GUIDELINES ON PLANNING & IMPLEMENTATION OF BANKABLE PROJECTS FOR WSPs

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JICA

WASREB
Water Services Regulatory Board

Guidelines on Planning & Implementation of Bankable Projects for WSPs
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Chapter 1 Introduction

1.1 Background

Water Service Providers (WSPs) in Kenya have faced several challenges, including aging infrastructure, high operational costs, and limited financial resources in recent years. As the National Government intends to mobilize all available resources for capital investment in water supply facilities nationwide, National Water and Sanitation Investment and Financing Plan (NAWASIP) has been implemented since 2022, which call for necessity to enhance WSPs technical capacity in formulating and implementing their investment plan and utilizing various financing sources including commercial loans and blended financing.

1.2 Objective

The present Guidelines aims at providing practical guidance and setting standard procedures for WSPs to formulate and implement the capital investment plan for their water supply systems especially with focus on, but not limited to, investment projects bankable for commercial financing.

1.3 Key Features and Guideline Contents

1.3.1 Key Features

- The Guidelines provides practical knowledge and guidance necessary for all WSPs in formulation and implementation of Investment Plan and its financing arrangements regardless of their creditworthiness level and eligibility for commercial financing.

- While featuring detailed procedures for implementation of bankable projects using commercial loans, the Guidelines also provides general procedures for other kinds of funding sources such as national and county grant, concessional loans, etc. which will be applicable for every WSP with any size and capacity.

- The Guidelines follows and incorporates the procedures and tools established by the existing WASREB guidelines such as “Guideline on Business Planning” (2019) and “Tariff Guidelines” (2023) and ensures consistency with them.

- Even though a project is deemed "bankable" in the Guidelines, if technical risks arise during pre-construction or construction stage, the cash flow projected may not be realized. Decision-making and management must be conducted with full awareness of these risks.

1.3.2 Guideline Contents

【PART-I】

PART-I : Planning for Investment Projects and Financial Sources (Chapter 2 to Chapter 4) provides general knowledge on the present situation of water supply and sanitation (WSS) sector in Kenya, national government policies, and financial sources available for WSPs, as well as the detailed process to formulate Investment Plan and identify suitable financial sources for each project.

【PART-II】

PART-II: Implementation of Bankable Projects Using Commercial Loans (Chapter 5) provides

detailed procedure to follow in formulating and implementing the commercial loan projects from designing and financial evaluation, and bank negotiation, to loan approval and post acceptance activities such as tendering and construction.

1.4 Development of the Guidelines

The Guidelines has been drafted by WASREB staff and JICA Consultant Team as one of the outputs of the Technical Cooperation Project by Government of Kenya and Japan International Cooperation Agency (JICA) "Project for Strengthening Capacity of Water Services Providers on Formulating Bankable Project Plan", incorporating the Project's on-hands experience in assisting five WSPs (Embu, Meru, Murang'a Urban, Nanyuki and Ruiru juja) in formulating and implementing their bankable projects using commercial loans.

The Guidelines have also been developed in a participatory manner with contributions from various stakeholders in public consultation held in November 2025.

Chapter 2 General Situation of WSS Sector in Kenya

2.1 Current Situation and National Goal of WSS (Water Supply and Sanitation) Sector

2.1.1 Current Situation of Water Sector in Kenya

The water sector in Kenya operates under a well-defined legal and institutional framework, primarily guided by the Constitution of Kenya, the Water Act 2016, the Water Act Amendment 2024, and the Water Regulations 2025. These frameworks establish the roles and responsibilities of key stakeholders, including the national and county governments, regulatory bodies, Water Works Development Agencies (WWDAs), and Water Service Providers (WSPs). The legal provisions aim to ensure sustainable water resource management, effective service delivery, and equitable access to water and sanitation services for all citizens.

(1) Legal and institutional system related to water sector

The legal and institutional framework of the water sector is primarily anchored in the Constitution of Kenya, 2010. Article 43 (1)(d) recognizes access to clean and safe water as a fundamental human right, thereby mandating the government to take necessary measures to provide sustainable water services. The Fourth Schedule of the Constitution further delineates the roles of the national and county governments, with the national government responsible for formulating policies and regulating the sector, while county governments oversee water service provision within their jurisdictions.

The Water Act 2016 operationalizes these constitutional provisions by establishing various institutions responsible for water resource management and service delivery. The Water Services Regulatory Board (WASREB) is tasked with regulating water service providers, setting tariffs, and ensuring compliance with service quality standards. The Water Resources Authority (WRA) is responsible for the management, conservation, and regulation of water resources, including issuing water abstraction and discharge permits. Additionally, Water Works Development Agencies (WWDAs) are mandated to develop and maintain bulk water supply infrastructure across various regions.

The Water Act Amendment 2024 introduces crucial reforms to enhance regulatory compliance, increase investment in water infrastructure, and strengthen public-private partnerships (PPPs). This amendment also incorporates climate resilience strategies to ensure the sector adapts to emerging challenges such as water scarcity and extreme weather conditions. Furthermore, the Water Regulations 2025 provide a detailed framework for operationalizing these legislative changes. These regulations set clear guidelines on tariff structures, water abstraction permits, compliance with wastewater management standards, and performance monitoring mechanisms for WSPs. The integration of these regulations is expected to improve service efficiency, financial sustainability, and accountability within the sector.

(2) Role of National and County Governments in the Water Sector

The national government plays a crucial role in formulating policies, setting regulations, and overseeing the development of major water infrastructure projects. The Ministry of Water, Sanitation, and Irrigation is responsible for policy direction, ensuring that national goals align with global commitments such as the Sustainable Development Goals (SDGs). WASREB, as the regulatory authority, ensures that WSPs adhere to quality and performance standards while protecting consumer rights. Additionally, WRA manages water resource allocation and conservation efforts to promote sustainable usage. WWDAs, operating at regional levels, implement bulk water supply projects that serve multiple counties and urban centres, thereby improving water accessibility.

On the other hand, county governments are tasked with the actual provision of water services within their respective jurisdictions. They are responsible for licensing and overseeing WSPs, ensuring infrastructure development at the county level, and integrating water and sanitation services into their

development plans. Counties also play a crucial role in enforcing regulatory compliance and mobilizing resources for water projects. Despite these responsibilities, challenges such as inadequate financing, governance issues, and technical capacity gaps often hinder effective service delivery at the county level, necessitating strong collaboration with national agencies and development partners.

(3) Devolution in the water sector

Devolution has significantly transformed the water sector in Kenya by decentralizing service delivery to county governments. This shift has improved local governance and increased community participation in water management decisions. Counties now have greater autonomy in planning, budgeting, and implementing water projects tailored to local needs. However, devolution has also introduced challenges, including inconsistencies in service delivery, financial constraints, and the need for capacity building among county officials.

To address these challenges, intergovernmental coordination mechanisms have been established to facilitate collaboration between national and county governments. The national government continues to provide technical support, funding, and regulatory oversight to enhance the capacity of counties in managing water services effectively. Additionally, the introduction of performance-based funding models and capacity-building programs aims to improve efficiency and accountability at the county level. By strengthening these collaborative efforts, devolution can further contribute to achieving universal access to safe and sustainable water services across the country.

(4) Role of Water service providers (WSPs)

Water Service Providers (WSPs) are county-owned entities responsible for the provision of clean water and sanitation services to residents. Their primary functions include water distribution, customer service management, billing, and maintenance of water supply infrastructure. WSPs are required to comply with the regulatory guidelines set by WASREB to ensure service quality, efficiency, and financial sustainability. They also play a critical role in reducing non-revenue water (NRW), which refers to water losses through leaks, illegal connections, and inefficient billing systems.

In recent years, WSPs have faced several challenges, including aging infrastructure, high operational costs, and limited financial resources. To address these issues, various strategies have been implemented, such as the adoption of innovative technologies for water metering, automation of billing systems, and investment in infrastructure rehabilitation projects. Furthermore, WSPs are increasingly exploring partnerships with private sector entities and development agencies to enhance service delivery and expand access to underserved populations.

The continued strengthening of WSPs through regulatory support, capacity building, and financial investments is crucial for improving water service provision in Kenya. By enhancing operational efficiency, reducing losses, and expanding infrastructure, WSPs can contribute significantly to the realization of Kenya's goal of ensuring universal access to clean and affordable water services. The legal, institutional, and organizational frameworks governing the water sector will continue to evolve to address emerging challenges, foster sustainable water management, and enhance service delivery for all citizens.

2.1.2 National WSS Goals

The Constitution of Kenya (CoK 2010) establishes access to safe water supply and reasonable standards of sanitation as a human right. In the revised Water Supply and Sanitation (WSS) sector goals contained in the Investment Framework (NAWASIP Framework) that was assessed by the levels of government in January 2022, the government seeks to achieve universal access to safe and affordable water supply and sanitation for all Kenyans by 2030. Currently, 73 percent of households have access to improved water services. However, there is a wide variation in access across counties, ranging from 32 percent of households in West Pokot County to nearly 100 percent of households in Nairobi City.

Expansion of services will have to accelerate if the 2030 goals are to be achieved. The Water Act 2016, which was enacted to align the water sector with the 2010 constitute, provides a comprehensive planning framework for WSS services in Kenya. Under the Act, the Ministry of Water, Sanitation, and Irrigation (MOWSI) is required to consult with county governments to develop a **National Water Sector Investment and Financing Plan** (**National Water Services Strategy)**, **aggregated from the county government plans (County Integrated Development Plans)** and **Water Service Provider (WSP) Business Plan**.

