kuwashukuru wajumbe kwa mawazo yao Mrazini katika kikao.

MWENYEKITI




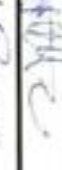



*L. Rubinda*  
Lancek R. MBINBA

KATIBU.

**WISA MIENDA,  
WAZA VA IHUMWA  
- NGOMA**  
  
GODFREY A. NCAZI

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST  
WARD ...LELEKWA... DATE 17/02/2025

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	GODFREY A. NGAZI	VLEO	WILUPWA	ML	0968-580955	
2	MARIM M. PHINDO	MTC	MUYAMBA	KE	0963316057	
3	Harold M. Mwanishi	Mwanishi	MUYAMBA	KE	8616147564	
4	BENEFIT DESSAUSMANA	MUYAMBA	MUYAMBA	ME	0955185306	
5	Lawrence M. Mwanishi	M/Kin. Sui	MUYAMBA	ME	0916-54640	
6	MELILLA S. Mwanishi	M/Kin. Sui	MUYAMBA	KE	0653712216	
7	MSTILATO UCHOLO	MUYAMBA	MUYAMBA	ME	6967916121	
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## AGENDA

1. KUFUNGUUA KIKAO
2. UTAMBULISHO
3. KUTAMBULISHA MRADI WA BOMBA LA MAJI
4. KUFUNGA KIKAO

### 1. KUFUNGUUA KIKAO

Mwenyekiti amefunga kikao mnamo saa 7:30 Mchana, na kuwa karibisha wageni, ambao wamelata haja ya ujenzi wa bomba la maji. Mwenyekiti ametoa rai katika wajumbe kuchangia haja zitakazo washishwa na wataalamu.

### 2. UTAMBULISHO

Mwenyekiti aliwataribisha wajumbe kujitambulisha, na nyazi pa zote walizonazo, wajumbe wote wamejitambulisha.

### 3. KUTAMBULISHA MRADI WA BOMBA LA MAJI

Mtaalamu kutoka injia mshauri aliwasilisha taarifa ya namna jinsi bomba litajengwa, na akainisha athari za kijamii na kimazingira ambazo zitajitokeza katika ujenzi huo. pia alianisha faida ambazo zitapatikana ikiwemo ajira kwa vijana na vijiji vitapata maji kutoka kwenye mradi. Wajumbe waliwasilisha haja ya kubadishwa kwa eneo ambapo bomba linapita, kwani wananchi baadhi walizuliwa kuendelea maeneo yao.

- Maazimio ya Kikao


01. Vijiji katika kata ya Makorongo wamondhia mradi ufa-nyika lakini mikutano ifanyike kwa wananchi.

02. Majibu kwa wananchi walio pia na kuwekwa x kuto tathmini ya awali yapatikane kabla ya kuwinda kwenye vikao/mikutano na wananchi.

#### 4. KAHANGIA KIKAO

Mwonyelihi amefunga kikao mnamo saa 8:40 mchana, kwa  
kuwashukuru wjumbi kwa Kuchangia Maoni ambayo yata-  
Saidia Mwendelezo wa Mada.

PETRO M PAUL  
Mwenyekiti

  
Andrew C. Chulewa.  
KA 1181



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN

DODOMA REGION, TANZANIA.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD: KIPAKOROMBO

DATE: 10/02/2025

VEVUBI WARD OFFICE MPOKONGI

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1	PETRO M. PAUL	DWANI	MAKOROMBO	M	0786455100	<i>[Signature]</i>
2	ANDREW CHILEWA	WEO	MAKOROMBO	M	0718099129	<i>[Signature]</i>
3	HAKISI STEPHAN DANIEL	MUKA	MOKOROMBO	M	0789721855	<i>[Signature]</i>
4	LAURENII WILLIAM KIONANA	MW/KITI	KHUBUNKO	M	06855099552	<i>[Signature]</i>
5	ABDUL SAID MUSAHA PAHA	VEO	KHUBUNKO	M	0781924800	<i>[Signature]</i>
6	KUNABU B. ALI	ICE	KHUBUNKO	M	0734.267878	<i>[Signature]</i>
7	MAZID CHIMPELE	EMO	KHUBUNKO	M	0157280441	<i>[Signature]</i>
8	IDAISA YUSUPH	VEO	MAKOROMBO	M	0688020139	<i>[Signature]</i>
9	Eng. JOHNSON P. LUMBE	PC-CHIEF	MAKOROMBO	M	0787483247	<i>[Signature]</i>
10	JOHN P. MUKOYA	ICE	KHUBUNKO	M	0768929228	<i>[Signature]</i>
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HAKUMASHAURI YA WLATA YA CHEMBA  
TAH: MUKTARABI WA MUKTARABI KUTUMU ELIMU YA MEADI  
KWA WAATHIRIKA KISIICHA FARUKA  
TAREHE 05/03/2025.

## AGENDA

1. KUFUNGBUA MUKTARABI
2. UTAMBULISHO
3. ELIMU YA MEADI KWA WAATHIRIKA
4. KUFUNGBUA MUKTARABI

### 1. TA. 01/2025: KUFUNGBUA MUKTARABI.

Mwenyekiti amefunga mkutano kati ya 4:50 ambapo  
kwa kuuishukuru wakarandhi waliorodheshwa kuuishukuru  
pili na bomba la maji kutoka kiji cha Faruka kwenda  
Doloma mjini, Mwisho amewazomba wakathirika wakibili kuuishukuru  
makini. Elimu itakayishukuru na wakathirika kutoka  
mkazi huu.

### 2. TA. 02/2025: UTAMBULISHO.

Mwenyekiti amewatambulisha wazazi waliokutika mkutano  
ambao ni Dairi wa kati, Mtendaji wa kiji na wazazi wengine  
na kuwakanisha wataalam wakitambuliha kwa uzozi uzozi  
Baada ya wataalam kuitambuliha, mwenyekiti amewatambuliha ili  
wafu elimu kwa wakarandhi kwenye agende inayofuata.

### 3. ELIMU YA MEADI KWA WAATHIRIKA

Ufanyaji - Wataalam wameleza kwa Bomba la maji lililaga  
kiji cha Faruka kutoka kiji cha Mombasa kwenye Doloma  
mjini, Meadi umetambuliwa na Banki ya Mombasa ya AFIB (AFIB).  
- Bomba kubwa la maji litachukua nafasi ya mita 30 kufanikiwa  
- ~~la~~ Mtambo wa kuhiba maji utajenge kiji cha Faruka  
kutokaji cha Mombasa  
- Lengo kubwa la meadi ni kuongeza upatikanaji wa maji Salama  
na uhakika.

Wakarandhi wameleza kwa wataalam kuachia arthi yao ili  
kupata meadi  
- Wakarandhi watafanyaji uhamini kwenye arthi na mizungu (mizungu  
na matao) Salama na uhakika, pia Siku ya uhamini wote na  
utambuliwa na taarifa kamili kwenye doloma  
- Tohamini na fidia itaingitika viwango vya gharama za meadi za  
Salama husika  
- Mwisho wakarandhi wameleza kuhushulika Mijajini ya Mipaka  
mapema ili kuondoa utambuliwa kiji cha Faruka

AG. NA 04: D025/KUFUNGA Mkuu

Mwenyekiti ameshukuru wananchi kwa malithiano yao  
na utulivu wa kipindi chote cha elimu ya mzali kwe  
wathinika Na kuwambia wote wathinika katika zoezi  
zina la kufanikisha mzali wa maji unafika lengi lake.  
Na muiho akafunga mbulao Rambi EA 6:15 mchana

M/KUU

~~M. Madige~~

GABRIEL M. MADIGE

KATIBU

*[Signature]*

Sandra Mwangura

AFISA MTENDAJI  
KINIOCHA MUKWA  
CHENBA



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT  
CONSTRUCTION OF RAW WATER INTAKE, TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE  
TANKS TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY.

STAKEHOLDER CONSULTATION PARTICIPANT LIST

WARD... I FUMBA .....

DATE 19/02/2025 .....

S/N	NAME	POSITION	VILLAGE	GENDER	PHONE	SIGNATURE
1.	Amuau Mwalet Chimwacha	Kibwani	Mwinyi	ME	0758 942409	
2.	JAMAS MULINYAMULI	MILIMBA	MWINDI	ME	0657504334	
3.	VENANCE S MWISIBWA	MILIMBA	UDOM	ME	0753891103	
4.	MASOI DON MWISIBWA	MILIMBA	I FUMBA	ME	0718544492	
5.	DAPHINA AYDID	LEO	I FUMBA	KE	0758331300	
6.	KALISTO M. JEVERIN	LEO YUMBA	I YUMBA	KE	0656889419	
7.	SIA STEPHEN MAKINDI	MEOI	MWINDI	KE	0689200578	
8.	ELIZABETH KIMUNYU	MED	NYFERRE	KE	0742094627	
9.	BERTRIC JOHN NYGAWA	MED	UDOM	KE	0658887880	
10.	RUTH JEBRON JIDYA	MED	IYUMBA	KE	0716993929	
11.	HINAYA KASAMBAAGANYA	CDO	IYUMBA	KE	0763-693375	
12.	MONICA E. MDEMDEM	Mwananchi	IYUMBA	KE	0753765793	
13.	DAVID J. NABWA	Division Office	—	KE	0712635618	
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**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.**





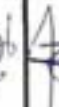
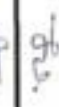





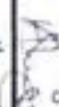



**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

S/N	DATE	NAME	INSTITUTION	POSITION	GENDER	PHONE	SIGNATURE
16	20/02/2025	Eng. Cohen C. Ramadhani	TANROADS	Managing Director	Male	0719 049210	
17	20/02/2025	Eng. BRIGITTON B. MBALIMWE	TANESCO-119	Planning Eng.	Male	0767 103 612	
18	20/02/2025	Eng. Noel E. Mushi	NEERUB	C.O	Male	0713 153 173	
19	20/02/2025	Rafanvu MWINYIMUNE	WLBWA	EMO	Male	0653 235029	
20	24/02/2025	Eng. Njaua Shindali	OSHA	Coordinator	Male	0762 924 98	
21	24/02/2025	Yohanes E. Sango.	TFS-Q	AMPU	Male	0768 174375	
22	24/2/2025	Eng. Etusoa Lendo	TKE-BA	BA	M	0767 083111	
23	25/02/2025	Jane R. Meda	Tanzania	BAHO	K	0713 327320	
24	26/02/2025	RATIBA M. MATHWA	RATHIX	DEED	F	0734 232552	
25	26/02/2025	Eng. Philip P. Sanyo	Export ac	Eng.	M	0672 888148	
26	27/02/2025	ALPUS. AS. MWAHITO	TRATE	Director	M	0713 073997	
27	28/02/2025	Eng. Boudale AK	Wthamasi	COV	F	0715 619843	
28	—/—/—	Eng. James AM	UHAMIASI	Eng	M	0769 249585	
29	—/—/—	Eng. Amos ZABWA	UHAMIASI	Eng	M	0767 879343	
30							



