

**THE UNITED REPUBLIC OF TANZANIA**



**MINISTRY OF WATER**

**Water Sector Development Programme (WSDP)**

**Programme Implementation Manual**

Volume 5

**Environmental and Social Management Framework  
(ESMF)**

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## ACRONYMS & ABBREVIATIONS

BWOs	Basin Water Offices
CBO	Community-based Organisation
COWSOs	Community-owned Water Supply Organisations
DAWASA	Dar es Salaam Water and Sewerage Authority
DEMC	District Environmental Management Committee
DEMO	District Environmental Management Officer
DWST	District Water and Sanitation Team
EIA	Environmental Impact Assessment
EISs	Environmental Impact Statements
EMA	Environment Management Act
EMC	Environmental Management Committee
EMO	Environmental Management Officer
EMP	Environmental Management Plan
ESAs	External Support Agencies
ESMF	Environmental and Social Management Framework
EWURA	Energy and Water Utilities Regulatory Authority
FSPs	Facilitation Service Providers
GNI	Gross National Index
GoT	Government of the United Republic of Tanzania
HDI	Human Development Index
KEMO	Kitongoji Environmental Management Officer
LG	Local Government
LGA	Local Government Authority
MDGs	Millennium Development Goals
MEMO	Mtaa Environmental Management Officer
MKUKUTA	Mkakati wa Kukuza Uchumi na Kuondoa Umaskini
MoW	Ministry of Water
NAWAPO	National Water Policy 2002
NEMA	National Environmental Management Act
NEMC	National Environment Management Council
NEP	National Environment Policy
NGO	Non-government Organisation
RWSSP	Rural Water Supply and Sanitation Programme
NWSDS	National Water Sector Development Strategy
PMO-RALG	Prime Minister's Office – Regional Administration and Local Government
PRSP	Poverty Reduction Strategy Paper
RAP	Resettlement Action Plan
RDP	Rural Development Policy
REME	Regional Environmental Management Expert
RPF	Resettlement Policy Framework
RWSTs	Regional Water and Sanitation Teams
SWAp	Sector-wide Approach to Planning
TOT	Training of Trainers
TSPs	Technical Service Providers
UWSAs	Urban Water and Sewerage Authorities
UWSSP	Urban Water Supply and Sewerage Programme
VEMO	Village Environmental Management Officer
VEOs	Village/Mtaa Executive Officers
WDC	Ward Development Committee

WEOs	Ward Executive Officer
WATSANs	Water and Sanitation Committees
WEMO	Ward Environmental Management Officer
WRM	Water Resources Management
WRMP	Water Resources Management Programme
WSDP	Water Sector Development Programme
WSS	Water Supply and Sanitation
WSSAs	Water Supply and Sanitation Authorities
WUEs	Water User Entity

## EXECUTIVE SUMMARY

This Environmental and Social Management Framework (ESMF) is prepared for the Water Sector Development Programme (WSDP), which the Government of the United Republic of Tanzania (GoT) intends to implement. The purpose of this ESMF is to provide a strategic guide for the integration of environmental and social considerations in the planning and implementation of the WSDP activities.

The development objective of the WSDP is to support the GoT's poverty alleviation strategy through the improvements in the governance of water resources management and the sustainable delivery of water supply and sanitation services. By the end of the first five years of support program, the GoT will have met its MKUKUTA target of increasing water services coverage and be on the way to meeting the Millennium Development Goals (MDGs) for improved water supply and sanitation coverage across all segments of the population as well as have in place a sustainable regulatory framework for comprehensive water resources management and development.

The WSDP embodies effective institutionalised linkages between key sector actors, including central government, local government, External Support Agencies (ESAs), the private sector, non-government organisations (NGOs), community-based organisations (CBOs), and the communities themselves. Under the programme, the Government continues to provide the necessary technical and financial support, as well as coordination and regulation of water supply development activities. The private sector provides support to the communities in planning, design, construction and supply of materials, equipment, spare parts, and in some cases operations. The ESAs and NGOs provide financial and technical assistance and funding.

According to the National Environment Policy (1997) and the Environmental Impact Assessment Guidelines, the Water Sector Development Programme would fall under the list of projects for which environmental impact assessment is mandatory, prior to implementation. The basis is that the proposed project constitutes several components of activities, which would generate significant changes and effects to the environment.

The proposed Water Sector Development Programme activities has been categorised as **B and C** and few in **A**, according to the Environmental Assessment Operational Policy; and therefore, the appropriate environmental work will have to be carried out for Category A projects while the scope of EA for Category B may vary from one sub- project to another. Since the locations of the infrastructure investments and their potential negative localised impacts could not be determined prior to appraisal, the ESMF has been prepared to ensure appropriate mitigation of potential negative environmental and social impacts.

Although the programme activities will vary in size, location, scope and the approach in implementation, most of these activities will involve civil engineering and construction works which might have generic environmental impacts.

As sub-project proposals are finalised, the complete proposal shall include the environmental category of the sub-project. For category B and A sub-projects requiring an EIA, the proposal shall include the EIA report and proof of its approval by NEMC and the World Bank and any interested Development Partner or Financing Agency. For category C projects that did not require the preparation of a separate EIA, the completed environmental and social checklist will be attached to the sub-project proposal.

This environmental and social management framework has been prepared as a guide for the initial screening of the proposed WSDP sites, and for negative environmental and social impacts, which



would require attention prior to project implementation. The framework outlines a number of strategies in undertaking the exercise

These include:

- an outline of a comprehensive checklist for the potential environmental and social impacts and their sources;
- systematic procedures for participatory screening processes for project sites and project activities for environmental and social considerations;
- a step-by-step procedure for forecasting the main potential environmental and social impacts of the planned project activities;
- a typical environmental management plan for addressing negative externalities in the course of project implementation and operations within environs;
- a monitoring system for implementation of mitigation measures; and
- an outline of recommended capacity-building measures for environmental planning and monitoring of the project activities.

The framework recommends that in order for the implementation of the ESMF to be successful, there is need to ensure that other sub projects being implemented in the same areas as the WSDP have their own comprehensive environmental and social management plans. It also recommends that the Division of Environment, the National Environment Management Council (NEMC) and sector ministries and agencies should ensure that human activities that lead to environmental and social problems are properly managed and monitored.

The framework also suggests that for successful implementation of this ESMF, involvement and participation of local communities is paramount.

Specifically the framework recommends:

- using this framework prior to any project activity of the WSDP;
- environmental and social awareness and education for the key stakeholders and affected communities;
- training the local community structures to implement the ESMF and the screening process;
- regularly updating this ESMF to respond to changing local conditions;
- building capacities for developing appropriate information management systems to support the environmental and social management process;
- providing the necessary resources and equipment for the LGAs and water authorities to be able to produce the necessary documentation and forms for the implementation of the ESMF; and
- empowering the relevant environmental officers to adequately administer the ESMF.

The Capacity Building required for ESMF is part of the bigger capacity building framework, which will be funded by the project. As shall be indicated below, a total budget is set aside equivalent to USD 3.55 and shall be shared equally with capacity building for RPF.

As a reference material, the framework will be useful to several stakeholders who will be involved in planning, implementation and monitoring of the proposed project. Some of the key users of this framework are:

- funding agencies/donors for the proposed Water Sector Development Project;
- District Environmental Management Officers and Committees;
- Sector Environmental management Coordinators
- participating sectors in the implementation of the WSDP;

- politicians and local traditional leaders;
- senior central government officials responsible for policymaking and project planning;
- central government officials responsible for environmental planning and management;
- NGOs and the private sector involved in the selected districts;
- planners and engineers for preparation of plans and designs of the project activities; and
- engineers and contractors to be involved in implementation of the project activities.

Annual reviews should be undertaken after the annual ESMF report has been prepared, at the closing of each year of the Project. It is expected that each review would require 3-4 weeks of field work (interviews, examination of subprojects), and that the review report would be completed within 2 weeks of completing the fieldwork. The reviews for ESMF and RPF is assumed to be 40% of all technical audits in WSDP . For the period up to 2025 , a total cost of USD USD 2.1 million is allocated for review of ESMF and RPF for the whole programme period.

## 1.0 INTRODUCTION

### 1.1 Background

The Government of the United Republic of Tanzania (GoT), with assistance from Development Partners, is implementing the Water Sector Development Programme (WSDP). This programme will focus on prioritised water resources management and service delivery in the water and sanitation sector.

The Water Sector Development Programme (WSDP) comprises three components, the Water Resources Management Programme (WRMP), the Rural Water Supply and Sanitation Programme (RWSSP) and the Urban Water and Sewerage Programme (UWSSP).

The objectives for the Water Resources Management (WRM) component<sup>1,2</sup> are to:

- develop a sound water resources management and development framework in all Nine Basins, for optimising the utilisation of the water resources in a sustainable manner for the various competing uses;
- promote good governance of water resources through empowering water users, encouraging participatory and transparent decision-making, devolving ownership to the user level, and granting secure water rights with responsibilities to the water users, community groups, local government and Basin Boards; and
- assist lake basin offices with trans-boundary lake and lake basin issues.

The overall objective of the RWSSP is improved quality and quantity of drinking water and sanitation services for rural Tanzanians sustained through improved District level capacity, effective local water committees, private sector participation and good health / hygiene / sanitation practices. The RWSSP includes both rural and small town (under 50,000) populations. By 2015 it will raise coverage of these populations from 55 and 48% to 79 and 82% respectively. In doing so, it will meet the MDGs for the rural areas. Likewise it will raise coverage levels to 90% by 2025 in accordance with Vision 2025 goals. In all, it will provide services to over 33 million people by 2025.

The overall objective of the UWSSP is improved and sustained quality and quantity of drinking water and sewerage services for urban Tanzanians managed by improved, financially autonomous and commercially viable Urban Water and Sanitation Authorities (UWSAs)/Water Supply and Sanitation Authorities (WSSAs) providing efficient and cost-effective services. The specific targets of the UWSSP include raising water supply service coverage from 78% (2005) to 90% in 2010 and 95% by 2015 to meet the MDGs and 100% for Vision 2025. The target for sewerage coverage is to increase from 17% (2003) to 30% by 2010.

The strategy<sup>3</sup> for achieving these goals in the urban sector is to develop the existing UWSAs into bodies that are financially autonomous and commercially viable. In essence, the focus of the strategy is the commercialisation of the urban water authorities so that they are capable of efficient and cost-effective provision of services.

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<sup>1</sup> MoW (2006) "Water Resources Management Programme", Dar es Salaam, February 2006.

<sup>2</sup> World Bank (2005) "Tanzania Water Resources Assistance Strategy", October 2005.

<sup>3</sup> MoW (2006) "National Urban Water Supply and Sewerage Strategic Programme – Strategy Report, Vol. 1", Dar es Salaam.

## Programme Implementing Agency

The proponent of the Water Sector Development Programme is the Government of the United Republic of Tanzania while the Ministry of Water (MoW) is the implementing Agency on behalf of the Government. The contact details of the Ministry are as follows:

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## 1. 2 Programme Description

The Water Sector Development Programme (WSDP) is designed under SWAp to address shortfalls in urban and rural water supply infrastructure, to improve water resource management, and to strengthen the sector institutions and their capacities.

The program development objective is to support the GoT's poverty alleviation strategy through improvements in the governance of water resources management and the sustainable delivery of water supply and sanitation services. By the end of the program, the GoT would have met its MKUKUTA target of increasing water services coverage and be well on the way to meeting the MDGs for improved water supply and sanitation coverage across all segments of the population as well as in place a sustainable regulatory framework for comprehensive water resources management and development. Within the MKUKUTA framework there are specific indicators to be achieved by 2010:

- Increased proportion of rural population with access to clean and safe water from 54% in to 65% and within 30 minutes of time spent on collection of water;
- Increased urban population with access to clean and safe water from 73% to 90% and access to improved sewage facilities from 17% in 2003 to 30%;
- 95% of people with access to basic sanitation by 2010 and 100% of schools to have adequate sanitary facilities; and
- All nine Water Basin Offices will be fully operational with Basin Plans.

## 1.3 Program components, Cost and Financing

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The Programme is designed to support the GoT's Water Sector Development Programme (2006-2025). The GoT Programme is a consolidated document of (i) the National Rural WSS Program, (ii) the National Urban WSS Strategic Investment Plan, and (iii) the National Water Resources Strategic Investment Plan. A Sector Wide Approach to Planning (SWAP) has been adopted and is aimed at meeting a resource shortfall in the Government's budget which targets an investment envelope of about US\$951.0 million (excluding contingencies) over the MKUKUTA period of 2006-2010. The Programme will also seek to promote synergies with other Programmes including the Local Government Reform Programme (LGRP) and the Agricultural Sector Development Programme (ASDP) as the country transitions towards more decentralized delivery of services. The Programme's four components are briefly described below.

**Table 1.1 :Proposed WSDP Financing for 2006 - 2025**

**Table 5.1: Summary WSDP Investment (USD millions)**

PROJECT COMPONENT	2006 - 2010	2010- 2015	2015 - 2020	2020- 2025	TOTAL
<b>COMPONENT 1: WATER SOURCES MANAGEMENT</b>					
1.CAPITAL INVESTMENT (INCLUDING BASIN PLANS)	45.01	51.20	45.19	38.33	179.72
2.MANAGEMENT/OPERATION SUPPORT	30.24	43.32	40.00	40.00	153.55
TOTAL WRM COMPONENT COST	<b>75.24</b>	<b>94.52</b>	<b>85.19</b>	<b>78.33</b>	<b>333.28</b>
TOTAL WRM CUMULATIVECOMPONENT COST	<b>75.24</b>	<b>169.76</b>	<b>254.95</b>	<b>333.28</b>	<b>333.28</b>
<b>COMPONENT 2: RURAL WATER SUPPLY &amp; SANITATION</b>					
1.CAPITAL INVESTMENT	270.00	351.40	510.48	450.54	1,582.42
2.MANAGEMENT/OPERATION SUPPORT	21.35	11.30	13.10	15.14	60.88
TOTAL RWSS COMPONENT COST	<b>291.35</b>	<b>362.70</b>	<b>523.58</b>	<b>465.67</b>	<b>1,643.30</b>
TOTAL RWSS CUMULATIVECOMPONENT COST	<b>291.35</b>	<b>654.05</b>	<b>1,177.62</b>	<b>1,643.30</b>	<b>1,643.30</b>
<b>COMPONENT 3: URBAN WATER SUPPLY &amp; SEWERAGE</b>					
1.CAPITAL INVESTMENT:	479.85	319.23	189.39	39.76	1,028.23
2.MANAGEMENT/OPERATION SUPPORT	31.03	31.92	18.94	3.98	85.86
TOTAL UWSS COMPONENT COST	510.88	351.15	208.33	43.74	1,114.09
<b>TOTAL UWSS CUMULATIVECOMPONENT COST</b>	<b>510.88</b>	<b>862.03</b>	<b>1,070.36</b>	<b>1,114.09</b>	<b>1,114.09</b>
<b>COMPONENT 4: SECTOR INST. STRENGTHENING AND CB MoW</b>					
D1. OPERATIONALIZATION OF NEW ROLE OF MINISTRY	15.10	0.96	2.96	0.96	19.98
D2. TECHNICAL ASSISTANCE FOR SUB-SECTOR PLANNING	14.63	17.55	17.55	17.55	67.28
D3. SECTOR COORDINATION AND PERFORMANCE MONITORING	6.20	6.82	6.82	6.82	26.66
D4. SECTOR CAPACITY BUILDING	21.60	3.25	2.93	2.93	30.70
TOTAL SECTOR INST. STRENGTHENING AND CB MoW	57.53	28.58	30.26	28.26	144.62
TOTAL SECTOR INST. STRENGT.AND CB MoW CUMULATIVE	<b>57.53</b>	<b>86.11</b>	<b>116.36</b>	<b>144.62</b>	<b>144.62</b>
<b>OVERALL WSDP</b>					
1.CAPITAL INVESTMENT:	794.86	721.83	745.06	528.63	<b>2,790.37</b>
2.MANAGEMENT/OPERATION SUPPORT	82.61	86.54	72.04	59.11	<b>300.30</b>
3.CAPACITY BUILDING	57.53	28.58	30.26	28.26	<b>144.62</b>
TOTAL ESTIMATED COST	934.99	836.94	847.35	615.99	<b>3,235.29</b>
CONTIGENCIES	16.08	<b>41.85</b>	<b>42.37</b>	<b>30.80</b>	<b>131.10</b>
TOTAL WSDP COST	<b>951.08</b>	<b>878.79</b>	<b>889.72</b>	<b>646.79</b>	<b>3,366.38</b>
TOTAL WSDP CUMULATIVECOMPONENT COST	<b>951.08</b>	<b>1,829.87</b>	<b>2,719.59</b>	<b>3,366.38</b>	<b>3,366.38</b>

<sup>1</sup> The proposed DP financing includes GoT request to MCC of about US\$ 207m.

<sup>1</sup> The proposed GoT financing assumes the current level of sector financing (which include GBS from DPs) as per MTEF is maintained and all recurrent expenses are met by GoT.

**Component 1. (Sub-Programme C)-Basin Level: Strengthening of Water Resources Management and Development Framework (estimated US\$ 333.28 million)** : This component focuses on the governance of water resources and priority water resources management and development investments. It is designed to provide support for: (i) *Basin level water resources management* – including support for (a) strengthening of basin water offices and basin water boards, and the establishments of water user associations, (b) water resources monitoring, assessment, and enforcement, (c) water quality management and pollution control, (d) protection of important water

sources, and (e) water demand management. This support would be sequenced in the 9 basins with initial attention to the younger basins (drawing on significant lessons and experiences from the more mature basins such as the Pangani BWO and Rufiji BWO, and utilizing economies of scale in training, capacity building and procurement) and move on to the more mature basins; (ii) *Integrated river and lake basin management and development plans* – preparation of five integrated river basin management and development plans for the Rufiji, Pangani, Wami/Ruvu, Ruvuma, and Internal Drainage basins, and four integrated lake basin management and development plans for the Lakes Victoria, Tanganyika, Nyasa, and Rukwa basins. These multi-sectoral plans will provide a roadmap for future investments in water resources management and development from the medium to long term to be financed under future water supply, hydropower, irrigation, flood control or multipurpose investment Programmes. The plans will integrate, build on and extend past sectoral plans (such as the Regional Water Masterplans, National Irrigation Development Plan and National Energy Masterplan), current developments under ongoing Programmes (such as Nile Basin Initiative-NBI, Lake Victoria Environmental Management Project-LVEIMP2, Lake Tanganyika Basin Commission-LTBC2, and Programmes supported by British, Japanese, Norwegian, and Swedish Cooperation) and current priorities and targets defined under MKUKUTA, Agriculture Sector Development Programme (ASDP), Vision 2025 and other emerging GoT Programmes. The plan preparation will be sequenced initially starting with support for the 3 more mature basins (Pangani, Rufiji, and Wami/Ruvu) in years 1 and 2 (and on the basis of the early experiences gained) and move on to the younger basins (Victoria, Tanganyika, Nyasa, Rukwa, Ruvuma, and Internal Drainage) in years 3-5; and (iii) *Priority water resources infrastructure investment* - financing of selected priority single or multi-purpose water resources infrastructure investments/sub-projects). The GOT identified priority investments include those investments that are already at an advanced stage of planning, design and preparations.