Article 43 of the Constitute of Kenya (CoK) 2010 on economic and social rights provides for the enjoyment of clean and safe water in adequate quantities and access to reasonable standards of sanitation as a basic right of every Kenyan citizen. The national Water Sector Strategy (NWSS) 2020-2025 translates the goal of universal access to safe and affordable water and sanitation by 2030 into specific coverage target for 2030, different by sub-sector. The goals have been further revised in the new WSS Investment Framework (NAWASIP Framework) adopted by Cabinet in January 2022 as follows:

Table 2.1.1 Revised national WSS Goals

Seb-Sector	Classification	Revised 2030 target (as per the NAWASIP Framework adopted by cabinet)
Water	Urban	100% access to safe water
	Rural	100% access to safe water
Sanitation	Urban	40% access to sewerage 100 % access to improved sanitation facility
	Rural	100 % access to improved facility in close vicinity of households

2.2 National Water and Sanitation Investment and Financing Plan (NAWASIP)

2.2.1 Outline of NAWASIP

To achieve the WSS sector goals by 2030, NAWASIP will need a mix of funding and financing sources. NAWASIP 2023-2030 describes the various potential funding sources and then proposes a strategy for mobilising the resources necessary to fully fund NAWASIP while minimizing the need for additional public investment above and beyond the historical and current government expenditure patter for WSS.

1) Concessional Financing
2) PPP
3) Commercial Financing
4) National and County Revenues
5) Donor Grants

Slightly more than half of the cost of NAWASIP is expected to be financed through concessional financing. About a third of NAWASIP would be structured as PPPs, and the remaining portion of NAWASIP would be supported by donor grants, domestic commercial finance, and national budget allocation.

Table 2.2.1 NAWASIP Financial Plan for Water Supply Projects

	Concessional Financing	PPP	Commercial Financing	National and County Revenues	Donor Grants	Total
Large Production and Storage Infrastructure		100%				100%
Medium Production and Storage Infrastructure	40%	40%	20%			100%
Small Production and Storage, Distribution Networks	90%	-	10%			100%
Rural Boreholes		-		18%	82%	100%
Expect Amount of Investment						

2.2.2 Expected Financial Sources for WSS Sector

(1) Concessional Financing

The largest share (40%) of NAWASIP will be financed through concessional lending from development finance institutions. In percentage terms, this is lower than the current ratio of concessional lending to overall sector investment, where borrowing from multilateral institutions has typically been about two-thirds of the total budget.

Increasing the volume of concessional lending to finance NAWASIP would require either a reallocation of resources from other sectors, or concerted efforts to tap new sources of concessional lending, such as climate finance.

(2) Public-Private Partnerships (PPPs)

In addition to concessional lending, 31 percent of the total cost of NAWASIP would be potentially mobilized through PPPs. A small portion of this would be provided as project preparation funding or viability gap funding by the national government and is included under the assumptions for national tax revenues. Project finance would account for the remaining portion, with a sponsor providing equity investment in a special purpose vehicle and, in some cases, a consortium of international commercial financial institutions and development finance institutions providing debt financing.

PPP legislation passed in 2021 has created a favorable environment for PPPs. Significant external support from the National Treasury's PPP Directorate and development partners will be required to achieve this goal. MWSI will require support to prepare projects and allocate risk effectively, in addition to the potential need for viability gap funding. For bulk water and wastewater treatment PPPs, WSPs will need to demonstrate the ability to increase tariffs to effectively serve as off takers. Due to the limited commercial viability of many of Kenya's WSPs, the National Treasury will almost certainly need to provide a guarantee for the projects, increasing the level of contingent liabilities.

(3) Commercial Financing

Domestic commercial financing has been a small portion of overall financing for the sector. However, in many upper-middle income and upper income countries, commercial financing through banks or bond markets can be the dominant form of financing for the sector,

NAWASIP estimates roughly eight percent of NAWASIP investments could be financed on a wholly or partly commercial basis, based on conservation estimates and assuming significant external

technical assistance. As this financing needs WSPs to repay and bear interest costs, WSPs are required to steadily work to improve financial situation.

Kenyan government has made and been making efforts to promote this commercial financing through implementation of Output based Aid and Aid on Delivery, which provide grants to project costs. There is also a plan to implement another scheme.

(4) National and County Revenue

To date, national tax revenues comprise around one-thirds of the total budget allocation for the sector. Along with donor grants and disbursement from public borrowing, these resources are used for unconditional and conditional transfers to counties, WSPs, and WWDAs. These resources are also used for national WSS initiatives. (WSP receives them as grant/ subsidy from GoK, County Gov. and WSTF.)

Under NAWASIP, public contributions, including national and county tax revenues, are expected to cover 11 percent of the total investment needs. These resources would be allocated primarily to national technical assistance and capacity building programs, as well as to households and counties that are more likely to require ongoing subsidies.

(5) Donor Grants

To date, grants from donors (as opposed to concessional loans) have represented a small portion of total sector investment. Due to the trends in development assistance mentioned previously, this is unlikely to increase significantly during the time period for implementing NAWASIP. Eight percent of the total cost of NAWASIP is assumed to be covered through donor grants. Under NAWASIP, these resources would be earmarked for funding technical assistance, operational efficiency improvements, and project preparation.

Chapter 3 Suitable Financial Source by WSPs Categories and Project Types

This chapter consists of the following 3 subsections and provides information and guidance about the arrangement of financial sources that are used by WSPs in preparing the materials for the consultation with MWSI and County Governors and in formulating the project list.

3.1 Major Financial Sources Available in WSS Sector

Table 3.1.1 shows obligations of relevant organizations, during financial arrangement and operation/ repayment period of each financial source, which are categorized in NAWASIP, except for PPP. As explained in Section 2.2.2 (3), the procedure of implementation of PPP projects is not uniform and depends on characteristics of project. Approach of PPP projects is not mentioned in the Guideline

Table 3.1.1 Obligations during Financial Arrangement and Operation/ Repayment Period

	During Financial Arrangement	During Operation/ Repayment
1) Concessional Financing (Loan)	MWSI and WWDA arrange the loan with donor organizations. WWDA is the implementation agency of concessional loan project	WWDA operates the facilities to be constructed and repay the loan. WSP will pay for the service fee, covering O&M cost and repayment amount of the concessional loan, from the facilities to WWDA.
2) Donor Grants	MWSI will arrange the grant with donor organizations.	WWDA or WSP operates the facilities. If WWDA operates, WSP shall pay for the service.
3) Commercial Financing	WSP will arrange the commercial finance, including blended finance, under County Gov. and WSP Board approval.	WSP will operate the facilities and repay the loan.
4) National and County Revenues (subsidy and grant)	MWSI and County Gov. will arrange allocation of the budget from National and County Revenues.	WSP will operate the facilities, and has no obligation to replay

Only for commercial financing, WSP have an obligation to negotiate on the loan terms with fund sources and repay the loan. (In case of concessional financing, WSP pay service fee to WWDA, which has an obligation to repay)

3.2 Suitable Type of Project by each Financial Source

In NAWASIP, water supply projects are classified into four types、A) Large Production and Storage Infrastructure, B) Medium Production and Storage Infrastructure, C) Small Production and Storage, Distribution Networks, D) Rural Boreholes. In the guideline, each type of project is defined roughly shown in Table 3.2.1.

Table 3.2.1 Clarification of Type of Project

Type	Contents
A) Large Production and Storage Infrastructure	1) New construction of large scale of water intake/ transmission line/ water treatment plant (with/without distribution networks)

	* Approximately more than 5 billion Kshs
B) Medium Production and Storage Infrastructure	1) New construction of medium scale of water intake/ transmission line/ water treatment plant (with/without distribution networks) * Approximately 0.5 –5 billion Kshs
C) Small Production and Storage, Distribution Networks	1) New construction of small scale of water intake/ transmission line/ water treatment plant 2) Expansion and rehabilitation of existing facilities (water intake, transmission pipe, and water treatment works, pumping station, etc.) 3) Expansion and rehabilitation of distribution networks * Less than 0.5 billion Kshs
D) Rural Boreholes	1) Rural water supply system with boreholes or small water intakes 2) Water supply system for pro-poor

Considering the characteristics of the possible funds described in Sections 2.2.2 and 3.1, suitable or possible funds for each type of project are supposed as shown in Table 3.2.2.

Table 3.2.2 Suitable Project by Possible Financial Source

Possible Financial Sources	Type of Project			
	A: Large	B: Medium	C: Small	D: Rural
0) PPP	Possible	Possible	—	—
1) Concessional Financing	Possible	Suitable	Suitable	—
2) Donor Grants	—	—	Possible	Suitable
3) Commercial Financing	—	Possible	Possible	—
4) National and County Revenues (subsidy)	—	—	Possible	Suitable

Suitable: which is proposed in NAWASIP, and many successful examples.
Possible: which is proposed in NAWASIP, but no many successful examples.
which is not proposed in NAWASIP, but many successful examples.
— Not suitable: which is not proposed in NAWASIP, but not many successful examples.

As for large and medium scale projects, especially projects including water intake or water treatment plant, WWDAs are usually responsible for implementation of them using concessional financing. As for small scale projects using concessional loan or donor grant also, WWDAs are responsible for the implementation. WSPs are usually responsible for implementation of projects using subsidies their own funds or commercial financing.

In commercial financing, Commercial loans are only one available sources, which is small scale with high interest rate and short repayment period so far. The following types of project are preferable for a commercial loan.

- Projects whose benefits can be quickly realized.
- Projects where small-scale repairs can improve the system.
- Projects that can be completed in a short time period (including approval procedure)
  For example:
  - One to improve production capacity through small-renovation such as the renovation of sedimentation tank in water treatment plant using the new technology.
  - One to reduce OM costs, such as power cost reduction by solar panel, replacement of efficiency pump, etc.
  - One where quantities are easily adjustable such as distribution pipeline, because project cost will fluctuate marginally.
  - Project that contribute to the reduction of NRW such as replacement of aged distribution pipe in high NRW area.

3.3 Suitable Financial Sources by WSP Categories

3.3.1 Background

Possible Financial Source and Conditions of WSP to Apply are shown in Table 3.3.1.