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.**



**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

S/N	DATE	NAME	INSTITUTION	POSITION	GENDER	PHONE	SIGNATURE
1	17/02/2025	Solomon Mbuligi	DC Office - Dom	DAS	Female	0713878384	
2	17/02/2025	John M. Ghesemwa	---	DC	Male	0952409546	
3	19/02/2025	ASF IB. CHANYIKA	FIRE & RESCUE	MANAGER	MALE	0625574194	
4	19/02/2025	NELWA NYELELI	CHAMWINO DC	DAS	FEMALE	0785905799	
5	19/02/2025	GODFREY MNGATHUPE	CHAMWINO DC	ASSTED	M	0713765353	
6	19/02/2025	Shirishama Mwandu	Chamwinu DC	SENIOR	F	0719616152	
7	19/02/2025	MURUTHI E. NYONYI	CHAMWINO DC	D/O	M	0945786611	
8	20/02/2025	Mary Taro	TARURA HD	SUBO	F	0781115098	
9	20/02/2025	Joyce Maguti	TARURA HD	SUBO	F	0717443376	
10	20/02/2025	Agnesa Ishengwa	TARURA HD	SUBO	F	0657-41771	
11	20/02/2025	Ruvie Mwanu	TARURA HD	SO	M	0782718244	
12	20/02/2025	Edgema Anna Mwa	TARURA HD	EOI	M	0764435465	
13	20/02/2025	Dr. Mth Makenye	TARURA HD	HIS	M	0762780784	
14	20/02/2025	Eng. FINEAT M. BIEKO	TANROADS - Dom	Eng	M	0629304760	
15	20/02/2025	Eng. PROSPERUS T. MURUMU	---	SE	F	0767386625	



**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) FOR THE PROPOSED CONSTRUCTION OF FARKWA DAM, WATER TREATMENT PLANT, PUMPING STATION, STORAGE TANKS AND WATER CONVEYANCE SYSTEM TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY IN DODOMA REGION, TANZANIA.**

**STAKEHOLDER CONSULTATION PARTICIPANT LIST**

S/N	DATE	NAME	INSTITUTION	POSITION	GENDER	PHONE	SIGNATURE
31	28/02/2025	Eng. Ngini Kengul	TRC	SENIOR ENGINEER	FEMALE	0754577447	
32	28/02/2025	Eng. Mufani Chelali	TRC	CIVIL ENG.	MALE	0719 449340	
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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT CONSTRUCTION OF RAW  
WATER INTAKE, DRINKING WATER TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE TANKS TO CHEMBA, BAHU, CHAMWINO  
AND DODOMA CITY

PUBLIC CONSULTATION FORM

Name/ Jina: X. James Edison Sanga  
Institution/ Taasisi: Karunia Forest Service Agency (KFS)  
Date/ Tarehe: 24/02/2025

OPINIONS FOR THE PROPOSED PROJECT/ MAONI

- Kufanyika kwa Tathmini (Inventory Study or Survey) ya Hiti itakayofanyika na Mradi.
- Kuomba Kibali (Ridhaa) ya Mamlaka husika kwa ajili ya kuondoa Miti. Am. na kuondoka na Mradi kwenye Maeneo yaliyohitajiwa kisheria.
- Kulipa fidia ya Hiti itayofanyika na Mradi.
- Kughnikubo wataalamu kutwa Mishi wakati wa zoezi la Kutekeleza Mradi.

Signature/ Sahihi: X. James Edison Sanga

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT CONSTRUCTION OF RAW  
WATER INTAKE, DRINKING WATER TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE TANKS TO CHEMBA, BAHU, CHAMWINO  
AND DODOMA CITY

PUBLIC CONSULTATION FORM

Name/ Jina: .....  
Institution/ Taasisi: .....  
Date/ Tarehe: 28/02/2025

OPINIONS FOR THE PROPOSED PROJECT/ MAONI

Provide official letter to TANESCO requesting to install water infrastructure in the TANESCO's Right of Way (ROW) Sizing 400KV (56m) 220KV (35m), 132 (27m), 33 (5m), 11KV (2.5m). Also to check if there is plans for future expansion of transmission lines or underground cabling for electricity supply to customers.

It's advisable to avoid pipes close points in the TANESCO's ROW for safety purposes and ensure pipes are for maintenance free along ROW.

During works execution notify TANESCO to engage personnel to check for necessary intervention during project implementation.

Signature/ Sahihi .....  
Ok

117.

MS. TABLAW  
: IMMIGRATION  
10/1/2025

new for rebuilding the existing drainage system after project completion  
retention of existing trees and natural vegetation on cut down  
for projects  
the diversion of the pipe routes to minimise the project  
costs.



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT CONSTRUCTION OF RAW  
WATER INTAKE, DRINKING WATER TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE TANKS TO CHEMBA, BAHI, CHAMWINDO  
AND DODOMA CITY

PUBLIC CONSULTATION FORM

Name/ Jina: ANAS ZABUWA  
Institution/ Taasisi: IMMIGRATION  
Date/ Tarehe: 28/06/2025

OPINIONS FOR THE PROPOSED PROJECT/ MAONI

- Consideration for rebuilding the existing drainage system after project completion
- Rehabilitation of existing trees and natural vegetation or cut down trees for projects
- Re-looking for diversion of the pipe routes to minimise the project re-building costs.

Signature/ Sahihi: .....

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT CONSTRUCTION OF RAW  
WATER INTAKE, DRINKING WATER TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE TANKS TO CHEMBA, BAHI, CHAMWINO  
AND DODOMA CITY

PUBLIC CONSULTATION FORM

Name/ Jina: ..... Eng. Mgoni Kising'ah .....  
Institution/ Taasisi: ..... TANESCO .....  
Date/ Tarehe: ..... 28/02/2025 .....

OPINIONS FOR THE PROPOSED PROJECT/ MAONI

Provide official letter to TANESCO requesting to install water infrastructure in the TANESCO's Right of way (ROW) sizing 400KV (56m), 220KV (35m), 132(27m), 33(5m), 11KV (2.5m). Also to check if there is plans for future expansion of transmission lines or underground cabling for electricity supply to customers.

It's advisable to avoid pipes check points in the TANESCO's ROW for safety purposes and ensure pipes are free maintenance free along ROW.

During works execution notify TANESCO to engage personnel to check for necessary intervention during project implementation.

Signature/ Sahihi: .....  .....



ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PROJECT CONSTRUCTION OF RAW WATER INTAKE, DRINKING WATER TREATMENT PLANT, TRANSMISSION MAIN AND STORAGE TANKS TO CHEMBA, BAHU, CHAMWINO AND DODOMA CITY

PUBLIC CONSULTATION FORM

Name/ Jina: X. James Edison Sango  
 Institution/ Taasisi: Tanzania Forest Service Agency (TFS)  
 Date/ Tarehe: 24/02/2025

OPINIONS FOR THE PROPOSED PROJECT/ MAONI

- kufanyika kwa Tathmini (Inventory study or survey) ya Miti itakayo athirika na Mradi.
- Kuomba Kibali (Ridhaa) ya Mamlaka husika kwa ajili ya kuondoa Miti. au na kuondolea na Mradi kwenye Maeneo yaliyohitajiwa kisheria.
- kulipa fidia ya Miti itayo athirika na Mradi.
- kushirikisha Wataalamu kutoka Miji wakiati wa zoezi la kutekeleza Mradi.

Signature/ Sahihi: X. James Edison Sango

## STAKEHOLDER CONSULTATION MEETING

<b>Project</b>	: Dodoma resilient and sustainable water development and sanitation program.
<b>Stakeholder</b>	: TANROADS
<b>Date</b>	: 20/02/2025
<b>Venue</b>	: TANROADS Regional Office Dodoma
<b>Time</b>	: 1115hrs
Attendance List Attached	

### Objective of the Meeting:

The objective of the meeting was:

- To disclose information about the planned Dodoma resilient and sustainable water and sanitation program from Farkwa Dam, raw water intake, Drinking Water Treatment Plant pumping station storage tank and conveyances water system Bahi, Chamwino, Chemba and Dodoma City Districts in Dodoma region and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the project, so as to guide ESIA preparation.

### Agenda:

1. Introduction
2. Presentation of the Project and Environmental and social impact assessment
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b> All participants introduced themselves one by one by mentioning their names and designations
Agenda 2	<b>Presentation of the Project</b> Consultant; presented the spatial layout and coverage of the project aided by the printed schematic layout According to the design, in some of the project areas water pipelines are designed to pass within TANROADS road reserves. The sections where pipelines are expected to pass within TANROADS road reserves were presented. Further to that, Consultant presented the need and requested permission to use the road reserves and to be guided on the process. It was further presented that MoW needs guidance on two key issues; <ul style="list-style-type: none"><li>▪ The use of road reserves</li><li>▪ Road crossings</li></ul>
Agenda 3	<b>Stakeholder Concerns and Issues</b> <ul style="list-style-type: none"><li>▪ They explained that some of their road reserves have the water infrastructures proposed to pass there are not paid compensation for land acquisition example (Mahomanyika grave yard) so if the water infrastructure is affect the property</li></ul>

Annexes

	<p>of people, they will need to be compensated.</p> <ul style="list-style-type: none"> <li>▪ It was advised that the use of proposed Kilimani road they advised to use the Kilimani reserve road is not enough because the road has 40 meters and it is not compensated and there already DUWASA water infrastructure.</li> <li>▪ It was advised that there is the specific duct for pipe crossing which is 5 meters.</li> <li>▪ MoW should write an official application letter requesting permission to use TANROADS road reserves and it should elaborate and mention the areas and the distance where the road reserves are requested include sections of the road crossings expected for permission.</li> <li>▪ Once TANROADS receive the application, the physical verification by TANROADS officers will be conducted together with MoW officers to those areas.</li> <li>▪ MoW should use simple methods for road crossings so as to; <ul style="list-style-type: none"> <li>➢ minimize cost for repair of the roads after crossing</li> <li>➢ Ensure road management policy</li> <li>➢ minimize traffic disturbances during construction</li> <li>➢ ensure safety to road users during construction.</li> </ul> </li> <li>▪ <b>Question 1:</b> How is the project designed to take care of the environment?</li> <li>▪ <b>Answer 1:</b> Afforestation of the cut down trees to restore the missing carbon footprint. However, project will ensure compliance of NEMC standard.</li> <li>▪ <b>Question:</b> What are the size of the pipe pass through TANROAD reserve</li> <li>▪ <b>Answer:</b> The size of pipe is from 900DN to 1600DN</li> </ul>
Agenda 4	<p><b>Conclusive Remarks</b></p> <p>TANROADS strongly supports the project and concluded that MoW should make an official application for the permit to use road reserves to TANROADS and state clearly the locations of road crossing and road reserves intended to be used including the distance.</p>
Agenda 5	<p>The meeting was closed at 1330hrs. Participants were thanked for their time and inputs provided.</p>

### STAKEHOLDER CONSULTATION MEETING

<b>Project</b>	: Dodoma Resilient and Sustainable Water Development and Sanitation Program.
<b>Stakeholder</b>	: TFS Dodoma zone
<b>Date</b>	: 19/02/2025
<b>Venue</b>	: TFS Mid zone office Dodoma
<b>Time</b>	: 02:40hrs
Attendance List Attached	

### Objective of the Meeting:

The objective of the meeting was:

- To disclose information about the planned Dodoma resilient and sustainable water and sanitation program from Farkwa Dam, raw water intake, Drinking Water Treatment Plant pumping station storage tank and conveyances water system Bahi, Chamwino, Chemba and Dodoma City Districts in Dodoma region and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the project, so as to guide ESIA preparation.