Key inputs will primarily consist of capacity building grants to support a set of technical assistance contracts and logistical support to BWOs to assist them in promoting and establishing water user associations, improving monitoring, enforcement and compliance capacities; mapping out the resource base (supply, use, and future demands and threats); actions to protect sources; promotion of demand management in each basin, preparation of operational plans for the basin as well as funding priority projects for mitigating floods, drought, protecting watershed or groundwater recharge areas, irrigation storage, intake, control and gate structures. The priority projects will be financed by capital development grants to the BWOs. The National Water Board will define criteria to be used to identify and select the priority investments to be funded under this sub-component. The key outputs will include operational and autonomous basin water offices; medium term integrated river and lake basin management and development plans; and selected short term strategic/priority investment projects.

**Component 2 (Sub-Programme A)-Local Level: Scaling-up of Rural WSS Services Delivery to Meet MDGs (estimated US\$ 1,643.30 million):** This component will provide support to local governments in the provision of water and sanitation services through the implementation of District WSS Plans. This will entail improvements in water supply (mainly shallow wells and boreholes with hand pumps, small gravity, and mechanized borehole piped schemes) and sanitation services (latrines promotion and handwashing Programme) to rural villages, health centres, and schools. Operational Guidelines which set out access and appraisal rules for this component have been prepared to facilitate funds flow and accountability by Local Government Authorities (LGAs). The component will however use the existing Local Government Capital Development Grant (LGCDG) system – the fiscal transfer system adopted by GoT for channeling resources to LGAs for capital development and services delivery. This component will also provide support to a complementary hygiene and sanitation promotion Programme, including a national handwashing campaign, as well as establish a supply chain for maintenance of rural/small towns WSS systems.

Key inputs will include capacity building grants to support logistical needs of water departments of local government, sustained training and capacity building of district/community leaders and water and sanitation teams/committees in the processing and execution of community water and sanitation plans/sub-projects, technical assistance for district and community facilitation processes, handwashing, and sanitation promotion and design of systems and management arrangements for scheme operations. In addition, local governments will obtain capital development grants to finance contracts for rehabilitation and expansion of community water and sanitation facilities as well as support the expansion of supply chains for post-construction operations and maintenance of schemes. Key outputs will include trained district water and sanitation teams, private sector support mechanisms for design and construction of services, and rehabilitated WSS facilities under improved community management, and hygiene/handwashing promotion activities. The component is anticipated to serve about 8.0 additional people.

**Component 3. (Sub-Programme B)-Utility Level: Scaling-up of Urban WSS Services Delivery to Meet MDGs (estimated US\$ 1,114.09 million):** This component will provide support to improve utility practice in Dar es Salaam, regional and district capitals, as well as gazetted small towns and national multi-village schemes in the provision of water and sanitation services. The component will largely support the execution of Utility Business Plans and support improvements in water supply (mainly piped schemes) and sanitation services (sewerage systems, latrines promotion, handwashing Programme). In particular, services to the urban poor will be emphasized. Operational Guidelines have been prepared for this component to facilitate funds flow and accountability by utilities.

Key inputs will include capacity building grants for logistical support and training for sustained capacity building of utilities, technical assistance for preparation of business plans, design of schemes and construction supervision as well as a combination of capital development grants and/or sub-loans to finance the rehabilitation and expansion of WSS services. Key outputs will include new, rehabilitated and expanded WSS services and improved technical, financial and commercial operations of all beneficiary utilities. The component is anticipated to serve about 4.6 million additional people.

**Component 4 (Sub-Programme D)-National Level: Support to Sector Institutional Strengthening and Capacity Building (estimated US\$ 144.62 million):** This component will provide: (i) support for operationalizing the new role of the Ministry of Water, including support for the development of the 10-year corporate strategy, technical assistance for corporate planning & MIS development and operational support for new offices, vehicles, office equipment; (ii) support to sub-sector planning and operational capacities (development of regulations and sub-sector operational procedures and guidelines-including environmental management monitoring), and sectoral policy, legal and institutional harmonization; (iii) support sector coordination and performance monitoring (including support for the Sector Working Group and National Water Board, annual sector reviews and stakeholder consultation, annual project technical and financial audits, development) and implementation of a communication strategy; (iv) support for sector capacity building - support for MoW staff and associated water related institutions, the local private sector and the Drilling and Dam Construction Agency, the Water Resources Institute and other sector related training institutions, support for Community-Based Organisations (CBOs), Non-Governmental Organisations (NGOs) and Water User Associations (WUA), and support to the Energy and Water Utility Regulatory Authority (EWURA).

## 1.4 Key Institutions involved in Programme Implementation

MoW will have the overall responsibility for implementing the Programme. Programme oversight will be through the *Sector Working Group* which brings together the key government and non-government stakeholders and a selection of Development Partners. The working group will, among other things, approve annual work plans and budgets as well as undertake quarterly oversight implementation review meetings. Programme management will be coordinated through the Policy and Planning Division of MoW. The division and the MoW in general may be supported with technical assistance for Programme Management, as and when required. The day to day implementation of sub-components of the Programme will however be delegated to the targeted implementing entities and will follow the steps set out in the table below.

- *Ministry of Water (MoW)* - The Ministry of Water will be responsible for overall coordination, monitoring and evaluation of the programme, facilitation of capacity building, and for ensuring policy compliance. MoW will be secretariat of the Sector Working Group and ensure cohesiveness of the sector coordination, monitoring and evaluation framework featured in the table below.
- *Basin Water Offices (BWOs)* - Basin water offices will be primarily responsible for water resources programme planning, management and overall coordination at the Basin level. Basin management will be carried out through catchment committees and Water User Associations (WUAs).
- *PMO-RALG/Local Government Authorities (LGAs)* – LGAs will be responsible for planning and managing their RWSS Plans, including financial and procurement management and monitoring and evaluation and for contracting with consultants and local service providers to assist with planning and implementation of the programme at the district level and in communities. The oversight arrangement for the Local Government Capital Development Grant (LGCDG) system ie. the steering committee and the technical committee will be involved in the administration of the water grants under LGCDG system. Schemes under financing of the LGCDG will be turned over to the management of the Community Owned Water Supply Organizations (COWSOs).
- *Urban Water Supply and Sewerage Authorities (Utilities)* – Urban Water and Sewerage Authorities (including DAWASA) will be responsible for planning and managing their water supply and sewerage systems. The utilities will enter into Memorandum of Understanding and performance agreements or contracts with MoW to handle routine operations and maintenance and secure professional services to assist them improve efficiency and expand their systems over time. The UWSAs include regional capitals, district capital utilities and selected small towns and multivillage schemes.
- *EWURA* - All utilities will be licensed by EWURA for technical and economic regulation purposes. EWURA will also monitor service performance and approve tariffs set by the UWSAs.

## 1.5 Justification And Rationale For The WSDP

Tanzania has a Gross National Index (GNI) per capita of USD 280 (2002) and HDI of 40.74. Tanzania's Development Vision 2025<sup>5</sup> aims at achieving an absence of abject poverty and attaining a high quality of life for all people by 2025 meaning that people will have attained respectable levels of income, enhanced ownership of assets, reduced vulnerability, and increased power over their own future.

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<sup>4</sup> The Economist (2006) World in Figures, London, UK ISBN 1 86197 957 6

<sup>5</sup> United Republic of Tanzania, (1999), "Development Vision 2025 for Tanzania". Dar es Salaam.



Water supply and sanitation is seen as an essential tool in the effort to reduce the levels of poverty and to mitigate against the effects of poverty, especially in the rural areas where poverty is endemic.

In 2005 some 16.6 out of 30.8 million people in rural areas and small towns, and 7.5 out of 9.7 million people in urban areas had access to safe drinking water. The quality of service remains poor largely due to most water sector investments not being adequately maintained. To achieve the National Strategy for Growth and Reduction of Poverty (MKUKUTA) targets 11.2 million more will need improved water supply by 2010, and to reach MDG targets an additional 11.6 million will need services by 2015. Then to meet the Development Vision's target of 90% coverage by 2025, a further 24.6 million will need improved water supply.

The institutional framework for the management of water resources is being set up to ensure the full participation of stakeholders. It is designed to facilitate involvement of the responsible authorities and promote autonomy at the Basin level. Two of NAWAPO's key policy objectives are (1) to depart from the traditional supply-driven to a demand-driven approach in service provision and (2) to manage water supplies at the lowest appropriate level as opposed to the centralised command and control approach.

Thus the policy specifically aims at ensuring that beneficiaries participate fully in planning, construction, operation, maintenance and management of community based domestic water supply schemes. It lays the foundation for sustainable development and management of water resources in the changing roles of Government from service provider to that of coordination, policy and guidelines formulation and regulation. Thus, decentralised autonomous entities (such as the UMSAs) are being put into place for management of water and sewerage services in urban areas and District Government DMSTs and local water-user groups are being strengthened to support rural water supply project implementation. In this regard the NAWAPO is reinforced by the Public Service and Local Government Reform Programmes. The GoT has been previously supported by ESAs in operationalising the National Water Policy and National Water Sector Development Strategy.

Of particular relevance are activities aimed at implementing policy objectives of decentralisation, integrated water resources management, institutional reform, private sector participation, cost recovery and community management, all in the context of the Government's over-arching strategy for national development and poverty reduction.

The rationale for the program is to maintain the momentum in sector development through the extended testing of sector policy elements and strategies. A broad-based integrated sector support program will combine three national programs in rural water supply and sanitation, urban water and sewerage and water resources management. It will both cushion and reinforce the transition towards SWAp and position Tanzania to meet its MUKUKUTA, MDG and Vision 2025 service delivery targets as well as secure water resources for sustained economic growth.

## **1.6 Objectives of the ESMF**

The objective of this ESMF is to ensure that the implementation of the Water Sector Development Programme will be carried out in an environmentally and socially sustainable manner.

The ESMF will provide the project implementers with an environmental and social screening process that will enable them to identify, assess and mitigate potential environmental and social impacts of the priority infrastructure investments.

The screening results will indicate whether additional environmental and/or social work will be required or not. Thus, the ESMF is designed to ensure that the appropriate level of environmental and social

management, which could range from the application of simple mitigation measures (assessed through the environmental checklists) to the preparation of a comprehensive EIA Report (according to Tanzania's EIA Guidelines) is applied.

The ESMF will outline the:

- a.) steps of the screening process from identification to approval of an infrastructure investment;
- b.) environmental and social mitigation measures that can be applied and adopted;
- c.) summary guidelines for conducting an EIA; and
- d.) summary of the safeguards policies to ensure the latter are observed during project implementation.

The screening process has been developed because the locations and types of priority investments to be funded under the Water Sector Development Programme are not yet known at this time; and therefore potential impacts cannot be precisely identified.

It is expected that most priority infrastructure investments will have very limited negative environmental and social impacts. However, potential localised impacts that would require proper mitigation and possibly the preparation of a comprehensive EIA might occur.

This ESMF has therefore been prepared to provide programme implementers with the screening process that will enable them to identify, assess and mitigate potential negative environmental and social impacts, and to ensure proper mitigation and possibly the preparation of a comprehensive EIA and/or RAP where appropriate. Hence the following chapters of the ESMF should be read together with the Programme and District Operational Manuals:

- Chapter 4 The Screening Process;
- Chapter 5 Environmental and Social Monitoring Plans; and
- Chapter 6 Capacity Building and Training Requirements.

## 1.7 Justification for the ESMF

Where project activities and locations are well known the National Environment Policy (1997) and Environmental Impact Assessment Guidelines prescribe details of how an EIA can be conducted. In the case of the WSDP, the precise type and location of proposed project activities are not known at this time. Therefore the potential social and environmental impacts of these project activities cannot be identified in the context of a traditional EIA. This ESMF provides mechanisms for ensuring that potential environmental and social impacts of the WSDP are identified, assessed and mitigated as appropriate, through an environmental and social screening process. In this way the results of the screening process can complement the national EIA process.

This Environmental and Social Management Framework (ESMF) therefore, includes procedures for meeting the environmental and social management requirements, as outlined in the EIA guidelines. The ESMF also complements Operational Procedures for environmental management of projects where specific details are not yet known.

## 1.8 Potential Users of the ESMF

This framework has been prepared as a reference manual for use by key stakeholders to be involved in the planning, implementation, management and operation of the proposed WSDP. As a reference material, the framework would be useful to the following WSDP key stakeholders:

- funding agencies/donors for the proposed Water Sector Development Project;
- District Environmental Management Officers and Committees;
- Sector Environmental management Coordinators
- participating sectors in the implementation of the WSDP;
- politicians and local traditional leaders;
- senior central government officials responsible for policymaking and project planning;
- central government officials responsible for environmental planning and management;
- NGOs and the private sector involved in the selected districts;
- planners and engineers for preparation of plans and designs of the project activities; and
- engineers and contractors to be involved in implementation of the project activities.

## 1.9 Approach and Methodology in the Preparation of the ESMF

The focus of the ESMF is to provide a screening process for the potential environmental and social impacts for the planned future project activities, and to recommend a generic management plan for addressing the potential negative impacts. In order to achieve these targets, the basic tenet of the strategy involved a high degree of consultations with the various stakeholders during Demand Assessment Surveys as part of the programme's design and preparation. The rationale of these extensive consultations was to take on board the views from a cross section of people at the local, district and central government levels.

The strategies of executing this assignment followed the six steps listed below:

- a.) review of typical implementation approach and processes for the proposed project activities;
- b.) identification and analysis of potential environmental and social impacts the implementation processes will likely generate within and around the project areas;
- c.) development of the appropriate screening processes for the proposed project sites and project activities;

- d.) identification of appropriate mitigation measures for the likely potential environmental and social impacts; and
- e.) compilation of a generic management and monitoring plan for addressing the impacts during implementation, operation and maintenance of the project activities.

## 1.10 Organisation of the Report

This framework is organised into seven chapters:

**Chapter One** provides the background information to the proposed WSDP, its development objectives, justification, rationale and proposed project implementation arrangements as well as the potential users of the ESMF.

**Chapter Two** provides the relevant Tanzanian environmental policies and legislation applicable to the WSDP. The chapter also gives the relevant operating safeguards and policies, and finally highlights gaps that exist.

**Chapter Three** describes the environmental and social impacts that are likely to be generated from the development phases (the planning and design, construction, operation and maintenance and the decommissioning phases). The environmental and social impacts are linked to the environmental components that they are likely to impact upon and the sources of the impacts are also described. These include the civil works for the construction of the various project components and the various human activities that create strains on the natural resources and social services. The environmental and social impacts are the basis for the development of the environmental management and monitoring plans given in Chapter 5.

**Chapter Four** gives a step-by-step presentation of the screening process for sites for future WSDP activities. The screening process for main environmental and social impacts of the WSDP are presented in distinct steps of: desk appraisal of the project activities and field assessments, the assigning of appropriate environmental categories, carrying out of the environmental work and the review and approval of the screening results and recommendations. The chapter introduces procedures including checklists showing how identified future project activities, whose locations are unknown, will address environmental and social issues. The chapter also gives an insight of the public consultation and disclosure process.

**Chapter Five** gives the environmental monitoring plan which contains the proposed institutions to carry out the monitoring activities, monitoring indicators, and stakeholder responsibilities in the monitoring process.

**Chapter Six** gives the capacity building and training requirements for the implementation of the ESMF. The proposed areas of training include: Environmental and Social Impact Assessment, environmental policies, the screening process, identification of impacts and preparation of reports.

**Chapter Seven** gives the recommendations of the study, among them being that effective implementation of the WSDP environmental and social management framework has to be looked at in the context of other existing environmental problems and those problems that may arise from other future project activities not related to WSDP. The chapter also recommends that successful implementation of the ESMF will depend, to a large extent, on the involvement of the local communities.

## **2.0 RELEVANT POLICIES AND LEGISLATIONS**

A number of policies, instruments and laws support environment and social management and the environmental and social impact assessment processes in Tanzania. The Environment management Act No 20 of 2004 (EMA), the National Environment Policy (1997) and the National Environment Action Plan (1994) are the key instruments that cover environmental and social management in all the sectors of development. The Environmental Impact Assessment Guidelines prescribe the process, procedures and practices for conducting an EIA and preparing the EIA reports.

Apart from the National Environment Policy, there are number of sectoral policies that consider Environment Impact Assessment as one of the planning tools for facilitating and promoting sustainable development. These policies envisage that by integrating environmental and social considerations in the decision making process it is possible to avoid or minimize impacts associated with project implementation and that may have negative effects to the environment. The policies presented below are some of the relevant sectoral and cross-sectoral policies that require undertaking of an EIA study prior to commencement of project implementation. In addition, these policies provide directives on the management of the project in order to ensure minimum impacts on the concerned natural resources and sensitive ecosystems and welfare of the society.

### **2.1 Policies**

#### **2.1.1 The National Environment Policy (1997)**

National Environment Policy (NEP) overall objectives as reflected in the Environment Policy (1997) are:

- To ensure sustainability, security and equitable use of resources for meeting the basic needs of the present and future generations without degrading the environment or risking health or safety.
- To prevent and control degradation of land, water, vegetation and air which constitute our life support systems.
- To conserve and enhance our natural and manmade heritage, including the biological diversity of the unique ecosystems of Tanzania.
- To improve the condition and productivity of degraded areas including rural and urban settlements in order that all Tanzanians may live in safe, healthful, productive and aesthetically pleasing surroundings.
- To raise public awareness and understanding of the essential linkages between environment and development, and to promote individual and community participation in environmental actions.
- To promote international cooperation on the environment agenda, and expand our participation and contribution to relevant bilateral, sub-regional, regional, and global organizations and programs including implementation of Treaties.

The National Environment Policy seeks to provide the framework for making fundamental changes that are needed to bring environmental and formulation of social considerations into the mainstream of

decision making in Tanzania. It seeks to provide policy guidelines, plans and give guidance to the determination of priority actions, and provides for monitoring and regular reviews of policies, plans and programmes. It further provides for sectoral and cross sectoral policy analysis in order to achieve compatibility among sectors.

As stated in the NEP, the environmental objective of the Water, Sewerage and Sanitation sector is to support the overall national objective of providing clean and safe water to within easy reach, to satisfy other needs, to protect water sources and prevent environmental pollution. In order to achieve this, the following policy objectives shall be pursued:

- a.) planning and implementation of water resources and other development programmes in an integrated manner and in ways that protect water catchment areas and their vegetative cover.
- b.) improved management and conservation of wetlands;
- c.) promotion of technology for efficient and safe water use, particularly for water and wastewater treatment and recycling; and
- d.) institution of appropriate user-charges that reflect the full value of water resources.

### **2.1.2 National Land Policy, 1996**

The National Land Policy, 1996, advocates the protection of land resources from degradation for sustainable development. The policy addresses several environmental issues relevant to water resources development projects such as land use planning. Land use planning takes into consideration the land capability, ensures proper management of coastal/urban/rural land resources, promote resource sharing and multiple land use techniques in area of conflicting land use, and lastly advocates the involvement of community in resource management, land use and conflict resolution. It is therefore imperative that the projects operations should be aware of the National Land Policy requirements for protection of land resources and displaced indigenous people.

### **2.1.3 National Forest Policy, 1996**

The national Forest Policy, 1966, identifies four main policy areas (forest land management, forest based industries and products, ecosystem conservation and management, institutions and human resources) and present policy statements and instruments/directives to be applied to each of these. In accordance to the policy, Environmental Impact Assessment (EIA) will be required for all investments, which convert forestland uses or may cause damage to the forest environment. For example, some of the policy strategy statements that are relevant for water projects include the following:

- ❖ To enable sustainable management of forest on public lands, clear ownership for all forests and trees on these lands will be defined and management responsibility promoted.
- ❖ Biodiversity conservation and management as well as watershed management and soil conservation will be included in the management plans for all protection forests.