Table 3.3.1 Possible Financial Source and Conditions of WSP to Apply

Possible Financial Source	Conditions of WSP to Apply
1) Concessional Financing	Any WSPs can apply to MWSI with consensus of County Gov.
2) Donor Grants	Any WSPs can apply to MWSI with consensus of County Gov.
3) Commercial Financing	Considering financial conditions, only limited WSPs can apply (Refer to Section 3.3.2)
5) National and County Revenues	Any WSPs can apply to County Gov/MWSI/WSLF.

Basically, any WSP can apply to any financial sources with the consensus of County Gov. However,

for commercial financing, it is subject to the financial conditions (repayment capacity) of WSP as well as County Gov.'s consensus.

It should be noted that, even though the projects are deemed "bankable" for commercial financing through project formulation and design process following the Guidelines, if technical risks arise like price escalation during pre-construction or construction stage, the cash flow which is initially projected, may not be realized. In the worst-case scenario, collateral could be seized. Decision-making and management must be conducted with full awareness of these risks.

3.3.2 Simple financial screening for commercial loan project

Commercial Loan Project requires borrowers to have a **capacity of debt service (paying interests and repaying principle), in due time.** This capacity is influenced by many factors as illustrated below.

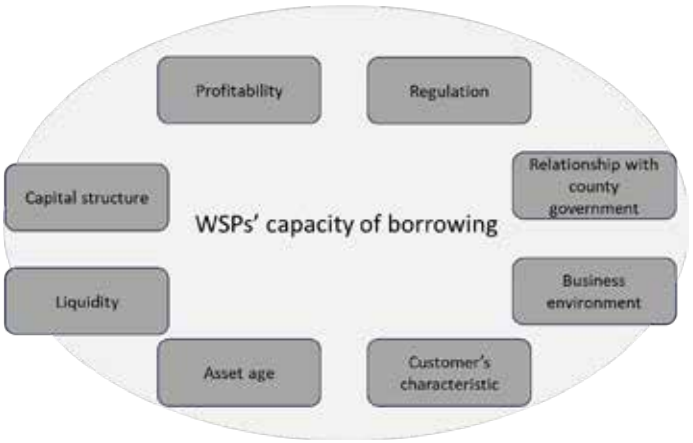

Figure 3.2.1 Factors which influence WSPs' capacity of borrowing

Thus, it is recommended to have simple screening with three indexes below to see if the WSPs have minimum financial health before proceeding to process in later chapters of this guideline.

Table 3.3.2 Index for screening

Index	Definition	Requirement
Creditworthiness index by WASREB	Creditworthiness index is an analysis of financial and operational data of WSPs	CWI rating higher than BB
O&M coverage ratio	Total revenue from water and sewerage sales divided by total operations and maintenance costs, excluding depreciation and interest.	More than 110%.
Net assets	The value of a company's assets minus its liabilities.	Positive net assets

(1) WASREB's creditworthiness index

According to the definition of the WASREB's CWI, WSPs which have higher CWI rating than BBB are "default risk are low." However, WSPs with ratings more than BB can start planning for commercial financing after satisfying other two index, because of the two reasons as follows:

1) Rapid change of CWI ratings as shown in the above table. For example, there was rapid increase of the number of WSPs ranked in BBB in the financial year 2022/2023.

2) Data availability time gap. For example, the CWI based on the financial statements for the fiscal year 2022/2023, is published in June 2024.

(2) O&M coverage ratio

This shows WPS's capacity to cover daily operation and its space for investment. While the adequate level of O&M coverage ratio depends on its need for repayment obligation, it should be at least over 110%.

(3) Net assets

A negative net asset value means a company's liabilities exceed its assets, indicating financial instability and potential insolvency. Positive net asset value is one of minimum requirement for commercial banks when considering new loans.

Chapter 4 Formulation of Investment Plan and Arrangement of Financial Sources

This chapter presents the process for developing each WSP's Investment Plan with Business Plan to achieve its own goals of water supply and sanitation (WSS) services which aim at reaching the national goals of WSS sector described in Chapter 2.

Based on the "**Guideline on Business Planning**" established by WASREB in 2019, the procedures described here are a more concrete and practical version of the "Project(s) for Investment" process as a part of the said guidelines, with addition of the perspective of project formation for commercial loans. Figure 4.3.1 illustrates the overall process described in this chapter.

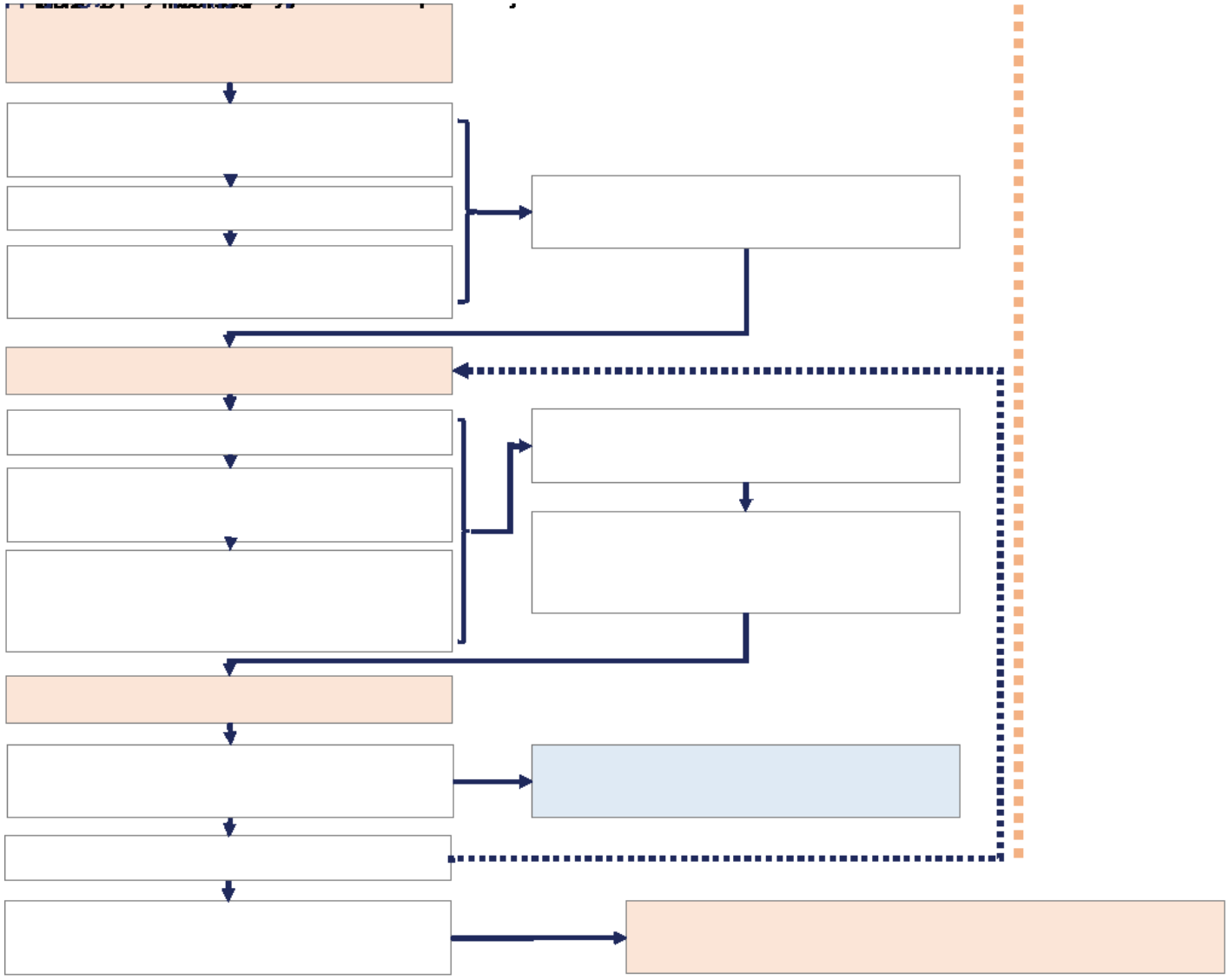

Figure 4.3.1 Process Flow of Investment Planning and Financial Arrangement

4.1 Review of Strategic Plan and Water Supply/Demand Gap (I-1)

As the first step for investment planning, WSP shall review its own Strategic Plan and identify the gaps between its current service levels and goals of water supply. The gaps confirmed by the WSP shall technically be reviewed by WWDA.

4.1.1 Goals of Water Supply in Strategic Plan (I-1.1)

The "goals of water supply" are to be set in WSP's Strategic Plan as its company-level service achievement goals for a target year and are to be established using measurable technical indicators. Examples of the technical indicators provided in the **Guideline on Business Planning (2019, WASREB)** are as follows:

- Increasing water coverage within the area (SPA) of jurisdiction by X%
- Adding X number of new water connections
- Increasing pro-poor coverage by X number of connections
- Reduction of Non-Revenue Water (NRW) to X%

In accordance with the said guidelines, every five years WSPs are normally required to develop the Strategic Plan which must be consistent with those goals of water supply.
Furthermore, WSP's goals of water supply should be aligned with the service improvement goals submitted to WASREB when applying for a WSP license as well as the county-level goals that are breakdowns of the national goals established in Kenya Vision 2030 and Water Master Plan 2030. However, if there is a large deviation from WSP's current status to those higher-level goals, WSP's Strategic Plan and goals of water supply should be adjusted to the feasible level through consideration of priorities and implementation schedule as described in the subsequent sections.

4.1.2 Water Demand Forecast (I-1.2)

In principle, water demand forecasts shall be made in accordance with the methods described in the **"Practice Manual for Water Supply Service in Kenya (October 2005, Kenya-Belgium Study and Consultation Fund)"** (hereinafter referred to as the "Manual").