**Agenda:**

1. Introduction
2. Presentation of the Project and Environmental and social impact assessment
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b> All participants introduced themselves one by one by mentioning their names and designations
Agenda 2	<b>Presentation of the Project</b> Consultant; presented the spatial layout and coverage of the project aided by the printed schematic layout According to the design, in some of the project areas water pipelines are designed to pass and installation of Tank within Tanzania Forest Services (Chenene Magharibi) at Bahi District. Further to that, Consultant presented the need and requested permission to use the TFS reserves and to be guided on the process.
Agenda 3	<b>Stakeholder Concerns and Issues</b> <ul style="list-style-type: none"><li>▪ It was advised that MoW should write the latter to request permission of Tank Installation.</li><li>▪ It was advised that MoW should make an inventory study or survey to know the numbers of the trees that will be affected</li><li>▪ It was advised that MoW should request permission/consent from the relevant authorities for tree removal and to proceed with the project in protected areas.</li><li>▪ It was advised that MoW to pay compensation for trees affected by the project</li><li>▪ It was advised to involving forestry experts during the project implementation exercise .</li></ul>
Agenda 4	<b>Conclusive Remarks</b> TFS expressed their gratitude for the understanding of the project and the participation that took place and are ready to provide support in the implementation of the project.
Agenda 5	The meeting was closed at 3:30hrs. Participants were thanked for their time and inputs provided.

## STAKEHOLDER CONSULTATION MEETING

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<b>Program.</b>	<b>: The Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP).</b>
<b>Stakeholder</b>	<b>: OCCUPATION SAFETY AND HEALTH SAFETY AUTHORITY (OSHA).</b>
<b>Date</b>	<b>: 24/02/2025.</b>
<b>Venue</b>	<b>: OSHA HEAD QUARTER.</b>
<b>Time</b>	<b>: 10 HRS.</b>
Attendance List Attached	

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### Objective of the Meeting:

The aim of the meeting was:

- To reveal information about the planned, Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) Project from Farkwa Dam, which aimed to improve and expand the water supply for Dodoma City, Bahi, Chemba, and Chamwino. its distribution networks (Water Treatment Plant(WTP), Reserve Tanks & Supply lines) and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the program to guide ESIA preparation.

### Agenda:

1. Introduction
2. Presentation of the Project and Environmental and social Impact assessment (ESIA)
3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b> All participants introduced themselves one by one by mentioning their names and designations
Agenda 2	<b>Presentation of the Project</b> CONSULTANT presented the spatial layout and coverage of the project reinforced by a printed schematic layout. According to the design, in some of the project areas water pipelines are designed to pass within the OSHA headquarters office in Tambukareli ward at Salmin mtaa in Dodoma city, where by design indicated that some part of their office fence and security office will be within the pipeline wayleave.
Agenda 3	<b>Stakeholder Concerns and Issues</b> <ul style="list-style-type: none"><li>▪ <b>Question 1.</b> Which area of their property is going to be affected by the project?</li><li>▪ <b>Answer 1.</b> Only part of the fence and security office is within the way leave.</li><li>▪ <b>Question 2:</b> What are the project timeframe</li><li>▪ <b>Answer 2:</b> The project implementation was start from 2023 up to be complete on 2027.</li></ul>

Annexes

	<ul style="list-style-type: none"> <li>▪ It was advised that the contractor/consultant consider adjusting the wayleave tonsures to offset the demolished fence in the wayleave.</li> <li>▪ Also, they directed to write a letter addressed to GENERAL DIRECTOR, attached with details design draft such as the size of pipeline to as to advice accordingly.</li> <li>▪ To consider relocating and diversion the pipeline to minimize the refunding and rebuilding of the structure.</li> <li>▪ They advise the Contractor adheres to all laws and regulations regarding OSHA at the working place.</li> <li>▪ They insist that to ensures that precautions are taken to avoid damage, safety and health during the construction is taken.</li> <li>▪ Moreover, they advise that during the construction they have to engage all stakeholders at the earliest to have a collective bargain during the execution</li> </ul>
Agenda 4	<b>Conclusive Remarks</b> OSHA strongly supports the project as it is intended to improve the water capacity of Dodoma city and its Districts
Agenda 5	The meeting was closed at 12:00hrs. Participants were thanked for their time and input provided.

#### STAKEHOLDER CONSULTATION MEETING

<b>Program.</b>	<b>: The Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP).</b>
<b>Stakeholder</b>	<b>: WAMI/RUVU Water Basin</b>
<b>Date</b>	<b>: 20/02/2025.</b>
<b>Venue</b>	<b>: Dododa WAMI/RUVU office</b>
<b>Time</b>	<b>: 10 HRS.</b>
Attendance List Attached	

#### Objective of the Meeting:

The aim of the meeting was:

- To reveal information about the planned, Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) Project from Farkwa Dam, which aimed to improve and expand the water supply for Dodoma City, Bahi, Chemba, and Chamwino. its distribution networks (Water Treatment Plant(WTP), Reserve Tanks & Supply lines) and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the program to guide ESIA preparation.

#### Agenda:

1. Introduction
2. Presentation of the Project and Environmental and social Impact assessment (ESIA)

Annexes



3. Stakeholder Concerns and Issues
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b> All participants introduced themselves one by one by mentioning their names and designations
Agenda 2	<b>Presentation of the Project</b> CONSULTANT presented the spatial layout and coverage of the project reinforced by a printed schematic layout. According to the design, in some of the project areas water pipelines are designed to pass within the WAMI/RUVU Water Basin at Mayamaya village and Makutupora street where by design indicated that some part of their land to be acquired and tress will be affected.
Agenda 3	<b>Stakeholder Concerns and Issues</b> <ul style="list-style-type: none"> <li>▪ It was advised that MoW should write a letter to request the Technical and environmental person for physical verification and the letter should include drawings with coordinates of the specific area where the pipeline will pass.</li> <li>▪ It was requested that ESIA should provide before permission is granted</li> <li>▪ It was recommended that WAMI/RUVU Water Basin should involve in every stage of project implementation.</li> </ul> <p><b>Question:</b> When exactly the construction work will commence  <b>Answer:</b> Project construction is expected to start immediately after the land acquisition is completed. It is anticipated to commence in end of this year.</p>
Agenda 4	<b>Conclusive Remarks</b> WAMI/RUVU Water Basin expressed their gratitude for the understanding of the project and the participation that took place and are ready to provide support in the implementation of the project.
Agenda 5	The meeting was closed at 12:00hrs. Participants were thanked for their time and input provided.

#### STAKEHOLDER CONSULTATION MEETING

<b>Project</b>	: The Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP).
<b>Stakeholder</b>	: TANESCO
<b>Date</b>	: 20/02/2024
<b>Venue</b>	: TANESCO Regional Office Dodoma
<b>Time</b>	: 1030hrs
Attendance List Attached	

#### Objective of the Meeting:

The objective of the meeting was:

Annexes

- To reveal information about the planned, Dodoma Resilient and Sustainable Water Development and Sanitation Program (DRSWDSP) Project from Farkwa Dam, which aimed to improve and expand the water supply for Dodoma City, Bahi, Chemba, and Chamwino. its distribution networks (Water Treatment Plant(WTP), Reserve Tanks & Supply lines) and expected potential impacts (positive and negative).
- To collect stakeholder's perceptions and concerns on the program to guide ESIA preparation.

#### **Agenda:**

1. Introduction
2. Presentation of the Project
3. Stakeholder Concerns and Issues and Environmental and social impact assessment
4. Conclusive Remarks
5. Closing remarks

Agenda 1	<b>Introduction</b> All participants introduced themselves one by one by mentioning their names and designations
Agenda 2	<b>Presentation of the Project</b> Consultant presented the spatial layout and coverage of the project aided by the printed schematic layout. According to the design, in some of the project areas water pipelines are designed to pass within the road reserves where will also interpret the TANESCO infrastructure.
Agenda 3	<b>Stakeholder Concerns and Issues</b> <ul style="list-style-type: none"> <li>▪ The MoW was advised to submit the letter that describes where exactly the TANESCO infrastructures will be interrupted and crossing with specific coordinates and drawings of the location.</li> <li>▪ It was advised that during construction work, TANESCO experts to be involved in order to assist on their infrastructures.</li> <li>▪ It was advised that in case of any shift of the TANESCO infrastructures, MoW should seek permission.</li> </ul> <p><b>Question:</b></p> <ul style="list-style-type: none"> <li>▪ What are sizes of the piles and their respective pressure</li> </ul> <p><b>Answer:</b></p> <ul style="list-style-type: none"> <li>▪ The size of the pipelines differs from one place to another, where the minimum and maximum are 900DN to 1600DN respectively.</li> </ul>
Agenda 4	<b>Conclusive Remarks</b> TANESCO strongly supports the project and insist that they should continue to be involve during the project implementation especially at their area.
Agenda 5	The meeting was closed at 1100hrs. Participants were thanked for their time and inputs provided.



## **ANNEX 3: CODE OF CONDUCT GUIDANCE**

## Code of Conduct Guidance

As part of the Environmental and Social Management Plans (ESMP) the Contractor on behalf of the Project Executing Agency (PEA) has committed to develop a Code of Conduct. The Code of Conduct will be prepared by the Contractor (referred to as “the Company” in this document) with support from the PEA based on this guidance and will be implemented during construction activities.

The Code of Conduct establishes clear guidelines for daily business conduct and ethical behaviour. Each employee shall be informed of this document and bound by it while employed by the Project (which includes employment by Project partners/sub-contractors). The Code of Conduct shall be publicly disclosed and made available to local communities in appropriate locations.

The text in *italics and grey* highlighted includes instructions for the authors of the Code of Conduct (Project Implementing Agency – PEA/ Contractor).

