UNITED REPUBLIC OF TANZANIA

MINISTRY OF ENERGY

ENERGY AND WATER UTILITIES REGULATORY AUTHORITY (EWURA)

GUIDELINES FOR PREPARING A BUSINESS PLAN FOR WATER SUPPLY AND SANITATION AUTHORITIES (WSSAs)

Third Edition 2022

FOREWORD

During the year 2011, EWURA issued Guidelines for Preparation of a Business Plan for Water Supply and Sanitation Authorities which were further reviewed to a second edition in 2016. The aim of the Guidelines is to assist Water Supply and Sanitation Authorities (WSSAs) structure their Business Plans in a manner that enables effective management of water supply and sanitation services and to comply with regulatory requirements. These Guidelines are issued in pursuant to section 29(2) of the Water Supply and Sanitation Act, 2009. Thus, the preparation of WSSAs' Business Plans has to follow the Guidelines. EWURA Management has been reviewing WSSAs' business plans based on the said Guidelines.

This third edition of the Guidelines for the preparation of business plans for WSSAs has been prepared after taking into consideration the comments and views from WSSAs and other stakeholders. Furthermore, from the experience gained while reviewing WSSA's Business Plans as well as changes in the water sector legal framework such as new Water Supply and Sanitation Act 2019 and its Regulations.

The review has covered all parts of the Guidelines. Key changes in the third edition include; introduction of new information requirements in relation to sanitation services, updated key performance indicators and minimum service level requirements in relation to the revised Water Supply and Sanitation Service (Licensing and Quality of Service) Rules 2020. WSSAs are obliged to prepare their Business Plans in conformity to these guidelines.

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List of Acronyms

AMP	-	Asset Management Plan
ATAWAS	-	Association of Tanzania Water Suppliers
AWT	-	Average Water Tariff
BOT	-	Bank of Tanzania
BP	-	Business Plan
CAPEX	-	Capital Expenditure
CR	-	Current Ratio
DMA	-	District Metering Area
DSCR	-	Debt Servicing Coverage Ratio
EWURA	-	Energy and Water Utilities Regulatory Authority
IPSAS	-	International Public Sector Accounting Standards
KSI	-	Key Strategic Issue
KSIs	-	Key Strategic Issues
LCM	-	Life Cycle Management
NBS	-	National Bureau of Statistics
NRW	-	Non-Revenue Water
OI	-	Other Income
O & M	-	Operations & Maintenance
PESTEL	-	Political, Economic, Social, Technological, Environmental and Legal
PPE	-	Property Plant and Equipment
PS	-	Performance Indicator Target on Sanitation
PVC	-	Polyvinyl Chloride
PW	-	Performance Indicator Target on Water Supply
RAB	-	Regulated Asset Base
ROI	-	Return on Investment
RR	-	Revenue Requirement
RUL	-	Remaining Useful Life
SWOC	-	Strengths, Weaknesses, Opportunities and Challenges
WACC	-	Weighted Average Cost of Capital
WSS	-	Water Service Standard
WSSA	-	Water Supply and Sanitation Authority

Measurement Units and Symbols

m^3	-	cubic meters
kWh	-	kilowatt hour
m^3/year	-	cubic meters per year
TZS	-	Tanzanian Shillings
%	-	per cent

Definitions

Water Supply and Sanitation Authority (WSSA) refers to a Water Supply Sanitation Authority established under Section 9 of the Water Supply and Sanitation Act No. 5, 2019,

Overall Quality of Service Targets defines a quality of service which affects not only an individual customer but the sector as a whole.

Guaranteed Minimum Service Targets defines the quality of service assured to the individual customer and must be met by a given utility.

1 INTRODUCTION

Under the Energy and Water Utilities Regulatory Authority Act Cap 414, EWURA is responsible for issuing licences, establishing standards for the delivery of water supply and sanitation services; regulating rates and charges and monitoring the performance of licensees in meeting the terms and conditions of the licence and related performance agreements.

Section 25(3) of the Water Supply and Sanitation Act, 2019 requires WSSAs to prepare their annual budgets in conformity to the approved Business Plan (BPs). Further Section 15(3) and 31(b) of the Act require a WSSA to operate and perform its affairs in accordance with the approved BP.

These guidelines, therefore, assist WSSAs to prepare their BPs so as to comply with the Water Supply and Sanitation Act 2019 and the regulatory requirements of EWURA Act Cap 414. The business plan provides a roadmap for WSSA to achieve its desired goals. It serves as an overarching planning document for a WSSA towards achieving its mission, vision, strategies, performance targets and corresponding activities. It is a basis for not only preparation of their financial projections and annual budgets but also for monitoring and evaluation of WSSA's performance. Further, it is a supporting document for review and approval of water supply and sanitation tariffs and charges. It is ttherefore an essential tool for effective management by WSSAs.

1.1 Key Success Factors

In order to have an efficient, useful and focused business plan, WSSAs need to identify key success factors. Such factors, provide a framework to know what to do when to do it, and how to do it most effectively. The following are key success factors for the WSSAs to consider while planning;

1.1.1 Human Resource

WSSA's human resources include its personnel and its development programs to support its staff. On one hand, it is crucial for WSSAs to hire a team that is qualified, experienced and passionate about realizing the intended outputs and outcomes. On the other hand, the WSSAs should provide opportunities for the growth and development of the team. Employees must understand their job responsibilities in achieving the organization's overall objectives. This requires sharing the vision of the business, encouraging employees' feedback, and ensuring that personnel understand WSSA's expectations by creating a culture of cooperation and open communication.

1.1.2 Marketing

The focus of WSSAs must be on its customers and, therefore all efforts must be exerted towards meeting customers' needs and values, and try to respond to them consciously. WSSAs should focus on customer satisfaction and service sustainability.

It also involves collecting, tracking, and analysing customer data, including eagerly receiving customers' feedback and using them for service improvement.

1.1.3 Operation and Systems

The area of operations focuses on processes, procedures and work that people do within the organization. The WSSA should determine if its business's operations align with a positive customer expectation to ensure that the team succeed in its operations. Operational elements include; documentation, computerized systems to assist documents to be consistent and trackable over time, review process and maintenance of operational functions within the organization and benchmarking. In addition, procedures should be evaluated to ensure its effectiveness.

1.1.4 Strategic Focus

The success factor of strategic focus includes leadership, management and responsible planning. This requires the WSSA to not only identify its mission and core values but also management team setting realistic goals. All staff should understand the core values of WSSA and perform in alignment with the WSSA's objectives and goals. A significant part of the strategic focus is making sure that the targets chosen are achievable and constructed from the customer's needs.

1.1.5 Finance

The finances success factor includes; the WSSA's cash flow, assets, facilities and equipment. Areas to consider within finances include having appropriate tariffs and charges, correct billing, effective and efficient collection of revenues, tracking vital financial data and ensuring that financial controls are in place to monitor cash flow for a better understanding of organizational health. Finally, a WSSA can assess if the facilities and equipment are adequate for the quantity and quality of work performed.

2 APPROVAL AND RESPONSIBILITY

The Board of Directors (BoDs) of WSSAs shall approve the BP pursuant to Section 12 (1)(b) of the Water Supply and Sanitation Act 2019. Prior to its approval, the BP shall first be discussed and endorsed by the Board of Directors of the WSSAs and submitted to EWURA for review. Comments from EWURA will be considered and incorporated in the BP and then sent to the WSSA's Board for approval. Finally, the WSSAs shall submit to EWURA the approved BP.

WSSAs shall submit tariff applications at least three months prior to the implementation of the BP. Upon approval of the tariff application, a WSSA may be required through a tariff order, to resubmit a revised final BP which has taken into consideration the stakeholder's comments raised during the public inquiry process. The implementation of the final BP shall be monitored by EWURA in terms of the attainment of targets therein. Interim amendment of the BP due to variation of the performance targets shall be submitted to EWURA.

The Board of Directors of the WSSAs bears the ultimate responsibility for ensuring the implementation of the BP. Section 25(3) of the Water Supply and Sanitation Act, 2019 also requires WSSAs to prepare the annual budget in conformity of the approved BP. The BP implementation may be used as one of the tools for evaluating the performance of WSSAs' Managing Directors as well as self-assessment of WSSA's Board.

3 ELEMENTS OF THE BUSINESS PLAN

WSSAs shall present their BPs by observing the structure and layout as shown in ***Annex A*** of these Guidelines. Explanation of each item of the BP is as follows:

3.1 Executive Summary

The executive summary should set out key aspects of the BP in a concise manner (one to two pages) and shall include an overview of the following:

a. preparatory process including key planning documents in the water sector used during preparation of the BP (e.g. National Water Policy, National Five Year Development Plan, Ruling Party Manifesto, Sustainable Development Goals, Water Sector Development Programme, and other important relevant documents);
b. vision and mission statement;
c. objectives and targets;
d. main activities (operations and investments) to be implemented;
e. projected total operational and investment costs for three (3) years provided on annual basis as per ***Table 1***

Table 1: Summary of Projected Total Annual Operational and Investment Costs

Description	**Year 1**	**Year 2**	**Year 3**
Operational cost			
Investment cost - Own Sources			
Investment cost - Other Sources			
Total Costs			

f. sources of funds (in details);
g. impact of proposed/approved tariffs in terms of major achievements to be realized during the planned period and,
h. perceived major risks and the possible measures of mitigation

3.2 Introduction

The introduction part should describe briefly the objectives of the BP and its layout. The section should show how the BP has been prepared while indicating clearly the major assumptions made as well as how employees and other stakeholders were involved in the whole process.

3.3 Description of the Operating Environment of Water Supply and Sanitation Authority (WSSA)

The description of the operating environment should provide brief statements on:

a) The history and legal status, current organization structure, brief profiles of key personnel (management and board), their qualifications and experiences. The board and management profiles should be presented as provided in

b) ***Table* 2**;

Table 2: Profiles of Board and Management

S/N	Name	Title	Qualification	Experience

c) Description of water supply and sanitation facilities i.e.
   i. Water supply services
      - water resources (abstraction and capacity of the source),
      - installed and current water production capacities; and,
      - water infrastructure (including water pumping stations, water treatment plants, main and distribution water pipelines, water storage tanks),
   ii. Sanitation services
      - Sewered sanitation facilities (including sewerage pipes, wastewater treatment plants and effluent disposal); and
      - Non-Sewered sanitation facilities (including faecal sludge treatment plants and effluent disposal, faecal sludge emptying and transportation facilities);

d) Description of the service area, demographics, services provided distinguishing between water supply and sanitation services, customers served, services to the poor and un-served areas within the licensed service area;

e) Main stakeholders, customer care and communication;

f) Confirmed major contracts/agreements (including obligations of parties to the contracts/agreements, cost estimates and implementation status); and

g) Changes in the business: lists of any significant changes which had occurred since the last BP which could have an impact on the management philosophies. Examples of these could be;
   (i) major legal changes which impact the WSSA
   (ii) changes in the ownership structure;
   (iii) changes in the regulatory requirements;
   (iv) changes in board of directors or organisational structure; and
   (v) changes in major organizational policies.

3.4 Vision and Mission

BPs should be supported by the Vision and Mission statements as defined below:

a) **Vision Statement: -** An inspirational description of what a WSSA would like to achieve or accomplish in the long term future. It is intended to serve as a clear guide for choosing current and future courses of action.

b) **Mission Statement**: - A concise statement of the purpose of existence of the WSSA, and its scope of work which fits within the policy and legal framework of the sector, i.e. the national water policy, national water sector development strategy and the Water Supply and Sanitation Act. In developing a mission statement, the WSSA should ask itself the following questions:

(i) What do they do as a utility?
(ii) What is the ultimate goal of their work?
(iii) What are the priorities and values?
(iv) What are their standards of performance?

3.5 Previous, Current and Expected Future Performance of the WSSA

In order to develop the course of future actions, it is necessary to assess the previous and current performance of the WSSA against clearly defined criteria. This assessment should be conducted in light of the quality of service and water supply and sanitation performance targets. Assessment of previous, current and expected future performance of the WSSA shall be in the format shown in ***Annex B*** of these Guidelines and includes:

(a) Previous and current quality of service levels and the performance targets.

(b) Brief descriptions of the ongoing operational activities and projects as well as committed interventions and projects to improve performance. WSSA should note that the ongoing operational activities are those committed in the budget or BP. Descriptions should indicate the starting dates, expected completion dates and the costs involved.

(c) Setting the future quality of service and performance targets.

This is an iterative process calling for re-assessment as the process proceeds. While setting out the targets the WSSAs should be aware of the financial implications in achieving the proposed targets as this has implications on the investment requirements. Having determined what, the WSSA commits itself to be as the future targets, subsequent elements of the BP and in particular financial plan may indicate that the targets are not financially achievable within the planning period. This will result in the need to reassess the future targets so that they can be achieved. The level of service should not go below the minimum level of service requirements specified in these Guidelines. WSSA can set any level of service which is above the minimum level of service requirements as long as it deems appropriate, achievable and acceptable to both the public and utility.

Definitions of the quality of service targets and performance indicators are provided in ***Annex C*** of the Guidelines. The assessment of current and future performance will be presented as ***Appendix A*** to the BP.

3.6 Business Forecast

Business forecast intends to provide a structured approach that will give realistic direction to all aspects of the BP formulation for the WSSA to achieve the three year targets in a standardised format. The forecast shall comprise the business analysis and marketing strategy as described in sections 3.6.1 and 3.6.2.

3.6.1 Business Analysis

Business analysis serves a number of essential purposes in the planning process including:

(i) identification of potential opportunities to improve the revenues to the WSSA through expansion of the consumer base and customer care measures;
(ii) reduction of WSSA's expenditure through efficiency improvements;
(iii) determination of the basic immediate changes in structure and policies necessary if long term objectives are to be achieved;
(iv) increasing of immediate cost recovery and liquidity by more effective use of modern technology and existing resources; hence providing a more stable base for the development and achievement of the long term objectives;
(v) preparation of mitigating strategies by which the risk to revenues and cash flows through the potential impact of external factors can be minimised;
(vi) identification of how best the WSSA can serve the low income and disadvantaged consumers;
(vii) preparation of measures to counter other competitors in the market;
(viii) preparation of mitigation measures on the risk resulting from external financing; and
(ix) assessment of the availability of key capabilities of management and staff, (human capital) and the WSSA as an institution and identification of capacity development needs over the plan period; which are necessary for achieving the required standards and performance targets.