The Manual states that water demand forecasts shall be made for "initial year" (the year in which water supply is expected to start), "future" (10 years from "initial year"), and "ultimate year" (20 years from "initial year"), and the facility capacity shall be planned for the "ultimate year".

However, considering that the purpose of the present guidelines is to secure financial sources including commercial loans, it is necessary to carefully forecast for nearer future of about 15 years, including the five-year period of the "Strategic Plan," to avoid excessive investment planning.

The following are the main items to be considered in the "water demand projection":

- While trends in the served population and increases in water consumption per unit should be taken into account in the water demand forecast, the changes in the water users' lifestyles and water usage patterns should also be considered based on the relevant official census.
- For large-scale development projects that are expected to generate new water demand, the timing and accuracy of such demand should be carefully assessed.
- It is desirable to ensure that the parameters used in the forecast, such as population, water consumption per unit, and revenue rate, are consistent with the figures in the facility plan, etc. However, if there is a discrepancy between these planned values and the current situation, it is necessary to make a rational estimate based on the most recent data.
- In particular, when using the above-mentioned Manual, it is essential to check whether it is

necessary to review the parameters such as per-capita consumption rate. Therefore, it is necessary to verify those parameters by using the data accumulated through systematic monitoring and regular surveys.

4.1.3 Estimate of Existing Water Supply Capacity (I-1.3)

A water supply system typically consists of the five facility types:

- Water Resource (intake, etc.)
- Raw Water Transmission Main (RWTM)
- Water Treatment Plant (WTP)
- Treated Water Transmission Main (TWTM)
- Water Distribution System (WDS)

The evaluation of existing water supply capacity is generally carried out in two parts: an overall performance evaluation and an individual facility performance evaluation.

(1) Individual Facility Performance Evaluation

In the "individual facility performance evaluation", technical issues such as breakdown, deterioration and non-revenue water are qualitatively evaluated based on the information obtained through daily inspections, etc. for each of the main facilities that make up the water supply system. Table 4.1.1 shows an example of"Individual Facility Evaluation Indicator".

Table 4.1.1 Individual Facility Evaluation Indicator

Facility	Sample Indicator	Evaluation Indicator
Water Source	<u>Surface Water Source:</u> <u>Intake Facility</u> ● Water Availability ● Raw Water Quality ● Facility Condition ● Structural Safety ● Sanitary Issue ● Maintainability <u>Ground Water Source:</u> <u>Borehole Facility</u> ● Water Yield & Sustainability ● Water Quality ● Structural Condition ● Energy Efficiency ● Maintainability	<u>Intake Facility</u> ● Annual intake volume, max/min intake capacity, drought resilience ● Turbidity, temperature, pH, organic matter concentration, presence of foreign objects ● Pump operation rate, failure frequency, aging rate of equipment, if available ● Durability during floods, resistance to sediment and driftwood ● Presence of fencing, sealed manhole covers, distance from pollution sources ● Ease of inspection and cleaning, degree of automation in operations <u>Borehole Facility</u> ● Pumping volume (m^3/day), pumping rate, groundwater level fluctuation, sustainable yield ● Iron, Manganese, nitrate nitrogen, fluoride levels, temperature, pH, Bacterial contamination ● Sanitary conditions around well, presence of protective fence and sealed cap, distance from contamination sources ● Power consumption per pumped volume, pump efficiency, presence of automation ● Cleaning frequency, inspection schedule, failure frequency of pumping equipment
RWTM	● Hydraulic Performance ● Structural Integrity ● Aging and Deterioration	● Hydraulic Performance: Flow rate, flow velocity, head loss, maximum conveyance capacity ● Structural Integrity: Number of leakage incidents, number of pipe breaks, anomaly detection rate during inspections ● Aging and Deterioration: Average service life of pipelines,

Facility	Sample Indicator	Evaluation Indicator
	● Maintenance Performance ● Energy Efficiency	deterioration level by pipe material, pipeline renewal rate ● Inspection frequency, flushing frequency, response time to failures ● Energy Efficiency: Energy consumption per unit of water conveyed (if any), pumping system efficiency
WTP	● Water Quality Performance ● Treatment Efficiency ● Operational Performance ● Equipment Reliability ● Chemical Usage Efficiency ● Energy Efficiency ● Automation & Monitoring ● Sludge Management ● Safety & Hygiene ● Maintenance & Inspection	● Meeting with Kenya Water Standards ● Removal rates of turbidity, organic matter, pathogens (comparison of raw and treated water) ● Plant capacity utilization rate, operation hours, treatment volume per day ● Downtime of key equipment, failure frequency, aging condition of treatment units ● Coagulant and disinfectant dosage rates, chemical usage per m^3 of water ● Energy consumption per m^3 of treated water, pump and blower efficiency ● Degree of automation, SCADA system use, number of key parameters monitored in real-time ● Volume of sludge generated, sludge dewatering efficiency, safe disposal or reuse methods ● Cleanliness of treatment area, worker safety incidents, compliance with hygiene protocols ● Frequency of equipment maintenance, compliance with inspection schedules
TWTM	● Hydraulic Performance ● Leakage & Burst ● Structural Integrity ● Pressure Management ● Energy Efficiency (if pumped) ● Maintenance Performance ● Safety & Accessibility ● Non Revenue water	● Flow rate, water pressure, velocity, head loss, ability to meet peak demand ● Leakage rate, number of pipe burst and leakage ● Average pipe age, material condition, deterioration rate, renewal/replacement ratio ● Pressure zoning performance, over/under-pressure event frequency ● Energy consumption per m^3, pump efficiency (if any) ● Inspection frequency, flushing frequency, response time to failures ● Ease of access for repair, presence of air valves and drainage, safety protocols ● Monitoring the Non Revenue Water (NRW)
WDS	Distribution Network Distribution Tank ● Tank Storage Capacity ● Water Quality Maintenance ● Maintenance Service Connections ● Continuity of Water Supply ● Pressure Stability ● Water Quality Complaints	See TWTM Distribution Tank ● Maximum storage capacity, emergency storage capacity ● Changes in water quality during storage (residual chlorine, turbidity, etc.) ● Cleaning frequency, regular inspection rate Service Connections ● Number and duration of service interruptions ● Stability rate of optimal supply pressure ● Number of complaints (odor, turbidity, etc.)

(2) Overall Facility Performance Evaluation

For each water supply system, the analysis is carried out to determine whether the current functions are being fully demonstrated by judging from numerical calculations based on design conditions and

actual water supply results such as peak flow rates, and identify facilities that are bottlenecks (See Figure 4.1.2 and 4.1.3).

In case, water demand is 8,000 m3/d and NRW is 20%. The following flow shows a case where the raw water transmission main (RWTM) is the bottleneck. Therefore, if the capacity of the RWTM is increased to 3,000m3/d, the design capacity of the Water Treatment Plant (WTP) can be fully utilized without other rehabilitation and augmentation.

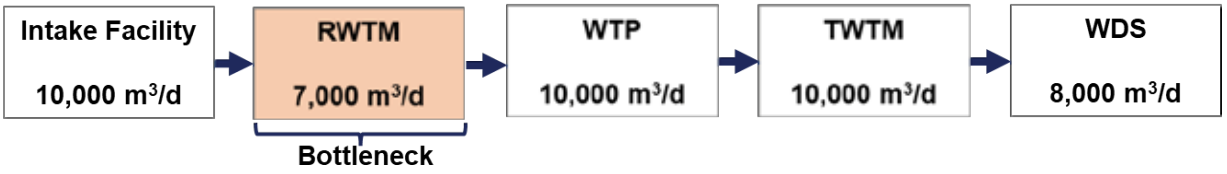

Figure 4.1.2 Overall Performance Evaluation In case of Bottleneck at RWTM

In case water demand is 8,000 m3 and NRW is 50%. Up stream side from WTP Intake is performed based on the design capacity, however, capacity of the water supply system has fallen by 50% due to losses in TWTM and WDS. Reducing the rate of NRW by rehabilitation of the existing TWTM and WDS shall greatly contribute to improving the gap between water demand and the current existing supply capacity, so in the case, WSP should force on reducing the NRW other than expansion of the new water supply system.

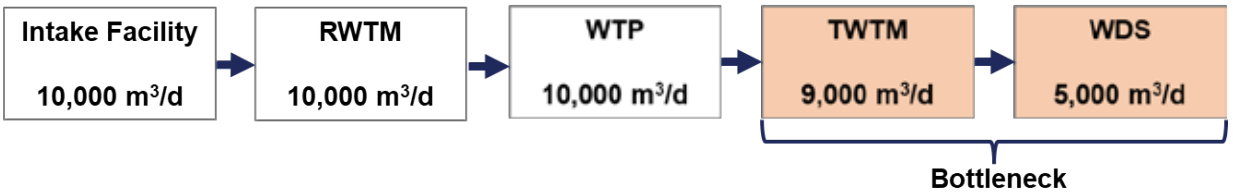

Figure 4.1.3 Overall Performance Evaluation In case of Bottle neck at TWTM and WDS

4.1.4 Consideration of Projects List to Address Identified Gaps (I-1.4)

A project for filling the gap difference between the water demand forecast and the water supply capacity of existing facilities shall be prepared based on the Individual Facility Evaluation. In addition, the gap analysis also takes into account the imbalance between water demand and water supply within the water supply area, seasonal fluctuations, etc. it also considers issues in service quality such as water supply pressure, water quality and daily supply hours as shown in Table 4.1.1. A project list for investment shall be revised based on the gap analysis for each item.

Entity responsible for selection of required projects to address identified gaps is WWDA and WSP, and implementation is either done with in-house and/or through the engagement of external consultants. In principle, large-scale intake facilities, raw water transmission pipelines, and water treatment plant are conducted by WWDA, while transmission/distribution pipelines are conducted by WSP. The information obtained through the gap analysis shall be compiled into an investment plan. Demarcation between WWDA and WSP are shown in Table 4.1.4.

