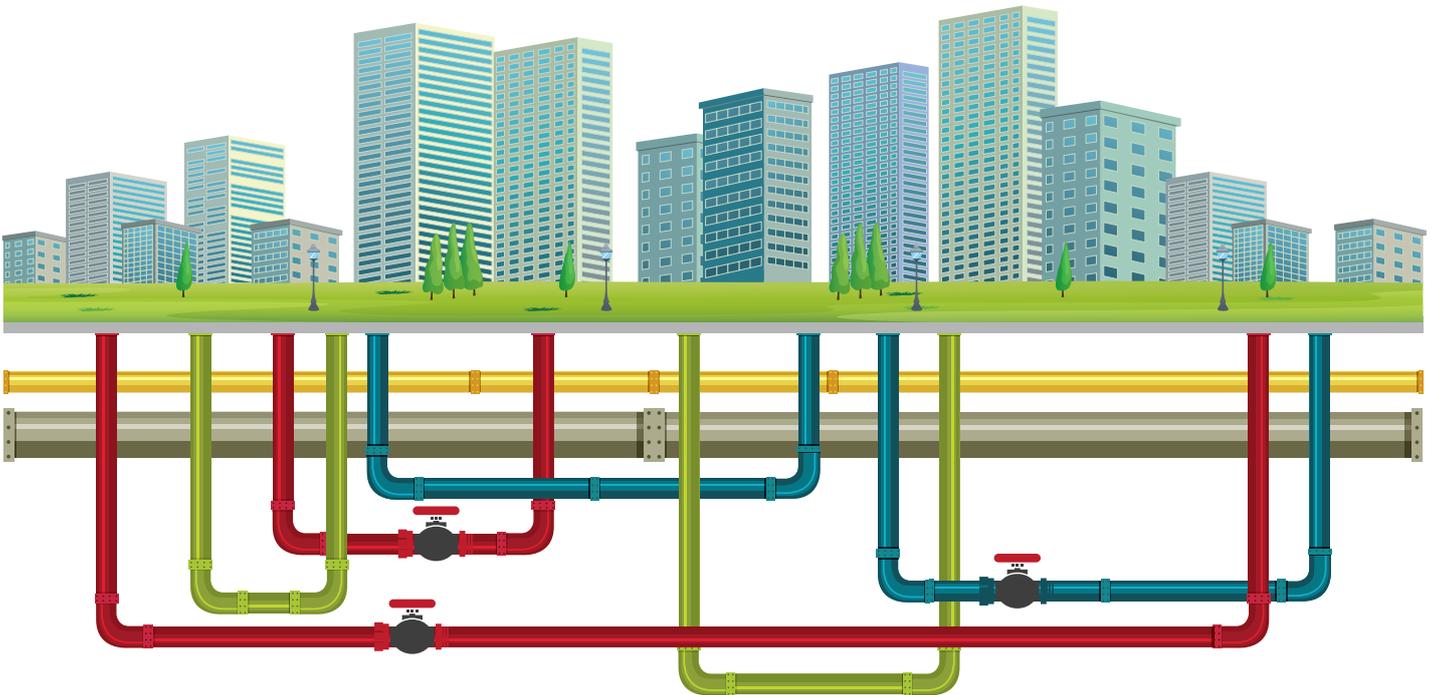




**SHUKALB**  
WATER SUPPLY AND SEWERAGE ASSOCIATION OF ALBANIA



## **POSITION PAPER ON IMPROVING THE REGULATORY FRAMEWORK FOR ASSET MANAGEMENT (AM) AT LOCAL LEVEL**

**TIRANA, FEBRUARY 2022**

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# Abbreviations

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|         |   |
|---------|---|
| AKUM    | National Agency for Water Supply and Sewerage and Waste Infrastructure  |
| DOC     | Direct Operating Costs  |
| IAM     | Integrated Asset Management   |
| ISO     | International Standard of Operations                                    |
| JSWSS   | Joint Stock Water Supply and Sewerage Company                           |
| O&M     | Operation and Maintenance   |
| RCDN    | Regional Capacity Development Network for Water and Sanitation Services |
| SHUKALB | Water Supply and Sewerage Association of Albania                        |
| WRA     | Water Regulatory Authority  |
| WSS     | Water Supply and Sewerage   |

# 1 Introduction

This Position paper aims to address and orient central institutions on improving the regulatory framework for asset management at the level of the Water Supply and Sewerage (WSS) Companies, which will contribute directly to improving their performance. It will also help institutions at the central level to take decisions based on a more complete information framework on the status of WSS Companies, be it for the approval of tariffs by the Albanian Water Regulatory Authority (WRA), or for the distribution of subsidies or the planning of capital investments by the National Agency for Water Supply and Sewerage and Waste Infrastructure (AKUM).