Business environment needs to be analysed by assessing both internal and external factors that affect business operations positively and negatively. The aim is for a WSSA to enhance its ability to deliver services in the best manner possible within its operating environment.

(a) Internal Environment – Self Assessment

The WSSA should carry out a self-assessment to identify with the reason (s) those areas which are regarded as strong, and those that require improvement. Wherever improvement is required, a ranking of the needed improvement should be done in the order of priority. The ranking should be done separately for each assessment criteria. An assessment is done based on the areas of the performance as illustrated in ***Annex B-3 and B-4***. However, presentation of the assessment should be done as indicated in ***Table 3*** and be appended as ***Appendix A*** to the BP. For example, in ***Table 3***, user service accessibility will be assessed by considering performance targets on proportion of population living within the area with water network (PW1(a)); proportion of population served with water (PW1(b)); ratio of the total number of water

connections to the total number of households (PW2); number of public water kiosks (PW3); average hours of supply (PW4); proportion of population receiving WSSAs regulated sanitation services (PS1); proportion of population connected with sewerage network (PS2); number of people sensitized and trained in sanitation (PS3); and percentage of population using emptiable latrines (PS4).

Most WSSAs have limited areas of major strength and often suffer from a variety of weaknesses that are not always apparent without an in-depth analysis. Each performance area should therefore be appraised to enable future strategy and planning to be based on a sound foundation of factual data.

The key to success for any WSSA is to maintain those areas in which it has proven competence, to build on its strengths and to make deliberate efforts to eliminate its weaknesses and reduce its vulnerability.

Table 3: WSSA Assessment

Assessment Criteria	Category of performance indicators	Strength in this area and reasons for the strength		Improvement needed in this area and reasons for improvement		Rank of the required improvement *
		Strength	**Reasons**	**Improvement needed**	**Reasons**	
Protection of user interest	Service accessibility *(PW1- PW4 and PS1-PS4)*	***Example:*** *Reliable water supply*	***Example:*** *24 hours of water supply*	***Example:*** *Extend 20km of water supply*	***Example:*** *Improve coverage*	
	Quality of service *(PW5 - PW6 and PS6)*					
Sustainability of the operator	Financial and economic sustainability *(PW7-PW13 and PS6-PS8)*					
	Cost indicators *(PW14-PW16)*					
	Infrastructure sustainability *(PW17 – PW19)*					
	Operational sustainability *(PW20 and PS9-PS10)*					
	Human resource efficiency *(PW21-PW22)*					
Environmental Sustainability	*PW 23 and PS11-PS16*					

* Rank is provided in the order of priority where Rank Number 1 is for the most priority intervention

(b) External Environment (PESTEL Analysis)

Planning and strategizing is about adapting the WSSA and its services to a changing world so as to create and maintain success. Every WSSA will have various external factors over which it has little or no control that is of particular importance. A WSSA needs to consider the impact of various events and policies on its operations.

Examples of issues to be considered may include but not limited to:

(i) Political (changes in sector policy, legislation and regulations). Also, changes in government term, government organization and attitude, and political stability);
(ii) Economical (prices, availability and reliability of energy, prices and availability of chemicals for water treatment, economic well-being of customers and loan interest rates);
(iii) Social (population growth, customer attitudes and opinions and religious beliefs);
(iv) Technological (changes in information and communication technology and lifecycle and speed of technological obsolescence);
(v) Environmental (environmental issues including water and wastewater quality standards, encroachment of water sources and catchment area); and
(vi) Legal (labour laws affecting employment and wages, and tax regulations).

Table 4 requires an assessment of the changes in critical external factors to which the WSSA must respond. The table also attempts to determine the importance of these changes by applying measures of impact, probability, overall importance, and preparedness of the WSSA to deal with these external factors. Guidance on how to analyse external factors is provided as a key to ***Table 4***. In the comments section of ***Table 4***, a WSSA will state briefly the basis/assumptions behind the information filled for each external factor. Also, it has to be noted that action is required for external changes with a preparedness score of less than or equal to 2 and overall importance of greater or equal to 4. ***Table 4*** will be presented as an ***Appendix B*** to the BP.

Table 4: Analysis of External Environment – PESTEL Analysis

Changes in external factors to which the WSSA must Respond to		Possible changes for WSSA	Impact	Probability	Overall Importance	Preparedness	Planned Actions (*for external changes with preparedness score of less than or equal to 2 and overall importance of greater or equal to 4*)	Comments
POLITICAL								
ECONOMIC								
SOCIAL								
TECHNOLOGICAL								
ENVIRONMENTAL								
LEGAL								

Key to Table 4: External Factors

What is real effect (impact) if the change occurs	**Probability/likelihood of the change to occur in three(3) years period**	**Overall Importance** (*Highlight scores that are <u>greater than or equal to 4</u>*)	**Preparedness: (***Highlight scores that are <u>less than or equal to 2</u>***)**
3= High impact	3 = highly likely to occur	Multiply Impact by Probability.	3. Completely prepared – Well to fairly developed plan
2 = Medium impact	2 = Moderate likely to occur		2. Not well prepared – Only general ideas
1 = Low impact	1 = unlikely to occur		1. Not at all prepared

(c) Analysis of Alternative Service Providers

Analysis of alternative service providers is an important requirement in any BP. It reveals the utility's business position and assists the utility to develop strategies to provide services to all service areas pursuant to WSSA's mandate. Although water supply and sanitation services are mostly monopolistic in nature, alternative service providers are available in most of WSSA's service areas. WSSAs will first identify alternative service providers in their service areas, the extent of the market which they control, their strengths and weaknesses. Secondly, WSSAs will strategize by explaining why and how they will extend services to cover all service areas and consequently eliminate alternative service providers.

(d) SWOC Analysis

SWOC (*Strengths, Weaknesses, Opportunities and Challenges*) analysis refers to an examination of the entire organisation from different angles. The purpose of SWOC analysis is to summarise the strengths and weaknesses of the WSSA in relation to internal environment and about possible challenges and opportunities in the external environment in relation to PESTEL analysis. The format of presentation of SWOC analysis together with **examples** of guiding questions is shown in ***Table* 5** and will be presented as an ***Appendix C*** to the BP.

Table 5: SWOC Analysis

	POSITIVE	**NEGATIVE**
INTERNAL	**STRENGTHS**	**WEAKNESSESS**
	- *What does the utility do exceptionally well?* - *What internal advantages does the utility have?* - *What valuable assets and resources does the utility have?* - *What do the utility's customers identify as its strengths?*	- *What could the utility do better?* - *What is the utility criticized for or receiving complaints about?*
EXTERNAL	**OPPORTUNITIES**	**CHALLENGES**
	- *Which opportunities exist?* - *Are there emerging trends on which the utility can capitalize?*	- *What external roadblocks and interference exist that block the utility's progress?* - *Is there significant change coming in the water sector?* - *In which area is the utility vulnerable*

3.6.2 Marketing Strategy

The focus of any WSSA must be its customers and, therefore all efforts must be exerted towards meeting customers' needs. WSSAs need to provide actionable strategic measures on how to meet customers' needs which include water demand, increasing service coverage and enhancing stakeholder relations. The marketing strategy will include water demand, sewage and faecal sludge generation, water

supply and sanitation service coverage and stakeholder's relations analysis as described below:

a) Water Demand

WSSAs should also understand and forecast the current and future demand of their services to adequately serve the population. WSSAs shall project future water demand based on analysing trends of average water consumption, making a thorough study of their service area or referring to the guidance on the calculation of water demand provided in the latest version of the Ministry of Water Design Manual. WSSAs shall demonstrate in their BPs how they arrived at the projected demand. Water demand projection shall be in the format shown in ***Table 6*** and will be presented as an ***Appendix D*** to the BP.

Table 6: Water Demand Projection

Year	Domestic	Institution	Commercial	Industrial	Kiosks	Add other demand and specify*	Total
Current(n)							
Year n+1							
Year n+2							
Year n+3							
Year n+4							
Year n+5							
Year n+6							
Year n+7							
Year n+8							
Year n+9							
Year n+10							

***Demand from other customer categories such as cattle, fire hydrants, public parks/fountains,*

b) Sewage and Faecal Sludge Generation and Projection

WSSAs should also understand and forecast the current and future sewage and faecal sludge generation in order to identify infrastructural needs and facilities required for serving the population adequately. WSSAs` current and future sewage and faecal sludge generation shall be determined by conducting a thorough study in their service area and referring to the latest version of the Ministry of Water Design Manual on sewage and faecal sludge quantification. WSSAs shall demonstrate in their BPs how they arrived at the projected generation. Sewage and faecal sludge generation projection shall be in the format of ***Table 7*** and will be presented as an ***Appendix E*** to the BP.

Table 7: Amount of Sewage and Faecal Sludge Generation

Year	Faecal Sludge Generation (m^3)		Total FS generation	Faecal Sludge to be Collected (m^3)		Total FS to be collected	Gap	Sewage generation (m^3)
	Pit latrines	Septic tanks		Pit latrines	Septic tanks			
	(1)	(2)	(3)=(1)+(2)	(4)	(5)	(6)=(4)+(5)	(7)=(3)-(6)	(8)
Current(n)								
Year n+1								
Year n+2								
Year n+3								
Year n+4								
Year n+5								
Year n+6								
Year n+7								
Year n+8								
Year n+9								
Year n+10								

c) Service Coverage

The WSSA will determine by location the population directly served with water and sanitation services compared to the total population in all its service areas. From this analysis, the WSSA shall indicate the service gap and will present strategies for extension of service to unserved areas. Strategies should be feasible during the BP period. Analysis of areas to be served will be presented in a format indicated in ***Table 8*** and ***Table 9*** and will be presented as ***Appendix F and G*** respectively to the BP. In addition, WSSA may present service coverage by location on an electronic map whereby existing customers and potential new customers will be located using GIS technology.

Table 8: Water Service Coverage

SN	Ward/ Street Name	Total Population (No)	Current		Water Supply Coverage Projections (%)									
			Population Directly Served with Water (No)	Population Directly Served with Water (%)	Year n+1	Year n+2	Year n+3	Year n+4	Year n+5	Year n+6	Year n+7	Year n+8	Year n+9	Year n+10
Total														

Table 9: Sanitation Service Coverage

SN	Ward/ Street Name	Total Population (No)	Current Sanitation Coverage				Sanitation Coverage Projections (%)		
			Population connected with sewerage network (No)	Population served by WSSA's regulated Faecal Sludge emptying and safe disposal services (No)	Total population served (No)	Proportion of Population with improved onsite sanitation services (%)	Year n+1	Year n+2	Year n+3
		(1)	(2)	(3)	(4)=(2)+(3)	(5)=(4)/(1)			
Total									

d) Stakeholders' Relations

In order to effectively and efficiently provide water supply and sanitation services, WSSAs are required to enhance relations with their stakeholders. The stakeholders include customers, community and other institutions both Government and private.

(i) Customer Relations

WSSAs need to maintain good customer relations by among other things, providing a quality service, keeping customers informed of their intentions and responding to customer needs. WSSAs will review their customer relations, identify areas of improvement and devise means for improving and maintaining good customer relations. The means may include:

- Setting and meeting agreed quality of service targets (*Section 3.5*);
- Improving performance in dealing with customers;
- Meeting demand and extending services to unserved areas;
- Ensuring adequate communication with customers so as avoid misunderstandings; and
- Developing a good tariff design;

Also, WSSAs need to establish effective processes to manage and improve interaction with their customers. The actions taken by the utility and in particular the WSSA's personnel at all levels, create an image of the utility to the customers and affects positively or negatively the relationship between the WSSA and its customers.

(ii) Community Relations

WSSAs need to evaluate their relationships with the wider community in their service areas. This is because the provision of water supply and sanitation services may lead to conflict within the community due to implementation of projects or daily operations which have social and environmental impacts. The conflicts can often be due to lack

of understanding, reaction to decisions made or negative publicity of WSSA's activities. WSSAs need to review their community consultation processes so as to improve and maintain community relations. Community relations can be enhanced by implementing measures to improve community awareness through, among other things, public meetings; newsletters; television and radio interviews; social media, presentations to schools, service clubs and focus groups such as councillors and journalists; newspaper advertisements; community notice boards and exhibitions.

(iii) Inter-Institutional Relations

WSSAs need to evaluate their relationships with other Government institutions in their service areas. This is because the provision of water supply and sanitation services may be negatively affected by activities or decisions implemented by other institutions. Therefore, the involvement of other government institutions during all phases of the project cycle is crucial for collective responsibilities in providing public services effectively and efficiently.

3.7 Asset Management Plan

All water and waste water systems are made up of assets, some are buried assets and some are visible. These are the physical components of the water supply and waste water system and can include: pipes, valves, tanks, pumps, wells, hydrants, treatment facilities and any other components that make up the system. The assets that make up a water or waste water system generally lose value over time as the system ages and deteriorate. Along with this deterioration, it may be more difficult to deliver the type of service that the utility's customers want.

There is an approach for managing the assets of the system that can assist the utility making better decisions. This approach is called Asset Management.

The conceptual framework for the implementation of Asset Management revolves around five key issues as demonstrated in **Figure 1.**

Figure 1: **Asset Management Framework**

Within the framework, WSSAs are involved in answering the five key Asset management questions which are: -

i. What is the current state of my system's assets?
ii. What is my required sustained level of service?
iii. Which assets are critical to sustain the performance?
iv. What are the minimum life cycle costs?
v. What is the best long term financing strategy?