Table 4.1.4 Demarcation Between WWDA and WSP

Facility	Size of Facility	Responsible Entity	Person in Charge
Water Source	• Dam, Intake (In case of Small intake/ Ground water)	WWDA (WSP)	Outsourcing or WWDA staff (Outsourcing or WSP staff)
RWTM	• Pipe	WWDA	Outsourcing or WWDA staff

	(In case of Small Pipe)	(WSP)	(Outsourcing or WWDA staff)
WTP	● Conventional Plant	WWDA	Outsourcing or WWDA staff
	(In case of Smal-scale Plant, such as CFU)	(WSP)	(Outsourcing or WSP staff)
TWTM	● Small Pipe	WSP	Outsourcing or WSP staff
WDS	● Existing pipeline rehabilitation	WSP	Outsourcing or WSP staff
	● Small pipe and service connection	WSP	WSP staff
	(Incase of large scale of development)	(WWDA)	(Outsourcing or WWDA staff)

4.2 Investment Planning (I-2)

4.2.1 Formulation of List of Projects (I-2.1)

In accordance with **Government Financial Regulations and Procedures (1989, Ministry of Finance)**, every WSP is required to submit its capital expenditure planned in a budget period for County Integrated Development Plan (CIDP). According to the **Guideline on Business Planning (2019, WASREB)**, if the WSP has multiple projects they need investment in, the investment budget must be broken down by project and financial source for all investment projects. The WSP needs to also demonstrate adequate justification for undertaking the project based on forecasts on revenues, investments and operational expenditure, performance levels and coverage, and on socio-economic impact or cost-benefit analysis.

In this step, the WSP shall formulate a list of projects based on the evaluation of existing water supply capacity **See Section 4.1.3**) and the water supply/demand gap analysis (**See Section 4.1.4**) in order to achieve the goals of water supply (**See Section 4.1.1**).

The necessary facility development identified are grouped together and listed as a single project in order to verify the cost effectiveness of improving the level of service, and the elements necessary for improving the water supply capacity, etc.

However, in order to facilitate the subsequent consideration on the priority and schedule (**See Section 4.2.3 below**), consideration on financial sources (**See Section 4.2.4 below**) and adjustment of project scope, individual projects should be formed by dividing group of facility development by pipeline spans or water supply areas to the extent that a certain level of effectiveness can be achieved. See **Appendix-1** for the format and example of Investment Plan (list of projects for investment).

4.2.2 Project Concept Layout Plan and Cost Estimation (I-2.2)

Based on the list of projects elaborated in the previous section, the investment cost of each project shall be estimated by taking the following process:

- Project Concept Layout Plan
- Bill of Quantities
- Outline Cost Estimates

In this process, outline cost estimates are made on a “Project Concept Layout Plan” level by applying average unit costs by pipeline spans and water supply area.

4.2.3 Consideration on Project Priority and Implementation Schedule (I-2.3)

The priority of projects will be evaluated based on the following conditions:

- Expected social impact, such as expansion of water supply area and increase in supply hours
- Expected economic impact, such as revenue increase and cost reduction
- Project feasibility, such as the availability of technology and O&M cost funding
- Urgency, such as facility deterioration risk

In addition, the implementation schedule for each project will be decided by taking the following factors into account:

- Expected annual budget for capital expenditure
- Project priority
- Continuity and connectivity of projects

4.2.4 Consideration of Financial Sources (I-2.4)

Referring to **Chapter 3 "Suitable Financial Sources by WSP Categories and Project Types"**, an expected financial source for each project shall be identified as proposal by WSP. Consideration of the financial sources should take into account the following factors:

- WSP's financial conditions and rating category (**See Section 3.3**)
- The project's type and particulars (**See Section 3.2**)
- National and county governments' policy and programs

In case of commercial loans:

- Expected lending conditions learned through preliminary market sounding
- WSP's borrowing capacity (**See Section 5.3.1**)

After identifying the proposed financial source for each project, the Investment Plan (list of projects for investment) shall be summarized by applying the format presented in **Appendix-1**.

4.2.5 Evaluation of Financial Sustainability of the Investment Plan

Based on the Investment Plan prepared through the previous steps, WSP shall conduct the preliminary financial analysis to evaluate the Investment Plan as a whole, taking into account the following major factors of WSP's overall financial management and water service operation:

- Cost estimates and implementation schedule for each project in the Investment Plan (**See Sections 4.2.2 and 4.2.3**)
- Envisaged financing conditions according to the planned financial source for each project (**See Section 4.2.4 above**)
- Projected operation and maintenance (O&M) costs of WSP during the tariff period
- Current or proposed water tariffs during the tariff period

It is recommended to utilize the **Tariff Adjustment Proposal spreadsheet** provided by WASREB in accordance with **Tariff Guidelines (November 2023)** to evaluate WSP's financial sustainability during and after implementing the planned projects. As a preliminary-level analysis result, if the said spreadsheet's calculation indicates a forecasted cost recovery ratio equal or above 100%, then the WSP will achieve full cost recovery during the tariff period and its financial sustainability is deemed ensured (See Figure 4.2.1 for the outlined concept of WSP's cost recovery evaluation).

$$Cost\ Recovery = \frac{AT \times W \times Collection}{O\&M + Investment + DR} \geq 100\%$$

Where:

***Cost Recovery**: Forecasted cost recovery ratio (%) in a fiscal year*

***AT**: Proposed (or current) average water tariff (Ksh/m^3) in a fiscal year*

***W**: Sold water amount projected in a fiscal year (m^3)*

***Collection**: Collection efficiency projected in a fiscal year (%)*

***O&M**: All O&M cost projected in a fiscal year (Ksh), including:*

- Personnel and training expenditure
- Administration and board expenses
- Other operation expenditure (bulk water purchase, fuel, utilities, chemicals, etc.)
- Maintenance cost
- Regulatory levy

***Investment**: Capital investment expenditure planned for asset renewal and expansion in a fiscal year (Ksh), except for:*

- Grant assistance to be received
- Capital investment expenditure to be funded by loans

***DR**: Debt repayments projected in a fiscal year (Ksh), including:*
- Principal repayments
- Interest expenses and charges

Figure 4.2.1 Outlined concept of cost recovery evaluation in the preliminary financial analysis

In case that the forecasted cost recovery ratio is calculated below 100%, WSP's overall operation is deemed not financially sustainable during the tariff period; hence WSP would be required to adjust either (i) the Investment Plan or (ii) the proposed water tariff. Therefore, the present Guidelines request WSPs to prepare and revise the Investment Plan at least in accordance with their tariff adjustment cycle to consider necessity for the tariff adjustment at the same time to ensure financial sustainability. Also, in case that WSP proposes a water tariff increase, it is necessary to consider the affordability of vulnerable population of its served areas in accordance with the Tariff Guidelines by taking appropriate mitigation measures such as adequate block tariff arrangements and cross-subsidy among consumer categories.
(Consideration of vulnerable population is still a discussion point in the action plan)

4.3 Financing Arrangements (I-3)

4.3.1 Consultation with County Government (I-3.1)

After obtaining consent from the Board of Directors, WSP management team shall consult with the County Government on the Investment Plan to confirm availability of the planned financial source for each project.

In this respect, according to with **Water Sector Intergovernmental Cooperation Framework (Water Sector-IGCF)** set forth by MWSI and Council of Governors in August 2023, each County Government representative would participate in the Water Sector Intergovernmental Cooperation Forum (WS-ICF) at least once a year to discuss the sector development policies with MWSI, development partners and other stakeholders. In order to take advantage of this opportunity to secure financing for the projects in Investment Plan, it is recommended that each WSP conduct discussions with the County Government at least once a year and make necessary adjustments of the Investment Plan and prepare the County Government for effective discussions at the WS-ICF.

4.3.2 Revision of Investment Plan (I-3.2)

Based on the results of consultation with County Government, it may be required to adjust the project scope and size, priority, schedule, financial source, etc. for each project as well as WSP's future tariff level, forecasted O&M cost amount, etc. Based on those needs, WSP shall revisit the process described in Section 4.3 and revise the Investment Plan.

4.3.3 Financing Arrangements for Each Project (I-3.3)

Once WSP completes its Investment Plan after the County Government consultation, WSP shall conduct financing arrangements for implementation of each project.

The procedure, timeframe, and documentation required for the realization of financing depends on the financial source planned for each project. In the present Guidelines, **Part II (Chapters 5)** provides detailed process for implementing projects using commercial loans.

Chapter 5 Procedure of Commercial Loan Projects Implementation

5.1 Overview

This Chapter describes the procedure of implementing **Commercial Loan Projects**, which is judged as a bankable project using pure commercial loan (with no grant and no concessional loan) in consideration of Chapter 3 and 4.

Generally, commercial loans have high interest rates and short repayment periods. Therefore, borrowing commercial loans may worsen the financial condition of WSPs. In addition, to maintain a sound financial condition, it is necessary to improve the balance of income and expenditure, and in some cases, water tariff may need to be revised. The conditions for WSPs that are eligible for the process described in this chapter are as follows:

- Good financial condition (able to repay bank loans with high interest rate),
- Board of WSP will approve implementing the project using bank loan, with no objection from the County Government

In principle, large scale projects, such as Intake weirs, water treatment plants, etc., will be entrusted to WWDA, and funds will be provided through concessional loans, etc., rather than commercial loans, so that a commercial loan project is usually formulated on a small scale. Due to fluctuation of WSP financial condition, interest rate of the loan, and price escalation, etc., scope of the commercial loan project will be modified up to just before loan agreement, so that the following conditions are preferable.