# Code of Conduct

<Project Name/ Location>

<Author>

<Date/ Version>

## ▪ Table of Contents

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4.	→	HUMAN RIGHTS AND LABOUR PRACTICES	→	3	¶
5.	→	HEALTH AND SAFETY	→	4	¶
6.	→	ENVIRONMENT	→	4	¶
7.	→	FAIR DEALING / SUPPLIER AND CLIENT RELATIONSHIPS	→	4	¶
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9.	→	COMMUNICATION	→	5	¶
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## List of Acronyms and Glossary

...

...

## Introduction, Purpose and Scope

The purpose of the Code of Conduct is to provide guidance to all employees (including those of sub-contractors) on how the Company expects them to behave in the workplace, and how they should conduct themselves with Project stakeholders (employees, customers, suppliers and members of the public). The purpose and scope of the Code of Conduct will outline the Company management commitments, values and core operating principles. The Code shall make reference to other relevant management plans (e.g. Public Health and Safety).

## Responsibilities and Implementation of the Code of Conduct

*Describe how the Company will implement the Code and detail the responsibilities of managers and employees.*

- *Commitment that the Code will be shared with and explained to employees during onboarding and training (i.e. that the Code is not read only once).*
- *Include a requirement for all employees to sign an Acknowledgement Form attached to the Code.*
- *Commitment to promptly communicate changes/updates to the Code.*
- *Commitment to training and continuous improvement.*
- *Include a list of other policies and procedures linked to the Code of Conduct.*

## Violations and Feedback

*Describe how violations of the Code of Conduct and feedback about these violations or the content of the Code will be handled.*

- *Commitment for all personnel to prevent violation of the Code, to identify and raise potential issues before they lead to problems, to seek guidance when necessary and to report circumstances that are in violation of the Code.*
- *Describe feedback mechanisms and encourage employees to raise any concerns or provide feedback. Develop safe and confidential ways to report concerns of misconduct and ensure zero tolerance on retaliation.*
- *Describe the action that will be taken against those who violate the Code. These may include performance or disciplinary consequences including termination of employment, subject to local laws and regulations. Where an action is also in breach of the law, the employee may be subject to prosecution under civil or criminal law. Include a commitment to value the help of employees who identify possible legal or ethical business misconduct. This will include whistleblowing (i.e. the reporting of wrongdoing that is in the public interest, such as a criminal offence, danger posed by a H&S risk, or a miscarriage of justice).*

## Human Rights and Labor Practices

We will protect human rights as defined in the Universal Declaration of Human Rights (UDHR). No person shall be subject to any discrimination in employment, including hiring, compensation, advancement, discipline, termination or retirement, on the basis of gender, race, religion, age, disability, sexual orientation, nationality, political opinion, social group or ethnic origin.

- We will treat all employees and community members with dignity, respect and justice, taking into consideration their different cultural sensitivities.
- We will not permit any form of violence, harassment or abuse at the workplace or local community.
- We will work with public and private security providers to avoid security arrangements that cause or contribute to human rights violations.

## Health and Safety

The Company will provide a clean, safe and healthy work environment, taking measures that are considered reasonable to maximise prevention of occupational risk. Measures will be taken to continuously improve the Health and Safety (H&S) performance. Violence and threatening behavior are not permitted.



All Project partners, consultants, agents, sub-contractors and suppliers, will be required to respect and adhere to the Company's H&S requirements.

*Please include specific rules around H&S practices (e.g. from ESMP), such as:*

- *All of us will commit to our roles and responsibilities to ensure a healthy and safe working environment.*
- *We will report incidents and accidents. These will be investigated and corrective actions will be taken.*
- *...*

## Environment

The Company will undertake any work-related activities in an environmentally sound manner for the benefit of all Project stakeholders and the environment in which the Project operates and provides service. The Company will adhere to any environmental management plans and programs throughout all activities performed. Any environmental management plans will be shared by the Company with its employees.

*Please include a list of key commitments, eg.*

- *We will not undertake informal gathering or harvesting of plants or plant products (such as fruits and nuts) neither from private property nor from public property nor from natural environment (e.g. forests)*
- *We will not cut any wooden plants/trees or parts of wooden plants/trees and not collect any wood, neither from private or public properties nor from natural spaces;*
- *We will not dispose solid and liquid wastes of any kind in unauthorized manner while in transit on company business or while living in Project-provided accommodation of any kind;*
- *We will not deal with artefacts that may be of cultural heritage value.*
- *We will not undertake hunting and killing of wild animals*
- 

## Fair Dealing / Supplier and Client Relationships

The Company will deal responsibly, honestly and fairly with other project stakeholders the customers, suppliers, authorities, competitors and other third parties.

*Please include specific commitments related to:*

- *Bribery and corruption;*
- *Conflicts of interest;*
- *Fair competition;*
- *Confidential information; and*
- *Insider trading.*

The Company will not establish business relationships with companies or individuals that are not in compliance with ethical, H&S, and human rights standards compatible with those adopted by the Company.

## Relations with the Communities neighbouring the Project

The Company will engage, cooperate and maintain good neighbour relations with local communities.

*Please include specific commitments, e.g.:*

- *Prohibition of illegal substances, weapons and firearms;*
- *Prohibition of harassment or abuse (physical or verbal);*
- *Prohibition of nuisance and disturbance in or near communities.*
- *Respecting the diversity of ethnic or cultural minorities and acknowledging their unique and important interests in lands, waters and environment as well as their history and traditions; and*

- *Maintaining appropriate standards of dress and personal hygiene.*

#### Communication

We will communicate with each other in a fair, open, respectful and responsible manner.

This Code of Conduct will be disclosed to all workers at site in the relevant languages. It will also be shared with sub-contractors and partners of the Company for them to distribute in their organizations accordingly.

#### Contact

*Please provide contact details of the person responsible for the implementation of the Code of Conduct.*

.....

**Acknowledgement & Commitment to the Workforce Code of Conduct**

I acknowledge that I have received, read and will comply with the Code of Conduct as it may be amended from time to time. I also acknowledge that I will read and comply with all policies and management plans referenced in this Code, as they may be amended from time to time, to the extent that they apply to my employment activities.

First Name	Last Name	Signed	Date DD/MM/YY	Location	Company	Direct Manager





## ANNEX 4: INCIDENT REPORTING TEMPLATE

## Incident Reporting Template

The Project Executing Agency (PEA) has committed to implement an Environmental and Social Management Plan (ESMP). The PEA will ensure that the ESMP will be adhered to by the Contractor and all subcontractors. This includes the commitment to incident reporting. Incident reporting and investigation enables lessons to be learned and actions to be taken to prevent reoccurrence and reduce the number and severity of future incidents. Comprehensive incident reporting and investigation enables analysis of Environment Health and Safety (EHS) performance in order to identify trends and highlight areas of strong performance and where improvement is required.

Any Major Incident occurring on the Construction site of the Project or caused by the Construction activities shall be reported by the Contractor/ subcontractor to the Project Implementing Agency (PEA) as soon as possible and not later than 24 hours after the incident occurred.

### Definition of Major Incident:

Any social, labour, health and safety, security or environmental incident or accident having or which would reasonably be expected to have a negative impact on the Project. This may include explosions, fires, spills or workplace accidents which result in serious or multiple injury or major pollution. Any Injury of any employee (of Contractor or subcontractors/ suppliers) that causes loss of working time (Loss Time Injury) is considered as a major Incident. Social unrest and violence in or close to the community where the Project is located as well as labour strikes on the Project's construction site are considered as major Incidents.

The text in *italics and grey* highlighted includes instructions for the authors of the Incident Reporting (Project Executing Agency – PEA/ Contractor).

THIS PAGE IS NOT PART OF THE INCIDENT REPORTING TEMPLATE ITSELF.

*The Template for the Incident Reporting is provided below. You may add additional rows and extend the space if needed. You may also attach documents and photos to the Incident Report.*



General Information			
Project Name, Activity, Country			
Name of Project Implementing Agency			
Name of Contractor Company and subcontractors			
Name, position and company of main person(s) involved with/ causing the Incident			
Details about Accident/ Incident			
Date and Time of Incident			
Location of Incident			
Type of Incident	<i>E.g. Fatality, Injury, major oil spill, social unrest, outbreak of violence, labour strikes etc.</i>		
Detailed Description of Incident (attach photos if needed)	<i>Describe in detail what has happened in a chronological manner. Who was involved? Which activities were performed? Under which external circumstances did the incident occur? What was the reason for the Incident? Etc.</i>		
Describe victims and damage	<i>Fatalities (including number deceased and differentiating between employee/ contractor fatalities and members of the public). Number injured (mention hospitalisations/ loss of limb). Number of injured in the community (if any). Loss/ damage to company facilities or operating environment. Environmental damage (e.g. water pollution).</i>		
Describe immediate response	<i>Which immediate activity was taken? E.g. Construction activities interrupted, first aid given, injured person taken to hospital, police informed, task force implemented etc.</i>		
Describe long-term response	<i>Describe long-term activities to prevent this incident to happen again. Describe further investigations if any. Describe how lessons learned will be shared among employees.</i>		
Incident Report Approval			
	Position	Name	Date
Prepared by			
Approved by			



## **ANNEX 5: HEALTH AND SAFETY MANAGEMENT PLAN (HSMP) GUIDANCE**

## **HEALTH AND SAFETY MANAGEMENT PLAN (HSMP)**

### **The Need for HSMP**

The Project will involve construction activities which are likely to create environmental health and safety risk to construction workers, visitors, and adjacent local community members. Thus, during construction phase, the Contractor is required to prepare Health and Safety Management Plan (HSMP) in order to mitigate or minimize health and safety risks associated with the project during construction.

The purpose of this Health and Safety Management Plan (HSMP) is to guide the Contractor to prepare site specific HSMP to manage health and safety issues at workplace and the construction site. The Contractor's HSMP will provide detailed measures to eliminate or minimize health and safety risks to construction workers, visitors, and safeguard the workers' welfare.

### **The Objectives of HSMP**

The overall goal of HSMP is to protect employees, the public, the environment and to comply with applicable laws. The HSMP has two general objectives: prevention of incidents or accidents that might result from abnormal operating conditions on the one hand and reduction of adverse effects that result from normal operating conditions on the other hand.

The Contractor will be required to prepare a project specific HSMP, which details on how the environmental health and safety requirements, will be implemented and managed at the construction site. The Contractor's HSMP will provide details on how the contractor will mitigate construction health and safety impacts/risks and documents the contractor's response to inspection, monitoring, verification, internal auditing and correcting or improving environmental health and safety performance.

Specifically, the objectives of this HSMP are to:

- Provide specific mitigation measures and controls that can be applied on-site to avoid or minimize environmental health and safety risk.
- Describe health and safety management related roles and responsibilities of key personnel in implementing the identified safety measures and corrective actions.
- Outline monitoring regime to check the adequacy of safety measures during construction phase.
- Provide emergency preparedness and response mechanism to during construction phase.