In response to the above Asset Management questions and in the view of implementing the Asset Management framework, the Asset Management Plan for WSSAs shall, at a minimum, contains the following sections:

3.7.1 Assets and Value of Assets

The first core component of asset management is an asset inventory. This component is probably the most straightforward of all. It is also, arguably, as the most important component as it underlies all other aspects of asset management. The types of questions that WSSAs will ask themselves in this component are: What do I own? Where is it? What condition is it in? What is its remaining useful life? What is its value?

The best practices to address these questions include:

a) Preparing an asset inventory and system map;
b) Assessing the condition of each asset;
c) Assessing the remaining useful life of assets; and
d) Determining replacement costs and asset values.

3.7.1.1 Asset Inventory and System Map

An asset inventory and system map help WSSAs identify what they own and where assets are located. In addition, creating or obtaining a map of the water supply and sanitation system is an important step in preparing an asset inventory. A system map can help WSSA to conceptualize the system as a whole. A map should show everything that the water system owns, and identify where the assets are located. WSSAs are required to have the system map captured in GIS because the same information can also serve other purposes without additional effort.

In order to understand the current state of assets, every WSSA shall maintain an assets register which shall include the minimum of the following:

(i) Name and Location (with reference to the attached map of water and sanitation system and other assets i.e. offices);
(ii) Historical cost/value or Re-valued amount;
(iii) Useful life-span and estimated remaining useful life;
(iv) Replacement cost;
(v) Annual depreciation;
(vi) Accumulated depreciation
(vii) Book value;
(viii) Functional purpose;
(ix) Size and/or capacity;
(x) Construction materials;
(xi) Construction / Installation date; and
(xii) Manufacturer.

3.7.1.2 Assessment of the Condition of each Asset.

It is critical that utilities have a clear knowledge of the condition of their assets and how they are performing. All management decisions regarding maintenance, rehabilitation, and renewal revolve around these two aspects. Not knowing the current condition or performance level of an asset may lead to the premature failure of the asset, which leaves the utility with only one option: to replace the asset (generally the most expensive option).

There are many ways to assess the condition of the assets. For example, some assets can be visually assessed, water lines can be pressure tested, or leak tested and buildings can be monitored for energy efficiency. Sometimes the only suitable way to assess an asset is to compare its performance (repair history) with its expected life. This assessment will provide accurate information about the current as well as the expected future level of performance of the asset (including pumps and vehicles).

Conditions of assets can be classified as follows:

Very Good: Very good condition, where only normal **maintenance** is required.
Good: Minor defects only where **minor repair** is required to approximately range from 5% to 10% of the value of the asset.

Fair: Maintenance required returning to accepted level of service where **major repair** is required to above 10% to 30% of the value of the asset.

Poor: Requires **rehabilitation** where significant renewal or upgrade is required to above 30% to 60% of the asset.

Very Poor: Asset unserviceable where more than 60% of the asset requires **replacement**.

3.7.1.3 Estimating Useful Life Span and Remaining Useful Life

Determination of asset useful life depends on the quality of the materials and operating local conditions. For example, a pump will wear out sooner if it is used more and will last longer if it is used less. The actual age of the pump is not as important as the amount of work the pump has done. On the other hand, pipe assets wear out based more on the length of time in the ground. If the pipe is in the ground for decades it has had considerable time to contact the soil around it and the water within it and may start to corrode.

Because of these site-specific characteristics, asset life must be viewed within the local context and the particular conditions of that utility. It is best to make judgments on asset life based on past experience, system knowledge, existing and future conditions, prior and future operation and maintenance, and similar factors in determining useful life. In the absence of any better information, a system can use standard default values (life span of various assets) as a starting point. However, over time, the utility should use its own experiences to refine useful lives.

The time-lapse between today until an asset reaches its full useful life is called Remaining Useful Life (RUL). If the year of procurement or installation is known, the RUL can be calculated; otherwise, it has to be estimated. The RUL indicates when the asset may have to be replaced although local context and conditions will still influence it.

3.7.1.4 Replacement Cost

Generally, when utilities consider the value of assets, they think about the initial installation cost of the assets. This cost has no other importance than historical information or it can be used by a system that depreciates the costs of assets over time. The installation cost does not have a direct bearing on what it will cost to replace that asset when it has reached its full useful life. The asset may not be replaced by the same type of asset (e.g., a cast-iron pipe may be replaced by PVC pipe) or it may be replaced by a different technology entirely (e.g., a chlorination system replaced by an ultraviolet disinfection facility). Furthermore, costs of various assets may change drastically over time, such that the cost of installing a pipe in 1971 in no way reflects the costs of installing a pipe 50 years later in 2021. Some prices may increase, such as materials, while technological advances may decrease other costs.

Replacement cost is the cost of rebuilding the existing infrastructure using present day technology while maintaining the originally designed level of service. Assuming present technology ensures that any additional cost of out-dated and expensive methods of construction is not reflected in the valuation. The real value of the assets is the cost it would be to replace the assets using the technology the system would employ to replace them. If the system has asbestos cement pipe now but would replace the system with PVC pipe, the real value of the assets is the cost of replacement using PVC and the installation cost associated with PVC.

3.7.1.5 Depreciation

Depreciation expresses the wear and tear of the assets based on the use. Consistent with IPSAS 17, the annual depreciation charge of assets shall be computed taking cognizance of the salvage value. EWURA recommends the straight-line method for computation of annual depreciation charge. WSSAs should use realistic useful life so as to reduce the impact of depreciation on tariff calculations. ***Table 10*** shows the recommended limits for useful life of assets.

Table 10: Useful life of Assets

Asset	Expected useful life in years	
	Lower bound	**Upper bound**
Dams	75	100
Intake structures	35	45
Shallow Wells / Boreholes	15	20
Chlorination equipment	10	15
Storage tanks	30	60
Pumps	10	20
Buildings	30	50
Water treatment plants	40	50
Electrical systems	7	10
Transmission mains	35	40
Distribution pipes	35	40
Valves	35	40
Meters	10	15
Sewerage network	35	40
Laboratory/Monitoring equipment	5	7
Office furniture/equipment	5	10
Intangible assets (e.g. software)	3	5
Workshop equipment and tools	10	15
Computers	3	5
Vehicles, motorcycles and bicycles	3	5
Transportation equipment /heavy duty vehicles	8	10

3.7.1.6 Asset Register

Assets should be grouped consistent with the Property Plant and Equipment (PPE) schedule grouping presented in the most recent audited financial statements of a utility. All data of assets should be compiled based on Asset Register either as Excel

table or Access database. An example of a summarized asset register is as shown in ***Table 11*** and will be an ***Appendix H*** to the BP. Note that ***Table 11*** is just an example. Each WSSA should present its asset grouping according to the most recent audited financial statements - movement of assets as shown in the PPE schedule.

Table 11: Summarized Asset Register and Value of Assets

Group of Assets	Location	Quantity	Size and /or capacity	Installation year/age (years)	Expected Useful Life (Years)	Current Book Value (TZS)	Expected Useful Life (Years)	Replacement Value (TZS)	Method of Estimation
WATER SUPPLY									
PRODUCTION									
Intake Structures									
Shallow wells / Boreholes									
Dams									
Water Treatment Plant									
Laboratory / Monitoring Equipment									
Reservoirs / Clear Water Tanks									
Transmission Mains									
Pumps and Other Peripherals									
DISTRIBUTION									
Distribution Mains									
Storage tanks									
Booster Pumps and other peripherals									
Valves									
Meters									
Service Lines									
Hydrants									
SANITATION									
CONVEYANCE AND TREATMENT									
Pumps and Other Peripherals									
Main sewer									
Lateral sewer									
Manholes									
Wastewater treatment facilities									
MISCELLANEOUS									
Land									
Buildings									
Furniture									
Vehicles and Motorcycles									
Bicycles									

Group of Assets	Location	Quantity	Size and /or capacity	Installation year/age (years)	Expected Useful Life (Years)	Current Book Value (TZS)	Expected Useful Life (Years)	Replacement Value (TZS)	Method of Estimation
Computers and accessories									
Intangible assets									
Electrical/office equipment									
Workshop equipment and tools									
Sewerage Maintenance Equipment									

3.7.2 Assessment of Risks and Consequences

Risk assessment includes the systematic application of management policies, procedures and practices to the tasks of identifying, evaluating, managing, mitigating and monitoring those risks that could prevent a WSSA from achieving its strategic or operational objectives or plans or from complying with its regulatory and legal obligations including attaining its performance targets and quality of service levels.

As assets wear out/ fail due to the passage of time and usage, managing the consequences of failure is vital for the WSSA. Not every asset presents the same failure risk or is equally critical to WSSA's systems and operations. Therefore, it is important to know which assets are required to sustain a given water system's performance. Critical assets are those that have a high risk of failing (old, poor condition, obsolete technologically etc.) and/or major consequences occur if they do fail (major expense, system failure, safety concerns, security failure etc.).

As a first step in determining the risk of failure, a utility needs to look at what it knows about the likelihood that a given asset is going to fail. The data available to assist in this determination is asset age, condition assessment, obsolete technology and failure history. An asset may be highly likely to fail if it is old, has a long history of failure, has a known failure record in other locations, and has a poor condition rating. An asset may be much less likely to fail if it is new, is highly reliable, has little or no history of failure and has a good to excellent condition rating. For ease of handling, risk of failure may be summarised as low, medium or high based on age, condition, technology, and failure history.

In terms of the consequence of failure, it is important to consider all of the possible costs of failure. The costs include the cost of repair, social cost associated with the loss of the asset, repair/replacement costs related to collateral damage caused by the failure, legal costs related to additional damage caused by the failure, environmental costs created by the failure, and any other associated costs or asset

losses. The consequence of failure can be high if any of these costs are significant or if there are several of these costs that will occur with a failure. The detailed costing of consequences may be appropriate for large and sophisticated water supplies in a developed environment. For most utilities in the Tanzanian context, a classification of consequences as low, medium or high will suffice.

Classification of risk of failure and related consequences as either medium/high or high/high may then compel the management to look further into a possible need for rehabilitation or even replacement of the respective asset even if other criteria as age, RUL or condition may not yet require doing so.

In the analysis of risks and consequences, the WSSA shall:

(a) identify and highlight those assets that could cause a major system breakdown;
(b) list major technical data such as age and condition of the assets;
(c) list the history of failure of these assets;
(d) evaluate their risk of failure either as high, medium or low;
(e) evaluate the consequences of failure as either high, medium or low;
(f) determine for which assets risk of failure and consequences require action;
(g) outline strategies and measures to prevent failure and/or to minimize the consequences of the asset failure (including insurance).

WSSA will conduct an assessment of risks for its assets using the guidance in ***Table 12*** and will present it as ***Appendix I*** of the BP. WSSA shall discuss the key assumptions and considerations for assessing the risks of its assets in the main document of the BP.

Table 12: Assessment of Risks and Consequences

Asset description	Risk assessment							Maintenance and repair strategy (Strategy to prevent failure)	Rehabilitation/replacement Strategy (Strategy to Mitigate failure)
	Condition	Asset age	Obsolescence	Failure history	Risk of failure	Consequence	Risk management strategy		
	(A)	(B)	(C)	(D)	(E)	(F)	(G)		
	1-5	**1-3**	**1-3**	**1-3**	**1-3**	**1-3**			
pump	2	2	1	3	1	3	rehabilitate		

Key to risk assessment:

Condition	1= very good; 2=good; 3=fair; 4=poor; and 5=very poor as detailed in section 4.7.3
Asset age	1=less than 1/3 of useful life; 2 = Between 1/3 and 2/3 of useful life; and 3 = Greater than 2/3 of useful life.
Obsolescence	1=No; 2 =uncertain; and 3=Yes.
Failure history	1=No; 2 =uncertain; and 3=Yes.
Risk of failure	If (A+B+C+D) is $\geq$1 but $\leq$ 6 then E=1; If (A+B+C+D) is $\geq$7 but $\leq$ 9 then E=2; else E=3.
Consequences	low=1; medium= 2; and high = 3
Risk management strategy	If (E+F) $\leq$ 4 then G= maintain/repair; If (E+F) = between 5 and 6 then G= rehabilitate; else G=replace

3.7.3 Life Cycle Management (LCM)

Life Cycle Management (LCM) is the management of assets through the cycle from planning and acquisition through O&M and repair to replacement and disposal which may take between 5 and 50 years of the useful life of the asset. During this process, assets pass through phases which are best described by their condition and related costs which are necessary to make them continue to deliver the expected service level.

The Key stages in the asset life cycle are:

(a) Asset Planning: This is when the new asset is conceived. Decisions made at this time influence the sustainability of the asset, the cost of operating the asset and the lifespan of the asset. Alternative non-asset solutions must also be considered;

(b) Asset creation or acquisition: This is when the asset is purchased and/or constructed. Sustainability, capital cost, designs and construction standards, commissioning of the asset, and guarantees by suppliers influence the cost of operating the asset and the lifespan of the asset;

(c) Asset condition and performance monitoring: This is when the asset is examined and checked to ascertain when and how an asset will fail, what corrective action is required and when (i.e. maintenance, rehabilitation or renewal);

(d) Asset operations and maintenance: This is when the asset is operated and maintained. Operation relates to sustainability, efficiency, power costs, throughput etc. and is usually more applicable to mechanical plants rather than static assets such as pipes. Maintenance relates to preventive maintenance where minor work is carried out to prevent more expensive work in the future and reactive maintenance where a break is fixed;

(e) Asset rehabilitation and renewal: This is when the asset is restored to ensure that the required level of service including sustainability can be delivered; and

(f) Asset disposal and rationalization: This is when a failed or redundant asset is sold off, put to another use, or abandoned.

3.7.3.1 Options for Dealing with Assets over Time

Options for dealing with the actual assets over time include operation and maintenance, repair, rehabilitation and replacement. These options are closely connected to each other. Choosing to do more or less of the options, impacts how much of the others is done, whether or not the other is done at all, or the time frame in which one of the others is done. For example, choosing to spend more on operating and maintaining assets will decrease the need to repair the asset and will increase the amount of time until the asset is replaced. Choosing to rehabilitate an asset will eliminate the need to replace the asset in the short term and will increase the amount of time until the asset ultimately need to be replaced. The rehabilitation will also reduce the amount of operation and maintenance that needs to be done and reduce the need for replacement.