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

## 2.2 The Legal Framework Supporting ESMF

In addition to the above policies, there are a number of legal and regulatory frameworks that proposed water projects must comply with. The Environmental Management Act (No. 20), 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 in water projects include the following:

- (a) The Environmental Management Act (EMA) No. 20 of 2004;
- (b) Mining Act (No. 5), 1998 and Mining (Environmental Management and Protection) Regulations, 1999;
- (c) Water Utilization Act (No. 42), 1974;
- (d) Water Laws (Miscellaneous Amendments) Act, (No. 17), 1989;
- (e) Water Utilization (miscellaneous amendment) Act, (No. 8), 1997;
- (f) The forest Act, (No. 14), 2002;
- (g) Land Act, (No. 4), 1999;
- (h) Village Land Act (No. 5), 1999;
- (i) Town and Country Planning Ordinance, Cap. 378;
- (j) National land Use Planning Commission Act (No. 3), 1984;
- (k) Tanzania Investment Act (No. 26), 1997;
- (l) The Occupational Health and Safety Act, (No. 5), 2003;
- (m) Energy and Water utilities Regulatory Authority, 2001.

### 2.2.1. The Environmental Management Act (2004)

The Environmental Management Act (EMA) provides the legal and institutional framework for the management of the environment and implementation of the nation's Environment Policy. Institutionally it provides for the continuation of the National Environment Management Council (NEMC) and the National Environmental Advisory Committee.

The NEMC is charged with the enforcement, compliance, review, monitoring of environmental impact assessment and the facilitation of public participation in environmental decision making and supervision of all matters relating to the environment assigned to the Council. Amongst its functions NEMC (1) reviews EIAs and recommends them (or not) for approval, and (2) identifies projects, programmes for which environmental audit or monitoring must be conducted.

It is noted that under the Act, NEMC may "delegate to any sector Ministry, environmental body, employee or agent of the Council, the exercise of any of the powers or the performance of any of the functions or duties of the Council under the Act" (EMA para 26)

All relevant Ministries are to establish environmental management sections which liaise with NEMC on environmental matters. In particular, it is the Environmental Section's responsibility to ensure that environmental concerns are integrated into Ministry developmental planning and project implementation in a way that protects the environment. The Environmental Management Sections of sector ministries are charged with overseeing the preparation of EIAs required for investment in their sectors (NEMA para 31 (k)).

Each sector Ministry is to appoint a Sector Environment Coordinator to coordinate and report on all activities and performance of functions relating to the environment and the Ministry. And, at the

Regional level there is a Regional Environmental Management Expert (REME) to advise local authorities on matters relating to the Act.

In each City, Municipality, District, Town Council there is appointed an Environmental Management Officer (EMO) and an Environmental Management Committee (EMC). The EMO's responsibilities include the monitoring of the preparation, review and approval of EIAs of local investments and project and to report to the Director of the Environment on implementation of the Act within the area of his/her jurisdiction. Similarly, Committees and Environmental Management Officers are to be appointed at the Kitongoji (KEMO), Ward (WEMO), Mtaa (MEMO) and Village (VEMO) levels. They are empowered to coordinate all activities geared towards the protection of environment within their local areas.

The NEMC is responsible for the review of projects and deciding on whether they need undertake EIAs and prepare Environmental Impact Statements (EISs). The Act specifies which types of projects require EIAs in its Third Schedule. Of relevance to the WSDP, EIAs are required of 1.(a) any activity out of character with its surrounding, 1.(b) any structure of a scale not in keeping with its surrounding, 1(c) major changes in land use, 4. Dams, rivers and water resources, 12 waste disposal, and 13 natural conservation areas.

The Council also circulates EISs for official written comments from government agencies, gives notification of public meetings for EISs' reviews , and ensures availability of related reports and documents to those affected or involved. NEMC is responsible for managing the review process before advising the Minister responsible with the Environment to consider issuance of Environmental Permit. It is noted that the Minister responsible with environment is able to delegate responsibility for approval of EISs to the Director of Environment, LGAs and Sector Ministries. Subsequently, the NEMC is responsible for monitoring the operation of projects and required mitigation measures especially in cases where holders of Certificates and their projects are in non-compliance.

In terms of the Water Sector Development Project, some of its project activities will fall under the list of projects prescribed for EIAs. EIA studies will have to be conducted, before implementation of such project activities. However, as project locations and the extent of project activities are not known at this time, an environmental and social management framework is required for environmental and social screening.

### **2.2.2 Land Legislation**

The administration, use, planning and development of land resources in the country are regulated through "The Land Act, (No. 6), 1999" and "The Village Land Act, (No. 7), 1999. The two Acts are discussed separately as follows:

#### **(a) The Land Act, (No. 6), 1999**

The major function of this land act is to promote the fundamentals of the "National Land Policy" through giving clear classification and tenure of land, land administration procedures, rights and incidents of land occupation, granted rights of occupancy, conversion of interests in land, dispositions affecting land, land leases, mortgaging of land, easements and analogous rights, co-occupation and partitioning and, settlement of land disputes. One of the pertinent issues when dealing with land is the right of occupancy. According to the Land Act, 1999, the right of occupancy is given in two categories that separate citizens and non-citizens rights to occupy land.



- (i) For a citizen or in a group of two or more formed in association, partnership or corporate body will enjoy the right of being granted the right of occupancy or derivative of a granted right of occupancy.
- (ii) For a non-citizen, or in a group whether formed into a corporate body under the Companies Ordinance or otherwise, (including corporate bodies whose majority shareholders or owners are non-citizens) may only obtain a right of occupancy or derivative right for purposes of investment prescribed under the Tanzania investment act 1997.

These sections are regarded crucial as water projects can have both local and foreign shareholders in investment or operation of water projects under Tanzania Investment Act 1997.

**(b) Village Land Act (No. 7), 1999**

The Village Land Act, (NO. 7), 1999 was enacted specifically for the administration and management of land in villages. Under the provisions of this act, the village council is responsible for the management of the village land and is empowered to do so in accordance to the principles of a trustee managing property on behalf of a beneficiary. In addition, the village council is required to manage land by upholding the principles of sustainable development, relationship between land uses, other natural resources and the environment. Many water projects shall be established and operated with the village lands.

**2.2.3 Water Utilization and Regulation Act, (No. 42) 1974**

The Water Utilization (Control and Regulation) Act, (No. 42), 1974, is the principal legislation dealing with the protection of water resources and control of water extraction for different uses. This act has gone through three amendments, amendment through Act No. 10 of 1981, Written Laws (miscellaneous amendment) Act No. 17 of 1989 and the Water Utilization (miscellaneous amendment) Act No 8 of 1997. The extraction of water for different users is controlled through a “water right permit”. Under this law, applications for water rights required to be submitted to the River Basin Water Office for water sources falling under the River Basin. The applicant is required to undertake EIA as classified in the EMA (2004) and (the OP 4.37 safety of Dams) and submit the environmental clearance certificate from NEMC to the Basin Water Office. The provisions for the water rights under this act contain the following:

The Water projects needs to understand the procedures for acquiring and managing water rights, discharges to open environment and maintenance of water quality, which are provided by this act.

The proposed Water Legislation in Part XII provides for dam safety and flood management.

**2.2.4 Energy and Water Utilities Regulatory Authority, 2001.**

The general functions of EWURA under the provisions of Section 7 of the Energy and Water Utilities Regulatory Authority Act, 2001, under the provisions of Section 7 (1) of that Act the functions conferred on EWURA by this Act shall be to perform the following in relation to the regulation of the provision of water supply and sanitation services by a water authority or other person, other than a community organisation established in accordance with Section 37 of this Act:

- (a) exercise licensing and regulatory functions in respect of water supply and sanitation services including the establishment of standards relating to equipment attached to the water and sanitation system; also among others provide guidelines on tariffs chargeable for the provisions of water supply and sanitation services.

### **2.2.5 The Forest Act, (No. 14), 2002**

The Forest Act, (No. 14), 2002, provides for the management of forests and its main objectives are to promote and enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of natural resources for the benefit of the present and future generations. In addition, the legislation aims to ensure ecosystem stability through conservation of forest biodiversity, water catchments and soil fertility.

According to section 18 of this Act, an EIA is required for certain developments in accordance with the modalities and substance as set out in the guidelines by authorities responsible for the protection of the environment. Among others are (a) road construction or the laying of pipelines; (b) construction of dams, power stations, electrical or telecommunication installations; (c) construction of buildings.

### **2.2.6 The Wildlife Conservation Act (No. 12), 1974**

The Wildlife Conservation Act, (No. 12), 1974, deals with the sector that is entrusted with the custodianship of wildlife resources in the country. The Act empowers the Minister to establish game control areas, prohibit, restrict/regulate the hunting, killing and capture of animals during such periods as may be specified. In addition, it also gives the Director of Wildlife powers *inter alia*: to restrict the carriage of weapons in game reserve; protect vegetations against burning or cutting; restrict use of devices for killing or capturing animals within game reserve and game controlled areas and to declare any area to be a partial game reserve for protected animals and restrict the hunting, capturing or killing protected animals or national game.

On public interest, the Director is empowered to refuse to issue license, certificate and permission to any person and may cancel permission/permit and try various offences. Although the Act does not prohibit consumptive use of wildlife, it seeks to control and regulate that use in order to ensure sustainability.

Among the many objectives and strategies that the Act sets, the following are major ones:

- To promote conservation wildlife and its habitat (Protection);
- To regulate development, projects/activities in protected areas (Development);
- To conserve viable populations of species making up Tanzania's fauna and flora with emphasis on endangered, threatened, endemic species and their habitats;
- Enforcing EIA process for proposed developments in protected areas and requesting for environmental planning for developments to be carried out in the wildlife areas outside protected areas in order to minimize negative impacts.

Water development projects will observe laws governing the conservation of wildlife .

### **2.2.7 The National Land Use Planning Commission Act, (No. 3), 1984**

The national land Use Planning Commission Act, (No. 3), 1984, established the national land Use Planning Commission. The Commission is the principal advisory organ of the Government on all matters, related to land use .

The villages surrounding the project area may find themselves in land conflicts that may be a result of lack of land use planning. Water Development projects should take in consideration and understand the strategic planning of the other land surrounding the project.

### **2.2.8 Occupation Health and Safety Act, (No. 5) , 2003**

The Occupation Health and Safety Act, (No. 5), 2003, is an Act for health and safety. The Act is administered through the Ministry of Labour. Under the Act, the Minister responsible for labour shall appoint the Chief Inspector (CI) to perform the functions stipulated in the Act. The CI may in turn also designate any person as an Inspector to perform all functions assigned to an Inspector in respect of water projects, this act shall be enforced in all work places.

### **2.2.9 Contractors Registration Board Act no 17 of 1997**

According to this act, all construction contracts are required to be executed by registered companies and entitled class in respect to the costs of the project.

## **2.3 Relevant safeguard policies**

The proposed WSDP will trigger three safeguard policies, namely, Environmental Assessment, Involuntary Resettlement and International Waterways. The Environmental Assessment is the most relevant and applicable safeguard policy for the ESMF. Both policies are summarised and compared with national legislation in the sub-sections below:

### **2.3.1 Environmental Assessment**

The objective of Environmental Assessment is to ensure that projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and mitigation of their likely environmental impacts. This policy is triggered if a project is likely to have potential adverse environmental risks and impacts in its area of influence. The construction and rehabilitation of infrastructure under the WSDP may have environmental impacts, which require mitigation. Therefore, in line with this Operational Policy, this environment and social management framework for screening of the WSDP activities has been prepared.

### **2.3.2 Involuntary Resettlement**

The objective of Involuntary Resettlement is to avoid or minimise involuntary resettlement where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced persons in improving their former living standards; it encourages community participation in planning and implementing resettlement and in providing assistance to affected people, regardless of the legality of title of land. This policy is triggered not only if physical relocation occurs, but also by any loss of land resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood, whether or not the affected people must move to another location. For the WSDP, a separate Resettlement Policy Framework has been prepared to provide guidelines on land acquisition and resettlement.

### **2.3.3 Projects on International Waterways**

The objective of Projects on International Waterways is to ensure that projects that impact on international waterways do not affect the relations between the states. It is recognised that the cooperation and goodwill of riparian is essential for the use and protection of the waterways. Therefore it attaches great importance to riparians' making appropriate agreements or arrangements for the entire waterway or any part thereof. In cases where differences remain unresolved between the state

proposing the project (beneficiary state) and the other riparians prior to financing the project, normally it is urged that the beneficiary state to offer to negotiate in good faith with the other riparians, to reach appropriate agreements or arrangements. This policy is triggered if a project affects relations of riparians negatively by the increased use of water resources or by significantly polluting the water. For the WSDP, the Ministry of Foreign Affairs is responsible for initiating the notification of the riparians.

### **3.0 ENVIRONMENTAL AND SOCIAL IMPACTS**

#### **3.1 Description of Project Phases for Environmental and Social Management**

Typical project activities to be implemented under the WSDP are broadly categorised into:

- planning and design;
- construction and rehabilitation;
- operation and maintenance; and
- decommissioning phases.

Each of the project phases listed above has environmental and social consequences on the different environmental and social components such as soil, water and society. Table 3.1 below relates the project activities of the four project phases to their environmental consequences.

As can be seen from the table, most of the impacts will be felt during the construction and rehabilitation phases of the project while fewer impacts will be felt during the operation and maintenance phase; and the least number of impacts will be experienced during the planning and design phase of project implementation.

Table 2.1: An Outline of Typical Project Activities and Examples of Potential Impacts, both Negative and Positive, of the WSDP

ENVIRONMENTAL COMPONENTS	Geology	Soils	Topography	Surface water resources	Surface water quality	Groundwater resources	Groundwater quality	Archaeology/ Palaeontology	Flora	Terrestrial Fauna	Aquatic fauna	Air quality	Noise and vibration	Cultural heritage and sites	Local communities	Livelihoods	Current land use	Future land use options	Local economy	National economy	Existing infrastructure and services	Health and safety	Aesthetic and amenity values
PROJECT ACTIVITIES																							
PLANNING AND DESIGN																							
Mobilisation of stakeholders															X								
Site Identification															X	X	X	X	X		X	X	X
Surveying of the project site	X	X							X								X	X	X		X	X	X
Project design															X			X					
CONSTRUCTION AND REHABILITATION																							
Mobilisation of resources		X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
Land Clearing Activities	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
Water Source Development	X	X	X	X	X	X	X	X	X	X	X				X	X	X	X	X		X	X	X
Construction materials acquisition	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tank, pump-house and Treatment Plant Construction	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
Access road construction	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X		X	X	X
Latrine installation	X	X					X								X	X	X	X	X			X	X
Install water pipes & tap	X	X						X	X	X			X		X	X	X	X	X		X	X	X

ENVIRONMENTAL COMPONENTS	Geology	Soils	Topography	Surface water resources	Surface water quality	Groundwater resources	Groundwater quality	Archaeology/ Palaeontology	Flora	Terrestrial Fauna	Aquatic fauna	Air quality	Noise and vibration	Cultural heritage and sites	Local communities	Livelihoods	Current land use	Future land use options	Local economy	National economy	Existing infrastructure and services	Health and safety	Aesthetic and amenity values
PROJECT ACTIVITIES																							
stands																							
Construct boreholes/intakes	X	X		X	X	X	X		X				X		X	X	X	X	X		X	X	X
Infrastructure rehabilitation		X	X	X	X	X	X		X	X	X	X	X		X	X	X		X		X	X	X
<b>OPERATION &amp; MTCE</b>																							
Catchment protection		X		X	X	X	X		X	X					X	X	X	X	X			X	
Water abstraction	X	X		X	X	X	X		X	X	X			X	X	X						X	X
Water treatment & supply															X	X			X			X	X
Provision of employment															X	X			X		X	X	X
Scheme Management				X	X	X	X		X		X				X	X			X	X		X	
Operation of infrastructure				X	X	X	X				X				X	X			X		X	X	X
Sewage treatment & discharge		X		X	X		X				X	X			X	X			X			X	X
Latrine operation							X								X	X			X		X	X	X
Septic Tank discharges		X			X		X				X				X	X			X		X	X	X
Infrastructure repair & maintenance					X		X						X		X	X			X		X	X	X
Water point maintenance															X	X			X		X	X	X
Water collection & distribution															X	X			X		X		

<b>ENVIRONMENTAL COMPONENTS</b>	<b>Geology</b>	<b>Soils</b>	<b>Topography</b>	<b>Surface water resources</b>	<b>Surface water quality</b>	<b>Groundwater resources</b>	<b>Groundwater quality</b>	<b>Archaeology/ Palaeontology</b>	<b>Flora</b>	<b>Terrestrial Fauna</b>	<b>Aquatic fauna</b>	<b>Air quality</b>	<b>Noise and vibration</b>	<b>Cultural heritage and sites</b>	<b>Local communities</b>	<b>Livelihoods</b>	<b>Current land use</b>	<b>Future land use options</b>	<b>Local economy</b>	<b>National economy</b>	<b>Existing infrastructure and services</b>	<b>Health and safety</b>	<b>Aesthetic and amenity values</b>
<b>PROJECT ACTIVITIES</b>																							
Maintenance of water sources																							
<b>DECOMM. AND CLOSURE</b>																							
Demobilise resources															X	X			X				
Close construction sites	X	X	X		X				X						X		X	X	X			X	X

Note: X indicates the component of the project activity that may have potential impacts (either negative or positive).



### 3.2 Sources of Environmental and Social Impacts

Project activities will generate environmental and social impacts during implementation and operation as well as during decommissioning phases. This is because:

- the civil works for new structures will sometimes involve construction on virgin land thereby affecting the forests, animals and other natural resources;
- the rehabilitation works will require demolition of existing infrastructure and will generate rubble and waste that will need to be disposed of properly;
- both the new civil works and the rehabilitation works may require new land;
- civil works for new structures as well as rehabilitation works will affect the communities both physically (air and water pollution, nuisance and contamination etc.); and socio-economically (land use, income generation, mobility and community association)
- the water supply services will require additional water abstraction, resulting in changes in ground and surface water regimes, both inside and outside the project impact areas;
- additional use of water will result in increases in waste water generation;
- water supply activities and other civil works may cause water stagnation and sanitation problems;
- the increase in numbers of people within the project location / areas will result in depletion of natural resources, pollution of public waters and degradation of soils. Consequently, several environmental components may be affected in one way or another by such activities; and
- the increase in interaction of different types of people will result in social and health problems caused by various diseases transmitted among these people and arising from high pressure on social and health services such as medical services.

The impacts identified during stakeholder consultations together with professional experience and judgment, have been used to develop the generic environmental and social management plan given in Annex A.

## 4.0 ENVIRONMENTAL AND SOCIAL SCREENING OF SUB- PROJECTS

### 4.1 Introduction to the Screening Process

The sections below illustrate the steps involved in the environmental and social screening process leading to the review and approval of projects under the WSDP. The purpose of this screening process is to

- determine whether future projects are likely to have potential negative environmental and social impacts;
- determine appropriate mitigation measures for activities with adverse impacts;
- incorporate mitigation measures into project design;
- review and approve project proposals, and
- monitor environmental parameters during project implementation.