### **Responsibilities**

The responsibilities of key personnel and site construction team are provided in Fig 1 below. The key personnel may include the Project Manager; Site Manager; Health and Safety Manager; Materials Engineer; and Site Foreman.

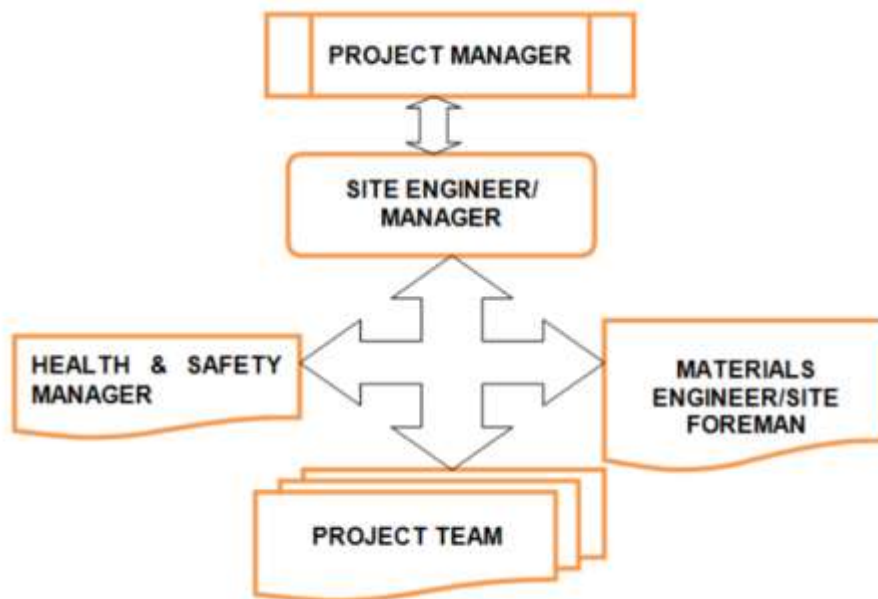


Fig 1: Organizational Structure for the EH&S Management Plan.

### Health and Safety Management System

The health and safety management system entails implementation of safety training and promotion of health and safety awareness, on the job-training, and toolbox talks

### Safety Training and Promotion

The aims of safety training and promotion programs are:

- To update the safety awareness and technical skills of persons in the field of application.
- To orient new employees to working environment.
- To identify and rectify hazards and convey the same to the workforce.
- To prepare the persons to select appropriate safety measure to overcome any unforeseen hazards/emergency situations.

To achieve the above aims, the following types of training shall be conducted at the site level:

**(a) Induction training on health and safety:** New or re-assigned employees shall be given health & safety introduction training pertaining to health & safety management and general safety rules and procedure, site specific health & safety rules and their responsibility and accountability in safety performance. Health & safety introduction shall be given to all categories of personnel at site by health & safety Manager.

**(b) On the Job Training:** Based on the trade, individuals are given on the Job training. These trainings shall be focused on the safe ways of working in a particular trade including hazards involved. This shall be conducted by the foremen / supervisors in collaboration with Safety personnel. Trainer's performance after the programme shall be assessed to evaluate the

effectiveness of the training. All the Employees shall be explained clearly the procedure to be followed after an accident happens.

**(c) Tool Box Talks:** In addition to the formal training mentioned above, toolbox talks shall be conducted every day before the commencement of the job. TBT shall be designed to highlight relevant safety and individual health issue to the workforce to raise their level of awareness. Such meeting shall recall the risk assessment report and defects reported on previous performance. These shall be prepared and presented by the Supervisor/Foremen.

**(d) Safety Promotion:** Safety Promotion schemes shall be developed and implemented at site to promote safety awareness amongst the workforce. Individuals with best safety performance shall be recognized and rewarded. A safety suggestion scheme shall be implemented at site to encourage the workforce to come up with good safety practices and suggestions for improving working condition. The best suggestion shall be selected and the person shall be rewarded.

Health & Safety posters and banners including HIV/AIDS shall be displayed around the worksite to raise the awareness among the workforce. The posters shall be prepared in English and Kiswahili languages, which are commonly being used at site. It is important that all persons involved in the project possess adequate safety knowledge and have a high degree of safety awareness so that they are able to:

- recognize the importance of safety and assign sufficient resources to handle it;
- give proper consideration to safety during planning and design stages to eliminate/reduce safety problems during later stages of the projects;
- take into account potential safety problems during preparation/vetting of method statements;
- avoid performing unsafe acts;
- avoid creating unsafe conditions;
- identify unsafe acts/conditions and ask for rectification

Training and promotion notes, in the form of posters, booklets or similar may be developed and distributed to engineers, leading hands, foreman and others with a responsibility for managing specific work locations or activities. Notes may also be distributed to the broader workforce at daily pre-start meetings or made available in worker gathering facilities.

The Environmental Health and Safety Representative from the Consultant will review and endorse the training program and monitor its implementation. Various training programs will be carried out as detailed in Table 1 below.

Table1: List of Training Programs

S/n	Name of Programme	Resources
1.	Induction training on Health and Safety	Safeguard Expert and OSHA representative
2.	On the job training	Project Manager, Site Engineers/ Managers, and Site Foremen
3.	Tool Box Talks	Project Manager, Safeguard Expert Site Engineers/ Managers, and Site Foremen
4.	Safety Promotion	Project Manager, Safeguard Expert, Site Engineers / Managers, and Site Foremen

### **Safety Inspection and Follow up Actions**

The duty for inspection and follow-up actions is vested to Contractor's Health and Safety Manager in collaboration with Resident Engineer's Environmental Expert. Contractor's Health and Safety Manager shall inspect all project components using a Site Safety Inspection Checklist.

### **Reporting of Accidents, Incidents and Investigation**

Any accident or incident that will occur at site shall be recorded using Incident Reporting Data Sheet and the same information will be communicated to Chief Inspector of Occupational Safety and Health Authority (OSHA) within 24 hours from the time of incident. The Contractor shall notify the Engineer and Employer as soon as reasonably possible after the occurrence of any accident which has resulted in damage or loss of property, disability or loss of human life.

The types of reported accidents include death; major injuries; over 3-day injuries; work related disease; and dangerous occurrences. The majority of construction accidents or serious near misses must be reported to the Health and Safety Manager so they can be recorded officially and acted upon.

All the incidents shall be investigated to find out the root causes and to prevent the recurrences of the same kind. The methodology for the incident investigation shall be "Find out the facts, not the faults".

A monthly safety performance report of the project shall be included in the Monthly Progress Report after the end of each month. Man-hours are defined as man-hours worked by all persons employed on site (including site supervisory staff, managerial staff and subcontractors).

### **Hazard Identification and Risk Assessment**

The purpose of the hazard identification and risk assessment is to identify all potential hazards and associated risks during construction. The contractor shall take relevant measures to control all critical, high and moderate hazards. Low potential hazards will be eliminated.

Prior to the commencement of any activity, detailed hazard identification shall be done by the site supervisory staff with the assistance of Health & Safety Manager and the hazards shall be communicated to the whole team deemed to execute the task.



## Risk assessment

Assessing the risk includes considering things like:

- the severity of any injury or illness that could occur, for example is it a small isolated hazard that could result in a very minor injury or is it a significant hazard that could have wide ranging and severe affects, and
- the likelihood or chance that someone will suffer an illness or injury, for example, consider the number of people exposed to the hazard.

Severity and likelihood are combined to develop Risk Rating Matrix as shown in Table 2 below.

Table 2: Risk Rating Matrix

	Likelihood (L)				
Consequences (C)	Rare	Unlikely	Possible	Very Likely	Certain
Catastrophic	Moderate	Moderate	High	Critical	Critical
Major	Low	Moderate	Moderate	High	Critical
Moderate	Low	Moderate	Moderate	Moderate	High
Minor	Very Low	Low	Moderate	Moderate	Moderate
Insignificant	Very Low	Very Low	Low	Low	Moderate
Consequences (C)	How Severely Could Someone be Hurt?				
Catastrophic	Death or permanent disability				
Major	Serious Injury, hospital treatment required				
Moderate	Injury requiring medical treatment and some lost time				
Minor	Minor injury, first aid only required				
Insignificant	Injury requiring no treatment or first aid				
Likelihood (L)	How Likely Are the Consequences?				
Certain	Expected to occur in most circumstance				
Very Likely	Will probably occur in most circumstance				
Possible	Will occur occasionally				
Unlikely	Could happen some time				
Rare	May happen only in exceptional circumstances				

## Control the risks

The Contractor shall apply the hierarchy of risk control, whereby risks are ranked from the highest level of protection and reliability to the lowest. The first step is to eliminate a hazard, which is the most effective control. If this is not reasonably practicable, then risk will be minimized by substitution, isolation, and engineering controls.

If risk remains, it must be minimized by implementing administrative controls, and by using suitable personal protective equipment. However, administrative control measures and personal protective equipment rely on human behaviour and supervision, and when used on their own, tend to be least effective in minimizing risks. Therefore, review control measures shall be used to be more effective.

## Review control measures

Control measures must be reviewed regularly to make sure they remain effective. Controls can be checked by using the same methods as the initial hazard identification process. Common methods include workplace inspection, consultation, testing and analyzing records

and data. The entire process of risk identification, assessment and control will be done by contractor's Health and Safety Manager in collaboration with entire construction team.

## **Industrial health and hygiene**

### **Potential health hazards**

Potential hazards to health in a construction industry can arise from the use of materials, substances and process if they are not properly controlled. Some risks are caused by the inhalation of dust, toxic fumes, exposure to high temperature, noise, vibration, radioactive substances, etc.

Contractor shall be responsible for maintaining healthy working conditions for all employees and sub-contractors. If it is not possible to remove the cause of harm then suitable and sufficient Personal Protective Equipment (PPE) shall be provided to those who could be affected.

### **Sanitary Facilities**

Adequate sanitary conveniences will be provided in strategic point of the workplace. Such conveniences are lavatories and washbasins. Such facilities shall be kept clean and in good working condition at all times. Domestic wastes shall be collected per environmental management plan and Environmental Guidelines.

### **Food, Drinking Water and Canteen for Workers**

Proper clean and free food (lunch) shall be provided by the Contractor to all construction workers. The food shall be prepared by local food vendors. During Construction, the provision of food shall also be considered during the evening for construction workers if the construction works will continue beyond 18:00 hours.

The Contractor shall provide a proper cooking and eating place (Canteen) for construction workers with a clean drinking water supply and sanitary facility. The Canteen shall be of sufficient size and built up of cement floor with timber and corrugated iron sheets. The Canteen shall have benches and tables and well-ventilated to allow fresh air circulation.