Specifically, the purpose of the position paper is to:

- introduce to the WRA an approach to standards that ensure the applicability of the “Water Tariff Calculation Methodology” for drinking water services, collection, disposal, and treatment of wastewater;
- introduce to the AKUM and other interested institutions with an opportunity to link long-term subsidies and investments with the current state of asset management, and
- provide WSS Companies with a collaborative and controlled environment for value-based decision-making.

The recent adoption of the “Methodology for Tariff Calculation” for drinking water services, collection, disposal, and treatment of wastewater is a very important development, which outlines the set of elements and factors that should include the analysis of their approval by the WRA. While the state and specifics of the

sector are such that different WSS Companies move at different speeds, the revised tariff setting methodology acknowledges/ recognizes the use of the previous “Cost Plus” methodology for companies that still fail to cover over 100% of their operation and maintenance direct costs, while introducing the new “Ceiling Price” methodology for companies tending to cover up to 100% of their total operating costs.

Meanwhile, the approval of Instruction no. 3 dated 18.06.2020 of the Minister of Infrastructure and Energy on the “Approval of the methodology for criteria and procedures for distribution and use of state subsidies, for joint-stock WSS Companies for the budget year 2020 and 2021” regulates the work of AKUM regarding the drafting, negotiation, and signing of performance contracts with relevant municipalities, based on the defined performance criteria of these companies. The assessment of the needs for subsidies, as well as the detailing and distribution of subsidies by AKUM, is required to be based on the data reported in the previous period by the WSS Companies. The Instruction provides that 50% of the subsidy measure is related to the Direct Cost of Operating (DCO), when such cost is not covered by the collection of fees.

This position paper emphasizes the need for integrated asset management as a good practice piloted in some of the WSS Companies, together with SHUKALB technical assistance capacity for these companies. Through this process, SHUKALB aims to increase cooperation between government agencies, municipalities, and WSS

Companies for asset management by offering concrete solutions through its standardization.

This Position Paper has been prepared within the "Provision of Capacity Development Products for Water Supply and Sewerage Companies in Albania" Project funded by the "Regional Capacity Development Network for Water and Sanitation Services (RCDN)" Project. The overall goal of the project is to enhance the

capacities of the responsible employees in municipalities and WSS Companies to provide a quality service to the citizens related to the water supply, sewerage and wastewater treatment, through quality products for capacity development and involvement of decision-makers at the level of municipalities and the managerial staff of these companies.

# 2 History of the problem

The problem of asset management at the level of WSS Companies is a long-standing one due to their age and poor maintenance related to their limited financial and human resources. This issue directly affects the performance of WSS Companies by preventing significant improvement, despite efforts made by their management staff. Affected also by the situation with the COVID-19 Pandemic, their performance has deteriorated in the last two years according to the WRA reports.

The poor management of assets by Local Government Units/ WSS Companies in Albania is an ongoing concern of the last three decades. Routinely, the focus has been on new investments, as a solution to secure drinking

water supply to the communities and run maintenance activities mostly when the systems fail to work. For smaller Local Government Units/ WSS Companies with insufficient resources, which constitute the majority of the 57 WSS Companies, the planning processes are not very well organized, and they do not provide a clear vision of the future needs and targeted achievements. Frequently, the WSS Companies run out in identifying the technical and financial needs for assets and in providing information of major asset renewal, rehabilitation, or replacement. Those Local Government Units/ WSS Companies are not able to plan for these major projects and budget accordingly.

## 2.1 Factors influencing the state of asset management

Deterioration is observed in all performance indicators. However, such indicators do not include any specific indicator related to asset management. The deterioration of the indicators related to the "Collection Rate" and "Operation and Maintenance Cost Recovery", affect the asset management, with only 9 WSS Companies (15.8%) managing to cover 100% of such costs for 2020-2021. The situation is expected to be almost the same for 2022.

Factors that contribute to the unsatisfactory level of asset management can be summarized as follows:

- Maintenance and investment are generally carried out only when the Water Supply and Sewerage systems are defective and cannot provide service to citizens.

- Asset management is not one of the main pillars of business plans for WSS Companies, and consequently, there is a lack of human and financial resources planned for this activity.
- Support from the central government through subsidies or even capital investments is not directly conditioned by more sustainable asset management at the company level.