The assignment of the appropriate environmental category will be based on the provisions of the World Bank Operational Policy (OP 4.01). The environmental and social screening of each proposed sub-project will be classified into categories A,B and ,C, depending on the type, location , sensitivity and scale of the project and the nature and the magnitude of its potential environmental and social impact. The categories are:

- A) any project which is likely to have significant adverse environmental and social impacts that are sensitive, diverse or unprecedented .The impacts under this category affects broader area than the sites or facilities subjected to physical works.
- B) any project which is likely to have significant adverse on human populations or environmentally important areas including wetlands, forests , grasslands and any other natural habitat. Generally they are less adverse than those of category A projects, the impacts are sites specific and few or any of them are irreversible and most of them are mitigable rapidly than category A.
- C) any project which is likely to have minimal or any adverse environmental and social impact. Beyond screening no further EA action is required.

The extent of environmental work that might be required for projects prior to construction will depend on the outcome of the screening process described below and shown on **Schematic Presentation of Screening shown on Page B-1**

### 4.2 Step 1: Screening of Project Activities and Sites

The initial environmental and social screening will be carried out through the use of the Environmental and Social Screening Form (**Annex B**) and NEMC **Flow chart no 4 on Annex E**. This form will be completed by the Environmental Management Officer at Municipal, Ward or District level assisted by sector-specific committees such as the DWST or the DEMC as necessary) for the purposes of identifying the potential environmental and social impacts, determining their significance, assigning the appropriate environmental category, proposing appropriate environmental and social impact mitigation measures, and carrying out Environmental Impact Assessments (EIAs), if necessary. To become qualified for this task, the responsible individual (EMO) will have received training under the capacity building component of the programme, the environmental screening procedure can lead to one of the following decisions:

- Environmental and social Impact Assessment (EIA) is required where the project is known to have significant adverse environmental and social impacts typical for all category A projects and Riskier Category B sub projects.
- Preliminary environmental and social impact assessment is required where the project may have environmental and social impacts.
- Environmental Impact Assessment (EIA) is not necessary where the project is unlikely to cause environmental impacts.
- Wherever a dam is to be constructed, then the project will prepare a comprehensive dam safety analysis to ensure that dam safety measures are properly incorporated.
- To ensure that WB safeguard policy OP4.37 is met, the project will appoint independent panel of experts from reputable institutions to review the, site investigation design, capacity of monitoring and commencement of the operations
- The project will prepare and implement a plan for construction, instrumentation plan, operation and maintenance plan, emergency preparedness plan.
- In case the project may result in resettlement, then the resettlement procedures shall be instituted as provided for in the RPF.

#### **4.3 Step 2: Assigning the Appropriate Environmental and Social impact Categories**

The assignment of the appropriate environmental category will be based on the provisions of the World Bank Operational Policy (OP 4.01), on Environmental Assessment .Tanzania's EIA procedures are consistent with the environmental and social Impact screening categories contained in the safeguard policy WB OP 4.01 on ---- Environmental Assessment mentioned above. With regard to the WSDP, it is likely that most projects will be categorised as "B" and few in category A, meaning that of the potential adverse environmental impacts on human populations or environmentally important areas — including wetlands, forests, grasslands, and other natural habitats — few if any will be irreversible, and can be mitigated.

When a proposed project is classified as category "A" or "B", the WSDP will provide funds as required for the LGAs and for the Water Authorities to consult as required by NEMC, the relevant sector Ministry's Environmental Section and the affected or interested parties, and to hire consultants to carry out environmental work as required. The Environmental Management Officer will assist the project team at the local government level as necessary.

Some projects might be categorised as "C" if the environmental and social screening results indicate that the projects will have no significant environmental and social impacts and therefore do not require additional environmental work. Thus, if the screening form has ONLY "No" entries, the project will not require further environmental work, and the District EMO will recommend approval of the project to the District Environmental Management Committee and implementation can proceed.

The environmental category" A" (significant, irreversible impacts) will likely not apply to many of the projects under the WSDP. Activities categorized as A or in some cases B (for Prescribed Projects, List A in NEMC Guidelines for EIA) will require EIAs and would have to be approved by the NEMC and the World Bank, through normal procedures, prior to the commencement of construction implementers will have to pay particular attention to projects listed in Schedule 3 of the EMA such as construction in catchment basins within declared conservation areas, effluent discharges and the rehabilitation and expansion of existing water and sanitation schemes. In these cases, the final determination regarding the extent of environmental and social work required will be made by the District Environmental Management Officer in consultation

with NEMC . Should any EIAs have to be carried out, these will be reviewed and approved by NEMC and the World Bank and any other interested Development Partner or Financing Agency.

#### 4.4 Step 3: Carrying Out Environmental and Social Work

**Environmental Checklist:** An example of an Environmental and Social Checklist and Environmental Management and Monitoring Plan is given in Annex A. It is an example checklist illustrating typical mitigation measures, in this case against negative environmental and social measures resulting from construction activities. This Environmental and Social Checklist would be completed by a qualified member of the project team assisted by the Environmental Management Officer as necessary. To fulfil the requirements of this checklist, TOR is prepared applicable to any project within WSDP as given in Annex F.

The purpose of the Checklist is to ensure that the identified environmental and social impacts are mitigated, controlled or eliminated through planned activities to be implemented throughout the project life. It also provides opportunities for the enhancement of positive impacts, gives details of the mitigation measures to be undertaken for the impacts, and identifies the responsible institutions to implement the mitigation measures. Examples of care and mitigation measures that can be taken during construction are given in Annex C. This is in the form of guidelines to contractors undertaking construction work in the WSDP and illustrates how, through simple precautionary measures environmental protection can be achieved even during construction.

It is to be appreciated however, that the implementation of the management plan will normally be modified to suit changes or emergencies that may occur on site at the time of project implementation. The plan therefore should be considered as the main framework that must be followed to ensure that the key negative impacts are eliminated or adequately kept under control. In this regard, flexibility should be allowed to optimise the implementation of the plan for the best results in environmental and social management.

An appropriate environmental and social management and monitoring plan will depend on the scope of identified major impacts to be addressed in the implementation of the project. Presented in Annex A is a generic or typical environmental and social impact management and monitoring plan, which would suit the implementation of the WSDP but would be adapted, expanded and detailed in accordance with the specific project and mitigation required.

If there are already existing project/infrastructure designs, the EMO, in coordination with the project team, will assess them for impacts on the chosen land site and modify the design to include appropriate mitigation measures. For example, if the environmental and social screening process and checklist identify potential contamination of groundwater due to waste spills during construction as the main negative impact from the project activity, the mitigation measure would be for the EMO and the Project Team to provide for measures to avoid waste spills during construction. Depending on the potential for success or otherwise of the mitigation measure, a separate EIA might still have to be carried out. Throughout this process the project team would be assisted by the EMO.

For situations where the environmental and social screening process identifies land acquisition needs that would trigger Involuntary Resettlement, then the provisions of the Resettlement Policy Framework (RPF)

would apply. This would require that the project chooses an alternative land site that does not trigger the policy framework or, maintains the site that triggers Involuntary Resettlement but prepares a Resettlement Action Plan (RAP) consistent with the RPF. The RAP would be a separate document and would separately be approved by NEMC and the World Bank and any interested Development Partner or Financing Agency.

#### **4.5 Step 4: Review and Approval of the Screening Activity**

Under the guidance of the Environmental Management Officer, the Environmental Management Committee at the local government level will review the environmental and social screening results as well as the environmental checklists that were completed in the course of project preparation to ensure that all environmental and social impacts have been identified and successfully addressed. That is, if the screening form has any "Yes" entries, or unjustified "No" entries, the application would need to adequately explain and demonstrate that the issues raised have been addressed appropriately. The Environmental Management Committee must also ensure that the project designs include adequate monitoring and institutional measures are to be taken during implementation and operation.

If the Environmental Management Committee/Environmental Management Officer finds that the submitted design is not consistent with the requirements of the environmental screening form and the environmental checklist, then the project implementer would be requested to re-design (e.g. make additional modifications and/or choose other sites). The project would then be and re-screened and re-submitted for review. The EMC/EMO would then review again the revised application. If acceptable, it would be recommended for consideration for approval. If it is not acceptable for the second time, it would be referred back to the implementer for more work or be denied clearance altogether. Any proposed projects that do not comply with the requirements of Tanzania and the Safeguards policies will not be cleared for implementation. A summary of the safeguard policies is contained in Annex D.

If the EMO, the project team and EMC are satisfied that the designs/project proposals are environmentally and socially compliant, they will be submitted to the LLGA at the Village/Sub-ward/Mtaa levels for disclosure. The project documentation must be accompanied by the completed environmental and social screening forms, and where applicable, the RAP.

If the application is seen to satisfactorily address all environmental and social issues, the Environment Management Committee will then clear the project and recommend its approval while informing the MoW. Subsequently, the Environmental Management Committee/EMO will recommend the project to the District Council for approval.

For cleared projects, the LG Council will give a conditional approval for detailed planning, construction and operation of the investment. These conditions may include, for example, such measures as public involvement, siting or routing restrictions, construction and operation practices, restoration of disturbed areas, the complete implementation of a resettlement action plan and/or, construction supervision to ensure the approval conditions are being followed.

#### **4.6 Environmental Impact Assessment**

According to EMA,2004 the EIA report prepared for each project Category A and B should be reviewed by the District Environmental Management Team in collaboration with NEMC as appropriate , and public

consultations should be undertaken during the review period. The outcome of the review of the EIA is one of the following:

- EIA accepted; or
- EIA not accepted.

In those cases where an EIA is required, the more complex environmental procedures (from registration, to preparation of EMPs and EISs, to issuing of an EIA certificate) as provided for in the EMA will need to be followed. The LG or Water Authority will have to seek and pay for the services for environmental assessment and reviews from consultants and experts at NEMC. Such a full-fledged EIA often requires inputs from a team of specialists/consultants registered at NEMC as well as from the DWSTs and other stakeholders.

#### **4.7 Disclosure And Approval Process**

The steps for carrying out an environmental impact assessment are outlined in Annex E.

The Environment Act (2004) provides for the right of the public to participate during the decisions concerning the design of environmental policies, strategies, plans and programmes and to participate in the preparation of laws and regulations relating to the environment (EMA para 178-(2)). It calls for early and accessible notification of intentions, access to related information and opportunities for the public to make oral and written presentations on the matter and decisions (para 178-(4)). The first step is to hold public consultations with the local communities and all other interested/affected parties during the screening process and in the course of preparing the EIA. These consultations should identify key issues and determine how the concerns of all parties will be addressed in the terms of reference for the EIA to be carried out for projects. To facilitate meaningful consultations, the local governments and/or water authorities through their implementers will provide all relevant material and information concerning the projects in a timely manner prior to the consultation, in a form and language that are understandable and accessible to the groups being consulted. Depending on the public interest in the potential impacts of the projects, a public hearing may be requested to better convey concerns.

As project proposals are finalised, the complete proposal shall include the environmental category of the project. For category B and A projects requiring an EIA, the proposal shall include the EIA report and proof of its approval by NEMC and World Bank and any interested Development Partner or Financing Agency . For category C projects that did not require the preparation of a separate EIA, the completed environmental and social checklist will be attached to the project proposal.

The EIA reports of projects will be disclosed to the public by presenting the findings and recommendations to the village assembly or sub-ward/Mtaa assembly, disclosing the document at the offices of the District/Municipal Executive Director in each District/Municipality; the Ward Executive Director and Village/Mtaa Executive Officer of each ward or community that is approved for projects under WSDP. NGOs and other civil society organisations in the villages and sub-wards/Mtaas will be informed of the meeting, and copies of the EIA report will be made available before the meeting, in a language that is understood by the recipients.

On completion of an EIA, the NEMC must (a) circulate it for written comments from the various agencies and government agencies, (b) notify the public of the place and time for its review and (c) solicit oral or written comments from those affected. NEMC will decide whether or not the EIA review is to be conducted through public hearing. Where the Council decides or is requested to convene a public hearing, it will display and make available for inspection and copying all relevant reports, documents and written submissions made during and after the period of review until the first public hearing is finalised (90-(3)).

Beneficiaries under WSDP sub project or any affected/interested party, have the right to appeal. If dissatisfied with the decision reached at any stage in the EIA process, the affected party has the right of appeal to the Minister responsible for Environment.

#### **4.8 Dam Safety**

Dams are important structures for storing water, regulating flows and containing floods. However, establishment of dams and reservoirs in a watercourse automatically introduces the element of risk and possible loss of life and property to the people living downstream due to possibility of dam failure, environmental as well as social and economic aspects during construction. In addition, operation of reservoirs, which does not follow established rules, threatens the safety of dams and is a source of undue wastage of water. Sedimentation of reservoirs is also a problem as it reduces storage capacities and hence their useful life.

In Tanzania any one who owns the Water right or any legal right of constructing a dam can own and manage it. However, the owner shall be responsible for ensuring that appropriate measures are taken and sufficient resources provided for the safety of the dam, irrespective of its funding sources or construction status. Due to serious consequences that may occur if a dam does not function properly or fails, the financiers are usually concerned about the safety the existing and new dams.

In order to have dams appropriately registered, owned and operated according to the National water Policy (2002) and current legislation, the following measures have to be implemented:

- (i) Dams will be constructed, operated and maintained by the respective owners in accordance with established procedures and guidelines.
- (ii) Dams will be owned by those who invested in their construction in accordance with established procedure and regulations.
- (iii) The impounded water resources will remain public property and its use will be governed by established rules and regulations.
- (iv) Dam owners and potential developers will be required to prepare dam safety monitoring plans and implement them in accordance with the established procedures.

##### **4.8.1 Rationale For Dam Safety**

Dam Safety aims at taking corrective actions to reduce or eliminate identified or potential risks in an efficient and cost effective manner and to protect public safety, life and property. Therefore for any proposed Dam Project it must have a dam safety management program to incorporate dam safety values as part of the culture of the organization and the day-to-day operations.

The program will comprise policies, procedures and investigations that minimize the risk of dam failure. For any dam that has to be established under the WSDP it has to have a dam safety management program that will include the following: site investigation, design, construction, operation and maintenance, surveillance, remedial action and modification.

## 4.8.2 Dam Classifications

As a definition according to the draft legislation, a dam is any existing or proposed structure, which is capable of containing, storing or impounding water, including temporary impoundment or storage, whether that water contains any substance or not; In this legislation, dams are categorised according to the level of risks as follows:

“Dam with a safety risk” means any dam:-

(a) which can contain, store or dam more than 50,000 cubic metres of water, whether that water contains any substance or not, and which has a wall of a vertical height of more than five metres, measured as the vertical difference between the lowest downstream ground elevation on the outside of the dam wall and the non-overspill crest level or the general top level of the dam wall;

(b) belonging to a category of dams declared under Section 91 (2) to be dams with a safety risk; or;

(c) declared under Section 91 (3)(a) to be a dam with a safety risk;

“owner of a dam” or “owner of a dam with a safety risk” includes the person in control of that dam; and

“task” includes a task relating to designing, constructing, altering, repairing, impounding water in, operating, evaluating the safety of, maintaining, monitoring or abandoning a dam with a safety risk.

In absence of the above dam classification criteria, the international criteria prevail whereas. The safety measures usually differ according to the size of the Dams.

**Small Dams:** These are dams which are normally less than 15meters in height . In this category included are farm ponds, silt retention dams. Such dams generic dam safety measures designed by qualified engineers are usually adequate.

**Large Dams:** These are dams with height of 15meters or more, whereas dams with height between 10 and 15meters in height are considered as large dams if have complex designs eg. a large flood handling requirement, location in high seismicity, complex foundation. In other cases dams less than 10m height may be treated as large dams if they are to become large dams during the operation of the facility.

## 4.8.3 Safeguard Management Associated With Dams

### Generic dam safety management.

Dams management are necessary measures to ensure corrective actions are taken to reduce or eliminate identified or potential risks in an efficient and cost effective manner. This is done to protect the public safety life and property.

- Must be stable under all loading conditions( i.e construction, operation and seismic)
- Dam and foundation must have adequate seepage
- Must have sufficient spillway and outlet capacity along with adequate freeboard to prevent over-topping by the reservoir and wave action
- Environmentally responsive in both upstream and downstream side of a dam.
- Operation and maintenance manual must be provided



- Must have adequate instrumentation to monitor performance
- Must have monitoring and surveillance plans
- Emergency action plan: emergency identification, notification and response plans
- Schedule for comprehensive review, evaluation and periodic inspection.

### **Special Safety management for Large Dams**

In case large dams are to be constructed as a result of this programme ,it will involve preparation of comprehensive dam safety analysis to ensure that dam safety measures are included. In addition to the generic dam safety measures, other measures for large dams are as follows:

- (a) To ensure that the project meets the VMB safeguard policy, it will appoint an independent panel of experts to review the investigation, site, instrumentation plan, capacity for monitoring and commencement of the operation,
- (b) The project will prepare and implement the following: plan for construction, quality assurance, instrumentation plan, operation and maintenance and emergency preparedness plan
- (c) Periodic safety inspection of the dam after completion.

#### 4.8.4 Dam Safety requirements

Table 4.1 Dam requirement for safety before and after construction.

N O	Safety measures before construction	After Construction -Operation
	Environmentally responsive in terms of site selection conservation of flora and fauna in both up and down stream of the dam.	Take inventory for all dams in the county in order to establish priority for dam safety inspection, based on damage potentials.
	Monitoring and surveillance plans Documentation – design, construction and operation records	Create and maintain a dam safety file for evaluation, investigation programme, develop appropriate corrective measure, and potential information availability.
	Emergency action plan: emergency identification, notification and response plans	Conduct regular scheduled dam safety inspections, in order to determine the status of a dam and its features relative to its structural and operational safety. To know the behaviour characteristics during construction impounding, operation, maintenance and at emergence eg earthquake.
	Schedule for comprehensive review, evaluation and periodic inspection	Analyse potential deficiency
	Must be stable under all loading conditions (i.e construction, Operation and seismic)	Take corrective actions immediately after identification.
	Must have sufficient spillway and outlet capacity along with adequate freeboard to prevent over-topping by the reservoir and wave action	Monitor the dam body by instrumentation.
	Dam and foundation must have adequate seepage	Monitor seepage by instrumentation
	Operation and maintenance manual must be provided	Conduct regular inspection to check use of manual
	Must have adequate instrumentation to monitor performance	Make regular inspection of instrument soundness

## 5.0 ENVIRONMENTAL MONITORING

Environmental monitoring needs to be carried out during the construction as well as operation, maintenance and implementation and decommissioning phases of the projects in order to measure the success of the mitigation measures implemented earlier. This shall include annual review as given in the Guidelines in Annex E. Under WSDP, the responsibilities for monitoring and evaluation of the mitigation measures adopted under the projects would be assigned at different institutional levels:

### 5.1 The Institutional Arrangement For Environmental Monitoring

The National Environment Policy 1997 recognises the need for a multi-focus approach in the management of the environment. It therefore recognises the existing institutional Mechanisms and seeks to enhance coordination and cooperation of the institutionally distinct bodies with overlapping mandates in so doing, the policy recognises the Ministry responsible for environment as "the authoritative voice and catalyst for action on behalf of the entire Government as the policy guidance institution, the Ministry responsible with Environment is expected to be an overseer for the implementation of the policies under the jurisdiction of the line ministries.

### 5.2 National level

Under this set up, sector Ministries are expected to represent constituencies of the ministry responsible for environment with an informed voice and commitment to environmental outcomes. Therefore sector ministries are expected to be provided with proper legislative tools for handling their work and with well-delineated spheres of supervisory powers. The National Environment Management Council (NEMC) is a body that was established by National Environmental Management Act, 1983, and repealed by Environment Management EMA, 2004, shall keep its advisory role, enforce, pollution control, technical arbitration role in the undertaking of EIA.