- Projects that can be adjusted in scale, have no technical difficulties, and can be handled by WSPs themselves, such as projects for expansion and rehabilitation of distribution networks

Figure 5.-1 Figure 5.1 illustrates the overall process described in this chapter.

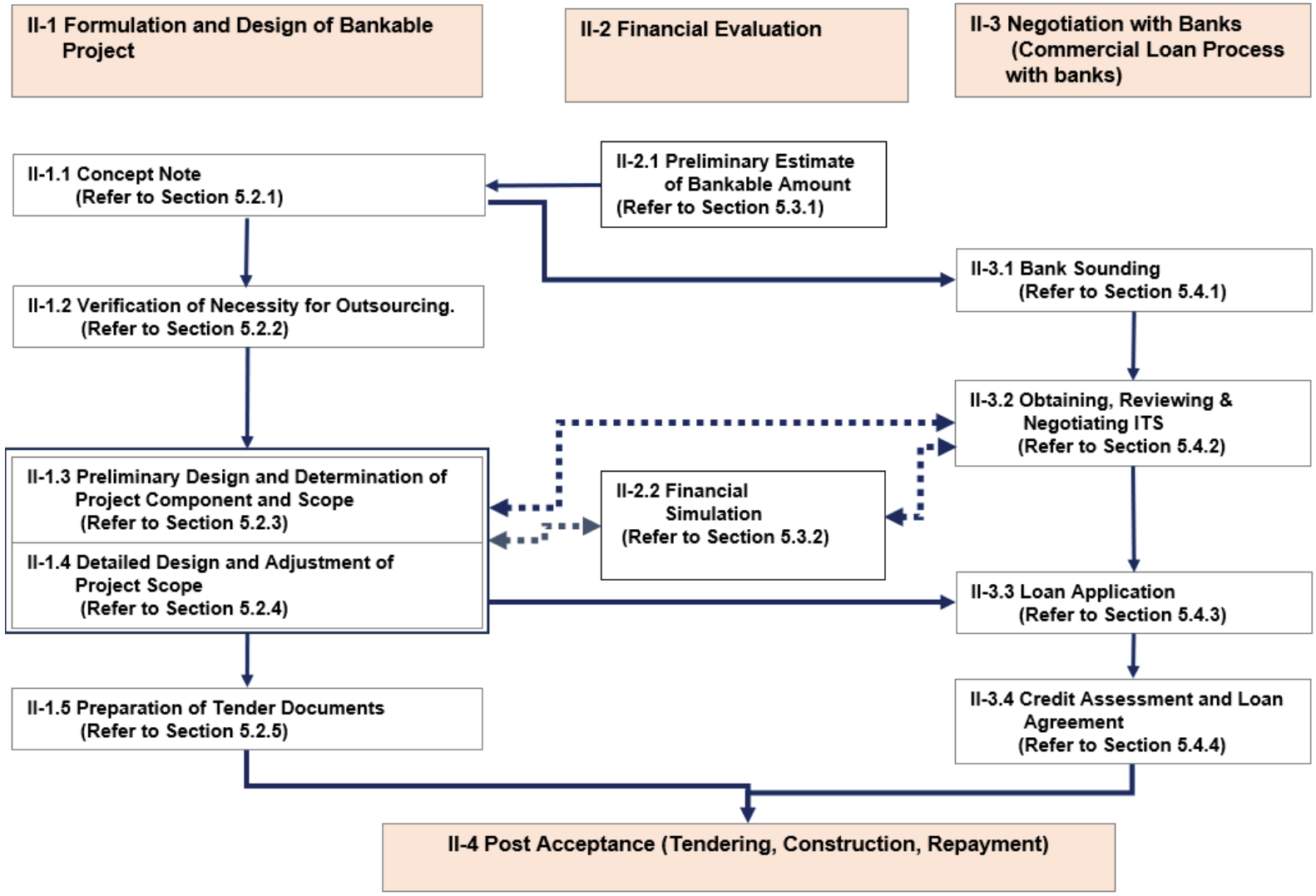

Figure 5.-1 Process Flow of Commercial Loan Projects Implementation

5.2 Formulation and Technical Documents Preparation of Bankable Project Plan (II-1)

This section describes formulation and technical documents preparation of Bankable Commercial Loan Project. The documents are to be modified to adjust project scope to ensure bankability, considering loan condition and financial situation of WSP.

Table 5.2.1 Technical Documents for Commercial Loan Projects

Technical Documents	Descriptions	Purpose to use
Concept Note	Concept Note includes a concept layout plan, cost estimate, etc., which is based on the information in project list in WSP investment plan.	For bank sounding and requesting banks for submission of Indicative term sheet for commercial loan project
Preliminary Design	Preliminary design includes outline drawings, preliminary cost estimate, etc. It is prepared, in cases that a scope arrangement and/or phased implementation plan need to be considered to meet WSP budget. If the scope for commercial loan is described clearly enough to commence detailed design work, no need.	For formulation and confirmation of project scope for commercial loan, based on latest information before commencement of detailed design. (in some cases) * Preliminary design could be skipped if not necessary.
Derailed Design	Detailed design provides necessary drawings and technical specifications, etc. These documents can be used not only for commercial loan projects, but also any type funding projects.	For pre-construction (selection of contractor) and construction of the project For WSP board approval, bank and getting no objection from county government (in some cases)
Tender Documents	Tender documents for construction works consists of Tender Procedures, Requirements, and Condition of Contract and Contract Forms.	For pre-construction (selection of contractor) of the project

5.2.1 Concept Note (II-1.1)

During consideration on implementation of commercial loan project, WSPs confirms project types that are suitable for commercial financing (**See Section 3.2**). After it is proposed in Investment Plan stage, WSP confirms financial sustainability of investment plan (**See Section 4.2.5**).

WSP shall prepare Concept Note of proposed commercial loan project. The Concept Note shall cover the following information.

1) Background and Objectives of the project
2) Project Outline: Location map, Concept layout Plan, Principal feature, Implementation schedule
3) Project Cost and Benefit
4) Financial Plan: Expected loan amount, loan term, etc.

The Investment Plan is supposed to cover most of the above information **(See Section 4.2.1 and 4.2.2)**., so that WSP will update the information and complete the Concept Note for Bank Sounding. **(See Section 5.4.1)**

In the following cases, preliminary design (**See Section 5.2.3**) is required for bank sounding

- Technical consideration is insufficient at the concept design stage, and it is judged that project content needs to be modified.
- Construction costs increase significantly due to inflation or fluctuations in construction unit prices.
- Cost estimate is higher than WSP budget, and it is judged that project scope need to be modified.

5.2.2 Verification of Necessity for Outsourcing (II-2.1)

Most of WSPs do not have enough technical staff and/or capacity to prepare design documents and tender documents of the project as well as supervision of the construction works, except for small scale of pipeline works and/or other small rehabilitation works. Any WSP who falls in the above needs to consider outsourcing to WWDA or consultant company (**See Section 4.1.4 Table 4.1.2 Table 4.1.2**).

As for outsourcing to a consultant company, WSP is required to define the scope of consulting services needed for the project, based on both the number and competencies of its staff and describe in the Request for Proposal (RfP). If WSP is not able to control the consultant for design works, WSP shall consults with WWDA.

All detail for selection of the consultant are defined in "Document 5; Standard Request for Proposals for Selection of Consulting Firms (PPRA, Feb 2021). Summary of the step of selection is as follows;

1. Process for Shortlisting
2. Eligibility of Consultants to be shortlisted
3. Advertising for Selection of the Consultant
4. Opening of applications
5. Evaluation
6. Contract Negotiation
7. Award of Contract

5.2.3 Preliminary Design and Determination of Project Component and Scope (II-2.2)

(1) Purpose of Preliminary Design

At the preparation of the investment plan, WSP once evaluated financial sustainability of the investment plan including commercial loan projects **(See 4.2.5).** However, if technical consideration is not sufficient. project component/ project scope shall be re-considered and re-formulated, using results of additional technical consideration and updated information, so that preliminary design is required for bunk sounding and/or commencement of detailed design.

The purpose of preliminary design is to define the project scope, key components, viability and cost estimate to a reasonable level of detail to assess its bankability and feasibility. A preliminary design could be skipped if there is enough information.

- To establish key components of project, including sizes, types and materials of each facility
- To provide overall (outline) drawings showing a scope of construction works, with consideration for phasing (if necessary)
- To prepare implementation schedule, with consideration for phasing (if necessary)
- To provide preliminary cost estimate: Outline overall costs are derived and presented using bulk/general well-established costs to provide indicative costs for decision making.

(2) Requirements of Preliminary Design

Requirements of preliminary design is depending on situation of projects and WSPs. The sample requirements are shown in Table

Table 5.2.2 Sample Requirement of Preliminary Design

Items	Contents
Required Documents	• Preliminary design report • Outline drawings • Preliminary cost estimate
Level of the Cost Estimate	• Outline overall costs are derived and presented using bulk/general well-established costs to provide indicative costs for decision making.
Data Upgrading	• Updating water demand forecast in target area (considering update of population forecast and unit water demand) • Updating project cost estimate (considering revision of unit price to an appropriate price, taking into account the data from recent construction works and the trend of the price fluctuation.) • Updating project benefit, to confirm incremental water supply amount by the project considering a whole water supply system (for example, even if water treatment capacity is increased, the amount of supply water may not be increased as expected, due to lack of capacity of water intake or distribution system and NRW conditions)

Implementation Schedule	• Considering suitable phasing plan • Structuring the facility layout to accommodate phased implementation

(3) Usage of Result of Preliminary Design

The results of preliminary design shall be used for the financial simulation, and the negotiation with banks. The scope of detailed design works could be identified clearly smoothly, using result of preliminary.

5.2.4 Detailed Design Phase and Adjustment of Project Scope (II-2.3)

(1) Detailed Design Phase

Detailed design and tender documents are necessary for pre-construction and construction. If these documents are once prepared, they could be used not only for commercial Loan Project but also for other financing projects.