The asset situation at the level of WSS Companies, on the other hand, is deteriorating by:

- Old age of physical assets.
- Lack of financial resources for routine maintenance, and for replacing old assets.

- Lack of databases on all assets and their location in the service territory of the WSS Companies.

Although the problem has been articulated since long time ago, recently the WSS Companies are more than ever under pressure to improve their overall performance and cost

efficiency, while facing the need to preserve or modernize their assets without access to funding at the same time. The aging system makes it increasingly difficult for the WSS Companies to provide the services desired by the local government units and required by the local citizens and businesses.

## 2.2 Current status on the issue of asset management

The approval of two regulatory documents by AKUM (2020)<sup>1</sup> and WRA (2021)<sup>2</sup> on the methodologies and criteria to be used by WSS Companies is a clear expression of the increasing pressure from WSS Companies to improve their performance. Establishing specific criteria linking operation and maintenance cost to the required subsidies and the approval of the proposed tariffs requires concrete steps to be taken to address this issue seriously and systematically.

SHUKALB has continuously emphasized that the following directions are essential to have WSS Companies managing their assets in a sustainable and effective way:

- Asset management as a direct element that reduces operation and maintenance costs, network losses and increases efficiency in the use of human resources, physical assets and energy.
- Asset inventory as a basic condition to have reliable and sufficient quantitative data for management, monitoring, and long-term planning at the level of WSS Companies and at the central level.

- Maintenance of existing assets to enable uninterrupted service and proper quality within projected costs. This process should include maintaining accurate and up-to-date records of defects and systems interventions to move towards routine and preventive maintenance.
- Use of information technology to increase efficiency in the collection of information about asset management and its rapid exchange within the WSS company, at local and central level for periodic performance reporting. The need for software inclusion and asset digitization is a prerequisite for addressing many of the current performance bottlenecks of WSS Companies.
- Strengthening human capacity in terms of numbers and technical knowledge, especially in small WSS Companies where the problem is more immediate. The inclusion of specific trainings on asset management and the use of relevant software is a necessity to set up a functional and effective system at the level of WSS Companies.

<sup>1</sup> Ministry of Infrastructure and Energy (2020): Instruction no. 3 dated 18.06.2020 of the Minister of Infrastructure and Energy for "Approval of the methodology for criteria and procedures for the distribution and use of state subsidies, for joint-stock water supply and sewerage utilities for the budget year 2020 and 2021"

<sup>2</sup> WRA (2021): Methodology and procedure for approval of tariffs for water supply and sewerage services.

# 3 : The regulatory framework from the perspective of asset management

## 3.1 Rationale

The following is an in-depth analysis of the impact of Integrated Asset Management (IAM) on the implementation of recently adopted regulatory framework documents.

In the analysis of the WRA tariff methodology, it is noticed that IAM has a dominant role, in a set

of essential elements of tariff calculation. The table below presents elements of the tariff calculation methodology that are directly or indirectly intertwined with aspects of asset management practice.

**Table 1: Analysis of tariff calculation methodology according to WRA related to asset management**

| "Cost Plus" methodological approach  | "Ceiling Price" methodological approach   |
|--|---|
| <p><b>Article 10.</b> <u>Tariff application documentation.</u><br/> <i>Point 1:</i> "Detailed report on the technical condition of water supply and sewerage systems, describing the <b>inventory of assets</b> used by the utility with technical data (size, type of material, year of installation/construction), including priorities for their replacement.</p>   | <p><b>Article 27.</b> <u>Tariff setting method.</u><br/>                     "Tariffs are calculated according to the following formula:<br/> <math>RR = Co + Cc + RAB * WACC</math><br/>                     Co - are the accepted operating costs (OPEX) for the regulated service, adjusted for the adjustment period;<br/>                     Cc - are the capital costs (CAPEX) for the regulated service, foreseen for the regulatory period;<br/>                     RAB - is the <b>regulated asset</b> base for the regulated service, provided for the regulatory period<br/>                     WACC - is the weighted average cost of capital ratio.</p> |
| <p><b>Article 12.</b> <u>General criteria for the conception of the Methodology.</u><br/> <i>Point 1.b:</i> "Evaluation of the <b>performance</b> of the utility in terms of managerial efficiency, the level of achievement of performance indicators and the quality of information reported." Information quality is about the validity of data, including Asset Management.</p>  | <p><b>Article 29.</b> <u>Capital costs.</u><br/> <i>Points 1, 2, 4, 5, 7, 8, 9</i></p>  |
| <p><b>Article 15.</b> <u>Accepted operational costs.</u><br/> <i>Point 12:</i> "The company may suggest and justify costs for <b>new assets</b> or new activities during the regulatory period, which are not calculated in the base year. Costs for new assets that are under construction or will be ordered and provided to the operator for operation are predicted and justified based on approved projects and any other relevant documentation.</p>   | <p><b>Article 30.</b> <u>Regulated asset base.</u></p>  |
| <p><b>Article 16.</b> <u>Capital Costs.</u><br/> <i>Point 1:</i> "Capital Costs (CAPEX) are considered expenses for the purchase, construction, improvement or adjustment of <b>fixed assets</b>, which improve the condition, extend the useful life, change the functional purpose, improve the quality of service, increase the capacity or value of assets, etc".<br/> <i>Point 2:</i> "For regulatory purposes, <b>investments</b> are financed with the following elements of costs, which are included in the calculation of fees".</p> | <p><b>Article 31.</b> <u>Recognized historical asset value.</u><br/> <i>Point 2:</i> "Recognized historical asset value includes assets that have been constructed and put into operation, as well as those that are under construction".</p>   |