### **Personal Protective Equipment**

Personal Protective Equipment (PPE) will be provided to construction workers. Construction workers will be trained on the proper use of PPE. Individuals shall not be allowed to work if they are not equipped with the appropriate PPE. Visible signboards shall be posted at work area indicating potential hazards and PPE that is required to be worn in that area / for that activity, in both English and Kiswahili languages.

### **First Aid Facilities**

All accidents, which involve personal injury, shall be given medical treatment and reported to the concerned Supervisor. A first aid station shall be set up at the Contractor's Camp area and experienced medical personnel will be in charge of the station.

All injury cases, except minor injuries shall be sent to medical centre for treatment. In case of an accident with personal injury, doctors will attend such person in a prescribed hospital sent by Contractor's proper transport immediately after accident. Adequate number of first Aid boxes shall be available at work sites and offices. First aid boxes shall be frequently inspected and updated.

### **Fire Prevention and Fighting Facilities**

Construction sites, offices and camp premises are very prone to fire hazards because of different kind of combustible material used in all the above places. The components of a fire are fuel (combustible substance), heat and oxygen.

Fire hazard evaluation shall be conducted at all the project sites and camp to identify the fire risk at each location. Depending upon the risk factors, fire prevention and fighting system shall be provided and maintained.

### **Emergency Preparedness and Response Plan**

This section provides general guidance for handling emergency situation on the project site. An emergency is an unplanned event when a project operation loses control, or could lose control, of a situation that may result in risks to human health, property, or the environment, either within the project site or in the local community. Emergencies do not normally include safe work practices for frequent upsets or events that are covered by occupational health and safety. Proper emergency planning and response are important elements of the site.

### **Responsibilities**

- Project Management: The management must be committed to the principle of the safe working and ensure that no person shall ever put himself/herself to risk.
- Site Management: It is the responsibility of the site management to review and ensure awareness of emergency procedure among all the site personnel.
- Employees: It is also the responsibility of all employees to continually familiarize themselves with the assembly procedures for their relevant areas of work.
- General: Any information being relayed about an emergency shall be clear and precise giving the exact location, the nature of the emergency and the seriousness of the emergency and contact numbers and names.

### **Emergency Plan**

All actions will be coordinated with the overall emergency plan operated by the Engineer. The Project Manager has the overall responsibility of coordinating all emergency procedures along with the Health & Safety Manager.

All emergency telephone numbers and contact names shall be posted at strategic points on site. The following subsequent actions listed below shall be taken during emergency:

- Close all plant and equipment, if safe.
- Stop all work and report to the nearest evacuation area / assembly area and await further instructions.

- Stop all equipment and vehicles safely.
- Contact the Health & Safety Manager and relay message to Engineer / Employer
- Ensure all personnel are aware of the emergency.

### **Emergency alarms**

A combination of red warning lights and siren as appropriate will be used in case of:

- Major fire or an Explosion.
- Major transport accident/spill of flammable liquid.
- Major equipment accident.
- Entrapment of personnel

Emergency alarms shall be placed in all areas with gathering of employees including, camp sites, site offices, borrow pits, crushers and at specific workstations such as bridge sites. The alarm shall be capable of being perceived above ambient noise or light levels by all employees in the affected portions of the workplace. Tactile devices may be used to alert those employees who would not otherwise be able to recognize the audible or visual alarm.

### **Assembly Point**

In an emergency all personnel are to proceed in an orderly manner to the nearest safe assembly point. Adequate assembly points shall be provided in all areas where indoor works are done to provide a common meeting point in case of emergency. These assembly point shall all have the signs written “Assembly Point” and be easily accessed.

### **Head Count**

After all the peoples have gathered at assembly point, supervisors shall take a head count and check all employees are at the assembly point. He / she shall also inform the Engineer/Employer of the result of the head count.

The Evacuation Supervisor will use Evacuation Headcount Checklist to identify present and missing people and identify action to be taken

### **Rescue Team**

For missing personnel, a rescue team will be formed in consultation with the Engineer and depending upon the type and status of emergency, all efforts will be made to rescue the missing personnel.

### **Fire Fighting**

In case of a fire, after the alarm has been sounded, all efforts will be made to put off the fire by the proper use of fire extinguishers, fire hydrants, hoses etc. until more professional help come by. Fire extinguishers will be available on site at strategic locations, such workshop/garage; offices; laboratories; and accommodations areas.

Employees shall be aware of the standards for fire safety:

- smoke alarm signals and locations
- how to use fire extinguishers and fire blankets, etc.

- where emergency exits are located
- where fire extinguishers and other fire equipment are located in their work areas
- the purpose of each type of fire extinguisher

### **All Clear**

Normal work will be resumed only after all clear signal is received from the Engineer. As such the supervisors shall make all arrangements to meet the concerned authorities.



## **ANNEX 6: QUANTIFICATION OF CARBON FOOTPRINT**

## QUANTIFICATION OF CARBON FOOTPRINT

### 1. INTAKE -CP2

#### 1.1. PUMPING STATION

*Table A6-1: Construction material for intake pumping station*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	747	208183
2	Cement	t	256	52046
2	Sand	m <sup>3</sup>	221.62	52046
3	Aggregate	t	647.52	104092
4	Steel for reinforcement	t	87	52961
6	Water	L	114891	
				<b>469328</b>

#### 1.2. POWER HOUSE

*Table A6-2: Construction material for intake Power house*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	533	148544
2	Cement	t	5570	37136



3	Sand	m <sup>3</sup>	175	37136
4	Aggregate	t	454	4642
5	Steel for reinforcement	t	72	4383
6	Water	L	2506128	
				<b>231841</b>

### 1.3. WORKSHOP

*Table A6-3: Construction material for Intake workshop*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	21	5853
2	Cement	t	6.5	1463.14
3	Sand	m <sup>3</sup>	251.7	1463.14
4	Aggregate	t	19	2626.28
5	Steel for reinforcement	t	3	1826.26
6	Water	L	2901	<b>13231.82</b>

### 1.4. GUARDHOUSE

*Table A6-4:: Construction material for Guard House*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	5.5	1532.81
2	Cement	t	14.5	383.21
3	Sand	m <sup>3</sup>	3	383.21
4	Aggregate	t	5	766.41
5	Steel for reinforcement	t	1	608.75
6	Water	L	315.61	
				<b>3674.39</b>

## 1.5. PUBLIC TOILET

*Table A6-5: Construction material for Public Toilet*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	13	3623.01
2	Cement	t	2039	905.75
3	Sand	m <sup>3</sup>	181	905.75
4	Aggregate	t	12	1811.5
5	Steel for reinforcement	t	2	1217.49
6	Water	L	2039	
				<b>8463.5</b>

## 2. WTP-CP2

### 2.1. CASCADE AERATOR

*Table A6-6: Construction material for Cascade Aerator*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	248	69116
2	Cement	t	99	17279
3	Sand	m <sup>3</sup>	73	17279
4	Aggregate	t	211	34558
5	Steel for reinforcement	t	34	20698
6	DI pipe	m	138	90185
7	Water	L	44446	
				<b>249115</b>

### 2.2. RAPID GRAVITY SAND FILTERS

*Table A6-7: Construction material for Rapid Gravity Sand Filter*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	2664	742438
1.1	Concrete (C15)	m <sup>3</sup>	203	56575

2	Cement	t	1151	193692
3	Sand	m <sup>3</sup>	1335	201774
4	Aggregates	t	2464	403547
5	Steel for Reinforcement	t	400	243499
6	Water for works	L	1150950	
				<b>1841525</b>

### 2.3. PH ADJUSTMENT CHAMBER

*Table A6-8: Construction material for PH adjustment and Coagulation chamber*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
<b>1</b>	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	272	75805
1.1	Concrete (C15)	m <sup>3</sup>	25	6968
2	Cement	t	119	19947
3	Sand	m <sup>3</sup>	87	20942
4	Aggregates	t	256	41884
5	Steel for Reinforcement	t	41	24959
6	Water for works	L	118523	
				<b>190505</b>

### 2.4. CLARIFLOCCULATOR

*Table A6-9: Construction material for Clariflocculator*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
<b>1</b>	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	422	117609

1.1	Concrete (C15)	m <sup>3</sup>	48	13378
2	Cement	t	186	31314
3	Sand	m <sup>3</sup>	138	33225
4	Aggregates	t	406	66449
5	Steel for Reinforcement	t	64	38960
6	Water for works	L	186064	
				<b>300935</b>

## 2.5. CONTACT TANK

*Table A6-10: Construction material for Contact tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	2509	699241
2	Cement	t	920	174811
3	Sand	m <sup>3</sup>	728	174811
4	Aggregate	t	2125	249621
5	Steel for reinforcement	t	351	213670
6	Water	L	413689	<b>1512154</b>

## 2.6. CLEAR WATER TANK

*Table A6-11: Construction material for Clear Water Tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	6790	1892326
2	Cement	t	2699	473082
3	Sand	m <sup>3</sup>	1979	473082
4	Aggregate	t	5780	946163
5	Steel for reinforcement	t	923	561874
6	Water	L	1214357	
				<b>436527</b>

## 2.7. BLOWER HOUSE

*Table A6-12: Construction material for Blower house*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	30	8361
2	Cement	t	11.15	2091
3	Sand	m <sup>3</sup>	18	2091
4	Aggregate	t	26	4181
5	Steel for reinforcement	t	3.3	2009
6	Water	L	5018	<b>18733</b>

## 2.8. BACKWASH WATER TANK

*Table A6-13: Construction material for Backwash Water Tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	827	230480
1.1	Concrete (C15)	m <sup>3</sup>	97	27033
2	Cement	t	366	61482
3	Sand	m <sup>3</sup>	270	65344
4	Aggregates	t	799	130687
5	Steel for Reinforcement	t	124	75485
6	Water for works	liters	165408	<b>590511</b>

## 2.9. PRIMARY SLUDGE TANK

*Table A6-14: Construction material for Primary Sludge Tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	256	71346
1.2	Concrete (C15)	m <sup>3</sup>	25	6968
2	Cement	t	111	18831
3	Sand	m <sup>3</sup>	81	19827
4	Aggregates	t	240	39654

5	Steel for Reinforcement	t	39	23741
6	Water for works	L	46680	<b>350367</b>

#### 2.10. SECONDARY SLUDGE TANK

*Table A6-15: Construction material for Secondary Sludge Tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	574	159970
1.2	Concrete (C15)	m <sup>3</sup>	51	14213
2	Cement	t	249	41023
3	Sand	m <sup>3</sup>	181	44054
4	Aggregates	t	535	88107
5	Steel for Reinforcement	t	86	52352
6	Water for works	liters	111668	
				<b>399719</b>

#### 2.11. PRIMARY GRAVITY THICKENER

*Table A6-16: Construction material for Primary Sludge Tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
<b>1</b>	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	176	49050
1.1	Concrete (C15)	m <sup>3</sup>	13	3623
2	Cement	t	76	12781
3	Sand	m <sup>3</sup>	57	13298