Some banks may require the results of detailed design for a loan application **(See Section 5.4.3)** and some counties may request for issue of No Objection Letter for implementation of commercial loan project. WSP needs to confirm the necessity of detailed design output for loan application to a bank and application of no-objection letter to a county government.

The detailed design shall be prepared based on Practice Manual for Water Supply Services in Kenya: PART A Water Supply, Oct. 2005 and/or any other internally recognized manual or standard. The detailed design is to define the project scope, key components, viability, cost estimate and implementation phasing to level considered adequate for tendering and construction works. Following table is shown in the items and contents of the requirement of the detailed design.

Table 5.2.3 Sample Requirement of Detailed Design

Items	Contents
Level of the Design	• Design calculations for the project components are refined to a high level for all project components based on conducted field investigation, all necessary surveys, test results of construction materials and design codes. • Detailed working drawings are developed and produced to allow for construction without ambiguity • Determine the project's phased implementation based on the level of bank funding
Field Investigation	• Topo survey, geo survey, hydrogeological survey, water quality test, and any other necessary survey for detailed design.
Required Documents	• Detailed design report

	• Detailed drawing for all component • Detailed Engineer's cost estimate • Site investigation reports • Tender documents including the specifications • ESIA report • Any other necessary documentation for tendering
Level of the Cost Estimate	• Detailed costs are derived and presented using the quantities schedule and representative components parts costs to arrive at a high level of proceed cost estimate • The project execution plan may be derived and presented, and if necessary the procurement documents are produced.
Cost Estimate Accuracy	Plus, minus 10%
Required Documents	• Detailed design report • Detailed drawing for all component • Detailed Engineer's cost estimate • Site investigation reports • Tender documents including the specifications • ESIA report • Any other necessary documentation for tendering

(2) Adjustment of Project Scope

In order to ensure the bankability of the project, the scale, contents, and implementation schedule of commercial loan project are to be adjusted and/or modified based on the result of bank negotiation (**See 5.4**) and financial simulation (**See 5.3.1**), through the activity to formulate actual bankable projects, in order to maintain the financial soundness of WSPs and ensure their profitability. The following considerations shall be taken into account for the adjustments and modifications, ensuring technical feasibility and that the anticipated benefits are not substantially diminished.

1) Examination of project cost

2) Financial simulation to confirm WSP's capacity for loan repayments

3) Adjustment of project scope and consideration of implementation phasing, in view of budget constraints (if necessary)

5.2.5 Preparation of Tender Documents (II-2.4)

Tender documents shall be prepared based on the "Document 1; Standard Tender Documents for Procurement of Works (Building and associated Civil Engineering Works) (PPRA, Feb 2021)". The tender documents consist of the following parts;

Part 1 – Tendering Procedures

Section 1; Instructions to Tenderers

Part 2 – Procurement Entity's Requirements

Section II - Tender Data Sheet (TDS)
Section III – Evaluation and Qualification Criteria
Section IV - Tendering Forms
Section V- Bills of Quantities
Section VI- Specifications
Section VII- Drawings

Part 3 – Conditions Of Contract And Contract Forms

Section VIII - General Conditions of Contract(GCC)
Section IX - Special Conditions of Contract (SCC)
Section X- Contract Forms

5.3 Financial Evaluation (II-3)

Section 5.3 describes financial simulation to review repayment capacity and repayment plan within WSP to implement commercial loan project. The result of financial simulation is also used for adjustment of suitable project scope.

5.3.1 Preliminary Estimate of Bankable Amount (II-3.1)

(1) Objectives

Commercial Loan Project shall be formulated within bankable amount for the project. For preparation of Concept Note of Commercial loan Project **(See Section 5.2.1**), WSP shall estimate bankable amount to the project roughly, by roughly estimating the ability to generate cash flow (CF) from existing business and new project.

(2) Calculation formula

Estimated bankable amount shall be calculated from EBITDA from existing business + CF from new business (in a simplified manner). The detailed breakdown of calculation formula is shown below.

Table 5.3.1 Calculation of bankable amount

Item		Formula	Example	Explanation
a	Adjusted EBITDA (without grant amortization)	a	100,000 Ksh	Operating Profit + Depreciation+ Amortization Adjusted by deduction of non-cash income and normalization of one time expenses/incomes, consider trend of EBITDA for past three years.
b	Project Cash inflow per year	c*365*d*(1-e)	29,200	Increases of cash flow from the Project implementation

c	Increased water volume per day from the Project	c	10m3/d	Increases of water production from the Project implementation
d	Average Tariff	d	10 Ksh	Calculated by Water billing income/Water volume billed
e	NRW for Project Area	e	20%	Current NRW
f	Project Cash outflow per year	f	10,000 Ksh/year	Increase of O&M expenses from the implementation of the Project
g	Net Project Cashflow per year	b-f	19,200 Ksh/year	Net cashflow from the project
h	Total Cashflow	a+g	119,200 Ksh/year	Sum of cashflow from the project and EBITDA from the WSP's existing operation
i	Loan Period	i	5	[Assumption] year
j	Total amount repayable	h*i	596,000 Ksh	Total amount of repayable principal and interest during loan period
k	Interest rate	k	20%	[Assumption] Interest rate
l	Estimated Bankable Amount for WSP	Present Value of h	356,480	Total amount of repayable principal from entire WSP financials plus the Project *Present Value = Annual Payment × [1 - (1 + Interest Rate) ^ -Number of Periods] ÷ Interest Rate (Can be calculated using spreadsheet)
m	Estimated Bankable Amount for Project	Present Value of g	57,420	Total amount of repayable principal from the Project

5.3.2 Financial Simulation (II-3.2)

(1) Objectives

The objectives are to confirm whether proposed commercial loan project is bankable project or nor, which means to confirm whether WSP have repayment capacity of the loan for implementation the project.

In order to review repayment capacity and repayment plan within the WSP, the financial simulation is to examine the impact on the balance sheet (BS), profit and loss statement (PL), and cash flow statement (CS) resulting from the implementation of new project, and to conduct detailed examinations of the loan amount, loan period, etc..

(2) Assumption

In order to ensure sustainable business management and comply with credit assessment by banks, the assumptions should be realistic and conservative. Ambitious/Aggressive future investment plans with no fixed funding sources should not be included in the simulations (Basically, the simulation shall be conducted in a way that only the investment of the target project is reflected in the existing business. It can also reflect other projects already in progress.).

(3) Example

An example of financial simulation is attached separately in Microsoft Excel format for reference. A typical specifications and assumptions of financial simulation included are shown below.

Table 5.3.2 A typical specifications and assumptions of financial simulation

Item		Assumptions
General Conditions	Simulation period	Until completion of loan repayment
Income	Water tariff	Factoring in price increases currently pending with WASREB (up XX% in year XXXX , and up XX% every 5 years thereafter)
	Water demand	Using WSP estimates (based on population growth rate)
	Water production capacity	Existing water production capacity: XX m3/day
	Non Revenue Water rate	Current non-revenue water rate: XX% (Project area only) Current non-revenue water rate: XX% (Whole WSP)
	Collection Efficiency	Existing & Future Collection Efficiency: XX%
	Grant	Past temporary grants are not considered
	Sewerage revenue	Sewerage revenues increased 100% in line with the rate of increase in water charges
Expenses	Cost growth rate	Fixed costs increase by XX% annually, as inflation
	WARMA Abstraction fee	XX Ksh/m3 water produced
	WASREB Levy	XX% of Water Revenue
	Bulk Water Supply Fee	XX Ksh per water volume produced
	Depreciation rate	Fixed assets: XX%
	Corporate tax rate	30%
Project condition	Project cost	XX M Ksh
	Increased production capacity	+ XX m3/day
	Increasing timing	Year 1: 30%, Year 2: 60%, Year 3: 100%
	Effect on non-revenue water rate	Non-revenue water rate after project completion: XX% (project target area only)
	Increased operating expenses	XX% of project cost per year
Financing	Loan Amount	XXX M Ksh
	Loam Period	XX year
	Grace Period	XX month
	Repayment Method	Principal – Equal Repayment
	Interest Rate	XX %

5.4 Negotiation with Banks (Commercial Loan Process with banks) (II-4)

5.4.1 Bank Sounding (II-4.1)

(1) Target Banks

Selecting the appropriate banks for negotiation can be challenging, especially for WSPs with limited experience in this area. To streamline this process, WSP may prioritize banks that have existing relationships or have demonstrated a strong interest in the water sector. Begin by considering main banks and those with a history of past and present transactions. This approach typically results in the selection of 3-4 banks to initiate negotiations. Number of target banks could be more than 3-4, however, its important to note that negotiating with banks are time consuming and it may result in delay in project if lots of banks are involved in negotiation. Therefore, number of banks should be considered in line with target project implementation schedule and milestones.

(2) Bank Sounding

Conduct initial bank soundings by inviting representatives from the selected banks after distributing the concept notes **(refer to 5.1,1)**. During the bank sounding, the WSP's management team should present the project outline, financial aspects, and then request banks to submit an Indicative Term Sheet (ITS).

Typical inquiries from banks include questions such as "Are there subsidies or financial assistance from other institutions/donors?" and "Is there availability of collateralized assets?". These inquiries

indicate an expectation of blended finance schemes or asset finance, and it is crucial to clarify those inquiries correctly to avoid misunderstanding in future stage.