**(i) The National Environment Management Council (NEMC)** will perform an enforcement-monitoring role supported by the MoW, and the LGAs based on submissions and recommendations from the Environmental Management Officers at the different LGA levels. NEMC would primarily achieve this objective through periodic field visits, supporting the Training Program and through technical assistance and backup services to the Local Governments.

**(ii) Ministry of Water (MoW)** will perform a monitoring oversight function for the entire WSDP. The monitoring guidelines developed by the Environment Management Coordinator of the Ministry to monitor performance and progress will include parameters for compliance to proposed measures safeguarding against environmental and social impacts. Monitoring activities by the implementers, Environmental Management Committees, NEMC and MoW will be carried out through regular programme audits.

### 5.3 Regional level

At the Regional level including Municipalities have a Policy Committee on the Environment composed by District Commissioners and chaired by the Regional Commissioner. The Region committee is responsible for matters affecting the environment in the region and provides guidance or propose policy measures and actions.

## 5.4 District level

Environmental Management Officers and their respective Environmental Management Committees at the District, Ward and Village level, as appropriate, will be responsible for the day to day monitoring and reporting of feedback throughout the life of the project, specifically the monitoring of (i) the environmental and social assessment work; (ii) the implementation of the Resettlement Action Plans; (iii) monitoring of environmental issues and the supervision of the civil works contractors with respect to environmental matters during the construction process (iv) monitoring of environmental issues during operations and during maintenance of the infrastructure and facilities when handed over to the communities after construction; (v) submission of monitoring reports to higher councils for eventual submission to central government — NEMC and MoW.

The District Environmental Management Committee and the District Environmental Management Officer will oversee compliance and effects monitoring to check whether prescribed actions and monitoring have been carried out. In close collaboration with the project implementers they/he will ensure that the monitoring plan as contained in the individual project proposals is implemented. The DEMO in collaboration with the DEMC will consolidate the project specific monitoring reports into one common report and submit the report to NEMC and MoW.

## 5.5 Community:

The communities will use NGOs & CBOs in the monitoring activities and will be enabled to pass on their observations and concerns through acceptable mechanisms to the local government/council and higher authorities.

## 5.6 Annual Reviews

The Objectives of annual reviews of ESMF implementation are two-fold: to assess project performance in complying with ESMF procedures, learn lessons, and improve future performance; and to assess the occurrence of, and potential for, cumulative impacts due to project-funded and other development activities.

The annual reviews are intended to be used by Project management to improve procedures and capacity for integrating natural resources and environmental/social management into Project operations. They will also be a principal source of information to World Bank/Development Partners supervision Mission, and Joint Water Sector Reviews.

Annual reviews should be undertaken after the annual ESMF report has been prepared, at the closing of each year of the Project. It is expected that each review would require 3-4 weeks of field work (interviews, examination of subprojects), and that the review report would be completed within 2 weeks of completing the fieldwork. The Technical audits for ESMF and RPF is assumed to be about 40% of all technical audits in WSDP. For the period up to 2025, a total cost of USD 2.1 million is allocated for the reviews for the whole programme period.

## The Cost for Annual Reviews

<u>S/N</u>	<u>CATEGORY</u>	<u>REVIEWER</u>	<u>AMOUNT</u>
	<u>A. Performance Assessment</u>		
<u>1</u>	Assess adequacy of the subproject approval process and procedures	<u>NEMC, MoW and Consultants</u>	15% or 0.32
<u>2</u>	Assess adequacy of roles and responsibilities, procedures, forms, information resource materials.	<u>NEMC, Councils, MoW and Consultants</u>	15% or 0.32
<u>3</u>	Assess needs for training and capacity building	<u>NEMC, Councils, MoW and Consultants</u>	20% or 0.42
<u>4</u>	Identify key risks to the environmental and social sustainability of subprojects; and	<u>NEMC, Councils, MoW and Consultants</u>	20% or 0.42
	<u>B. Cumulative Impacts Assessment</u>		
	<u>Establish Early warning system for detecting potential cumulative impacts</u>	<u>NEMC, Councils, MoW and Consultants</u>	30% or 0.63
			100% or 2.1

The principal output is an **annual review report** that documents the review methodology, summarizes the results, and provides practical recommendations. Distinct sections should address a) ESMF performance and b) cumulative impacts. Annexes should provide the detailed results of the field work, and summarize the number of approved subprojects by district and their characteristics according to the annual report format.

Copies of the annual review reports should be delivered to Project management, to each district office responsible for appraisal, approval and implementation of subprojects,. Project management (central or district) may also want to host national or district workshops to review and discuss the review findings and recommendations.

The Guidelines for Annual review are given in Annex H

**Table 5.1 Relevant Key Institutions roles and responsibility in environmental monitoring of WSDP**

LEVEL	INSTITUTIONS	ROLES AND RESPONSIBILITIES	REMARKS
National level	Ministry of Environment	<ul style="list-style-type: none"> <li>Overall planning and implementation of all environmental matters.</li> <li>Articulation of policy guidelines necessary for promotion and protection</li> <li>To issue guidelines to sector Ministries and coordinate all agencies, public/private Institutions related to environmental management.</li> <li>To monitor and assess activities being carried out by other agencies on environmental issues.</li> </ul>	According to environmental Management Act No 20 of ,2004
	NEMC	<ul style="list-style-type: none"> <li>perform an enforcement-monitoring role supported by the MoW, and the LGAs based on submissions and recommendations from the EMO at the different LGA levels.</li> <li>ensure that the monitoring plan for the overall monitoring of the entire WSDP requirements is implemented</li> <li>ensure that individual project mitigation measures are effective at the cumulative and national level</li> </ul>	According to environmental Management Act No 20 of ,2004
	Ministry of Water	<ul style="list-style-type: none"> <li>perform a monitoring oversight function for the entire WSDP.</li> <li>Support enforce of environmental law</li> </ul>	According to environmental Management Act, No 20 of 2004
	Ministry of Land and Urban Development	<ul style="list-style-type: none"> <li>Issuance of right of Occupancy</li> <li>Land use plans</li> <li>Valuation and compensation</li> </ul>	According to the Land Act, 1999
Regional Level	Regional Secretariat	<ul style="list-style-type: none"> <li>Coordination of all advise on environmental management in their respective regions</li> <li>Advice the local authorities on matters related to implementation and enforcement of the Act.</li> </ul>	According to Environmental Act, No 20 of 2004
	NGOs&CBOs	<ul style="list-style-type: none"> <li>Regional Environmental watchdog</li> <li>Education and awareness raising on environmental management</li> <li>Stakeholder platform for voice</li> </ul>	Civil Society rights and responsibilities
District Levels/Local level	Districts/Ward	<ul style="list-style-type: none"> <li>Advice Committees, departments on environmental matters,</li> <li>Promote environmental awareness</li> <li>Gather and manage information on environment and utilization of resources</li> <li>Monitor the preparation, review and approval of environmental impact Assessment of local investors.</li> <li>Review bi-laws on environmental management and on sector specific activities related to the environment</li> </ul>	Environmental Management Act No 20 of , 2004
Community Level	Village	<ul style="list-style-type: none"> <li>identification of indicators for monitoring the mitigating measures</li> <li>monitoring the execution of works with respect to environmental aspects, e.g. verify the compliances of the contractors with their obligations;</li> <li>overall environmental monitoring and alerting on any emerging environmental hazards in conjunction with</li> </ul>	Civil Society rights and responsibilities  44

### 5.5.1 Monitoring Indicators

Monitoring objectives are (i) to alert project authorities and to provide timely information about the success or otherwise of the EIA and public consultation processes as outlined in this ESMF so that changes can be made, if required, and (ii) to make a final evaluations determining whether the mitigation measures designed into projects have been successful.

Key indicators will be used to determine the status of affected people and their environment. Project EIAs will each set three goals by which their success or otherwise can be evaluated:

- affected individuals, households, and communities are able to maintain or improve upon their pre-project standard of living;
- the pre-project environmental state of natural resources, bio-diversity and flora and fauna, been maintained or improved upon; and
- local communities remain supportive of the project.

In order to assess whether these are met, projects will indicate parameters to be monitored, institute monitoring milestones and provide resources necessary to carry out the monitoring activities.

## **6.0 CAPACITY BUILDING FOR ENVIRONMENTAL AND SOCIAL MANAGEMENT**

The ESMF will be implemented through the use of existing local government, regional and national structures. However, these institutions need strengthening through training to build their capacities.

Successful implementation of the ESMF will require dynamic and multi-disciplinary professionals that have general knowledge in environment management and specific skills in the use of the ESMF and the screening process. Short and tailor-made training courses and seminars will be required to reinforce the capacity and skills of the key stakeholders and officers, to carry out the environmental management activities of the ESMF. In particular, the key stakeholders participating in the WSDP will require capacity building.

PMO-RALG has a Capacity Building Programme intended to provide local authorities with resources to invest in capacity building for the management of infrastructure projects under the Capital Grants Program and other investments. The capacity building grant should also be accessed by Local Governments for enhancing their skills in environmental and social issues so that they are able to implement the above proposed screening process and mitigation measures.

For the purpose of this ESMF, capacity building should be targeted at the planners, implementers and reviewers of the projects under the WSDP. The first steps should focus on assessing the capacity building needs.

### **6.1 Institutional Capacity Building Assessment**

#### **6.1.1 National Environment Management Council (NEMC)**

It is recognised that the Institutional and Human resource capacity needs are below standard at National as well as at District level. It is beyond the scope of this project to engage itself in building the National capacity for environmental management in general. The project however recognises the paramount importance of building environmental management capacity in the water sector. And as indicated above we have outlined a budget for this particular purpose. In collaboration with other development partners, environmental management capacity at NEMC, DoE and Districts will be achieved in the years to come, as shown in the capacity building flow chart.

It is further recommended that technical assistance from more experienced environmental practitioners (from NEMC for example) is sought to train and “mentor” LGA, DWST, RWST and Water Authority staff and support them in building skills and experience. It is recommended that the NEMC EIA Training Resource Manual for Districts developed in 2000, and also the resource manual for Environment and Gender Mainstreaming in District Planning developed by the Royal Netherlands Embassy (Tanzania) in 2000, be reviewed and revised to incorporate aspects proposed in this framework for WSDP projects. In collaboration with the NEMC, the Ministry of Water will support training of relevant/responsible people in Local Governments DWSTs, RWSTs and Water Authorities in environmental screening, assessment, mitigation planning and management.



### **6.1.2 The Ministry of Water**

The Ministry of Water has developed policy and strategies that recognise that water, like any other natural resource, should be developed and managed to satisfy the present social and economic needs, without sacrificing the aspiration of the future generations. For the WSDP, the relevant staff of the Ministry in the centre will need high level training to enhance their skills and their awareness levels, to enable them to analyse and appreciate the environmental and social problems associated with infrastructure development.

### **6.1.3 Basin Water Officers, Regional Water and Sanitation Teams (RWSTs)**

The BWOs and RWSTs have an obligation to encourage sustainable water resources use and management including water conservation and water catchments protection. Due to increasing environmental degradation and water pollution, it has become imperative that the Regional Secretariats and Water Basin Offices ensure that water resources are used in an environmentally sustainable manner. Hence, the Regional Secretariats and Water Basin Offices have to become more environmentally conscious and capable. For the WSDP, their officers need to be trained in the implementation of the ESMF, and particularly in the screening process.

### **6.1.4 Project planners and implementers in LGAs, BWOs, RWSTs DWSTs and Water Authorities**

The higher local governments have the basic knowledge and capacity to undergo training in the environmental screening and EIA process so that they are able to support the lower local governments. Training in this context will be to (i) enhance their ability to mainstream environmental and social aspects in project planning, design and implementation and (ii) enable them to undertake environmental screening and oversee/support the consultative and monitoring processes described above.

The training of these staff (and particularly the Environmental Officers) will also take the form of training-of-trainers (TOT) in the areas of environmental and social screening, impact assessment, developing mitigation plans, monitoring and reporting etc. Subsequently they would then be able to train staff and community representatives at LLGAs as required. The training will be given for DEMOs, DEMCs, RWSTs, DWSTs, Technical Service Providers (TSPs) and Facilitation Service Providers (FSPs) within the WSDP's three week long Introductory, Full Training and Refresher Courses. The objective is to equip these technical staff with the necessary skills to implement the ESMF thereby ensuring that the project activities under the WSDP are environmentally sustainable. Qualified consultants and NEMC staff will provide this level of training.

### **6.1.5 Environmental Management Officers at village and community level**

At this level, those involved in the planning and implementation of projects will be trained in how to screen projects, how to implement and monitor their EMP's, and how to manage the EIA process as outlined in this ESMF. Subsequently, they will then train members of Environmental Management Committees, members of WUEs and Water and Sanitation Committees (WATSANs), and community representatives. The trained District Environmental Management Officers will provide training at this level.



**Table 6.1 ESMF Capacity Building Requirements and Cost Estimates**

S/N	TRAINING	TRAINEES AND TRAINERS	MEANS OF VERIFICATION	TIME AND LOCATION	COST ESTIMATES (USD Million)
1	▫ ESMF International Water Ways	Ministry of Water HQ Staff	Environmental Management Officers and 4 relevant staff trained in each Division of MoW	Venue: MoW HQ	10% or 0.36
	▫ Environmental and Social Impact Assessment			Length: 2 days	
	▫ Relevant Environmental Policies and laws in Tanzania	<b>TRAINER: NEMC and/or Consultant</b>			
	▫ The Screening Process.				
2	▫ EMSF and International Water Ways	▫ Environment Management Officers	Minimum number of relevant staff trained:	Venue: The District, Region and LLG offices	40% or 1.42
	▫ Environmental and Social Impact Assessment	▫ Members of RWST, DWST, BWO, UWSA, TSP, FSP and Executive Agencies (EA)	▫ 20 Regional Water Experts and Trainer Coaches	Length: 3 weeks	
	▫ Relevant Environmental Policies and laws in Tanzania	▫ District Council and their DEMC members	▫ 2 staff of each BWO		
	▫ The Screening Process.		▫ 3 members of each DWST,		
	▫ Use of checklists and Environmental Management Plans		▫ 2 staff of each EA		
	▫ EIAs	<b>TRAINER: NEMC or consultant</b>	▫ 2 staff each of the TSP and FSP for all districts,		
	▫ Monitoring		▫ 3 members of each District Council EMC,		

	Public consultation		District Environmental Management Officer trained in each District		
	Report preparation		3 staff of each UMSAs trained		
3	Overview of :	Members of EMCs,	3 members of each Village Council trained	Venue: The District and Village Government Offices	20% or 0.71
	ESMF	Members of WUEs and WATSANs, and	3 staff of all contractors trained	Length: 2 days	
	The screening process.	community members	members of community wanting training are trained		
	Use of checklists and plans	Staff of contractors			
	Identification of mitigation measures				
	EIA				
	Monitoring and consultation	<b>TRAINER: District Environmental Management Officer</b>			
4	HIV/AIDS and Programme Implementation:		Minimum number of relevant staff trained:	Venue: District Council Offices	15% or 0.53
	Impacts of HIV/AIDS on social wellbeing, livelihood and projects	Environment Management Officers	20 Regional Water Experts	Length: 3 days	
	Mitigation measures	Members of RWST, DWST, BWO, UWSA, TSP, FSP and Executive Agencies (EA)	2 staff of each BWO		

	□ Care of the affected	□ District Council and their EMC members	□ 3 members of each DWST,		
		□ Members of EMCs,	□ 2 staff of each EA		
		□ Members of WJEs and WATSANs, and	□ 2 staff each of the TSP		
		□ community members	□ 4 relevant staff trained in each Division of MoW		
			□ 3 members of each Village Council trained		
		TRAINER: TACAIDS, MoW, RWST, DWST, MoHSW	□ 3 staff of all contractors trained		
			□ 5 Ward Development Committee Members from each Ward are trained.		
5	Hygiene and sanitation	□Members of RWST, DWST, UWSA,	□20 Regional Water Experts	Venue: The District offices	15% or 0.53
	□Water supply	□District Council and their EMC members	□2 members of each DWST,	Length: 5days	
	□Sanitation	□Members of EMCs,	□2 relevant staff trained in each Division of MoW		
	□Water and sanitation related diseases	□Members of WJEs and WATSANs.	□ 3 members of each Village Council trained		
		TRAINER: TSP & FSP			

TOTAL COST				100% or 3.55
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The Capacity Building mentioned here is part of the bigger capacity building framework whose budget is 38.55 USD million , which will be funded by the project. A budget is set aside for institutional capacity building for ESMF and RPF equivalent to **3.55 million** USD within the WSDP. The funds shall be shared equally.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

This Environmental and Social Management Framework has been prepared in order to guide project planners, implementers and other stakeholders to identify and mitigate environmental and social impacts of the WSDP. This framework will apply to any project activity within the WSDP.

It is also to be appreciated that the project sites proposed for the WSDP are dynamic and prone to environmental and social impacts that may be generated from activities of other future development projects. These impacts may affect the project locations for the WSDP. In accordance with the National Environmental Management Act other existing and new project activities outside the WSDP will have their own environmental and social management frameworks and plans.

Successful implementation of this ESMF will depend to a large extent on the involvement and participation of local communities.

Specifically it is recommended that:

- Environmental and Social awareness and education for the key stakeholders and affected communities must be an integral part of the ESMF implementation.
- District and local community structures should be adequately trained to implement the screening process, and where required to develop and to implement appropriate Environmental and Social Management and Monitoring Plans.
- This ESMF should be regularly updated to respond to changing local conditions. It should go through the national approval process, reviewed and approved. It should also incorporate lessons learned from implementing various components of the project activities.
- The District Councils should be assisted to develop appropriate information management systems to support the environmental and social management process.
- The Environmental Management Officer should be empowered to adequately administer the ESMF and should be given the necessary support and resources to ensure effective implementation.

This ESMF will provide WSDP implementers with the screening, planning and EIA processes that will enable them to identify, assess and mitigate potential negative environmental and social impacts and to ensure proper mitigation measures are taken.