4	Aggregates	t	166	26596
5	Steel for Reinforcement	t	27	16436
6	Water for works	L	34200	
				<b>121784</b>

## 2.12. SECONDARY GRAVITY THICKENER

*Table A6-17: Construction material for Primary Sludge Tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
<b>1</b>	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	71	19788
1.1	Concrete (C15)	m <sup>3</sup>	2	558
2	Cement	t	30	5027
3	Sand	m <sup>3</sup>	23	5107
4	Aggregates	t	65	10213
5	Steel for Reinforcement	t	11	6697
6	Water for works	L	13455	
				<b>47390</b>

## 2.13. THICKENED SLUDGE TANK

*Table A6-18: Construction Material for Thickened Sludge Tank*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
<b>1</b>	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	42	11706
1.2	Concrete (C15)	m <sup>3</sup>	6	1673
2	Cement	t	19	3166

3	Sand	m <sup>3</sup>	15	3405
4	Aggregates	t	111	6809
5	Steel for Reinforcement	t	7	4262
6	Water for works	liters	8280	

#### 2.14. SLUDGE DRYING BEDS

*Table A6-19: Construction material for Sludge Drying Bed*

	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
<b>1</b>	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	3216	896277
1.2	Concrete (C15)	m <sup>3</sup>	549	153002
2	Cement	t	1462	245927
3	Sand	m <sup>3</sup>	1109	267784
4	Aggregates	t	3271	535568
5	Steel for Reinforcement	t	483	294025
6	Water for works	liters	657608	
				<b>2392583</b>

#### 2.15. DECANTATION LAGOON

*Table A6-20: Construction material for Decantation Lagoon*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
<b>1</b>	<b>Concrete</b>			
1.1	Concrete (C25)	m <sup>3</sup>	127	35395
1.2	Concrete (C15)	m <sup>3</sup>	64	17836
2	Cement	t	68	11397
3	Sand	m <sup>3</sup>	95	13945
4	Aggregates	t	172	27889
5	Steel for Reinforcement	t	20	12175
6	Water for works	L	30488	
				<b>118637</b>

## 2.16. WORKSHOP

*Table A6-21: Construction material for WTP Workshop*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	21	5853
2	Cement	t	7	1464
3	Sand	m <sup>3</sup>	252	1464
4	Aggregate	t	19	2927
5	Steel for reinforcement	t	3	1827
6	Water	L	2901	
				<b>13535</b>

## 2.17. POWERHOUSE

*Table A6-22: Construction material for power house*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	380	105904
2	Cement	t	230	26476
3	Sand	m <sup>3</sup>	427	26476
4	Aggregates	t	357	52951
5	Steel for Reinforcement	t	51	31047
6	Water for works	L	103275	
				<b>242854</b>

## 2.18. CHEMICAL BUILDING

*Table A6-23: Construction material for Chemical Building*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete			
1.1	Concrete (C25)	m <sup>3</sup>	630	175577
1.2	Concrete (C15)	m <sup>3</sup>	74	20623
2	Cement	t	279	46841
3	Sand	m <sup>3</sup>	209	49787
4	Aggregates	t	610	99573
5	Steel for Reinforcement	t	95	59049
6	Water for works	L	125280	
				<b>451450</b>

## 2.19. ADMINISTRATION BUILDING

*Table A6-24: Construction material for Administration Building*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	285	79428
2	Cement	t	559	93912
3	Sand	m <sup>3</sup>	1324	316436
4	Aggregate	t	240	39360
5	Steel for reinforcement	t	33	20089
6	water	L	251398	
				<b>549225</b>

## 2.20. GUARD HOUSE

*Table A6-25: Construction Material for Guard House*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	6	1673
2	Cement	t	15	2520
3	Sand	m <sup>3</sup>	3	717

4	Aggregate	t	5	820
5	Steel for reinforcement	t	1	609
6	Water	L	315.61	
				<b>6339</b>

## 2.21. PUBLIC TOILET

*Table A6-26: Construction material for public toilet*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	13	3624
2	Sand	T	181	43259
3	Aggregates	T	12	1968
4	Steel for Reinforcement	T	2	1218
5	Cement	T	91	15288
6	Water	L	2039	

## 2.22. STAFF HOUSES

*Table A6-27: Construction material for Staff Houses*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	252	70231
2	Sand	m <sup>3</sup>	3345	779455
3	Aggregate	t	240	39360
4	Reinforcements	t	35	21307
5	Cement	t	86	14448
6	Water	L	38550	
				<b>924801</b>

## 2.23. PLANT MANAGER'S HOUSE

*Table A6-28: Construction material for Plant Manager's House*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	59	16443

2	Sand	m <sup>3</sup>	382	91298
3	Aggregate	t	55	9020
4	Steel for reinforcement	t	9	5479
5	Cement	t	387	65016
6	Water	L	8698	
				<b>187256</b>

#### 2.24. BASKETBALL PITCH

*Table A6-29: Construction material for Basketball pitch*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Concrete	m <sup>3</sup>	99	27591
2	Cement	t	25.1	3942
2	Sand	m <sup>3</sup>	31.3	7883
3	Aggregate	t	92	15766
4	Steel for reinforcement	t	8.2	4994
6	water	L	11286	
				<b>131176</b>

#### 3. RAW WATER TRANSMISSION MAIN (CP2)

*Table A6-30: Construction of material for Pipe line*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Ductile Iron Pipes (DN1400 PN10)	m	14277	15,412,646
2	Concrete (C15)	m <sup>3</sup>	369	102838
3	Cement	t	88	14691
4	Sand	m <sup>3</sup>	122	29382



5	Aggregates (20mm size)	t	360	58764
6	Steel for Reinforcement	t	56	3653
8	Water for works	L	39285	
				<b>15621974</b>

*Table A6-31: Works for Transmission Main*

S/N	DESCRIPTION	UNIT	QUANTITY	Total CO <sub>2</sub> e (kg)
1	Excavation Rocky soil	m <sup>3</sup>	8285	252,382
3	Excavation normal soil	m <sup>3</sup>	82195	36,248
2	Backfilling (Soil fill)	m <sup>3</sup>	135719	1,948,778
				<b>2237408</b>

## **ANNEX 7: CHANCE FIND PROCEDURE**

**THE UNITED REPUBLIC OF TANZANIA**



**MINISTRY OF WATER**

**DODOMA RESILIENT AND SUSTAINABLE WATER DEVELOPMENT AND  
SANITATION PROGRAM – II**

**CHANCE FIND PROCEDURE**



in Joint  
Venture with



**May 2025**

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## Introduction

This Chance Find Procedure document is presented as an Annex of the Project's Environmental and Social Impact Assessment (ESIA). The African Development Bank (AfDB) requires projects to have established a provisional Chance Find Procedure before project start.

This document describes the Chance Find Procedure for Dodoma Resilient and Sustainable Water Development and Sanitation Program – Phase 2 (hereafter referred to as “the Project”), outlining the procedures that Ministry of Water (MoW) and/or Contractor will follow should potential cultural heritage discoveries occur during construction of Farkwa Dam, Water Treatment Plant and Water Conveyance System to Dodoma City and District Towns of Chemba, Bahi and Chamwino in Dodoma Region, Tanzania.

The Chance Find Procedure has been developed in alignment with international good practice, including the AfDB Environmental and Social Operational Safeguards (notably OS8), and also complies with Tanzania environmental and social requirements. Details on the Project description, social context and legislative framework can be found in Chapter 3 of project Environmental and Social Impact Assessment (ESIA).

Cultural heritage is defined as resources with which people identify as a reflection and expression of their constantly evolving values, beliefs, knowledge and traditions. Cultural heritage encompasses tangible and intangible heritage, which may be recognised and valued at a local, regional, national or global level, as follows:

- Tangible cultural heritage, which includes movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, graves or other cultural significance. Tangible cultural heritage may be located in urban or rural settings, and may be above or below land or under the water; and
- Intangible cultural heritage, which includes practices, representations, expressions, knowledge, skills—as well as the instruments, objects, artifacts and cultural spaces associated therewith— that communities and groups recognise as part of their cultural heritage, as transmitted from generation to generation and constantly recreated by them in response to their environment, their interaction with nature and their history.

Tangible cultural heritage is the focus of this Chance Find Procedure and in particular, chance finds which are when archaeological, historical, cultural, grave and/or remain material is unexpectedly encountered during project construction or operation.

## Purpose of the Chance Find Procedure

A Chance Find Procedure is a project-specific procedure which is to be followed if previously unknown cultural heritage is encountered during project activities. The Chance Find Procedure sets out how chance finds associated with the project will be managed. The procedure includes a requirement to notify relevant authorities of found objects or sites by cultural heritage experts; to fence off the area of finds or sites to avoid further disturbance;

to conduct an assessment of found objects or sites by cultural heritage experts; to identify and implement actions consistent with the requirements of AfDB OS8 and national law; and to train project personnel and project workers on chance find procedures.

The Chance Find Procedure aims to:

- Protect physical cultural resources from the adverse impacts of physical investment activities and support their preservation;
- Promote the equitable sharing of benefits from the use of Physical Cultural Resources; and
- Raise awareness of all construction workers and management on site regarding the potential for accidental discovery of cultural heritage resources.

This Chance Find Procedure therefore intends to provide MoW and their contractors with an appropriate response in accordance with the relevant national legislation and international good practice. As such, all contracts for civil works will include this Chance Find Procedure.

In order for the Chance Find Procedure to be effective, the site engineer must ensure that all personnel on the proposed development site understand the Chance Find Procedure and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction on cultural heritage resources that might potentially be found on site should be provided by MoW.

### **Scope of the Chance Find Procedure**

This procedure is applicable to all activities conducted by the personnel, including contractors, that have the potential to uncover a heritage item/site. The procedure details the actions to be taken when a previously unidentified and potential heritage item/site is found during construction activities. Procedure outlines the roles and responsibilities and the response times required from both project staff, and any relevant heritage authority.

### **Induction/Training**

All personnel, especially those working on earth movements and excavations, are to be inducted on the identification of potential heritage items/sites and the relevant actions for them with regards to this procedure during the Project induction and regular toolbox talks.

### **Procedure**

Prior to project implementation, the MoW is responsible for siting and designing project activities to avoid significant adverse impacts to cultural heritage. The environmental and social risks and impacts identification process during ESIA stage shall determine whether the proposed location of a project is in areas where cultural heritage is expected to be found during construction phase.

In such cases, in line with AfDB OS8, the MoW will develop provisions for managing chance finds through a chance find procedure which will be applied in the event that cultural heritage is subsequently discovered. The MoW and any contractors will make sure not to

disturb any chance find further until an assessment by competent professionals is made. Where necessary, this will include qualified experts, including the relevant government authorities and civil society organisations, as well as traditional knowledge holders and other people from the area who should be consulted on whether disclosure of information is desirable, since there are situations in which disclosure may compromise the safety or integrity of the cultural heritage in question and/or endanger the sources of information.