Each of these options has its own costs and considerations. The expenditure of funds becomes a balance between funds spent in each of these four categories. The purpose of asset management is to try to determine the optimal way to spread the financial resources between each of these categories while maintaining the levels of service desired. Generally, the most expensive option is the replacement of the assets. Therefore, keeping the assets in service longer, while still meeting levels of service conditions, will usually be the most economical for the utility over the long term. The other options, i.e., maintenance of the asset, repair of the asset, and rehabilitation are options that can be used to keep the asset in service longer as described below:

(a) Maintenance and Repair

Maintenance and repair keep an asset in a condition at which it is able to provide the required service level. Maintenance or 'preventive maintenance' is meant to prevent possible breakdowns and subsequent necessary repairs. The more maintenance is done the fewer repairs become necessary. This is why motors, engines and pumps have stipulated service intervals at which certain parts are to be checked or even exchanged before they are completely worn out and before they broken down.

Maintenance work is executed at shorter intervals and such work is the change of engine oil and filters of the vehicle. But also the change of brake pads or clutch plates can be considered maintenance if it is executed before further harm can be done to break discs or clutch pressure plates. If the brake pads are exchanged too late, the brake discs may become affected and would require overhauling or even replacement, which is then considered as repair work on the vehicle. Depending on repair costs compared to the asset value, the repair may be classified as minor (5% to 10%) or major (above 10 to 30%).

Most assets being in very good, good or fair condition can be expected to fall in the phases of maintenance and repair within the lifecycle of the asset. Exceptions may apply to assets which have a high risk of failure, i.e. pumps which are still running well (fair condition) but are labelled 'high risk' due to their age plus their technical obsolesce which may result in unavailability of spare parts. If these pumps carry also high consequences when failing, the risk assessment will label them for ‘rehabilitation’ or even ‘replacement’. It is then up to WSSA to decide which recommendation to follow and which costs to consider in AMP for the planning period. Costs for maintenance and repair fall under O&M costs of the current budget and must be covered by respective current income.

(b) Rehabilitation and Replacement

Rehabilitation of an asset comprises the replacement of some of its major parts with the intention of extending considerably the lifetime of the whole asset. The need for rehabilitation or replacement is in the first place derived from the asset's condition being labelled poor or very poor. But as explained in the previous sections also assets of good or fair condition may have to be considered at least for rehabilitation if the risk of failure and/or the consequences of failure are assessed as being medium to high. It is always the responsibility of WSSA to look at those assets and decide individually about their fate.

It is obvious that any asset which is considered to be of very poor condition and/or having a high risk of failure with medium or high consequences in case of failure needs to be replaced.

Costs of rehabilitation and replacement are part of the investment budget. Rehabilitated and replaced assets are activated when put into service and are also depreciated along with the applicable standards.

3.7.3.2 Estimation of Maintenance, Repair, Rehabilitation and Replacement Costs

The WSSA will estimate the life cycle costs and summarize them as shown in ***Table* 13** and presented as ***Appendix J*** to the BP. In the main document of the BP, a WSSA shall discuss the key assumptions and considerations in estimating the maintenance, repair, rehabilitation and replacement costs of its assets.

Table 13: Life Cycle Costs in the Asset Management Plan

Asset Group	Detailed description of Maintenance and repair activities	O & M costs (maintenance and repair)			Detailed description of Rehabilitation/replacement activities	Investment costs (rehabilitation and/or replacement)		
		Year n+1	Year n+2	Year n+3		Year n+1	Year n+2	Year n+3

3.7.4 Funding of the Asset Management Plan

Funding for the Asset Management Plan is incorporated in the overall funding of the BP as follows;

(a) The timing of operation, maintenance and repair activities of various assets and corresponding costs in **Table 13** are input to the forecasting of annual repair and maintenance costs in Table 24 and **Table 26** and will be reflected in the action plan (**Table 18**).

(b) The timing of the rehabilitation and replacement of various assets and corresponding costs in **Table 13** is an input to the forecasting of rehabilitation/renewal and replacement activities and costs that will be reflected in the action plan and investment plan of the WSSA (**Table 18** and **Table 19**).

3.8 Capacity Development Analysis

The WSSA will analyze capacity development requirements by undertaking a review of its organization structure, staffing levels, skills and training needs as described in the following sub sections:

3.8.1 Review of Organizational Structure

An organization structure describes functions, tasks and roles of the departments, sections and individual employees. It defines:

(a) how decisions are made;
(b) flow of information in the entire organization; and
(c) roles and responsibilities of each position in the organization.

The organization structure is usually summarized in an organization chart.
Definitely, the WSSA's organisational structure will impact the way it executes its mission and progress towards attaining its vision. Hence, it is vital for the WSSA to review its current organizational structure in line with the review of its BP.

The review will assist the utility to identify whether the current organisation structure responds well to current needs and challenges faced by the utility which include responding to the needs of the customers and effective and efficient performance of the utility. While organization structures of most WSSAs are in accordance with the standard organization chart issued by the Ministry of Water, WSSAs need to take note that it was intended to be general guidance which has to be customized according to the needs of the utility. Organization structures of water utilities may vary based on, among other things, the size of the utility (customer base), the technical complexity of the systems and size and nature of its operational area.

In the main document of the BP, WSSAs shall briefly discuss a review of their organization structure and present their revised organization chart as ***Appendix K*** to the BP.

3.8.2 Staff Numbers and Skills

WSSAs need to ensure that they have adequate staff with the necessary skills to meet current and future requirements so that the projected levels of service and performance targets can be met. Availability of adequate staff and skills is also required for efficient operation and maintenance of the WSSAs' assets. In this regard, a WSSA will therefore undertake the following: -

(a) Position Analysis – Identifying the staff positions required to not only meet the projected levels of service and performance targets but also to efficiently manage the assets;

(b) Work Force Auditing – Evaluating the numbers, skills, qualifications, experience and performance of the available workforce so as to identify the necessary actions for ensuring the availability of adequate staff. The audit will indicate the necessary variations in the available workforce.

The staffing requirements identified by the WSSA have a direct relationship with staff costs (salary and benefits) which are among the major cost items for water utilities. While determining staff requirements, WSSAs should ensure continuous improvement in the performance indicator for personnel costs which *is personnel expenditure as a percentage of collection from water and sanitation bills*. WSSAs are expected to be within the benchmark of at most 30%. In addition, WSSAs need to control their number of staff by observing staff productivity indicator namely *staff per 1000 water and sewerage connections*. With the exception of Bulk Water Supply Utilities, WSSAs are expected to be within the benchmark of at most 5 staff per 1000 water and sewerage connections. A summary of staffing levels shall be presented as shown in **Table 14**.

Table 14: Summary of Staff Requirements and Efficiency

Target level in the WSSA	Current staffing level (No)	Projected staffing levels (No)			Clarification on changes in staffing levels
		Year 1	Year 2	Year 3	
Management					
Supervisors					
Support staff					
Add Other Levels as appropriate					
Total Number of Staff*					
Total Number of Water and Sewerage Connections					
o/w Total Number of Water Connections					
o/w Total Number of Sewerage Connections					
Staff per 1000 water and sewerage connections					

**This should reflect all employed staff both in core and non-core functions of the WSSA.*

3.8.3 Training Needs Assessment

WSSAs shall identify the training needs for their staff and design training programmes that will enable the WSSA to implement its BP. The same will form part of the BP. Generally, the WSSA is expected to analyse training needs by conducting:

(a) Organizational Analysis: Examining the entire WSSA (both Board and Staff) as an organization and identify areas where training is needed. This includes identification of future knowledge, skills and abilities that the WSSA requires.

(b) Task Analysis: Examining job requirements and comparing with employee knowledge and skills. The difference between staff knowledge and skills and job requirements indicates the need for task training.

(c) Individual Analysis: Examining how individual employees perform their jobs and determine their training needs. This is usually done using data from employee performance reviews.

The training needs will enable the WSSA to prepare a training programme which includes an indication of their timing and costs. While deciding on the timing and costs, consideration should be given on prioritizing the training requirements based on:

(a) How urgent are the training needs;

(b) The benefit of the identified training; and

(c) How important are the skills for the success of the utility

The training programme will be summarized as shown in
Table 15 and presented as ***Appendix L*** to the BP. The projected costs will be an input to ***Table 24*** (Operations and Maintenance Expenditures - staff training costs under administration costs).

Table 15: Training Needs Assessment

Target level in the WSSA	Summary description of the general content of the required training	Projected Costs (Million TZS)		
		Year 1	Year 2	Year 3
Board	(i)			
	(ii)			
	(iii)			
	(iv)			
Management	(i)			
	(ii)			
	(iii)			
	(iv)			
Supervisors	(i)			
	(ii)			
	(iii)			
	(iv)			
Support staff	(i)			
	(ii)			
	(iii)			
	(iv)			
Add Other Levels as appropriate	(i)			
	(ii)			
	(iii)			
	(iv)			
Total Cost				

3.9 Key Strategic Issues (KSIs)

The Key Strategic Issues (KSIs) form an inventory of the major areas of intervention for which WSSAs need to focus on to realize the set targets stipulated in ***Annex B*** of these guidelines. It has to be noted that the KSIs mentioned here should be derived from the analysis done from sections 3.6 to 3.8.

In order to obtain KSIs, the WSSA shall review the analysis presented in the Asset Management and Capacity Development and identify key issues that will be addressed during the BP Period. There should be a justification/rationale for selecting an issue to be a key strategic issue of the planning period. KSIs should be presented as indicated in ***Table 16***.

Table 16: List of Key Strategic Issues

SN	Key Strategic Issues	Remarks (Brief explanation on the rationale for selection of the KSIs)

As a general guidance, strategic issues that may be addressed by WSSAs may include:

(a) High Non-Revenue Water;
(b) Insufficient water production/sources;
(c) Inefficient operations (such as treatment, transmission, storage, distribution, billing, community relationships and customer service and relations);
(d) Low water supply coverage;
(e) Low sanitation coverage;
(f) Unavailability of sewerage services;
(g) Inappropriate on-site sanitation and faecal sludge management;
(h) Non-adherence to water quality standards;
(i) Non-adherence to wastewater quality standards;
(j) Inadequate institutional capacity (such as board, staff, working tools and equipment, offices, transport, computers, skills and software); and
(k) Low revenue collection.

WSSAs should ensure that the identified KSIs can be realistically addressed during the three years of the BP. It is suggested that within the period of the BP, at most five to eight KSIs could be practically addressed.

The KSIs presented in **Table 16,** set the basis for the objectives, major next steps and the actions to be taken by the WSSA. For each KSI, a WSSA shall derive SMART (Specific, Measurable, Attainable, Realistic and Time-bound) objectives and major next steps and the corresponding actions to be taken towards attaining projected performance targets. The next steps are the milestones that the WSSA sets in addressing the KSIs while the actions to be taken are the key activities that the WSSA will implement. In other words, actions to be taken are detailed activities which can be costed and assigned responsible persons. Take note that objectives and targets should not contradict projected performance targets in **Appendix A** of these Guidelines. Presentation of Objectives, Next Steps and Actions for Addressing KSIs are shown in **Table 17**.

Table 17: Objectives, Next Steps and Actions for Addressing Key Strategic Issues

Key Strategic Issue	Objectives	Next Steps (milestones/targets)	Actions to be Taken
Example: High Non-revenue water (NRW)	Reduce NRW from 40% to 30% by June 2025	Improve metering ratio from 85% to 100% by June 2023.	• Procure 10,000 water meters • Install 10,000 water meters
		Establish 5 District Metering Areas (DMAs) by June 2024.	• Procure 100, 200mm valves and 30, 200mm Bulk Water Meters • Install valves to create 5 zones • Install 30 bulk water meters

3.10 Action Plan

The action plan sets out the WSSA's actions to address each of the identified KSIs in section 3.9. The activities for reduction of NRW, water quality management, water meter management and incident management should be the same as in Non-Revenue Water Reduction Strategy, Water and Wastewater Quality Monitoring Programme, Water Meter Policy and Incident Response Plan documents.

For each activity, the plan should describe:
(a) the activity to be undertaken such as type, size and quantity of material to be procured etc.
(b) who is responsible for ensuring that the activity is carried out;
(c) starting and completion dates;
(d) the costs involved and whether these will be covered by capital or operational expenditure funds;
(e) the source of funding; and
(f) any additional relevant information.

Item (f) above will be described in the comments column. The action plan shall be presented as shown in **Table 18** and will be in the main document of the BP

A summary of WSSAs' action plan for implementing NRW Reduction Strategy, Water Meter Policy, Incident Response Plan and Water and Wastewater Quality Monitoring Programme should be attached as ***Appendix M, N, O and P*** to the BP respectively.

Table 18: Action Plan

Key Strategic Issues	Objectives	Next Steps (milestones)	Activities (Actions to be taken)	By Whom	Start date (month and year)	Completion Date (month and year)	Costs (Million TZS)			Nature of Expenditure (O&M or Investment)	Source of Funding	Comment
							Year 1	Year 2	Year 3			
	Total Cost											

3.11 Investment Plan

The Investment Plan should be derived and be consistent with the Action Plan and include additional details from the Asset Management Plan. The Investment Plan will be in the format as detailed in **Table 19** and will be presented in the main document of the BP. The investment plan shall include:

(a) purpose or target to be achieved by investment;
(b) summary of physical works to be carried out;
(c) design and construction period;
(d) capital expenditure year by year; and
(e) potential or agreed sources of funding.