5.4.2 Obtaining, Reviewing & Negotiating ITS (II-4.2)

(1) Obtaining Indicative Term Sheet (ITS)

The general items of an ITS are as follows:

Table 5.4.1 General items of ITS

Item	Terms	Supplementary Explanation
Lender	Bank-A	-
Borrower	WSP-A	-
Facility	Project Name	-
Amount	KES XXXX	Amount a bank can lend based on WSP requirements
Facility Tenor	XXX months including a XX-month moratorium on Principal	The period during which a bank can lend on the basis of WSP requirements and the grace period during which repayment of principal can be deferred
Pricing	1 Interest rate: XX % per annum on reducing balance.	-
	2 Processing fee: X % one-off	-
Security	1 Cash flows: Cash flows from the revenue collected from the clients. WSP to open a revenue collection account with Bank A with an escrow account established for building up monthly repayments. An equivalent of xx month repayment installment will be maintained in the escrow account until the loan is repaid in full.	-
	2 Cash Cover (Fixed deposit)	In some cases, it is not required, but in some cases it is required to pay about 10~50% of the loan amount, and a certain amount of interest is paid.
	3 Floating Debenture over Receivables	In the event of default, the bank may collect the amount of the receivables
	4 All assets debenture over fixed assets	May be secured in the form of a first legal charge
	5 Billing & revenue collection integration with Bank A for the entire term of the loan.	-
	6 Credit Enhancements with African Guarantee Fund (AGF) or any other guarantee provider	Guarantee by AGF (approximately 50% of the loan amount is guaranteed by an external institution by paying a certain fee)
	7 Guarantee from the County Government	-
Conditions Precedent.	Acceptance of the terms of the contract by duly executing the Facility Agreement and Board Resolution to borrow.	-

(2) Negotiation

1) Review the Content of the ITS (including security)

- Confirm that the ITS includes general terms and conditions for bank loans.

- Identify any terms and conditions that do not include specific figures or percentages.
- Review items related to collateral and guarantees, noting any unspecified amounts or target asset.

2) Conduct Necessary Inquiries

Contact banks to clarify any unclear points to obtain additional information.

3) Compare and Evaluate ITS and Select Preferred Bank

- Evaluate the overall suitability of each bank's ITS based on factors such as interest rates, collateral requirements, and other terms.
- Since most of banks requires opening collection account in the WSP, which sometime is not easy and require board approval, existence of current relationship (account) could also be one of the evaluation criteria.
- Select the preferred bank based on the evaluation.

4) Consider Counter Proposal

- By utilizing financial model, assess the feasibility of meeting all pricing requirements such as loan term, interest payment, guarantee fee, one-off payments, etc.
- Consider minimum items and amounts of collateral that could be met.
- Develop counter proposals based on the confirmed minimum collateral and other strategic considerations.

5) Negotiation

- Present counter proposals and negotiate terms with banks.
- Aim to reach mutually acceptable agreements on loan term, especially security requirement.

5.4.3 Loan Application (II-4.3)

Once agreement for ITS is mutually met between WSP and banks, the following documents are normally required to be submitted at the time of the Loan Application. The actual list of application documents required are specified in each ITS.

Table 5.4.2 Typical Application Documents

	Terms	Sources
a) Company documents		
1	Certificate of Incorporation	To be provided by MD of WSP
2	Company Memorandum and Articles of Association	
3	KRA PIN certificate for the company	
4	ID and KRA PIN Certificates for the directors	
5	Company's Current CR12	
6	Tax Compliance	
7	Company profile (with profiles of key management team included), organizational structure.	
8	Board Profile	
9	CVs of Company Management and Board of Directors	
10	Service provision agreement	
11	Occupation health and safety policy	
12	Employee policy.	
b) Financial documents		
1	Audited Financial Statements for Financial Year Ends:2019,2020, 2021, and management accounts for 2022.	To be provided by WSP Financial Dept.
2	Latest 12 months bank statements	
3	Aged list of debtors and creditors	
4	Details of existing loans or statement that no loans are currently in place or envisaged during the project period.	
5	Copy of approved tariff.	
c) Project documents		
1	Map of the project area	To be provided by Preliminary Design, Detailed Design (See 5.2.3 and 5.2.4)
2	Project design documents	
3	Bills of quantities	
4	Implementation work plan	
5	Cashflow projections from the project (target connections and expected increase in revenue)	
6	Environmental impact assessment (if any)	
7	Target connections	
8	Implementation team (confirm inhouse or to procurement to be done). If procurement, avail procurement procedures and tender award documents.	
9	Board resolution authorizing the borrowing	To be obtained in approval procedure **(see 5.5)** WSP Financial Dept.
10	Minutes of Board of Directors approval of the project	
11	Letter of no objection from the County Government.	
12	Sources and evidence of company contribution in the project	
c) Other documents		
1	WRA abstraction license	WSP Technical Dept.
2	Last 6 months water quality tests	
3	Monthly non-revenue water	
4	Any other documents relevant to the credit application.	---

5.4.4 Credit Assessment and Loan Agreement (II-4.4)

(1) Credit Assessment

After the submission of loan application, credit assessment procedure is carried out at a bank. This procedure depends on banks, but basically, documents submitted to the bank will be reviewed by the bank's credit assessment department and the WSP needs to provide further clarification if needed. Banks often have inhouse engineers and they usually ask questions not only about finance but also about engineering. Typical additional confirmations include the following:

- Details on the project (project scope, financial impact from the project etc.)
- Feasibility of cash flow projection regarding the project
- Current financial situation of the WSP
- Audit opinion on WSP's financial statements

(2) Loan Agreement

Once credit assessment procedures are done at the bank, the bank provides an offer letter which describes loan conditions to the WSP. A typical offer letter contains the following:

- The purpose of the loan
- Loan amount
- Interest and fees
- Loan tenure
- Disbursement
- Repayment
- Securities
- Conditions Precedent
- Documentation required
- Covenants
- Other conditions

After reviewing the contents of the offer letter, the WSP signs and submits it to the bank.

5.5 Approval Procedure (in WSP Board and County Gov.) (II-4.5)

Table 5.5.1 Typical Approval Procedure for Implementation of Commercial Loan Projects

Items	WSP Board	County Gov.
Investment Plan including a commercial loan project	Approval	Approval
Annual Budget of WSP including a commercial loan project	Approval	--
Preparation of Detailed Design/ Tender Document	Approval	--
Commencement of negotiation with banks	Depending on situation	
Submission of Loan Application/ Loan Agreement	Approval	No Objection

* Investment Plan is prepared and attached in WSP Business Plan and Water Tariff Application.

It is necessary to obtain approval from the WSP Board and the County at the timing before loan application. In obtaining approval, it is advisable to confirm with the Board and County the necessary items and timing for approval prior to bank negotiations, as it varies depending on WSPs.

Additionally, while the approval from the Board and County will be obtained in the form of a letter, the required content of the letter may vary depending on the bank (e.g., whether to include the bank's name or not). Therefore, it is also advisable to consult with the bank regarding the letter's content at the time of obtaining approval.

APPENDIX

Sample: List of Project for Investment Plan

	Ref. Guideline Sections	Section 4.2.1 "List of Projects for Investment"									Section 4.2.3 "Priority of projects incl. implementation schedule"		Section 4.2.4 "Consideration of Financial Sources"	Section 4.2.2 "Concept layout Plan and Cost Estimation"	Section 4.2.3 "Priority of projects incl. implementation schedule"					-
	S/No	Project Title	Project Category: a. Water source (intake, groundwater)	b. Raw water transmission	c. Water treatment plant	d. Water transmission	e. Water distribution	f. Others (Specify)	Project Description	Expected Benefits	Project Commencement Date	Completion/ Commercial Operation Date	Financial Source	Total Investment Cost (Ksh)	Disbursement Schedule (Ksh) 2025/26	2026/27	2027/28	2028/29	2029/30	Remarks
Sample	Ex. 1	Expansion of "AAA" Water Treatment Plant (WTP) with Re-alignments of Raw Water Main		x	x				- WTP capacity expansion: 10,000 m³/day (28,000 m³/day to 38,000 m³/day) - Raw Water Main: 2.0 km (DN400 mm of Ductile Iron Pipe)	- Service area coverage: 40% to 60% - Served population increase: 195,000 to 240,000	Jan-2026	May-2028	Commercial Loan	240,000,000	80,000,000	80,000,000	80,000,000	-	-	
Sample	Ex. 2	Rehabilitation of "BBB" area pipelines					x		- Pipelines: 50 km (DN200 - 325 mm)	- NRW: 48% in 2024 to 20% in 2027	Feb-2026	Jun-2027	WSPs own fund (Internal Funding)	180,000,000	90,000,000	90,000,000	-	-	-	
Sample	Ex. 3-1	Construction of "CCC" new water supply system (Own Fund Portion)	x	x	x	x			Intake, raw water main, WTP and transmission main - WTP capacity: 30,000 m³/day - Raw water main: 8 km (DN450 mm) - Transmission main: 11 km (DN300 mm)	- Service area coverage: 60% to 95% - Served population increase: 240,000 to 380,000	Dec-2026	Apr-2030	WSPs own fund (Internal Funding)	200,000,000	-	50,000,000	50,000,000	50,000,000	50,000,000	
Sample	Ex. 3-2	Construction of "CCC" new water supply system (Grant Portion)	x	x	x	x					Dec-2026	Apr-2030	County Grant	200,000,000	-	50,000,000	50,000,000	50,000,000	50,000,000	
Sample	Ex. 3-3	Construction of "CCC" new water supply system (Commercial Loan Portion)	x	x	x	x					Dec-2026	Apr-2030	Commercial Loan	400,000,000		100,000,000	100,000,000	100,000,000	100,000,000	
Sample	Ex. 4	Distribution network expansion in "DDD" area					x		- Length: 115 km (DN90 - DN200 mm)	- Additional 30,000 connections	Jul-2027	May-2030	AoDGrant	300,000,000	-	-	100,000,000	100,000,000	100,000,000	
	1																			
	2																			
	3																			
	4																			
	5																			
	6																			
	7																			
	8																			
	9																			
	10																			
													Subtotal - Own Fund							
													Subtotal - Grant							
													Subtotal - Loans							
													Total Investment							

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