| <b>"Cost Plus"</b> methodological approach   | <b>"Ceiling Price"</b> methodological approach   |
|--|--|
| <p><i>Point 3:</i> “<b>Depreciation costs</b> are calculated based on <u>the linear depreciation method</u>, in accordance with the useful life of <b>assets</b> approved by the Water Regulatory Authority. The amortization calculation starts in the month after the month of the asset entry, with the depreciation rates”.</p> <p><i>Point 9:</i> “Annual depreciation costs included in the tariff are used to finance investments (purchase, construction, improvement or adjustment) in the elements of water supply and sewerage infrastructure, as well as in <b>other necessary assets</b> (equipment, vehicles, IT equipment, etc...)”.</p>  | <p><i>Point 5:</i> “In the known historical value <b>of assets</b>, the company can anticipate and justify the inclusion of new assets which are under construction”.</p>  |
| <p><b>Article 20.</b> <u>(Information) Records and their quality.</u></p> <p><i>Point 1:</i> “The utility creates and maintains all the information systems required for reporting accurate and reliable data to Key Performance Indicators (KPI) on water balance, inventory and <b>asset management</b>, hydraulic model of the Water Supply (WS) system, water meters, energy meters’ electricity, human resources, as well as customer billing and accounting systems. The company must design and implement official internal procedures for the creation and maintenance of information sources with instructions specified for staff and requirements for the data entry system, their validity, as well as security control”.</p>                        | <p><b>Article 32.</b> <u>Working capital.</u></p> <p><i>Point 1:</i> “Working capital (in the formula marked with WC) is an integral part of <b>Regulated Asset Base (RAB)</b>”.</p>   |
| <p><b>Article 21.</b> <u>Information systems.</u></p> <p><i>Points 1, 2:</i> “<b>Asset system</b> - information on the identification number, year, material, diameter, length, depth, type of water supply, sewerage, and service connections”.</p> <p>“Network interruption system - information on the identification number, location, type of service, date and time when a signal (report) was received/checked/ start and end of repair works/stop and start of water supply, station of service length, number of service/customer connections affected”.</p> <p>“Staff system - names of employees, position, department, type of service, contract, start date, information on the distribution of administrative staff in the regulated service”.</p> | <p><b>Article 33.</b> <u>Investments.</u></p> <p><i>Point 1:</i> “The company plans investments in the regulatory period with a value equal to at least the value of <b>depreciation costs</b>. “Investments are planned at a nominal level, without inflation”.</p>   |
| <p><b>Article 22.</b> <u>Assessment of Performance Indicators.</u></p>   | <p><b>Article 34.</b> <u>Capital return rate.</u></p> <p><i>Point 6:</i> “The Capital Return Rate is calculated based on the Capital Activity Pricing Model (CAPM) which describes the relationship between systematic risk and expected return <b>on assets</b>.”</p>   |
|  | <p><b>Article 36.</b> <u>Determining the initial fee.</u></p>  |
|  | <p><b>Article 37.</b> <u>Setting tariffs in blocks.</u></p>  |
|  | <p><b>Article 38.</b> <u>(Information) Records and their quality.</u></p> <p><i>Point 1:</i> “The company creates and maintains all the information systems required for reporting accurate and reliable data to Key Performance Indicators on water balance, inventory and <b>asset management</b>, hydraulic model of the Water Supply (WS) system, water meters, energy meters electricity, human resources”.</p> |

Note: The words in blue in the table, other than 'assets', represent variables or indicators, the calculation or measurement of which involves aspects of asset management.