Table 19: Investment Plan

Purpose or target or activity to be achieved by investment	Asset	Asset Group	Summary of physical works to	Design period (months)	Implementation period (months)	CAPEX in YEAR 1 (Million TZS)		CAPEX in YEAR 2 (Million TZS)		CAPEX in YEAR 3 (Million TZS)		Source of funding
						New Investment	Rehabilitation & Replacement	New Investment	Rehabilitation & Replacement	New Investment	Rehabilitation & Replacement	
Example: Increase water production from 2,000m^3/day to 3,000m^3/day	Borehole B2	Boreholes	Rehabilitation of borehole B2	2	3		10					OWN
	Submersible Pump at borehole	Pumps and peripherals	Replacement of pump at borehole B2	2	3				15			OWN
	Borehole B3	Boreholes	Drill new borehole (B3)	3	4	20						GRANT
	Submersible Pump at borehole B3	Pumps and peripherals	Installation of a pump at borehole B3	2	4			30				LOAN
SUBTOTAL						**20**	**10**	**30**	**15**	**-**	**-**	
GRAND TOTAL						**30**		**45**		**-**		

Note that WSSAs shall group their assets in a manner similar to their PPE schedule in most recent audited financial statements.

4 FINANCIAL PLAN

A financial plan is fundamental to enable the WSSA to meet its projected performance over the BP period. The financial plan will cover projections of Capital Expenditures (CAPEX) and Operation and Maintenance Expenditures (OPEX); their sources of financing; and projected financial statements and ratios. The objective of financial planning is to assist WSSAs in foreseeing their cash flows in achieving medium to long term operational and financial sustainability.

4.1 Assumptions for Financial Projections

As part of the financial planning process, the following are the assumptions to be made by WSSAs:

(a) economic parameters such as inflation, average household income, GDP growth rate, obtained from the National Bureau of Statistics (NBS), which affect the WSSA's future costs and revenues;

(b) working capital parameters which are about the ability of WSSA to maintain enough cash/liquidity to pay for day to day operations and
(c) operational assumptions including water production, number of connections, number of staff and any other assumptions that the WSSA considers appropriate for facilitating financial projections

Presentation of assumptions for Financial Projections is as provided in **Table 20***:*

Table 20: Financial Projections Assumptions

Projection Metrics	**Unit**	**Year n-3**	**Year n-2**	**Year n-1**	**Current Year n**	**Year n+1**	**Year n+2**	**Year n+3**
Inflation rate - annual	%							
Average Household Income	TZS/year							
Average Household size	Number							
Cash Position in months of operating expenses	Months							
Accounts Receivable in months of annual revenues	Months							
Prepaid Expenses as % operating expenses	%							
Inventories in months of operating expenses	Months							
Accounts Payable in months of operating expenses	Months							
Water Production	Million m3							
Bulk water purchase volume (if applicable)	Million m3							
Bulk water purchase price (if applicable)	TZS/m3							
Number of water meters for new connections	Number							
Number of water meters for replacement	Number							
Average electricity tariff	TZS/kWh							
Average chemical cost	TZS/m^3							
Number of employees	Number							
Number of water connections	Number							
Number of sewer connection	Number							
Number of cesspit emptier trucks owned by a WSSA	Number							
Number of private/LGA owned cesspit emptier trucks	Number							
Number of trips made by cesspit emptier trucks	Number							
Non-Revenue Water	%							
Collection efficiency	%							
Water User fee	TZS/m^3							
Any other appropriate assumptions (add rows as appropriate)								

4.2 Forecasting of Expenditures

4.2.1 Forecasting of Annual Capital Expenditures (CAPEX)

Capital expenditure is incurred when the WSSA spends money either to buy fixed assets or to add to the value of an existing fixed asset with a useful life that extends beyond one financial year. CAPEX for WSSAs shall include renewal and replacement of existing assets as derived from the Asset Management Plan (Lifecycle Management) and New Investments from the Business forecast. WSSAs shall appropriately estimate CAPEX based on, among other things, market price, engineering estimates and benchmarking. In reporting CAPEX, shall ensure consistency with the investment plan *(**Table 21***).

The format of presentation of renewal and replacement requirements is as shown in ***Table 21*** which shall be **Appendix Q** to the BP.

Table 21: Renewal and Replacement of Non-Current Assets

Year	Source of Funds	Asset Group 1	Asset Group 2	Asset Group 3	*Add other Asset Groups as appropriate*	Total
Year n-3	Own					
	Grants					
	Loan					
	Subtotal					
Year n-2	Own					
	Grants					
	Loan					
	Subtotal					
Year n-1	Own					
	Grants					
	Loan					
	Subtotal					
Current Year n	Own					
	Grants					
	Loan					
	Subtotal					
Year n+1	Own					
	Grants					
	Loan					
	Subtotal					
Year n+2	Own					
	Grants					
	Loan					
	Subtotal					
Year n+3	Own					
	Grants					

Year	Source of Funds	Asset Group 1	Asset Group 2	Asset Group 3	*Add other Asset Groups as appropriate*	Total
	Loan					
	Subtotal					

The format for presenting new investment requirements is as shown in ***Table 22*** which will be ***Appendix R*** to the BP.

Table 22: New Investments

Year	Source of Funds	Asset Group 1	Asset Group 2	Asset Group 3	*Add other Asset Groups as appropriate*	Total
Year n-3	Own					
	Grants					
	Loan					
	Subtotal					
Year n-2	Own					
	Grants					
	Loan					
	Subtotal					
Year n-1	Own					
	Grants					
	Loan					
	Subtotal					
Current Year n	Own					
	Grants					
	Loan					
	Subtotal					
Year n+1	Own					
	Grants					
	Loan					
	Subtotal					
Year n+2	Own					
	Grants					
	Loan					
	Subtotal					
Year n+3	Own					
	Grants					
	Loan					
	Subtotal					

The total CAPEX shall be obtained by summing up the costs presented in ***Table 21*** and ***Table 22*** and presented as shown in ***Table 23*** and will be ***Appendix S*** to the BP

.

Table 23: Total CAPEX

Year	Source of Funds	Asset Group 1	Asset Group 2	Asset Group 3	Add other Asset Groups as appropriate	Total
Year n-3	Own					
	Grants					
	Loan					
	Subtotal					
Year n-2	Own					
	Grants					
	Loan					
	Subtotal					
Year n-1	Own					
	Grants					
	Loan					
	Subtotal					
Current Year n	Own					
	Grants					
	Loan					
	Subtotal					
Year n+1	Own					
	Grants					
	Loan					
	Subtotal					
Year n+2	Own					
	Grants					
	Loan					
	Subtotal					
Year n+3	Own					
	Grants					
	Loan					
	Subtotal					

4.2.2 Forecasting of Operating and Maintenance Expenditures (OPEX)

OPEX is the regular, usual and customary recurring costs of operating and maintaining the equipment or facility of the WSSA. OPEX shall include production costs, distribution costs, repair and maintenance costs, sanitation costs, personnel costs, administration costs, business promotion expenses, events and donation expenses and bank charges. The forecasting method for each of the OPEX categories is as detailed below: -

(a) Water Production costs

Water production costs shall include fuel and lubricants costs, chemicals costs,

electricity for water production, bulk water purchase costs, laboratory costs, water source upkeep and water user fees. Generally, projections shall be made based on the unit cost, inflation and projected water production. It should be noted that changes in the prices of electricity and water user fees shall not be affected by inflation because they are determined by their respective regulatory bodies. Projection of laboratory cost shall be based on respective WSSA's Water and Wastewater Quality Monitoring Programme.

(b) Distribution costs

Water distribution costs shall comprise electricity for water distribution, fuel and lubricants, service lines for new connections, water meter installation and other water distribution expenses. Electricity for water distribution and fuel and lubricants costs shall be projected using the same approaches as discussed in the water production cost section. Costs for service lines shall be projected based on inflation and the projected number of new connections. In estimating the number of meters to be installed consideration shall be given on the metering ratio target in the respective years. Other water distribution expenses such as bill preparation and meter reading shall be based on the number of connections.

(c) Repair and maintenance costs

Repair and maintenance costs consist of maintenance of water production infrastructure (including water intake, pumps, switch gears, treatment plant equipment including dosing pumps and backwash equipment), maintenance of water pipelines including valves and hydrants, water meter repairs, motor vehicles & cycles, upkeep of sewerage infrastructure, plant and heavy equipment, buildings and other maintenance and repair expenses. Projection for repair and maintenance costs shall be based on the detailed analysis of repair and maintenance requirements under the WSSA's Asset Management Plan (**Table** 13).The total repair and maintenance costs in **Table** 13 will be part of the inputs to ***Table 24***.

(d) Sanitation costs

Sanitation costs shall include sewage and sludge treatment, electricity for sewerage and sanitation, laboratory, new sewer connections, cesspit emptying and transportation and other sewerage disposal expenses. Sewage and sludge treatment, laboratory, cesspit emptying and transportation costs shall be projected by adjusting the current costs by inflation. For new sewer connections, the costs shall be projected based on inflation and the projected number of new sewer connections. Costs for electricity for sewerage and sanitation shall be projected based on the electricity tariff and the projected volume of sewage to be pumped. Similar to water production, the projection of laboratory cost for wastewater shall be based on respective WSSA's Water and Wastewater Quality Monitoring Programme.

(e) Personnel costs

Personnel costs include salaries, payment to social security funds, all allowances and gratuity. WSSAs shall project personnel costs based on the number of staff and salary increments approved by WSSA's Board. However, personnel costs shall be limited by the target set by the Ministry of Water, which among other things, specifies the ratio of personnel costs to the total collections from water and sanitation-related services.

(f) Administration Costs

Generally, administration costs shall be projected based on inflation. However, for those administration costs such as insurance costs, electricity for offices, audit fees and directors' fees, other projections methods will be applied. For example, insurance costs shall be projected based on the actual contract values; electricity for offices shall be projected based on average usage and currently approved electricity tariffs; audit fees shall be projected based on applicable law and practice, and directors' fees shall be projected based on approved rates and the number of directors.

(g) Business Promotion Costs

Business promotion costs shall comprise information, education, communication & publicity, customer outreach, customer survey, research and feedback, documentary and upkeep of audiovisual, newspaper and periodicals, upkeep of public garden and monument and other business promotion expenses. Business promotion costs shall be projected based on inflation.

(h) Events and Donation Costs

Events and donation costs shall comprise ATAWAS expenses, Maji week expenses, Mazingira week, Nane Nane day, annual general meeting contribution, donations and May Day expenses. ATAWAS expenses shall be projected based on the applicable rates set by ATAWAS. Other event and donation expenses shall be projected based on inflation.

(i) Board Expenses

Board expenses shall include meeting expenses and director's fees. Board expenses shall be projected based on rates approved by Treasury Registrar, number of meetings and number of Board members.

(j) Financial Costs

Financial costs comprise bank charges, bank overdrafts and interest on term loans. Interest on term loans and bank overdrafts shall be projected based on applicable rates and for the bank charges, costs shall be projected based on the past three years' trend.

Operation and Maintenance Expenditures shall be presented as shown in ***Table 24*** and shall be ***Appendix T*** to the BP.

Table 24: Operations and Maintenance Expenditures

Description	Operation and Maintenance Cost (Million TZS)						
	Year n-3	Year n-2	Year n-1	Current Year n	Year n+1	Year n+2	Year n+3
Water Production costs							
Electricity for Water Production							
Chemicals							
Fuel & Lubricants (Generator)							
Water User Fee							
Laboratory							
Water Source Upkeep							
Add other Water Production costs as appropriate							
Bulk water purchase costs							
Sub Total Water Production costs							
Water Distribution costs							
Electricity for Water Distribution							
Fuel & Lubricants (Generator)							
Service lines - New connections							
Water Meter Installation							
Add other Water Distribution costs as appropriate							
Sub Total Distribution costs							
Sanitation costs							
Sewage Treatment							
Electricity for Sewerage							
Laboratory							
New Sewer Connections							
Cesspit Emptying and transportation							
Add other Sanitation costs as appropriate							
Sub Total Sanitation costs							
Maintenance and Repair costs (as per Asset Management Plan)							
Personnel costs							
Basic Salary							

Description	Operation and Maintenance Cost (Million TZS)						
	Year n-3	Year n-2	Year n-1	Current Year n	Year n+1	Year n+2	Year n+3
Wages							
Employer's Pension Contribution							
Travelling on leave							
Allowances							
Add other staff costs as appropriate							
Sub Total Personnel costs							
Administration costs							
Insurance							
Electricity for Offices							
Audit Fees							
Staff Training							
Provision for doubtful debts							
Fuel for motor vehicles/cycles							
Add other administration costs as appropriate							
Sub Total Administration costs							
Business Promotion							
Information, education, communication & publicity							
Customer outreach							
Customer survey							
Research and feedback							
Documentary and upkeep of audio visual							
Newspaper and periodicals							
Upkeep of public garden and monument							
Add other Business promotion costs as appropriate							
Sub Total Business Promotion Costs							
Events and Donations							
ATAWAS costs							
Add other Events and Donation costs as appropriate							
Sub Total Events and Donation costs							
Board Expenses							
Board meeting expenses							

Description	Operation and Maintenance Cost (Million TZS)						
	Year n-3	Year n-2	Year n-1	Current Year n	Year n+1	Year n+2	Year n+3
Directors fees							
Add other Board expenses as appropriate							
Sub Total Board expenses							
Financial costs							
Interest on bank overdrafts							
Bank charges							
Interest on term loans							
Sub Total Financial costs							
TOTAL OPEX							

4.3 Sources of Financing

The available options for financing are basically loans and grants (external sources of financing) and tariffs (internal source of financing).

4.3.1 External Sources of Finance

External sources of financing include loans and grants which are used to finance CAPEX. The information needed to calculate the loan repayments for future WSSA borrowings is the terms and conditions of the loan including amount, interest payable, down-payments and grace period where applicable. It is important to note that during the three years of the BP, only loans that have firm commitments shall be included in the CAPEX projections. Other sources of CAPEX financing may be grants from donors or the Government and should only be included in the CAPEX when there is a firm commitment to receiving such grants. Project financing will be summarized as shown in ***Table 25*** and will be ***Appendix U***.