**ANNEX A: An Example of Environmental and Social Management Checklist and Monitoring Plan**

ITEM NO.	ACTIVITY	POTENTIAL ENVIRONMENTAL/SOCIAL IMPACT	PROPOSED CONTROL / MITIGATION MEASURES AND TIMING	RESPONSIBLE INSTITUTION	MONITORING INSTITUTION/ INDICATORS	MONITORING FREQUENCY	COSTS TSH X 1000
			<ul style="list-style-type: none"> <li>•</li> </ul>				
1.1	Site clearance, for: survey, dam exploration, haul road, waste rocks dump, borrow pits, borehole drilling mud pits, intake , treatment and storage structures ,	Nuisance (noise and dust), Soil Erosion, land degradation, loss of biodiversity, siltation, Loss of farm land, other assets, or impact on livelihood , Water pollution from loose soil	<ul style="list-style-type: none"> <li>• Regulate traffic speed and movement. Apply daily water sprays to suppress dust.</li> <li>• Enforce permission for any land use,</li> <li>• , Stockpile all stripped top soil for use in rehabilitation,</li> <li>• collect and use indigenous plants for rehabilitation</li> <li>• Compaction of loose material Diversion of storm water flows from construction sites.</li> </ul>	Contractor /Consultant	<b>DWST. TSP DEMC</b> Number of complaints, Quantities of soil lost in hectares, Formation of gullies, Water quality (turbidity)	Weekly during construction	
1.3			<ul style="list-style-type: none"> <li>• Limit number of vehicles and area of construction.</li> <li>•</li> <li>•</li> </ul>	Contractor /Consultant	<b>TSP, DWST. DEMC</b>	Weekly during the entire period of construction	

ITEM NO.	ACTIVITY	POTENTIAL ENVIRONMENTAL/SOCIAL IMPACT	PROPOSED CONTROL / MITIGATION MEASURES AND TIMING	RESPONSIBLE INSTITUTION	MONITORING INSTITUTION/ INDICATORS	MONITORING FREQUENCY	COSTS TSH X 1000
2.0	Construction and maintenances of Infrastructures	Water pollution from oil spills, Loss of aesthetics, land degradation, erosion and siltation, disturbance of aquatic life , construction waste and solid waste, Siltation and flooding of water bodies	<ul style="list-style-type: none"> <li>• Proper and regular maintenance of vehicles, plants</li> <li>• Construction of oil interceptor for workshop discharges.</li> <li>• Construct proper waste disposal facilities</li> <li>• Ensure proper operation and maintenance of waste disposal facilities</li> </ul>	Contractor /Consultant	<b>TSP, DWST. DEMC</b>  Water quality (Oil content)  Water quality (pollution parameters such as, BOD, COD, Coliform etc)	Weekly during the entire period of construction	
			<ul style="list-style-type: none"> <li>• Limit number of vehicles and area of construction.</li> <li>• Compaction of loose material.</li> <li>• Diversion of storm water flows from construction sites.</li> <li>• Proper design and construction of drainage channels.</li> </ul>	Contractor /Consultant	<b>TSP, DWST. DEMC</b>  Water quality (Total and suspended solids)	Weekly during the entire period of construction	

ITEM NO.	ACTIVITY	POTENTIAL ENVIRONMENTAL/SOCIAL IMPACT	PROPOSED CONTROL / MITIGATION MEASURES AND TIMING	RESPONSIBLE INSTITUTION	MONITORING INSTITUTION/ INDICATORS	MONITORING FREQUENCY	COSTS TSH X 1000
		Loss of biodiversity (animals, trees, vegetation, and greenery beauty).	<ul style="list-style-type: none"> <li>• Minimise number of trees cut.</li> <li>• Limit construction area.</li> <li>• Re-vegetation.</li> </ul>	Contractor /Consultant	TSP, DWST, DEMC Number of trees cut Area of land cleared	Weekly	
		Loss of farm land, other assets, or impact on livelihood	<ul style="list-style-type: none"> <li>• Follow proper land acquisition procedures.</li> <li>• Provide alternative and prepare RAP based on RPF.</li> <li>• Provide compensation.</li> </ul>	Contractor /Consultant	DWST, NEMC, DEMC LANDS -Area of land lost to project activities -Type and quantity of assets lost	Once during design Every three months during construction	

ITEM NO.	ACTIVITY	POTENTIAL ENVIRONMENTAL/SOCIAL IMPACT	PROPOSED CONTROL / MITIGATION MEASURES AND TIMING	RESPONSIBLE INSTITUTION	MONITORING INSTITUTION/ INDICATORS	MONITORING FREQUENCY	COSTS TSH X 1000
3	Operation of water and waste water projects	Increase in spread of STI's	<ul style="list-style-type: none"> <li>• Consult with local community and health workers to strengthen health awareness.</li> <li>• Provide HIV/AIDS and health awareness education to all workers on the site.</li> <li>• Develop and implement an appropriate OS &amp; H policy.</li> <li>•</li> </ul>	Contractor	<b>DHO MIN. OF HEALTH</b> Number of cases of infected persons	Once every month during construction	
		Vector diseases	<ul style="list-style-type: none"> <li>• Install aprons, drains and soak ways.</li> <li>• Use lined drainage canals or pipes to avoid water logging.</li> </ul> Conduct hygiene education.	Water users, DWE, UWSA, BWOs,	<b>DWST, DHO MOH, NGOs&amp;CB Os</b> Number of new cases of infected persons Increase in population of vectors	Every month during the entire operation	

ITEM NO.	ACTIVITY	POTENTIAL ENVIRONMENTAL/SOCIAL IMPACT	PROPOSED CONTROL / MITIGATION MEASURES AND TIMING	RESPONSIBLE INSTITUTION	MONITORING INSTITUTION/ INDICATORS	MONITORING FREQUENCY	COSTS TSH X 1000
		Discharge of Sewage Effluent	<ul style="list-style-type: none"> <li>Improve treatment before discharge.</li> </ul>	DWE, UWSA, BWOs, WUA,	DWST, DEO, DEMC Number of reported complaints. Effluent quality	Every week during the entire operation	
		Regulation of catchment areas against encroachment	<ul style="list-style-type: none"> <li>Ensure resettlement policy is adhered to (LGF).</li> </ul>	WUE Local Council, BWOs, DNRO	DWST, LGC, Min. Lands. DEMC Number of complaints	Every month	
4.0	decommissioning/demobilization	Nuisance	<ul style="list-style-type: none"> <li>Regulate traffic speed and movement. Apply daily water sprays to suppress dust.</li> </ul>	Contractor /Consultant	DWST. DEMC Number of complaints on dust	During decommissioning	
		Demolition of construction site	<ul style="list-style-type: none"> <li>Reinstatement of site.</li> <li>Backfill all voids where possible and reinstate water courses around the sites.</li> <li>Revegetate</li> <li></li> </ul>	Contractor	TSP, DWST. DEMC	During decommissioning	

ITEM NO.	ACTIVITY	POTENTIAL ENVIRONMENTAL/SOCIAL IMPACT	PROPOSED CONTROL / MITIGATION MEASURES AND TIMING	RESPONSIBLE INSTITUTION	MONITORING INSTITUTION/ INDICATORS	MONITORING FREQUENCY	COSTS TSH X 1000
		Decreased employment levels leading to vandalism of project facilities	<ul style="list-style-type: none"> <li>• Pay terminal benefits where appropriate.</li> <li>• Provide awareness and counselling for retrenchment consequences.</li> <li>• Hold meetings with local communities to discuss decommissioning and closure issues.</li> </ul>	Contractor /Local Leaders	LGA, DEMC	Ongoing	

## ANNEX B: Environmental and Social Screening Form

### INTRODUCTION

This Environmental and Social Screening Form (ESSF) has been designed to assist in the evaluation of planned construction and rehabilitation activities under the Water Sector Development Programme. The form will assist the project implementers and reviewers to identify environmental and social impacts and their mitigation measures, if any. It will also assist in the determination of requirements for further environmental work (such as EIA), and social work (such as RAP) if necessary.

The form helps to determine the characteristics of the prevailing local bio-physical and social environment with the aim of assessing the potential impacts of the construction and rehabilitation activities on the environment by the WSDP. The ESSF will also assist in identifying potential socio-economic impacts that will require mitigation measures and/or resettlement and compensation.

### GUIDELINES FOR SCREENING

The evaluator should undertake the assignment after:

- gaining adequate knowledge of baseline information of the area.
- gaining knowledge of proposed project activities for the area.
- having been briefed/trained in environmental and social screening.

The form is to be completed with the consensus of at least three people, knowledgeable of the screening process (such as the Environmental Management Officers).

### PART A: GENERAL INFORMATION

<b>Project Name</b>	<b>Estimated Cost (TSh)</b>
<b>Project Site</b>	<b>Funding Agency</b>
<b>Project Objectives</b>	<b>Proposed Main Project Activities:</b>
<b>Name of Evaluator</b>	<b>Date of Field Appraisal</b>

### PART B: BRIEF DESCRIPTION OF THE PROPOSED ACTIVITIES

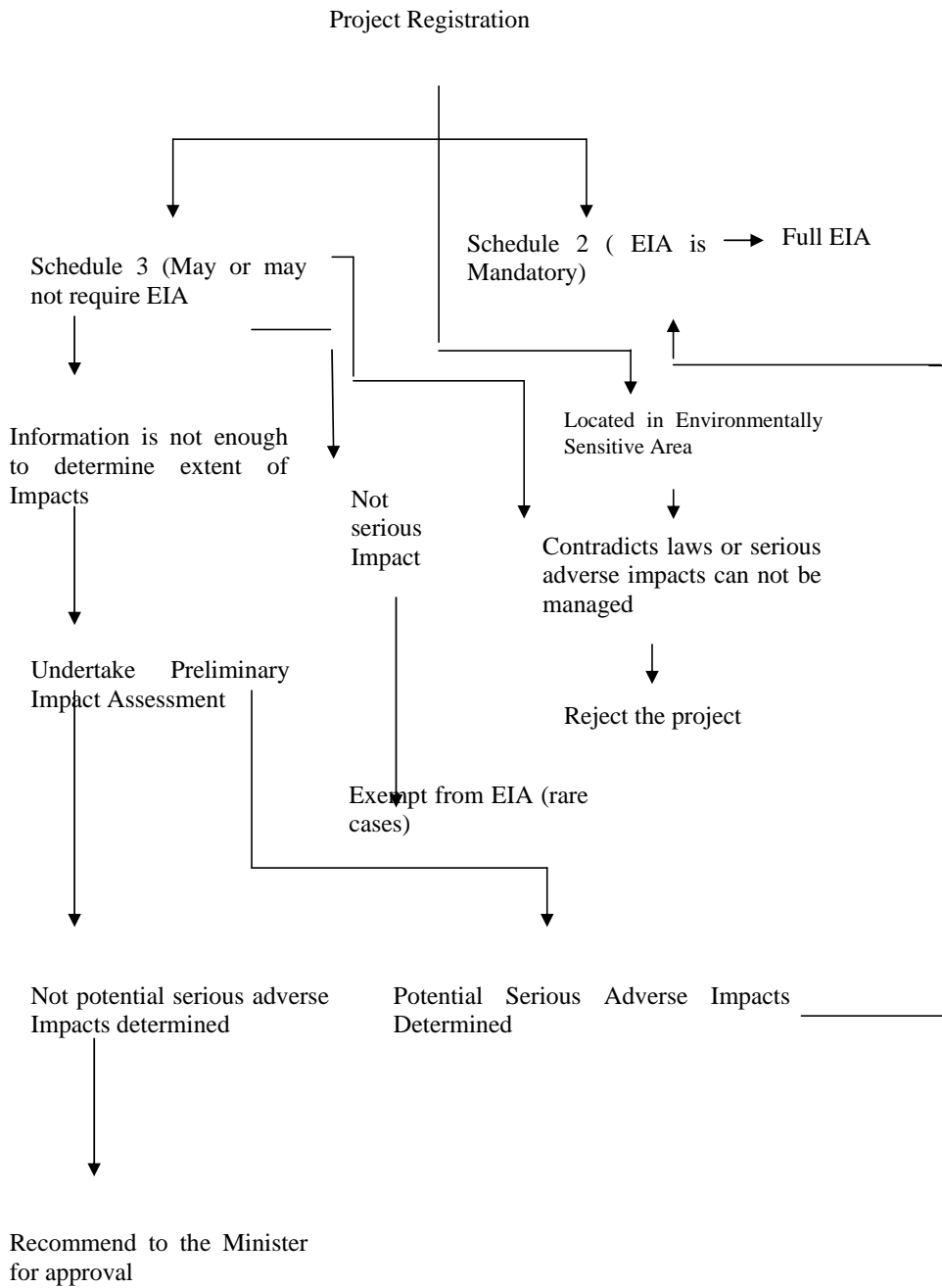
Provide information on the type and scale of the construction/rehabilitation activity (e.g. area, land required and approximate size of structures).

Provide information on the construction activities including support/ancillary structures and activities required to build them, e.g. need to quarry or excavate borrow materials, water source, access roads etc.

Describe how the construction/rehabilitation activities will be carried out. Include description of support/activities and resources required for the construction/rehabilitation.



**SCHEMATIC PRESENTATION OF SCREENING PROCESS**



**PART C: ENVIRONMENTAL BASELINE INFORMATION OF THE PROJECT SITE**

<b>CATEGORY OF BASELINE INFORMATION</b>	<b>BRIEF DESCRIPTION</b>
<b>GEOGRAPHICAL LOCATION</b> <ul style="list-style-type: none"> <li>• Name of the Area (District, Village)</li> <li>• Proposed location of the project (Include a site map of at least 1:10,000 scale)</li> </ul>	<b>No project area identified yet</b>
<b>LAND RESOURCES</b> <ul style="list-style-type: none"> <li>• Topography and Geology of the area</li> <li>• Soils of the area</li> <li>• Main land uses and economic activities</li> </ul>	<b>No project area identified yet</b>
<b>WATER RESOURCES</b> <ul style="list-style-type: none"> <li>• Surface water resources (e.g. rivers, lakes, etc) quantity and quality</li> <li>• Ground water resources quantity and quality</li> </ul>	<b>No project identified yet</b>
<b>BIOLOGICAL RESOURCES</b> <ul style="list-style-type: none"> <li>• Flora (include threatened/endangered/endemic species)</li> <li>• Fauna (include threatened/endangered/endemic species)</li> <li>• Sensitive habitats including protected areas e.g. national parks and forest reserves</li> </ul>	<b>No project identified yet</b>
<b>CLIMATE</b> <ul style="list-style-type: none"> <li>• Temperature</li> <li>• Rainfall</li> </ul>	<b>No project identified yet</b>

**PART D: SCREENING CRITERIA FOR IMPACTS DURING CONSTRUCTION**

AREAS OF IMPACT		IMPACT EVALUATION							POTENTIAL MITIGATION MEASURES
Is the project site/activity within and/ or will it affect the following environmentally sensitive areas?		Extent or coverage (on site, within 3km - 5km or beyond 5km)			Significance (Low, Medium, High)				
	No	Yes	On Site	Within 3-5 km	Beyond 5km	Low	Medium	High	
<b>1.0 SCREENING CRITERIA FOR IMPACTS DURING PROJECT PLANNING AND DESIGN</b>									
1.1	National parks and game reserve								
1.2	Wet-lands								
1.3	Productive traditional agricultural /grazing lands								
1.5	Areas with rare or endangered flora or fauna								
1.6	Areas with outstanding scenery/tourist site								
1.7	Within steep slopes/mountains								
1.8	Dry tropical forests								
1.9	Along lakes , along beaches, riverine								
1.10	Near industrial activities								
1.11	Near human settlements								
1.12	Near cultural heritage sites								
1.13	Within prime ground water recharge area								
1.14	Within prime surface run off								

AREAS OF IMPACT	IMPACT EVALUATION	POTENTIAL MITIGATION MEASURES
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	Will the implementation and operations of the project activities within the selected site generate the following externalities / costs / impacts?	Extent or coverage (on site, within 3km - 5km or beyond 5km)					Significance (Low, Medium, High)			
		No	Yes	On Site	Within 3-5 km	Beyond 5km	Low	Medium	High	
<b>2.0 SCREENING CRITERIA FOR IMPACTS DURING IMPLEMENTATION AND OPERATION</b>										
2.1	Deforestation									
2.2	Soil erosion and siltation									
2.3	Siltation of watercourses, dams									
2.4	Environmental degradation arising from mining of construction materials									
2.5	Damage of wildlife species and habitat									
2.6	Increased exposure to agro-chemical pollutants									
2.7	Hazardous wastes, Asbestos, PCB's									
2.8	Nuisance - smell or noise									
2.9	Reduced water quality									
2.10	Increase in costs of water treatment									
2.11	Soil contamination									
2.12	Loss of soil fertility									
2.13	Salinization or alkalinisation of soils									
2.14	Reduced flow and availability of water									
2.15	Long term depletion of water resource									
2.16	Incidence of flooding									
2.17	Changes in migration patterns of animals									
2.18	Introduce alien plants and animals									

AREAS OF IMPACT		IMPACT EVALUATION							POTENTIAL MITIGATION MEASURES
Will the implementation and operations of the project activities within the selected site generate the following externalities / costs / impacts?		Extent or coverage (on site, within 3km - 5km or beyond 5km)			Significance (Low, Medium, High)				
	No	Yes	On Site	Within 3-5 km	Beyond 5km	Low	Medium	High	
<b>2.0 SCREENING CRITERIA FOR IMPACTS DURING IMPLEMENTATION AND OPERATION</b>									
2.19	Increased incidence of plant and animal diseases								

AREAS OF IMPACT		IMPACT EVALUATION							POTENTIAL MITIGATION MEASURES
Will the implementation and operation of the project activities within the selected site generate the following socio-economic costs/impacts?		Extent or coverage (on site, within 3km - 5km or beyond 5km)			Significance (Low, Medium, High)				
	No	Yes	On Site	Within 3-5 km	Beyond 5km	Low	Medium	High	
<b>3.0 SCREENING CRITERIA FOR SOCIAL AND ECONOMIC IMPACTS</b>									
3.1	Loss of land/land acquisition for human settlement, farming, grazing								
3.2	Loss of assets, property- houses ,agricultural produce etc								
3.3	Loss of livelihood								
3.4	Require a RAP or ARAP								
3.5	Loss of cultural sites, graveyards, monuments <sup>6</sup>								
3.6	Disruption of social fabric								

<sup>6</sup> **NOTE:** projects affecting cultural property negatively will either require specific institutional arrangements to be followed for funding or will not be funded depending on the location of the project

	AREAS OF IMPACT			IMPACT EVALUATION						POTENTIAL MITIGATION MEASURES
	Will the implementation and operation of the project activities within the selected site generate the following socio-economic costs/impacts?			Extent or coverage (on site, within 3km - 5km or beyond 5km)			Significance (Low, Medium, High)			
	No	Yes		On Site	Within 3-5 km	Beyond 5km	Low	Medium	High	
<b>3.0 SCREENING CRITERIA FOR SOCIAL AND ECONOMIC IMPACTS</b>										
3.7										
3.8										
3.9										
3.10										
3.11										
3.12										
3.13										
3.14										
3.15										
3.16										
3.17										

## OVERALL EVALUATION OF THE SCREENING PROCESS ON THE SITE AND PROJECT ACTIVITY

The result of the screening process would be either: (a) the proposed project would be permitted to proceed on the basis of undertaking the identified mitigation measures as part of the project or (b) the proposed project would need an EIA. The basis of these options is listed in the table below:

<b>The Proposed Project Activity Can Be Exempted From EIA and/or RAP Requirements On The Following.</b>	<b>The Proposed Project Activity Needs Further Compliance With EIA Requirements On The Following Observations.</b>
<ul style="list-style-type: none"> <li>Screening indicates that the site of the project will not be within environmentally-sensitive areas .e.g. protected areas</li> </ul>	<ul style="list-style-type: none"> <li>Field appraisals indicate that the project site is within environmentally –sensitive areas, protected areas.</li> </ul>
<ul style="list-style-type: none"> <li>No families will be displaced from the site</li> </ul>	<ul style="list-style-type: none"> <li>Cause adverse socio-economic impacts</li> </ul>
<ul style="list-style-type: none"> <li>Identified impacts are minor, marginal and of little significance</li> </ul>	<ul style="list-style-type: none"> <li>Significant number of people, families will be displaced from site</li> </ul>
<ul style="list-style-type: none"> <li>Mitigation measures for the identified impacts are well understood and practiced in the area</li> </ul>	<ul style="list-style-type: none"> <li>Some of the predicted impacts will be long term, complicated, extensive</li> </ul>
<ul style="list-style-type: none"> <li>The stakeholders have adequate practical experiences in natural resource conservation and management.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate mitigation measures for some predicted impacts are not well known in the area</li> </ul>

- Once the Environmental and Social Screening Form is completed it is analysed by experts from the District Management Environmental Committee who will classify it into the appropriate category based on predetermined criteria and the information provided in the form.
- All projects' in category C proponents will be exempted from further impact assessment hence must be informed to proceed with other necessary mitigation procedures as may be required from the EMP
- All projects recommended for category A and B will require further impact assessment and will have to follow procedures outlined in Part VI of the Environmental Management Act (2004), and Government's Guidelines for Environmental Impact Assessment. (As provide in the NEMC schedule Tree)

## **ANNEX C: Environmental Guidelines for Contractors Undertaking Construction Work in the WSDP**

These Environmental Guidelines for Contractors are prepared for all the contractors to engaged in WSDP construction activities. The guidelines include provisions for proper management of construction sites, safe storage of construction materials and safe disposal of wastes including PCB's and asbestos wastes, where applicable.