### **Procedures for accidental discovery of cultural resources (chance finds)**

This Chance Finds Procedure covers the actions to be taken from the discovering of a heritage site or item to its investigation and assessment by a professional archaeologist or other appropriately qualified person to its rescue or salvage.

If any person discovers a physical cultural resource, such as (but not limited to) archaeological sites, historical sites, remains and objects, or a cemetery and/or individual graves during excavation or construction, the following steps shall be taken:

1. Stop all works in the vicinity of the find, until a solution is found for the preservation of these artefacts, or advice from the relevant authorities is obtained;
2. Immediately notify a foreman. The foreman will then notify the Construction Manager/Site Engineer and the Environment Officer/Environmental & Social Officer;
3. Record details in Incident Report and take photos of the find;
4. Delineate the discovered site or area; secure the site to prevent any damage or loss of removable objects and provide a 25-meter buffer zone around all sides of the find. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities take over;
5. Forbid any removal of the objects by the workers or other parties;
6. Notify the responsible local authorities or Department of Antiquities immediately (within 24 hours or less);
7. Responsible local authorities would oversee protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the local authorities. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; these include the aesthetic, historic, scientific or research, social, and economic values;
8. Preliminary evaluation of the findings by archaeologists. The archaeologist must make a rapid assessment of the site or find to determine its importance. Based on this assessment the appropriate strategy can be implemented. The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage such as aesthetic, historic, scientific or research, social and economic values of the find;



9. Sites of minor significance (such as isolated or unclear features, and isolated finds) should be recorded immediately by the archaeologist, thus causing a minimum disruption to the work schedule of the Contractor. The results of all archaeological work must be reported to the local authority once completed;
10. The onsite archaeologist provides the photos and other information as relevant for identification and assessment of the significance of heritage items;
11. The local authority or Department of Antiquities must investigate the fact within 2 weeks from the date of notification and provide response in writing;
12. Decisions on how to handle the finding shall be taken by the responsible authorities. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;
13. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by relevant local authorities;
14. The mitigation measures could include the change of proposed Project design/ layout, protection, conservation, restoration, and/or preservation of the sites and/or objects;
15. Construction works could resume only after permission is granted from the responsible authorities; and
16. In case no response received within the 2 weeks period mentioned above, this is considered as authorisation to proceed with suspended construction works.

One of the main requirements of the procedure is record keeping. All finds must be registered. Photolog, copies of communication with decision making authorities, conclusions and recommendations/guidance, implementation reports kept.

In addition, the MoW is obliged to declare the chance find discovery at the earliest possible date to the AfDB.

## **Management Options for Archaeological Site**

### **Site Avoidance**

If the boundaries of the site have been delineated attempt must be made to redesign the proposed development to avoid the site. (The fastest and most cost-effective management option)

## **Mitigation**

If it is not feasible to avoid the site through redesign, it will be necessary to sample it using data collection program prior to its loss. This could include surface collection and/or excavation. (The most expensive and time-consuming management option.)

## **Site Protection**

It may be possible to protect the site through the installation of barriers during the time of the development and/or possibly for a longer term. This could include the erection of high visibility fencing around the site or covering the site area with a geotextile and then capping it with fill. The exact prescription would be site- specific.

## **Management of Replicable and Non-replicable Heritage**

Different approaches for the finds apply to replicable and non-replicable heritage.

### **Replicable Heritage**

Where tangible cultural heritage that is replicable<sup>1</sup> and not critical is encountered, mitigation measures will be applied.

The mitigation hierarchy is as follows:

- Avoidance;
- Minimization of adverse impacts and implementation of restoration measures, in situ;
- Restoration of the functionality of the cultural heritage, in a different location;
- Permanent removal of historical and archaeological artefacts and structures;
- Compensation of loss - where minimization of adverse impacts and restoration not feasible.

### **Non-replicable Heritage**

Most cultural heritage is best protected by in situ preservation, since removal is likely to result in irreparable damage or even destruction of the cultural heritage.

Non-replicable cultural heritage<sup>2</sup> must not be removed unless all of the following conditions are met:

- There are no technically or financially feasible alternatives to removal;

---

<sup>1</sup> Replicable cultural heritage is defined as tangible forms of cultural heritage that can themselves be moved to another location or that can be replaced by a similar structure or natural features to which the cultural values can be transferred by appropriate measures. Archaeological or historical sites may be considered replicable where the particular eras and cultural values they represent are well represented by other sites and/or structures

<sup>2</sup> Nonreplicable cultural heritage may relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the (i) cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site. Examples of non-replicable cultural heritage may include an ancient city or temple, or a site unique in the period that it represents.

- The overall benefits of the project conclusively outweigh the anticipated cultural heritage loss from removal; and

Any removal of cultural heritage must be conducted using the best available technique advised by relevant authority and supervised by archaeologist.

### **Human Remains Management Options**

The handling of human remains believed to be archaeological in nature requires communication according to the same procedure described above.

There are two possible courses of action:

#### **Avoid**

The development project is redesigned to completely avoid the found remains. An assessment should be made as to whether the remains may be affected by residual or accumulative impacts associated with the development, and properly addressed by a comprehensive management plan.

#### **Exhume**

Exhumation of the remains in a manner considered appropriate by the Graves (Removal) Act. This will involve the predetermination of a site suitable for the reburial of the remains. Certain ceremonies or procedures may need to be followed before development activities can recommence in the area of the discovery.

### **EMERGENCY CONTACTS**

Permanent Secretary  
Ministry of Water,  
Government City,  
Mtumba, P.O. Box 456, Dodoma,  
Tel: +255 26 2322602, Email: ps@maji.go.tz

## ANNEX: CHANCE FINDS REPORT FORM

### CHANCE FINDS REPORT FORM

1. Initial Detail  
e.g. grave,  
artefact,  
sacred site

Report Reference Report revision no. Number:	
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Location of Find:  Work activity:	Date of Find:  Contractor:	Person who identified find:
---	----------------------------------	-----------------------------

GPS Coordinates		X:	Y:
Multiple coordinates in case of a polygon: 1.			
Was work stopped in the immediate vicinity of the find?		<input type="checkbox"/> Yes	
		<input type="checkbox"/> No	
Was an archaeologist contacted?		<input type="checkbox"/> Yes	
		<input type="checkbox"/> No	
If yes, state the name of the reporting archaeologist?			
2.			
3.			
4.			

Description of initial find:

*Insert at least one Jpeg photo as example of cultural heritage site / find*

*Photo reference numbers:*

Statement of Significance (scientific, spiritual, historic, aesthetic and emotive):

#### Importance of Chance Find

	Importance	Definition
<input type="checkbox"/>	Low Importance	Materials are found on the surface or in disturbed soil (i.e., no evident stratification); <b>and</b> Material is common in the region (and may have already been characterized by a previous survey); <b>and</b> The variety of artefacts is limited and the number of artefacts is small.
<input type="checkbox"/>	Medium Importance	Materials are found on the surface (no evident stratification); and comprise at least one of the following characteristics: a) Material that is rare in the region and that was previously characterized A limited variety but a large number of artefacts.
<input type="checkbox"/>	High Importance	Materials are found beneath the surface (below the topsoil) and comprise at least one of the following characteristics: a) Material that is rare for the region; or b) Material that has not be characterized previously; or The variety of artefacts is extensive and the number of artefacts is large

**Detailed Description of Find:**

(e.g. approximate size of site (area, length, height), description of site and vegetation, description of artefacts (type, length, width, thickness) and number among others)

**Known heritage resources in the locality:****1. Impact Assessment**

Is site destroyed / damaged?	<input type="checkbox"/> Yes  <input type="checkbox"/> No
Can further impacts to the chance find be avoided?	<input type="checkbox"/> Yes  <input type="checkbox"/> No
Avoidance and mitigation measures discussed (include details of community consultation):  <i>Outline the different avoidance and mitigation measures discussed.</i>	
Impact to find (avoidance and mitigation outcome):  <i>Outline the course of action taken and the reason for choosing these measures.</i>	

Date completed form lodged:	Person who lodged form:	Signature:

<p>Report form verified and validated by PES:</p> <p>Name: _____</p> <p>Position: _____</p> <p>Date: _____</p>
--

Signature





## ANNEX 8: ISSUED VARIED ESIA CERTIFICATE -DRSWDSP



**THE UNITED REPUBLIC OF TANZANIA**

**THE ENVIRONMENTAL MANAGEMENT ACT, 2004**  
**CERTIFICATE OF VARIATION OF ENVIRONMENTAL IMPACT**  
**ASSESSMENT CERTIFICATE**

Application Reference No: EC/EIA/M/2225  
Certificate No: EC/V/2025/0097856

This is to certify that

The Environmental Impact Assessment Certificate No 2333 issued on 42616 to  
M/S MINISTRY OF WATER of P. O. BOX 456, DODOMA has been varied  
Environmental and Social Impact Assessment (ESIA) Report for the Proposed  
Construction of Water Treatment Plant and Water Conveyance System to  
Chemba, Bahi, Chamwino District Councils and Dodoma City, in accordance with  
the provisions of the Act.

Dated this 08<sup>th</sup> day of May 2025



DIGITALLY SIGNED BY Mhandu Hamad Yusuf Mawani  
Minister of State, Vice President's Office - Union and Environment



## **CONDITIONS OF CERTIFICATE**

1. This Certificate is valid during the whole lifecycle of this specific project unless henceforth revoked or suspended.
2. The Minister shall be notified of any transfer/variation/surrender of this certificate.
3. Observe all relevant national policies and legislation that guide this specific project throughout its life cycle.
4. Ensure safe disposal of all types of wastes (solid or liquid) in specified sites.
5. Ensure environmental sustainability by avoiding any form of pollution by using most viable management techniques.
6. Adhere to the Environmental Management Plan (EMP) and Monitoring plan (MP) and constantly improve and update them by taking into account any new development.
7. Constantly liaise with relevant authorities and consult stakeholders including local communities in case of any new development or changes as regards to implementation of your project plan activities.
8. Adhere to all proposed mitigation measures as specified in the Environmental Management Plan contained in the Environmental Impact Statement.
9. Abide to all national social and environmental safeguard policies and standards and strive to maintain and constantly improve standards.
10. Prepare an Emergency and Contingency plan and put in place risk and safety measures.
11. Conduct periodic Environmental Audits and facilitate monitoring by relevant authorities.
12. Design and implement an internal Environmental and Safety Policy and Awareness Programme.
13. Prepare Annual Environmental Reports and any other reports requested by competent authorities and the Government.
14. Obtain all other relevant permits.

**The above conditions shall be read together with the specific conditions spelt out in the Annex attached to this Certificate**