Table 25: Project Financing

Description	Unit	Year n-3	Year n-2	Year n-1	Current Year n	Year n+1	Year n+2	Year n+3
Loan 1 - Amount	in Million TZS							
Year								
Duration of the loan	Years							
Rate of interest	%							
Grace period	Years							
Annual interest payment	Million TZS							
Loan 2 - Amount	in Million TZS							

Description	Unit	Year n-3	Year n-2	Year n-1	Current Year n	Year n+1	Year n+2	Year n+3
Start Year								
Duration of the loan	Years							
Rate of interest	%							
Grace period	Years							
Annual interest payment	Million TZS							
Loan payment								
Loan 1 Start Year Balance	Million TZS							
Repayment per year	Million TZS							
Closing loan balance	Million TZS							
Loan 2 Start Year Balance	Million TZS							
Repayment per year	Million TZS							
Closing loan balance	Million TZS							
Loan 3 Start Year Balance	Million TZS							
Repayment per year	Million TZS							
Closing loan balance	Million TZS							
Total Loans	Million TZS							
Total Interest Payment Per Year	Million TZS							
Total Principal Payment Per Year	Million TZS							
Total Annual Payment (Principal + Interest)	Million TZS							
Total Closing Balance	Million TZS							
Donor Grants	Million TZS							
Donor Grant 1	Million TZS							
Donor Grant 2	Million TZS							
Add other donor grants as appropriate	Million TZS							
Total Donor Grants								
Government Capital Contributions	Million TZS							
Government Grant 1	Million TZS							
Government Grant 2	Million TZS							
Add other government grants as appropriate **Total Government Capital Contributions**	Million TZS							

4.3.2 Internal Source of Financing

Internal sources of financing are usually based on tariffs and other operational charges. Internal sources can finance both CAPEX and OPEX. In case of tariff financed CAPEX, the limit is the derived Depreciation amount and Return on Investment (ROI). The ROI shall be computed as provided in the Water Tariff Application and Rate Setting Rules issued by EWURA and the Depreciation shall be the amount derived from the Asset Management Plan based on the guidance provided in section 3.7.3.2.

(a) Tariff Setting

Tariffs shall be computed using the Water Tariff Application and Rate Setting Rules issued by EWURA (available at www.ewura.go.tz). Computation of the tariff shall be based on Revenue Requirement (RR) methodology and shall be cost based which implies that tariffs should cover the total cost of service including operation and maintenance, depreciation (of all assets – own and grant funded assets) and return on investment (excluding grant financed assets) as follows:

$$RR = OM + D + T + WACC \times RAB$$

Where:

RR	=	Revenue Requirement for the financial year;
OM	=	Operation and maintenance costs;
D	=	Depreciation charge;
T	=	Corporate Taxes;
WACC	=	the Weighted Average Cost of Capital, which is defined as (% equity × cost of equity) + (% debt ×cost of debt)
RAB	=	Regulated Asset Base. These are WSSA's assets which are used in the provision of water and sanitation services to the public. The RAB can be financed by any of the four sources: the WSSA, Donor, Government of Tanzania or loans.
WACC x RAB	=	Return on Investment (RoI) as illustrated below.

Computation of Return on Investment

Descriptions	Formula	Example	FY1	FY2	FY3
Non-Current Assets (NCA)					
Donor/Grants Financed NCA	*G*	42,168.39	xx	xx	xx
Own investments	*E*	9,940.55	xx	xx	xx
Debt Financed NCA	*D*	2,927.00	xx	xx	xx
RAB (R)	**R =G+E+D**	**55,035.94**	**XX**	**XX**	**XX**
Return on Grants/Donor	r_g	0%	0%	0%	0%
Risk Free Rate (Average of 10 years)	r_e	12.88%	XX	XX	XX
Cost of Debt (As per bank agreement)	r_d	9.00%	XX	XX	XX
WACC	WACC= $(E/V*r_e)+(D/V*r_d)$	**2.81%**	**%**	**%**	**%**
ROI	ROI= (WACC*RAB)	**1,543.77**	**-**	**-**	**-**

Where:

E: Equity

D:Debt

V:Total value of Equity and Debt

re: Cost of Equity

rd:Cost of Debt

WSSAs shall compute the average water tariff for each year based on the projected costs as follows:

$$AWT = \frac{RR - OI}{Q(1 - NRW)}$$

Where:

AWT	=	Average Water Tariff
RR	=	Revenue requirement as determined above
OI	=	Other Income (including income from sanitation charges, new connection fees, reconnection fees and operational grants)
Q	=	Annual water production
NRW	=	Non-Revenue Water

While in principle tariffs are aimed at recovering operational costs of WSSAs, it is important to take on board the social acceptability of the proposed tariff by considering the ability to pay of customers. Presentation of tariff setting will be summarized in ***Table 26***.

Table 26: Water Tariff Setting

Description	Year							
	Unit	Year n-3	Year n-2	Year n-1	Current Year n	Year n+1	Year n+2	Year n+3
Revenue Requirements								
Operation and Maintenance cost	TZS (million)							
Depreciation charge	TZS (million)							
Return on Investment	TZS (million)							
Total Revenue Requirements	TZS (million)							
Less Other income	TZS (million)							
Total revenue requirements from water sales	TZS (million)							
Water production volume	m3 (million)							
Non-Revenue Water	%							
Water billed volume	m3 (million)							
Average water tariff	TZS/m3							
Percentage Tariff increase	%							

(b) Rates and Other Charges

Presentation of rates and other charges will be summarized in ***Table 27*** and will be an ***Appendix V*** to the BP.

Table 27: Rates and Other Charges

Description	Year							
	Unit	Year n-3	Year n-2	Year n-1	Current Year n	Year n+1	Year n+2	Year n+3
Water Tariff								
Domestic	TZS/m3							
Institutional	TZS/m3							
Commercial	TZS/m3							
Industrial	TZS/m3							
Kiosk	TZS/m3							
Add other customer categories as appropriate								
New water connection fees								
Domestic	TZS							
Institutional	TZS							
Commercial	TZS							
Industrial	TZS							
Reconnection fees								
Domestic	TZS							
Institutional	TZS							
Commercial	TZS							
Industrial	TZS							
Other water charges (add as appropriate)								
Sanitation Tariff								
Average Sewerage Tariff	TZS/m3							
Cesspit Emptying charges	TZS/m3							
Domestic	TZS/m3							
Institutional	TZS/m3							
Commercial	TZS/m3							
Industrial	TZS/m3							
Sludge disposal charges	TZS/m3							
New sewer connection fees	TZS							
Domestic	TZS							
Institutional	TZS							
Commercial	TZS							
Industrial	TZS							
Add other sanitation charges as appropriate								

4.4 Forecasted Financial Statements

In principle, financial statements should comply with requirements of International Public Sector Accounting Standards (IPSAS). The financial statements should be consistent with the projected CAPEX, OPEX and financing arrangements as outlined in Sections 4.1 to 4.2. Three basic financial statements are expected from WSSAs which are:

(a) Forecasted Statement of Financial Performance;
(b) Forecasted Statement of Financial Position; and
(c) Forecasted Statement of Cash Flow

4.4.1 Forecasted Statement of Financial Performance

A statement of financial performance is a financial statement that shows income and expenditure for a period of one year or one operating cycle. The purpose of the income and expenditure statement is to show whether the WSSA has generated a surplus or incurred a deficit during the period being reported. As a minimum, each WSSA should provide the information shown in ***Table 28*** in its income and expenditure statement.

Table 28: Forecasted Statement of Financial Performance

Description	Historic Data (TZS)			Current (TZS)	Projections (TZS)		
	Year n-3	Year n-2	Year n-1	Year n	Year n+1	Year n+2	Year n+3
Income							
Own funds							
Water Charges							
Sewerage charges							
Cesspit emptying charges							
Sludge disposal charges							
New connection fees							
Reconnection Fees							
Add other income as appropriate							
Operational Grants							
Government							
Donors							
Other grants							
Total Income							
Expenses							
Water production							
Water Distribution							
Sanitation							
Maintenance and Repair							
Personnel							
Administration							
Business promotion							
Events and Donation							
Board							
Financial							
Depreciation							
Total Expenses							
Surplus /(Deficit)							

4.4.2 Forecasted Statement of Financial Position

A statement of financial position or commonly referred to as a balance sheet is a statement showing the balances of assets and sources of financing of those assets of an entity at a given point in time, preferably at the end of the financial year or one

operating cycle. In these guidelines presentation of statement of financial position is recommended to be in the format shown in ***Table 29***.

Table 29: Forecasted Statement of Financial Position

Description	Historical (TZS)			Current (TZS)	Projections (TZS)		
	Year n-3	Year n-2	Year n-1	Year n	Year n+1	Year n+2	Year n+3
ASSETS							
Non-Current Assets							
Property, plant and equipment							
Intangible assets							
Capital work in progress							
Total Non-Current Assets							
Current Assets							
Inventories							
Trade receivables							
Other receivables							
Cash and cash equivalents							
Total Current Assets							
TOTAL ASSETS							
LIABILITIES AND EQUITY							
LIABILITIES							
Non-Current Liabilities							
Long term debt							
Deferred Government Grant							
Total Non-Current Liabilities							
Current Liabilities							
Trade payables							
Other payables							
Total Current Liabilities							
TOTAL LIABILITIES							
EQUITY							
Capital fund							
Grants							
Accumulated Surplus/Deficit							
Revaluation reserves							
TOTAL EQUITY							
TOTAL LIABILITIES AND EQUITY							

4.4.3 Forecasted Statement of Cash Flows

A statement of cash flows provides information on the inflow and outflow of cash during a specified period. It indicates the source from which the cash inflows have been generated, where the cash outflows went and the resultant change in the cash balance over the period. WSSAs shall include cash flow from operating, investing and financing activities. Cash flow from operating activities is primarily derived from the principal revenue-generating activities. Cash flow from financing activities refers

to activities that alter the equity capital and borrowing structure of the entity while cash flow from investing activities refers to the acquisition and disposal of long-term assets and other investments that are not included in the cash equivalents. In these guidelines, the direct method of presentation of the statement of cash flow is recommended and will be in the format shown in ***Table 30***. The direct method lists all the major operating cash receipts and payments during the period. After all sources are listed, the total cash payments are then subtracted from cash receipts to compute the net cash flow from operating activities.

Table 30: Forecasted Statement of Cash Flows (Direct Method)

Description	Historical (TZS)			Current (TZS)	Projections (TZS)		
	Year n-3	Year n-2	Year n-1	Year n	Year n+1	Year n+2	Year n+3
Cash flow from Operating Activities							
Receipts							
Receipts from Water sales							
Receipts from reconnections							
Receipts from new connections							
Receipts from sewerage charges							
Receipts from emptying charges							
Receipts from sludge disposal							
Add other receipts as appropriate							
Total Receipts							
Payment							
Payment to suppliers							
Payment to employees							
Add other payments as appropriate							
Total Payments							
Net cash from operating activities							
Cash flow from Investing Activities							
Acquisition of Property, Plant and Equipment							
Acquisition of Intangible Assets							
Proceeds from sales of Equipment							
Interest received							
Net cash from investing activities							
Cash flow from Financing Activities							
Repayment of long term borrowings							
Proceeds from long term borrowings							
Net cash from financing activities							
Net increase in cash and cash equivalent							
Cash and cash equivalent at the beginning of the period							

Description	Historical (TZS)			Current (TZS)	Projections (TZS)		
	Year n-3	Year n-2	Year n-1	Year n	Year n+1	Year n+2	Year n+3
Cash and cash equivalent at the end of the period							

4.5 Financial Ratios

A number of financial ratios can be derived from financial projections. These not only indicate the financial health of the WSSA over time but can also be used by EWURA for comparison of performance between authorities.

Financial Ratios calculation for WSSAs should at the minimum provide information on:
(a) Liquidity: liquidity ratios measure the ability of WSSAs to meet or repay their short term maturing obligations from the current assets;
(b) Efficiency ratios; measures how efficient the WSSA's operation is employing its capital. These ratios include Account Receivable Collection period, Revenue Collection Efficiency, Operating ratio and Personnel expenditure as % of collection from water and sewerage bills
(c) Leverage ratios which show the extent of indebtedness or also the ability of WSSAs to service their long term debts when falling due.

In these guidelines, the typical financial ratios used to define or measure a WSSA's performance are not self-explanatory and, thus, require elaboration on their meaning and implications. It should be emphasized that the interpretation of the ratios given herein should always be related to the context of each WSSA as it applies them.

The financial ratios frequently used in analysing performance of WSSAs as well as serve the purpose for financial projections would include the following:

(a) Current Ratio

The current ratio (CR) measures whether or not a WSSA has enough short term resources to pay its short term liabilities over the next 12 months. It compares a WSSA's current assets to its current liabilities. The current ratio is an indication of a WSSA's liquidity and ability to meet creditor's demands. The formula used to calculate the current ratio is as follows, while its interpretation is given in ***Table 31***.

Formula:

Current Ratio (CR) = Current Assets / Current Liabilities

Table 31: Interpretation of Current Ratio

CR Value	Interpretation	Possible Action
>2	The WSSA may not be efficiently using its current assets or it may be having a lot of current assets tied up in debtors/accounts receivable.	The WSSA needs to increase collection efficiency, billing efficiency etc. The WSSA should also look at reducing its inventory.
1<CR<2	The WSSA is in a very good liquidity position (the higher the number, the better). For instance, a ratio of 1.25 means that for every 1 Shilling the WSSA owes it has 1.25 Shillings in assets.	The WSSA should maintain its revenue base and use the surplus to undertake investments to extend the network
CR<1	The WSSA may have problems meeting its short-term obligations.	The WSSA may consider engaging in a rigorous cost recovery program, increase collection efficiency.

(b) Operating Ratio

The operating ratio is an indicator that is used to measure WSSA's ability to recover operating costs (including depreciation) from its annual revenues. Operating ratio is calculated by dividing the WSSA's total annual operating expenses by the annual revenue.

Formula:

Operating Ratio = total operating costs / total revenue

Operating ratio should be less than 1.

(i) Under normal circumstances, a ratio less than 1 would mean that the WSSA is able to meet all of its expenditures with its revenues over the reporting period.

(ii) If the ratio is less than 0.8 the WSSA has an excellent revenue position (operating surplus) and should work to extend the network.

(iii) If the ratio is close to 1 then the WSSA's financial situation is likely not strong and should be improved by cutting down costs and applying a range of available instruments to achieve better cost recovery.