### **General Considerations**

- The contractor shall, in all his activities ensure maximum protection of the environment and the socio-economic wellbeing of the people affected by the project, whether within or outside the physical boundaries of the project area.
- Before any construction works begin, the contractor shall ensure that the relevant environmental and land acquisition certificates of authorisation for the works have been obtained.
- In general the contractor shall familiarise with the ESMF and the RPF for the WSDP's subprojects. Specifically, the contractor shall make every effort to follow and implement the recommendations and mitigation measures of the EMP and the RAPs or ARAPs, to the satisfaction of the WSDP and National Environment Management Council, or any such persons or agencies appointed by the NEMC, PMO-RALG or MoW, to inspect the environmental and social components of the WSDP.
- The contractor shall work in cooperation and in coordination with the Project Management Team and/or any other authority appointed to perform or to ensure that the social and environmental work is performed according to the provisions of the ESMF, RPF, RAPS, ARAPs and EMPs.
- The contractor shall always keep on site and make available to environmental authorities or any authorised persons, copies of the EMPs, RAPs and ARAPs for the monitoring and evaluation of environmental and social impacts and the level or progress of their mitigation.
- The contractor shall keep the site clean and improve the conditions of the sub- project area to the required specifications

### **Acquisition of Construction Materials**

The contractor shall ensure that construction materials such as sand, quarry stone, soils or any other construction materials are acquired from approved suppliers and that the production of these materials by the suppliers or the contractor does not violate the environmental regulations or procedures as determined by the NEMC.

### **Movement and Transportation of Construction Materials**

The movement and transportation of construction materials to and within the construction sites shall be done in a manner that generates minimum impacts on the environment and on the community, as required by the EMPs and the RAPs or ARAPs.



## **Storage of Construction Materials and Equipment**

Construction materials shall be stored in a manner to ensure that:

- There is no obstruction of service roads, passages, driveways and footpaths;
- Where it is unavoidable to obstruct any of the service paths, the contractor shall provide temporary or alternate by-passes without inconveniencing the flow of traffic or pedestrians;
- There is no obstruction of drainage channels and natural water courses;
- There is no contamination of surface water, ground water or the ground;
- There is no access by public or unauthorised persons, to materials and equipment storage areas;
- There is no access by staff, without appropriate protective clothing, to materials and equipment storage areas;
- Access by public or unauthorised persons, to hazardous, corrosive or poisonous substances including asbestos lagging, sludge, chemicals, solvents, oils or their receptacles such as boxes, drums, sacks and bags is prohibited;
- Access by staff, without the appropriate protective clothing, to hazardous, corrosive or poisonous substances including asbestos lagging, sludge, chemicals, solvents, oils or their receptacles such as boxes, drums, sacks and bags is prohibited.

## **Safe Disposal of Construction Waste**

Construction waste includes but is not limited to combustion products, dust, metals, rubble, timber, water, waste water and oil. Hence construction waste constitutes solid, liquid and gaseous waste and smoke.

In performing his activities, the contractor shall use the best practical means for preventing emissions of noxious or offensive substances into the air, land and water. He shall make every effort to render any such emissions (if unavoidable) inoffensive and harmless to people and the environment. The means to be used for making the emissions harmless or for preventing the emissions shall be in accordance to the RAPs, ARAPs or the EMPs and with the approval of the relevant Local Government Authority or the NEMC.

The contractor shall, in particular, comply with the regulations for disposal of construction/demolition wastes, waste water, combustion products, dust, metals, rubble and timber. Wastewater treatment and discharge will conform to the applicable regulations by the relevant Local Government Authority and Ministry of Water. Asbestos wastes, PCBs and other hazardous wastes shall be treated and disposed of in conformity with the national regulations and where applicable, with the supervision of qualified personnel.

## **Health and Safety of Workers**

The contractor shall protect the health and safety of workers by providing the necessary and approved protective clothing and by instituting procedures and practices that protect the workers from dangerous operations. The contractor shall be guided by and shall adhere to the relevant national Labour Regulations for the protection of workers.

## ANNEX D: Summary of WB Safeguard Policies and Their Relevance to the WSDP

### Summary of Safeguard Policies

<p>OP 4.01 Environmental Assessment</p>	<p>The objective of this policy is to ensure that projects are environmentally sound and sustainable, and that decision-making is improved through appropriate analysis of actions and of their likely environmental impacts. This policy is triggered if a project is likely to have potential (adverse) environmental risks and impacts in its area of influence.</p>	<p>Depending on the project, and nature of impacts a range of instruments can be used: EIA, environmental audit, hazard or risk assessment and environmental management plan (EMP). When a project is likely to have sectoral or regional impact, a sectoral or regional EA is required. The implementer is responsible for carrying out the EA.</p> <p><b>Under WSDP</b> the implementer has prepared an Environmental and Social Management Framework (ESMF) which outlines the environmental screening process to be applied to projects. The purpose of the environmental screening process is to assess the impacts of future construction activities where the exact scope of investment activities and locations are not known at this time.</p>
<p><b>Natural Habitats</b></p>	<p>This policy recognises that the conservation of natural habitats is essential for long-term sustainable development. Therefore, support will cover protection, maintenance, and rehabilitation of natural habitats in its project financing, as well as policy dialogue and analytical work. This kind of support expects the Borrowers to apply a precautionary approach to natural resource management to ensure opportunities for environmentally sustainable development.</p>	<p>This policy is triggered by any project (including any project under a sector investment or financial intermediary loan) with the potential to cause significant conversion (loss) or degradation of natural habitats whether directly (through construction) or indirectly (through human activities induced by the project).</p> <p><b>Under WSDP</b>, investments that would have negative impacts on natural habitats would not be funded.</p>

<p><b>Forests OP 4.36</b></p>	<p>This policy focuses on the management, conservation, and sustainable development of forest ecosystems and their associated resources. It applies to projects that may/may not have impacts on (a) health and quality of forests; (b) affect the rights and welfare of people and their level of dependence upon or interaction with forests and projects that aim to bring about changes in the management, protection, or utilisation of natural forests or plantations, whether they are publicly, privately or communally owned. However support of the significant conversion or degradation of critical forest areas or related critical natural habitats is not covered.</p>	<p>This policy is triggered by forest sector activities and other interventions which have the potential to impact significantly upon forested areas.  <b>Under WSDP</b>, investments that are likely to affect populations and forests as described in OP 4.36 will not be funded.</p>
<p><b>Pest Management</b></p>	<p>The objective of this policy is to promote the use of biological or environmental control methods and to reduce reliance on synthetic chemical pesticides. In agricultural operations, pest populations are normally controlled through Integrated Pest Management (IPM) approaches. In public health projects, the support is to control pests primarily through environmental methods. The policy further ensures that health and environmental hazards associated with pesticides are minimised. The procurement of pesticides is contingent on an assessment of the nature and degree of associated risk taking into account the proposed use and the intended user.</p>	<p>The policy is triggered if procurement of pesticides is envisaged (either directly through the project or indirectly through on-lending); if the project may affect pest management in a way that harm could be done, even though the project is not envisaged to procure pesticides. This includes projects that may lead to substantially increased pesticide use and subsequent increase in health and environmental risks; and projects that may maintain or expand present pest management practices that are unsustainable.  <b>Under WSDP</b>, Investments leading to an increased use of pesticides will not be funded.</p>
<p><b>Cultural Property OP 4.11</b></p>	<p>This policy aims at assisting in the preservation of cultural property (sites that have archaeological (prehistoric), pale ontological, historical, religious, and unique natural values — this includes remains left by previous human inhabitants (such as maddens, shrines, and battlegrounds) and unique environmental features such as canyons and waterfalls), as well as in the protection and enhancement of cultural properties.</p>	<p>This policy is triggered by projects which, prima facie, entail the risk of damaging cultural property (i.e. any project that includes large scale excavations, movement of earth, surficial environmental changes or demolition).  <b>Under WSDP</b>, investment activities that might have negative impacts on cultural property will not be funded.</p>

<p><b>Indigenous People</b></p>	<p>This policy aims at ensuring that the development process fosters full respect for the dignity, human rights and cultural uniqueness of indigenous peoples; that they do not suffer adverse effects during the development process; and that indigenous peoples receive culturally compatible social and economic benefits.</p>	<p>This policy is triggered if there are indigenous peoples in the project area; when potential adverse impacts on indigenous peoples are anticipated; and if indigenous peoples are among the intended beneficiaries.</p> <p><b>Under WSDP</b>, investment activities that might have negative impacts on indigenous peoples will not be funded.</p>
<p><b>Involuntary Resettlement OP 4.12</b></p>	<p>The objective of this policy is to avoid or minimise involuntary resettlement and, where feasible, exploring all viable alternative project designs. Furthermore, it intends to assist displaced persons in improving their former living standards; it encourages community participation in planning and implementing resettlement; and to provide assistance to affected people, regardless of the legality of title of land.</p>	<p>This policy is triggered not only if physical relocation occurs, but also by any loss of land resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood, whether or not the affected people must move to another location.</p> <p><b>Under WSDP</b>, a Resettlement Policy Framework (RPF) has been prepared which will serve as guidance for projects that involve land acquisition.</p>
<p><b>Safety of Dams OP 4.37</b></p>	<p>This policy focuses on new and existing dams. In the case of new dams, the policy aims at ensuring that experienced and competent professionals design and supervise construction; the implementer adopts and implements dam safety measures for the dam and associated works. In the case of existing dams, the policy ensures that any dam upon which the performance of the project relies is identified, a dam safety assessment is carried out, and necessary additional dam safety measures and remedial work are implemented. The policy also recommends the preparation of a generic dam safety analysis for small dams.</p>	<p>This policy is triggered if the project involves the construction of a large dam (15 m or higher) or a high hazard dam; if a project is dependent on an existing dam, or a dam under construction. For small dams, generic dam safety measures designed by qualified engineers are usually adequate.</p>
<p><b>Projects in International Water OP 4.07</b></p>	<p>The objective of this policy is to ensure that projects affecting international waterways would not affect: (i) relations between the states; and (ii) the efficient utilisation and protection of international waterways.</p>	<p>This policy is triggered if any body of water forms a boundary or any body of water travels between two or more states.</p> <p><b>Under WSDP</b>: riparian states will be formally notified of the WSDP.</p>

<p><b>Projects in disputed areas</b></p>	<p>This policy ensures that projects in disputed areas are dealt with at the earliest possible stage: (a) so as not to affect relations between the neighbouring countries or other claimants.</p>	<p>This policy will be triggered if the proposed project will be in a “disputed area”; if implementer(s) is/are involved in any disputes over an area with any of its neighbours; and if there is a chance that any component or sub-component financed or likely to be financed as part of the project is situated in a disputed area. <b>Under WSDP</b> investment activities will not take place in disputed areas.</p>
<p>OP 4.07 Water Resources Management</p>	<p>Bank involvement in water resources management entails support for providing portable water, sanitation facilities, flood control, and water for productive activities in a manner that is economically viable, environmentally sustainable and socially equitable.</p>	<p>Since WSDP sub projects involve water resources management and water supply provision, OP 4.07 is of relevance to the WSDP.</p>
<p>OP 4.20 Gender and Development</p>	<p>One of the objectives of the Bank’s Gender and Development Policy is to assist member countries to reduce poverty and to enhance economic growth, human wellbeing, and development effectiveness by addressing the gender disparities and inequalities that are barriers to development</p>	<p>The bank periodically assesses the gender dimensions of development within and across sectors in the countries in which it has an active assistance programme such as the proposed WSDP</p>

## ANNEX E: Summary Guidelines for Environmental and Social Impact Assessments for WSDP Guidelines for Environmental and Social Impact Assessment (EIA)

In the event that the environmental and social screening process recommends that an EIA be carried out, the implementers should refer to Tanzania's EIA procedure, keeping in mind the requirements of the safeguard policies, which are summarised in Section 2.2 and in Annex D. For ease of reference, the main steps involved in carrying out EIA are outlined below:

### Carrying out an Environmental Impact Assessment

- **Impact Assessment:** Based on the screening and scoping results, the EIA shall identify and assess positive and negative impacts likely to result from the proposed projects. This uses a variety of methods, including checklists, questionnaires, matrices, overlays, modelling, network analysis and simulations. Opportunities for environmental enhancement should be explored. The extent and quality of available data, key gaps in data, and uncertainties associated with predictions shall be identified or estimated. Topics that do not require further attention should be specified.
- **Analysis of alternatives:** This is an important aspect of the EIA — enhancing the design of a project through consideration of alternatives, as opposed to the more defensive task of reducing the adverse impacts of a given design. This provides a detailed review of alternative approaches and prioritises them into a feasible approach. For each alternative, the environmental costs and benefits should be quantified to the extent possible. The 'do nothing alternative' should always be included, with a discussion of it being adopted — that is, what would the future look like without the proposed project? The 'do nothing alternative' (or, no project) alternative is always feasible and gives a "base case" against which the performance of other alternatives can be compared in terms of environmental impact, economic effects and other performance measures indicated by the objectives.
- **Predictions:** The principal function of EIA is to provide predictive information on the potential implications of the planned projects. Prediction should determine the cause and effect relationship of direct and indirect impacts based on data and information from a wide number of sources on the physical, social, biological, institutional, economic and cultural issues. The quality and availability of data and the analytical techniques and assumptions frequently limit the reliability of prediction. In this context, open dialogue with key stakeholders and the public is vital.
- **Evaluation of significance:** This determines the significance at the levels of the project and its area of influence. Within a specified time and space, a significant impact is the predicted or measured change in an environmental attribute that should be considered in project design, depending on the reliability and accuracy of the prediction and the magnitude of the change.
- **Mitigation:** This identifies measures to avoid and/or to reduce adverse impacts. It also assesses how to plan and manage environmental enhancement. The identified measures need to be undertaken early enough to embed ideas thoroughly into the basic design of a proposed project and to show how future monitoring and evaluation would be carried out. These measures are drawn together into a coherent Environmental and Social Management Plan (ESMP), including a monitoring plan.
- **Public consultation:** Consultation throughout EIA preparation is required, particularly for projects that might involve land acquisition and thus negatively affecting people's livelihoods. Public consultation should be undertaken during screening, scoping and the preparation of terms of reference, of the EIA report, review of the EIA report by NEMC and other stakeholders, and during the preparation of terms and conditions for EIA acceptance or approval.

All the information gathered during the Environmental Impact Assessment is compiled in the format given in the NEMC Reporting Procedure and Guidelines and submitted to NEMC for review and clearance. In all cases, the documentation should be kept as brief and simple as possible.

### **Review and Approval of the Environmental and Social Impact Assessment Report**

The EIA report prepared for each project (category B and A) should be reviewed by the District Environmental Management Officer and NEMC and the World Bank and any interested Development Partner or Financing Agency as appropriate, and public consultations should be undertaken during the review period. The outcome of the review of the EIA is one of the following:

- EIA accepted; and
- EIA not accepted.

Acceptance and clearance of the EIA report (for category B and A projects) by NEMC and the World Bank and any interested Development Partner or Financing Agency will serve as a sufficient environmental permit to proceed with further consideration for approval of the project by the District/Municipal Council and WSDP. The review of the EIA report should also include the determination of whether or not any people have been identified as owners or users of the land upon which the project will be located or if the project in any other way will affect people/property, livelihoods and access so that there is a negative impact (loss) as a result of the project. If that is found to be the case, the appropriate measures need to be taken in accordance with the Resettlement Policy Framework (RPF).

The EIA report should be short and clear, so that project participants can understand it. It should state clearly the main environmental issues, both positive and negative, likely impacts, potentially affected persons, mitigation and monitoring measures, and cost estimates and institutional arrangements for the implementation of mitigation and monitoring measures.

The EIA report should include an Environmental and Social Management Plan (ESMP). This ESMP should be a practical, action-oriented plan specifying measures to be taken to address the negative environmental impacts. It should also specify the actions, resources and responsibilities required to implement the agreed actions and details on key social and environmental management, monitoring, and monitoring indicators. Further, the ESMP should ensure that the costs of implementing the recommendations of the EIA report are budgeted into the total project costs. Responsibility for the preparation of the ESMP will be with project planners under the guidance of the District/Municipal Environmental Management Officer and, to the extent necessary, in consultation with NEMC.

The ESMP should be formulated in such a way that it is easy to use. The ESMP should cover the following aspects: Summary of environmental and social impacts, description of the mitigation measures, description of the impacts of the mitigation measures, description of the monitoring plan and monitoring indicators, institutional arrangements and capacity building needs to ensure effective implementation of these measures, implementation schedule and reporting procedures and cost estimates. The Environmental Management Officer will assist with the details required for the preparation of the ESMP.

### **Disclosure and Approval Process**

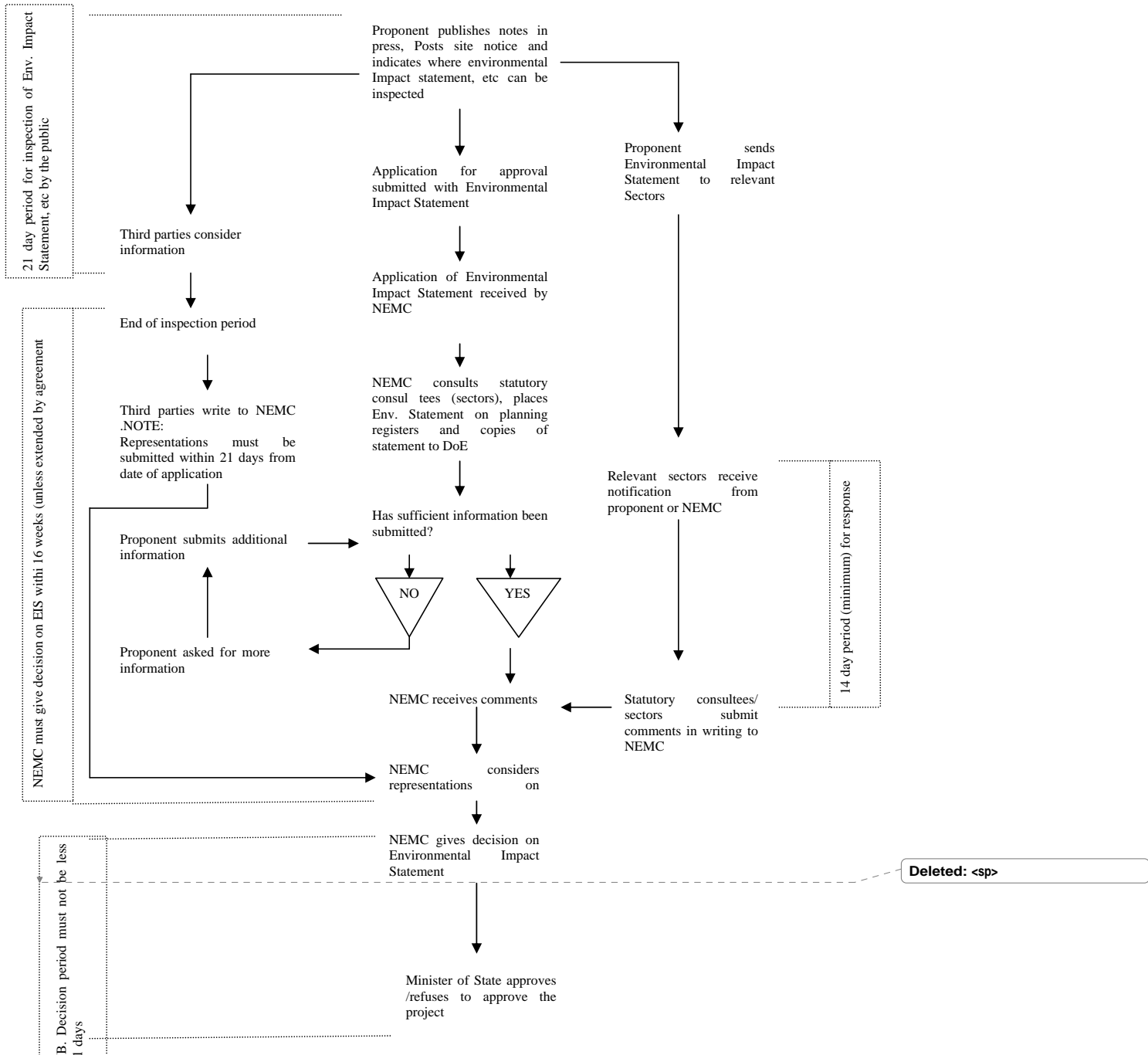
As project proposals are finalised, the complete proposal shall include the environmental category of the project. For category B and A projects requiring an EIA, the proposal shall include the EIA report and proof of its approval by NEMC and the World Bank and any interested Development Partner or Financing Agency. For category B projects that did not require the preparation of a separate EIA, the completed environmental and social checklist will be attached to the project proposal, and/ arrangement shall be done with the NEMC and the World Bank and any interested Development Partner or Financing Agency for review and clearance of a sample of this category for the initial years of implementation.