(iv) If the ratio is greater than 1, the WSSA has an operating deficit and is, thus, not likely to meet its present and accumulated expenditures using its own revenue. Again, the WSSA should urgently cut costs and apply suitable means to achieve cost recovery. In detail, the following interpretations may apply.

Table 32: Interpretation of Operating Ratio

OR Value	Interpretation	Possible Action
< 0.8	The WSSA has an operating surplus and is in good financial condition	The WSSA should maintain its revenue base and use the surplus to undertake investments to extend the network
> 0.8 </= 1	Despite the slight operating surplus, the WSSA is	The closer the ratio is to being = 1, the more the WSSA should try to exercise

OR Value	Interpretation	Possible Action
	progressively weak, the closer the ratio is to being = 1. The WSSA would likely not be able to cope with external shocks or anything that would further weaken its revenue base.	budget control and cut expenditures where necessary. The focus should be on increasing operational efficiency and large investments should be carefully weighted as to whether or not they cut costs or increase the revenue base significantly.
> 1	The WSSA is running an operational deficit. Performance is not satisfactory as the WSSA is actually spending more than the revenues being generated. Its performance is poor and thus the financial situation is weak.	The WSSA should focus all efforts in implementing steps to increase operational efficiency, increase the customer base and – most importantly – cut costs radically. Possible means to achieve these goals are to reduce NRW, reduce administrative and general expenses and restructure the tariffs.

(c) Debt Servicing Coverage Ratio

The Debt Servicing Coverage Ratio (DSCR) measures the ability of a WSSA to carry out payments of the loan (principal + interest). It indicates the percentage of total revenue income that is spent towards paying the annuities (interest and principal) on loans taken by the WSSA.

Formula:
Debt Servicing Coverage Ratio = Total annuities / Total revenue

Table 33: The interpretation of Debt Servicing Coverage Ratio

DSCR Value	Interpretation	Possible Action
> 0.3	If the DSCR is > 0.3 then it means that the WSSA is overleveraged with the existing loans and any further loan funding will push the WSSA into a debt trap.	The WSSA should not take up new loans but focus on cost recovery.
< 0.3	If the DSCR < 0.3 it means that the WSSA can contract an additional loan and will be in a position to repay the loan annuities without compromising on the need for day-to-day expenditures.	The WSSA would have enough financial room for the next steps to increase the network/ customer base.

d) Account Receivable Collection period

Account Receivable Collection period indicates the amount of money owed to water utilities by their customers expressed as the average duration in months the utility takes to collect their bills. It is calculated by taking the total accounts receivable during the year divided by the total water and sanitation sales (bills) multiplied by 12. A value between 1 and 2 months is considered reasonable.

Formula:

Account Receivable Collection period= $\frac{\text{total accounts receivable x 12}}{\text{total water and sanitation sales (bills)}}$

e) Personnel expenditure as % of current collection from water and sanitation bills

Total personnel expenditures are expressed as a percentage of the total collection from current water and sanitation bills plus collections from other water and sanitation-related services (excluding grants and subsidies). The limit for this indicator is as provided by the Ministry of Water.

f) Collection Efficiency (%)

This ratio refers to total collection from water and sewerage services expressed as a percentage of the total water and sewerage billings. A value of at least 95% is considered reasonable. The financial ratios shall be presented as shown in ***Table* 34**

Table 34: Financial Ratios

SN	Description	Unit	Historical			Current	Projections		
			n-3	n-2	n-1	n	n+1	n+2	n+3
1	Current Ratio	Ratio							
2	Operating Ratio	Ratio							
3	Debt Service Coverage Ratio	Ratio							
4	Account Receivable Collection Period	months							
5	Personnel Expenses as % of Collections	%							
6	Collection Efficiency	%							

5 MONITORING, EVALUATION AND REPORTING

The WSSA shall indicate the process of implementation of their BP by having in place internal control mechanisms of monitoring, evaluation and reporting its performance over a period of time. This will be facilitated by a formulation of a BP Team that will coordinate preparation, monitoring, evaluation and reporting of the implementation of the BP. The WSSA, among other things, will ensure that the preparation of its annual budget is in line with the BP. In addition, the WSSA shall

prepare a monitoring plan, evaluation plan and reporting plan for tracking implementation of the BP.
Under the monitoring plan, the WSSA shall commit itself to undertake monthly, quarterly and annual reviews of the BP. The purpose of the reviews is to find out whether the WSSA is on track, off track, or at risk in relation to the implementation of the BP. The reviews will track any changes in terms of output realized over the period as well as assess issues, challenges, and lessons learnt over the period. The review findings will be used to adjust implementation strategies whenever necessary. All key indicators in the BP will be included in the monitoring plan and the WSSA through its BP team shall prepare a data collection plan for computation of the key indicators and determining their progress against set targets.

The evaluation plan will focus on determining whether the planned outcomes over the three years' BP have been achieved and if not, what could have been the reasons for the under achievement with a view of improving the effectiveness of BP for the next round.

The reporting plan should show all reports that will be used in execution of the BP. These reports shall include an annual review report. The WSSA shall prepare an annual review report on the implementation status of the BP, and the report shall be included in the Annual Performance Report of WSSAs and shall be submitted to EWURA after the approval of the WSSA's Board.

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ANNEX A: PRESENTATION/LAYOUT OF A BUSINESS PLAN

WSSAs shall present their BPs by observing the following.

1. Executive Summary
2. Introduction
3. Description of the WSSA
4. Vision and Mission
5. Previous, Current and Expected Future Performance of the WSSA
6. Business Forecast
   - 6.1 Business Analysis
     - 6.1.1 Internal Environment
     - 6.1.2 External Environment (PESTEL)
     - 6.1.3 Analysis of Alternative Service Providers
     - 6.1.4 SWOC Analysis
   - 6.2 Marketing Strategy
     - 6.2.1 Water Demand Projection
     - 6.2.2 Sewage and Faecal Sludge Generation and Projection
     - 6.2.3 Service Coverage Projection
     - 6.2.4 Stakeholders' Relations
7. Asset Management Plan
   - 7.1 Summarised Asset Register
   - 7.2 Assessment of Risks and Consequences
   - 7.3 Lifecycle Management
8. Capacity Development Analysis
   - 8.1 Review of Organization Structure
   - 8.2 Staff Numbers and Skills
   - 8.3 Training Needs Assessment
9. Key Strategic Issues
10. Action Plan
11. Investment Plan
12. Financial Plan
    - 12.1 Assumptions of Financial Projections
    - 12.2 Forecasting CAPEX and OPEX
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ANNEX B: PREVIOUS, CURRENT AND PLANNED PERFORMANCE

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ANNEX B-1: OVERALL QUALITY OF SERVICE TARGETS

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
WSS01	**Water Quality** Testing samples for impurities	To ensure that water is within standards as specified by TZ Standards (i.e 100% of all samples comply with TZ Standards).								
WSS02	**Water Pressure** Minimum/maximum water pressure	Must maintain a pressure ranging from 0.6 to 2.5 bars ***(1bar is equivalent to 10m of column of water)***								
WSS03	**Reliability of supply** Notify public of intention to interrupt supply – planned interruptions	Minimum notification time of 12 hours for short interruptions (less than 4 hours)								

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
		Minimum notification time of 24 hours for longer interruptions (more than 4 hours)								
WSS04	Reliability of supply: Restoration after emergency lock-off	Maximum time of 24 hours to restore supply in service areas.								
	Reliability of supply Notify public of intention to interrupt supply –unplanned interruptions	Maximum time of 2 hours to notify the public after interruption								
WSS05	**Sewerage** Correction of sewerage problems	Maximum of 24 hours to correct minor sewerage problems i.e. blockage after being informed.								
WSS06	**Sewerage** Sewerage effluent quality	Ensure that sewerage effluent is within the standards specified by Tanzania Standards (i.e. 99%								

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
		of all samples must meet the required standards).								
WSS07	**Water meters** Changing meters	Maximum of 5 working days after meter change, the Licensee must provide consumers with details of the old and new meters on the following: date of change, meter readings and serial numbers.								
WSS08	**Delivery of bills** Issue of the first bill	Maximum time of 30 working days after connection.								
WSS09	**Appointments** Keeping appointments	WSSA must make and keep an appointment at customer's request and must notify customers prior to appointed time. If upon arrival at premises, the customer has								

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
		already left, the field officer should leave details related to the complaint, including time of the visit and contact number to the customer premises. Also, WSSA should notify him/her within 5 days of a new appointment.								
WSS010	**Complaints** Response to complaints	Maximum time of 5 working days to complete investigation and response, from date of receipt of a complaint.								
WSS011	**Account status** Issue of account status	A maximum of five (5) days' notice is required from the customer for the								

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
		meter to be read on the same day (or within 2 days if on a weekend) the customer is moving. Maximum time of 15 working days to provide final bill after move.								

ANNEX B-2: GUARANTEED QUALITY OF SERVICE TARGETS

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
WSSG1	**Access** Connection to supply and/or sewerage	Maximum time of 7 working days.								
WSSG2	**Water meters 1** Meter installation	Maximum of 7 working days to install a meter on customer's request.								
WSSG3	**Water meters 2** Repair or replacement of faulty meters	Maximum time of 15 working days to repair or replace meter after being informed of defect.								
WSSG5	**Water meters 3** Meter reading	Meter reading is done at least once every month								
WSSG5	**Wrongful disconnection** Stop wrongful disconnection	A maximum of 24 hours to restore wrongful water disconnection after being								

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
		notified/ reported/ aware.								
WSSG6	**Reconnection**	Within 24 hours after debt settlement.								
WSSG7	Flooding from sewers- Internal Flooding	No sewage from a sewerage system that is vested in a Water authority shall enter a customer's building								
WSSG8	Flooding from sewers- External Flooding	No sewage from a sewerage system which is vested in a water authority should enter a customer's land or property								
WSSG9	**Transportation of Faecal Sludge**	No faecal sludge from a cesspit emptier which is vested in a water authority be								

Code	Focus and Description	Minimum Service Level Requirement by the WSSA	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
		dumped at unauthorised land or property								

ANNEX B-3: WATER SUPPLY PERFORMANCE

ID.NO	Performance Indicator	Previous year performance	Current Performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
Protection of the user interests									
User service accessibility									
PW 1(a)	Proportion of population living within the area with water network (%)								
PW 1(b)	Proportion of population served with water (%) (WSDP Indicator)								
PW 2	Ratio of the total number of water connections to the total number of households (%)								

ID.NO	Performance Indicator	Previous year performance	Current Performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
PW 3	No. of public water kiosks								
PW 4	Average hours of supply								
	Quality of service supplied to users								
PW 5	Water quality compliance (%)								
	3.1 E-coli								
	3.2 Turbidity								
PW 6	Percentage of complaints resolved (%)								
Sustainability of the Operator									
	Operator's financial and economic sustainability								
PW 7	Metering ratio (%)								
PW 8	Non-Revenue water								
PW8(a)	NRW as a percentage of water produced (%);								
PW8(b)	NRW as total water losses (real/apparent) per connections per day (m3/conn/day); and								

ID.NO	Performance Indicator	Previous year performance	Current Performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
PW8 (C)	NRW as total water losses (real/apparent) per length of water mains (m^3/km/day).								
PW 9	Payment of electricity bills in %								
PW 10	Revenue collection efficiency (%)								
PW 11	Working ratio								
PW 12	Operating ratio								
PW 13	Contribution to investment (%)								
	Operator's Cost Indicators								
PW 14	Personnel expenditure per m3 of water produced								
PW15	Personnel expenditure as % of collection from water and sanitation bills								
PW16	Administration costs per m3 of water produced								
Operator's infrastructural sustainability									
PW 17	Treated water storage								

ID.NO	Performance Indicator	Previous year performance	Current Performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
	capacity (hours)								
PW 18	Water Mains rehabilitation (% per year)								
PW 19	Water service connections rehabilitation (% per year)								
Operator's operational sustainability									
PW 20	Mains failures (nr/km/year)								
Operator's human resource Efficiency									
PW 21	Personnel/1000 (W&S) connections								
PW 22	Revenue per staff per year (Million/staff)								
Environmental sustainability									
PW 23	Energy consumption (kWh/cu.m)								

ANNEX B-4: SANITATION PERFORMANCE

IND.NO.	Name of Indicator	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
Protection of the user interests									
	User service accessibility								
PS 1	Proportion of population receiving WSSAs regulated sanitation services (%)								
PS 2	Proportion of population connected with sewerage network (%)								
PS 3	Number of people sensitized and trained in sanitation								
PS 4	Percentage of population using emptiable latrines								
PS 5	Number of households with connection to the sewerage								
	Quality of service supplied to users								
PS 6	Percentage of complaints resolved (%)								
Sustainability of the Operator									
	Operator's financial and economic sustainability (are combined with water)								
	Operator's infrastructural sustainability								
PS 7	Treatment of collected								

IND.NO.	Name of Indicator	Previous year performance	Current performance	Description of on-going projects/operational activities to improve the current service levels	Starting and completion dates	Costs (Million TZS)	Service level Target: Year 1	Service level Target: Year 2	Target Service level: Year 3
	wastewater (%).								
PS 8	Treatment of collected faecal sludge (%).								
PS 9	Sewerage Mains rehabilitation (% per year)								
PS 10	Sewerage service connection rehabilitation (% per year)								
	Operator's operational sustainability								
PS 11	Sewer blockages (nr/100km of sewers/year)								
PS 12	Sewer collapses (nr/100km of sewers/year).								
Environmental sustainability									
PS 13	Wastewater quality compliance (%)								
	8.1 BOD_5 compliance								
	8.2 COD compliance								
PS 14	Energy consumption (kWh/cu.m)								
PS 15	Safe disposal of sludge (%)								
PS 16	Percentage of reuse of treated effluent/sludge (%)								