The EIA reports of projects will be disclosed to the public by presenting the findings and recommendations to the village assembly or sub-ward/Mtaa assembly, disclosing the document at the offices of the District/Municipal Executive Director in each District/Municipality; the Ward Executive Director and Village/Mtaa Executive Officer of each ward or community that is approved for projects under WSDP. NGOs and other civil society organisations in the villages and sub-wards/Mtaas will be informed of the meeting, and copies of the EIA report will be made available before the meeting, in a language that is understood by the recipients.

Beneficiaries under WSDP or any affected/interested party, have the right to appeal. If dissatisfied with the decision reached at any stage in the EIA process, the affected party has the right of appeal to the Minister responsible for Environment.



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## **ANNEX F: Terms Of Reference For The Environmental Impact Assessment**

### **1. Introduction**

During the scoping study, several key environmental issues of concern are identified after holding consultations with stakeholder of the project and after reviewing various literatures related to the project. Similarly, expert opinion is considered in various issue identified as requiring specialized knowledge. In some cases, samples are taken for identification and evaluation of the magnitude of the problem to address them in detailed EIA study.

The purpose of the Terms of Reference (TOR) therefore, is to ensure that the Consultant undertaking the environmental studies carries out the necessary tasks to comply with standards, procedures and that all salient issues are covered. They form the basis for subsequent review process.

In these Terms of Reference, strategies for addressing the issues identified during scoping have been provided to make the detailed study and hence the EMP review more focused.

### **2. Scope of Work for a Detailed Environmental Study**

#### **Task 1: Description of the Proposed Project**

Provide a detailed description of the relevant parts of the project and its activities. Review information about the project and provide any missing information and data about the following: location, general layout, size and capacity, production methods, pre-construction and construction, scheduling of construction development activities, life span of operations.

### **Task 2: Present baseline data relevant to environmental characteristics of the area**

With reference to the baseline data and information existing at the project site and that contained in the scoping report, assemble, evaluate and present baseline data on relevant environmental characteristics of the study areas such as biophysical and socio economics and cultural aspects. Elaborate on the study areas and adjacent (marginal) areas should be considered, for example;

#### **Physical environment:**

- Geology;
- Topography;
- Soils;
- Climate and meteorology;
- Ambient air quality;
- Surface water resources;
- Groundwater resources;
- Existing sources of air emission;
- Existing pollution discharges and receiving water quality;
  
- The borrow pits and waste rock disposal areas ( dams);
- Location of roadways and other support infrastructure.

#### **Biological environment:**

- Present baseline data on both the terrestrial and aquatic communities of flora and fauna found in the project area: General spatial arrangement of vegetative community types, vegetative species abundance listings, record of rare or endangered species, sensitive habitats, significant natural sites, species of commercial importance etc.;
- Nature of aquatic habitats;
- Conduct specific studies on the ecological/vegetation characteristics of all areas earmarked for project activities and facilities e.g., areas borrow pit sites for the raw materials and waste rock disposal, workshops and other infrastructure facilities.

#### **Social environment**

- Review baseline data and information on the socio-economic environment as provided in the scoping report and present any additional data related to the project area.

### **Task 3: Legislative and Regulatory Considerations**

Describes pertinent regulations and standards governing environmental quality and management, health, safety, protection of sensitive areas, endangered species, land use control at relevant local, regional, national, and international levels.

#### **Task 4: Determination of Potential Impacts of the Proposed Project**

Identify and predict all possible impacts qualitatively and where possible quantitatively, of the project on the biophysical, socio economic and cultural environment. Specify the methodology used on predictions. In particular, the following issues will be addressed.

##### **Biophysical issues:**

- Provide baseline data on dust, quality of surface and groundwater;
- Examine and determine the requirements of water for construction operations and establish the possible potential sources;
- Identify current sources of pollution in main water sources such as rivers and springs by taking into considerations the surrounding activities, e.g. animal grazing, charcoal burning, etc.;
- Examine the handling, storage and use of any chemical in the catchment around the source mining operations i.e., factory discharges, mining, and mechanical farming activities.
- Evaluate the loss and disturbance of biodiversity and threatened species resulting from the vegetation clearance during construction and operation and recommend mitigation measures;
- Examine evaluate the impacts that may result from generation of odours and noise from the equipment and machinery operating in the area and impounded waters;
- Evaluate health and nuisance problems resulting from dust, air and oil pollution from mobile equipment and machinery. Identify other existing pollutants in the project environment and recommend mitigation measures;
- Determine rehabilitation programs after project closure, with regard to land reclamation, re-vegetation, infrastructure, etc.;
- Guided by acceptable standards and regulations make recommendations on the design criteria to be used for the project quarry sites, borrow pit waste, rock dumps and support infrastructure.

##### **Socio-economic issues:**

- Conduct further consultations with those stakeholders who were not covered in the earlier study and incorporate their views accordingly;
- Examine possibilities and devise mechanisms for compensation of loss of income by people whose activities will be affected by the dam operations, e.g., irrigation, beekeeping and harvesting of medicinal plants within the project area;
- Review Government procedures and compensation rates for people living in areas earmarked for quarrying, involuntary displacement;
- Review the current and planned project outreach programmes in relation with addressing issues associated with the influx of job seekers in the area versus pressure on resources and social services in the District;
- Conduct further consultations to ascertain the extent of both negative and positive social and economic contributions of the project;
- Identify people and groups (with gender considerations) that are most likely to benefit/be affected;
- Identify and evaluate the impacts resulting from influx of new people to the area, who may influence and affect the attitudes and behaviour of people in the area;

### **Task 5: Analysis and assessment of impacts**

The description of impacts should indicate whether impacts are positive or negative, direct or indirect, short or long term, reversible or irreversible. Furthermore, the study should consider cumulative impact on a regional scale.

- Guided by acceptable standards and regulations recommended the most feasible measures to eliminate/reduce/mitigate the impacts.

### **Task 6: Analysis of Alternatives**

Describe alternatives that were considered or examined in the course of developing the proposed project. Also, identify other alternatives of achieving the same objectives in the case of siting, design, technology, construction techniques, phasing, etc and compare them in relation to suitability under local conditions, potential environmental impacts and institutional training and monitoring requirements. The zero alternative scenarios should also be considered.

### **Task 7: Develop an Environmental Management Plan to Mitigate Negative Impacts**

Propose feasible and cost effective measures to reduce the negative impacts. Prepare an environmental management and monitoring plan in relation to operations in the project area to include the proposed programs, budget estimates, schedules, staffing and training requirements to implement the mitigation measures and impacts of the projects during the construction and the operational phase.

### **Task 8: Develop the Monitoring Plan**

Prepare a detailed plan to monitor the implementation of the proposed mitigation measures and reduction of environmental impact of the new project during construction and operation phases.

This plan should specify which parameters are to be monitored, at what interval and frequency, costing and assign responsibility i.e., who will be doing what, when and how.

### **Task 9: Public involvement**

Ensure adequate public consultation and involvement in the environmental study process by consulting key stakeholders that were not covered during the scoping study. Review the consultation process undertaken during the scoping exercise. Ensure concerned stakeholders are involved and their concerns are taken to the board. The result of public consultations should be documented in the report.

## **3. Reporting**

The final draft of the EIS document and EMP address issues associated with the project area should be prepared and be concise by following the proposed report writing guidelines in the Environmental management and Protection Act no. 20,(2004) Regulations 2004, for simplifying the review process. The executive summary should be both in Swahili and English per EMA, 20 regulations.

#### **4. References**

The objective of this section is to identify and record the written materials used in the study. This is extremely important because some of the material used as background information may be in unpublished form, and yet it may be necessary that these are available during the review process. A list of references will be included in the final report together with the list of people contacted and summary of interviews.

**ANNEX G: Water Quality Standards**

**First Schedule**

**Made under Section 21(1)**

**1. Standards for Water – effluents and receiving waters**

Parameter	Units	Effluent		Receiving waters			
		TL	MPC	TL	MPC-1	MPC-2	MPC-3
PH	Mg/1	-	6.5–8.5	-	6.5–8.5	6.5–8.5	6.5–9.0
TDS	Mg/1	2500	3000	1700	2000	2000	2000
TSS	US/cm <sub>3</sub>	60	100	-	-	-	-
Conductivity	Mg/1	400	-	-	-	-	-
BOD <sub>5</sub> 20°C	Mg/1	25	30	3.5	5	5	10
COD	Mg/1	45	60	-	-	-	-
Chloride-Cl	Mg/1	650	800	170	200	200	400
Sulphate-SO <sub>4</sub>	Mg/1	600	600	500	200	200	200
Ammonia-N	Mg/1	7.5	10	0.35	0.5	0.5	0.5
Nitrate-N	Mg/1	50	80	35	50	50	100
Nitrite-N	Mg/1	1.0	10	-	-	-	-
Phosphate-PO <sub>4</sub>	Mg/1	6.0	0.5	-	-	-	-
Cyanide-total	Mg/1	0.1	0.01	0.035	0.5	0.5	0.1
Oil & grease	Mg/1	1.0	5	0.35	0.5	0.5	5
Phenols	Mg/1	0.2	1.0	0.0015	0.002	0.002	0.1
Total hydrocarbons (dissolved & emulsified)	Mg/1	-	-	-	-	-	-
Arsenic	Mg/1	0.10	0.1	0.04	0.5	0.05	0.1
Cadmium	Mg/1	0.10	0.1	0.04	0.5	0.05	0.2
Cadmium (total)	Mg/1	0.10	0.1	-	-	-	-
Chromium (hex)	Mg/1	0.10	2.0	0.04	0.05	0.05	0.1
Copper	Mg/1	1.0	1	2.5	3	3	4
Iron (total)	Mg/1	3	5.0	0.75	1	1	1.5
Lead	Mg/1	0.02	0.2	0.075	0.1	0.1	0.2
Mercury	Mg/1	0.005	0.005	0.00075	0.001	0.001	0.002
Nickel	Mg/1	0.2	0.5	0.4	0.05	0.05	0.1
Zinc	Mg/1	1.0	0	0.15	0.2	0.2	0.5

Notes:

**TL** = Trigger Level which, if exceeded, requires investigation of a potential problem and action if necessary; this level acts as a warning.

Act No. 10 **MPC** = Maximum Perishable Concentration, for receiving water as given in the Water Utilization (Control and Regulation) (Amendment) Act, 1981: for effluent discharge as given in the Tanzania Standard *General Tolerance Limits for Municipal and Industrial Wastewaters*.



**MPC-1, 2 and 3** = Maximum Permissible Concentration for categories 1, 2 and 3 of receiving water:

Category 1: Water suitable for drinking water supplies, swimming pools, food and beverage manufacturing industries, pharmaceuticals manufacturing industries or industries requiring water of similar quality.

Category 2: Water suitable for use in feeding domestic animals; in fisheries, shell cultures, recreation and water contact sports.

Category 3: Water suitable for irrigation and other industrial activities requiring water of standards lower than those of water in categories 1 or 2.

The MPC in the receiving water should be measured below the mixing zone of the effluent discharge. For specific discharges, the MPC for effluents given may need to be amended to take account of the mass discharge of the pollutant (i.e. concentration x discharge rate) and the dilution in the receiving waters, such that the appropriate receiving water standards is not breached.

## 2. Standard for air quality

- (1) Concentrations of contaminants, measured at the site boundary at any height, should not exceed the following:

Parameter	Time Period	TL ( $\mu/m^3$ )	MPC ( $\mu/m^3$ )
Particulate matter			
<10um (PM <sub>10</sub> )	Annual arithmetic mean	-	100
	Maximum 24 hours	400	500
Total suspended Particulates	Annual arithmetic mean	-	300
	Maximum 24 hours	1000	2000
Gases			
Nitrogen oxides as NO <sub>2</sub>	Annual arithmetic mean	-	100
	Maximum 24 hours	150	200
Sulphur dioxide	Annual arithmetic mean	-	100
	Maximum 24 hours	400	500

**Note:** TL = Trigger Level; MPC = Maximum Permissible Concentration (The methods of measurement shall as set out in the Tanzanian Standards EMD02)

- (2) Ambient air quality beyond 500m of the site boundary shall not exceed the values laid down for ambient air in the Tanzanian Standards for Air Quality, EDMC2.
- (3) Deposition (wet and dry) of contaminants at any point outside the site boundary shall not exceed the following:

Contaminant	TL (mg/m <sup>2</sup> /month)	MPL (mg/m <sup>2</sup> /month)
Antimony	225	300
Arsenic	110	150
Cadmium	7.5	10
Chromium (total)	900	1200
Copper	110	150
Lead	450	600
Nickel	38	50
Zinc	900	1200

(MPL = Maximum Permissible Level)

- (4) Deposition of dust (Total Suspended Particulate) at any sensitive location outside the site boundary shall not exceed 250mg/m<sup>2</sup>/day TL or 400mg/m<sup>2</sup>/day MPL, as monthly average.
- (5) Site attributed noise levels at any habitation or sensitive location near to the site shall not exceed 75 dB (A), measured as 1 hour L<sub>aeq</sub>, daytime, or 55 dB (A) 1 hour L<sub>aeq</sub>, night time.
- (6) Mercury concentrations in air at any workplace, whether within a building or in the open air shall not exceed 0.025mg/Hg/m<sup>2</sup> of air (8 hour Time Weighted Average).

**Objectives:**

The objectives of annual reviews of ESMF implementation are two-fold:

- a) to assess Project performance in complying with ESMF procedures, learn lessons, and improve future performance; and
- b) to assess the occurrence of, and potential for, cumulative impacts due to Project-funded and other development activities.

The annual reviews are intended to be used by Project management to improve procedures and capacity for integrating natural resources and environmental/social management into Project operations. They will also be a principal source of information to Bank supervision Mission, and Joint Water Sector Reviews,

**Scope of Work:****ESMF Performance Assessment**

The overall scope of the performance assessment work is to:

- a) Assess the adequacy of the subproject approval process and procedures based on interviews with Project participants, Project records, and the environmental and social performance of a sample of approved subprojects;
- b) Assess the adequacy of ESMF roles and responsibilities, procedures, forms, information resource materials, etc.;
- c) Assess the needs for further training and capacity building;
- d) Identify key risks to the environmental and social sustainability of subprojects; and
- e) Recommends appropriate measures for improving ESMF performance.

The following tasks will be typical:

- a) Review central and district records of subproject preparation and approval (e.g. applications; screening checklists; EMPs, RAPs, and PMPs; appraisal forms; approval documents), as well as related studies or reports on wider issues of natural resources and environmental management in the country;
- b) On the basis of this review, conduct field visits of a sample of approved subprojects to assess the completeness of planning and implementation work, the adequacy of environmental/social design, and compliance with proposed mitigation measures. Subprojects in sensitive natural or social environments should especially be included.
- c) Interview Project and district officials responsible for subproject appraisal and approval to determine their experience with ESMF implementation, their views on the strengths and weaknesses of the ESMF process, and what should be done to improve performance. Improvements may concern, for example,

the process itself, the available tools (e.g. guidelines, forms, information sheets), the extent and kind of training available, and the amount of financial resources available.

d) Develop recommendations for improving ESMF performance.

### Cumulative Impacts Assessment

This part of the annual review assesses the actual or potential cumulative impacts of subprojects with other subprojects or development initiatives on the environment, natural resources and community groups. Cumulative impacts result from a number of individual small-scale activities that, on their own, have minimal impacts, but over time and in combination generate a significant impact. For example:

- Deforestation due to the over harvesting of poles and timber for small-scale construction;
- Decline in groundwater levels or quality due to the construction of numerous wells and the introduction of numerous small scale irrigation works;
- Overwhelmed or illegal waste and dumping sites due to the inappropriate disposal of increasing amounts of waste materials;
- Illegal poaching of wildlife due to expansion of land under cultivation or increased proximity and access to protected areas through construction of small access roads; and
- Attraction of large migrant populations to communities that have successfully introduced improve social infrastructure (such as schools, health centers or water sources) resulting in overcrowding, depletion of resources (e.g. space, supplies, water), etc.

The function of this assessment is primarily as an “early warning” system for potential cumulative impacts that might otherwise go undetected and unattended to. It will be largely based on the observations of people interviewed during the field work, and trends that may be noticed by district or regional officials. Where cumulative impacts are detected or suspected, recommendations will be made to address the issue, perhaps through more detailed study to clarify matters and what should or can be done about them.

### **Qualifications for Undertaking Annual Reviews:**

The reviews should be undertaken by an individual or small team with training and experience relevant to the likely issues to be encountered (e.g. environmental and natural resources management, land acquisition and resettlement, indigenous peoples). They should also be familiar with the methods and practices of effective community consultation, and with typical methods and processes for preparing, appraising, approving and implementing small-scale community development projects.

### **Timing:**

Annual reviews should be undertaken after the annual ESMF report has been prepared, at the closing of each year of the Project. It is expected that each review would require 3-4 weeks of field work (interviews,

examination of subprojects), and that the review report would be completed within 2 weeks of completing the field work.

**Outputs:**

The principal output is an **annual review report** that documents the review methodology, summarizes the results, and provides practical recommendations. Distinct sections should address a) ESMF performance and b) cumulative impacts. Annexes should provide the detailed results of the field work, and summarize the number of approved subprojects by district and their characteristics according to the annual report format (see Part C5, Section 5 of this Toolkit).

Copies of the annual review report should be delivered to Project management, to each district office responsible for appraisal, approval and implementation of subprojects,. Project management (central or district) may also want to host national or district workshops to review and discuss the review findings and recommendations.

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