ANNEX C: DEFINITIONS OF QUALITY OF SERVICE AND PERFORMANCE TARGETS

CODE	DESCRIPTION	DEFINITION
1. OVERALL QUALITY OF SERVICE		
WSS01	**Water Quality** Testing samples for impurities	It is the duty of the Licensee to make periodical analyses of water samples to ensure water quality. WSSAs are required to take any water samples necessary for analysis, at both source and distribution points, and check if the samples are within the standards specified by the Tanzanian Bureau of Standards. 100% of all samples should meet the required standards. The WSSA must also comply with Water Quality Monitoring Guidelines issued by EWURA.
WSS02	**Water Pressure** Minimum/maximum water pressure	The minimum pressure should be 0.6 bars (6 meters' head pressure) at the ingoing pipe to the premise with a minimum flow of 10 liters per minute. A maximum standard of pressure should not be more than 2.5 bars (25 meters' head pressure) so as to protect consumers from damages due to excessive pressures, i.e. If the main supplying pipes leading to the properties of the consumers within a living quarter do not reach 1 bar (10 meters head pressure), it shall be concluded that the pressure at the connections served by the main is not sufficient.
WSS03	**Reliability of supply** Notify public of intention to interrupt supply – planned interruptions	A WSSA is required to inform customers at least 24 hours beforehand when there is a need to turn off the water supply for more than 4 hours and the duration of the outage. The WSSA also has to give at least 12 hours' notice of work that is expected to last between 1 and 4 hours. The public is to be advised and apologies issued in the appropriate medium if the WSSA cannot restore water supply at the specified time. Notification of outage, in the first instance, should be by means to enable the most effective communication to the affected customers. The required notification time should be given for at least 90% of planned interruptions, (for work of duration of not more than 4 hours as well as those of duration more than 4 hours).
WSS04	Reliability of supply: Restoration after emergency lock-off	If there is a burst of water main or other emergencies, the WSSA may not be able to warn customers that there will be water lock-offs. The WSSA shall, however, inform customers through the appropriate communication within 2 hours after interruption. The WSSA will be required to provide an alternative supply of water if necessary (trucking water to affected areas), and to restore supply within 24 hours. The WSSA must inform customers of unplanned lock-offs (within 2 hours after interruption) at least 90% of the time. Similarly, supply must be restored within 24 hours at least 90% of the time. Alternative supply of water, if necessary, must be provided to at least sensitive areas which include Hospitals, Schools and Prisons.
WSS05	**Sewerage** Correction of sewerage problems	The WSSA must correct all problems, which result in flooding from sewers, within 24 hours of being informed.
WSS06	**Sewerage** Sewerage effluent quality	A WSSA is required to periodically take any effluent samples necessary for analysis and check if the samples are within the standards specified by the Tanzania Bureau of Standards. 99% of all samples must meet the required standards.
WSS07	**Water meters**	If a WSSA needs to change a customer's meter, they are required to leave written details to a customer no later

CODE	DESCRIPTION	DEFINITION
	Changing meters	than 5 working days of the date of the exchange. Maximum of 5 working days after meter change, the WSSA must provide consumers with details of the old and new meters on the following: date of the change, meter readings and serial numbers.
WSS08	**Delivery of bills** Issue of first bill	A WSSA must issue (print and mail) a bill to a new customer within 30 days after connection
WSS09	**Appointments** Keeping appointments	A WSSA has a responsibility to satisfy a customer's request for a representative to visit the customer's premises to deal with an identifiable problem. Appointments should be made with a WSSA (and its field officers) from 8:00 am to 3:00 pm. The WSSA must guarantee to keep all appointments or to notify the customer prior to the appointed time if an emergency prevents them from keeping the appointment. If upon arrival at the premises the customer has already left, the field officer should leave details, including time of visit and contact number, to the customer premise or at other place agreed with the customer. Also, the WSSA should notify the customer within 5 days of a new appointment.
WSS010	**Complaints** Response to complaints	Complaints could be related to billing or not. Complaints related to billing include, no bill received, wrong or no meter reading, non-consideration of previous payment etc. Records and reports shall be made based on this categorization while complaints not related to billing include, faulty meters, insufficient pressure, leakage, poor water quality, insufficient pressure, sewer flooding, interruption of water supply, unjustified delay on new connections, unjustified disconnections, insufficient information, no or late response to inquiries, undue behaviour of provider's personnel etc. Records and reports shall be made based on this categorization. WSSA is required to conduct investigation and respond to complaints within a maximum of 5 working days from date of receipt of a complaint.
WSS011	**Account status** Issue of account status	If a customer is moving and requests an account status and/or service to cease, a WSSA is required to read the customer's meter on the day the customer is moving, if on a working day, as long as 5 working days' notice of the move is given to a WSSA by a customer. If the customer is moving on a weekend, the WSSA should read the meter within two (2) days of the move. The WSSA is also required to provide the relevant bill within 15 working days of the customer moving.
2. GUARANTEED QUALITY OF SERVICE		
WSSG1	**Access** Connection to supply	A WSSA is required to connect all new customers, where water supply or sewerage service is available at the property boundary, within 7 working days after making full payment of connection costs/ or fees.
WSSG2	**Water meters 1**	A WSSA is required to fit a meter, where an unmetered customer requests one, within 7 working days of

CODE	DESCRIPTION	DEFINITION
	Meter installation	receiving the customer's order. If for some reason, a WSSA is unable to meet the request, the WSSA should advise the customer and make a commitment as to when the meter will be provided.
WSSG3	**Water meters 2** Repair or replacement of faulty meters	If a customer's meter is verified by the Licensee's as faulty, the Licensee shall repair or replace it within 15 working days of being first informed of the defect by the customer or after detection by the Licensee.
WSSG4	**Water meters 3** Meter reading	A WSSA has the responsibility to provide at least one bill every month and will guarantee to read customers' meters at least once a month. If the meter is not accessible, a WSSA should make arrangements to relocate it.
WSSG5	**Wrongful disconnection** Stop wrongful disconnection	A WSSA is required to make sure that no customer is disconnected contrary to the laid down regulations and guidelines. Licensees are required to reconnect customers, whose supply has been wrongly or unjustifiably disconnected, within 24 hours after being notified/ reported/aware of the wrongful disconnection.
WSSG6	**Reconnection**	A WSSA is required to reconnect customers, whose supply has been locked off for debt and who have settled all their accounts or as agreed with the WSSA within 24 hours after debt settlement. This standard does not apply in those circumstances where the supply has been illegally reconnected and the WSSA has subsequently removed all infrastructures. In these circumstances, a request for reconnection will be treated as a new connection and the WSSG 1 would apply.
3. WATER SUPPLY PERFORMANCE		
PW 1(a)	Proportion of population living within the area with water network (%)	The proportion of population living within the area with a water network is expressed as a percentage. It is obtained by dividing the population living within 200 meters from the water distribution pipe by the total population living in the service area. The service level benchmark is 100%
PW 1(b)	Proportion of population served with water (%) (WSDP Indicator)	The proportion of population served with water is the percentage of the total population living in the service areas that are served through household/premise connections and public stand posts or kiosks. The population served is obtained by adding the following; (i) the number of domestic connections multiplied by the average number of persons using that connection. (ii) the number of operating public stand posts and/or kiosks multiplied by the average number of people served by public stand posts and/or kiosks (iii) the population living in residential institutions, industrial and commercial complexes. The acceptable boundaries range between 84% to 95% while the service level benchmark is 100%
PW 2	Ratio of the total number of water connections to the total number of households (%)	Ratio of the total number of water connections to the total number of households. The total number of households is derived from census figures.

CODE	DESCRIPTION	DEFINITION
PW 3	No. of public water kiosks	The total number of active water kiosks at the end of a financial year.
PW 4	Average hours of supply	Average hours of water supply is defined as the hours per day a consumer can draw drinking water from the tap at his household connection or the public stand post or kiosks. The average hour's service is calculated as the average hours of service in each water supply zone weighted by the total number of water connections in each supply zone. The acceptable boundaries range between 15 to 20 hours while the service level benchmark is 24 hours.
PW 5	Water quality compliance (%)	This indicator measures the % of the water samples that pass particular water quality tests for potability = Total Number of Samples Passed / Total Number of Samples Tested x 100. The service level benchmark is 100%
PW 6	Percentage of complaints resolved (%)	Complaints resolved during the year divide by total complaints. Total complaints are calculated as a sum of complaints received in a year under review and the number of complaints carried forward from a previous period
PW 7	Metering ratio (%)	Metering ratio is the percentage of total water connections that have operating water meters.
PW 8	Non-Revenue water (NRW) (%)	Is the amount of water that the Licensee produces (or purchases from other entities) minus the amount that is sold to consumers, presented as a percentage of water produced. NRW can be the result of physical (leaks, overflow) and commercial (illegal connections, collection of revenue) losses. The acceptable boundaries range between 25% and 20%while service level benchmark is less than 20%.
PW 9	Payment of electricity bills in %	This is the annual amount set aside by a WSSA for payment of electricity bills as a percentage of the annual electricity bill.
PW 10	Revenue collection efficiency (%)	Revenue collection efficiency is the percentage of bills collected during the financial year calculated as the amount of Revenues Collected /Amount Billed x 100. The acceptable boundaries range between 90% and 95%while service level benchmark is greater than 95%.
PW 11	Working ratio	This is the ratio of operational expenses / operational revenue. The operational expenses do not include depreciation, interest and debt service. Sound financial management requires that this ratio should be well below 1. The acceptable boundaries range between 1 and 0.67 while service level benchmark is less than 0.67.
PW 12	Operating ratio	Ratio of operating costs to operating revenues. Operational costs include all the expenses together with depreciation and interest's costs (but no debt service payments). Sound financial management requires that this ratio should be less than 1. The acceptable boundaries range between 1 and 0.8 while service level benchmark is less than 0.8.
PW 13	Contribution to investment	Is the proportion of capital expenditures financed by the net internal cash generated by the WSSA as guided by the Ministry of Water.
PW 14	Personnel expenditure per m^3 of water produced	Is the ratio of total personnel expenditure (TZS) to the total amount of water produced (m3)

CODE	DESCRIPTION	DEFINITION
PW15	Personnel expenditure as % of collection from water and sanitation bills	Total personnel expenditure (TZS) expressed as a percentage of the total collection from current water and sanitation bills plus collections from other water and sanitation-related services (excluding grants and subsidies).
PW16	Administration costs per m^3 of water produced	Total Administration costs (TZS) / total amount of water produced (m^3).
PW 17	Treated water storage capacity (hours)	Total capacity of treated water storage (private storage tanks excluded) / average daily consumption x 24hours.
PW 18	Water Mains rehabilitation (% per year)	Length of mains (a pipe of diameter ≥ 2") rehabilitated during the year / total length of mains x 100.
PW 19	Water service connections rehabilitation (% per year)	Number of service connections replaced or rehabilitated during the year / total number of connections x 100.
PW 20	Mains failures (nr/km/year)	Number of mains (a pipe of diameter ≥ 2") failures leading into service interruption in a year / total mains length.
PW 21	Personnel/1000 (W&S) connections	This indicator measures the staffing level and is calculated as the ratio of total personnel to total water and sewerage connections multiplied by 1000.
PW 22	Revenue per staff per year (Million/staff)	Total Revenue per year / total number of staff.
PW 23	Energy consumption (kWh/cu.m)	Energy consumption during the assessment period / Total amount of water produced (m^3).
4. SANITATION PERFORMANCE		
PS 1	Proportion of population receiving WSSAs regulated sanitation services (%)	The proportion of population receiving WSSAs regulated sanitation services is the percentage of the total population living in the service area that is served with sewerage services through household/premise connections and that is served by WSSA-regulated faecal sludge emptying and safe disposal services [that is served by safe emptying, transport, treatment and safe disposal services that are duly regulated (monitored and controlled) by the WSSA]
PS 2	Proportion of population connected with sewerage network (%)	Is the percentage of population served with sewerage service to the total population living in the service area. The population served is arrived at by adding the following; (i) the number of domestic sewerage connections multiplied by the average members using that connection. (ii) the number of people living in residential institutions, industrial and commercial complexes that are connected with sewerage services.
PS 3	Number of people sensitized and trained in sanitation	Total number of persons sensitized and trained in sanitation.
PS 4	Population using emptiable latrines	Percentage of population using emptiable latrines in the licensed area
PS 5	Number of households with connection to sewerage	Total number of households with sewerage connection.
PS 6	Percentage of complaints resolved (%)	Complaints resolved during the year divide by total complaints. Total complaints are calculated as a sum of complaint received in a year under review and the number of complaints carried forward from the previous

CODE	DESCRIPTION	DEFINITION
		period.
PS 7	Treatment of collected wastewater (%).	Maximum daily volume of sewerage treated in treatment plants during a year/maximum daily capacity of the existing treatment plants x100
PS 8	Treatment of collected faecal sludge (%).	Faecal sludge treatment capacity as a percentage of current volume of sludge received calculated as total volume of faecal sludge treated over total volume of faecal sludge received at the treatment plant.
PS 9	Sewerage Mains rehabilitation (% per year)	Length of sewer mains rehabilitated during the year/total sewer mains length x 100
PS 10	Sewerage service connection rehabilitation (% per year)	Number of sewer connections replaced or renovated during the year / total number of sewer connections x 100.
PS 11	Sewer blockages (nr/100km of sewers/year)	Number of sewer blockages in a year/ total sewer length x 100
PS 12	Sewer collapses (nr/100km of sewers/year).	Number of sewer collapses in a year/ total sewer length x 100
PS 13	Wastewater quality compliance (%)	Wastewater quality compliance is the percentage of the total number of wastewater samples tested that passed the tests for wastewater effluent quality standards: Total Number of Samples Passed / Total Number of Samples Tested).
PS 14	Energy consumption (kWh/cu.m)	Energy consumption for pumping during the assessment period/sum of the volume elevated during the assessment period
PS 15	Safe disposal of sludge (%)	Volume of sludge safely disposed/total volume of sludge.
PS 16	Percentage of reuse of treated effluent/sludge (%)	Percentage of reuse and recycling of treated effluent /sludge to total treated effluent/sludge calculated as total volume treated effluent/sludge reused over total volume of effluent/sludge treated