The applicability of the methodology is in fact closely related to the embracing and fulfillment by WSS Companies of that objective that would aim to improve the level of service and

performance of the WSS Companies, through integrated approaches to monitoring, operation, maintenance, improvement, and amortization of cost-effective assets.

State subsidies are mainly used to cover electricity costs (up to 70% of the subsidy) and favor WSS Companies that deploy mechanical

water rise. The analysis of the methodology for the use of state subsidies reveals a number of elements closely related to IAM.

**Table 2: Analysis of the methodology of distribution and use of state subsidies according to MIE related to asset management**

| Annex 1  | Annex 2  |
|--|--|
| <p><b>Article 3b.</b> The received subsidy, ..., will be used by AKUM, as follows:</p> <p>b) 50% of the fund to cover the direct cost of operation (DCO), the difference = billed revenue of Water Supply and Sewerage Utilities and Wastewater Treatment Plant (WWTP) - <b>direct cost of operation</b>, where such difference must always be negative.</p> <p>The direct cost of operation is calculated as <b>the total cost of operation, less depreciation</b>, for all three public services, drinking water supply, sewerage, and treatment and processing of urban wastewater.</p> | <p><b>Article 3.</b> The subsidy ... will be distributed as follows:</p> <p>b) 30% of the subsidy fund amount will be distributed for <b>reward and performance promotion</b>;</p>   |
| <p><b>Annex 1 Article 6b.</b> Subsidies shall not be given to joint-stock water supply and sewerage utilities, which:</p> <p>b) have not submitted their data on time or <b>the data are not accurate</b> for the evaluation of their performance, according to the format required by AKUM. Water and sewerage joint-stock utilities must cooperate with the relevant sector at AKUM in providing documentation for data verification.</p>  | <p><b>Article 4.</b> Performance contracts, which will be signed between AKUM and the respective municipalities, ..., will be based mainly on three indicators, as follows:</p> <p>c) <b>reduction of expenses</b> by 10% compared to the same period of the previous year.</p>  |
|  | <p><b>Article 12.</b> The fund, according to point 3.b of this methodology, will be used by water supply and sewerage utilities with the <b>aim of improving data and asset management</b>.</p>  |
|  | <p><b>Article 13.</b> The methodology for determining the objective of the performance contract, according to point 3 (b) of this methodology, for each joint-stock water supply and sewerage utility will be based on the analysis and results of financial tables compared to the previous year:</p> <p>b) <b>cost reduction</b> (excluding investment and maintenance).</p> |

Note: The words in blue in the table, other than 'assets', represent variables or indicators, the calculation or measurement of which involves aspects of asset management.

# 4 Asset management as solution to help WSS Companies to free themselves from 'static stalemate' of poor performance

Solutions should be sought in combining services with integrated asset management information systems aimed at improving the overall performance and efficiency of WSS Companies.

The range of ISO 17025/55000 standard systems creates the possibility of integrating commercial, operational, maintenance, and planning functions together - with financial systems. Their application provides WSS Companies with coherent management solutions that cover all key functions- which in turn lead to the formulation of annual/ multi-year business plans.

On the other hand, the rehabilitation of current standards by WSS Companies with modern technology systems is expected to create an immediate impact on the implementation of the methodology, in terms of the realization of its primary function - which is the calculation of tariffs for WSS Companies.

The transition to modern integrated asset management systems turns out to be a

necessity for WSS Companies, but also for WRA and AKUM, which would bring a qualitative improvement in the accuracy and efficiency of calculations.

Completion of the Methodology with an additional Annex or Guideline for WSS Companies, describing the integrated asset management standard to be applied by the utilities, would enable the promotion of a risk-free and low-cost transformation process, in terms of generating benefits in the whole range of services related to asset management, consequently with the business plan and the calculation of the range of capitals, investments, tariffs, etc.

Digitalization and access of central institutions to modern information systems is a process that has had a good implementation in Albania, compared to other countries in the region. Integrated asset management at the company level will facilitate the exchange of information with central systems set up by agencies responsible for the sector, such as AKUM.

The standard framework for IAM should include:

**Table 3: Asset Management Plan for WSS Companies**

1. **Summary of IAM Plan**
2. **Establishment of a working group for IAM**
  - 2.1 Departments involved
  - 2.2 Integration between sectors within the company
3. **Selecting IAM technology and drafting the necessary budget**
  - 3.1 Choice of IAM technology
  - 3.2 Approval of the annual budget IAM
4. **Asset registration inventory**
  - 4.1 Data collection
  - 4.2 Asset Digitalization / Georeferencing (with AUTOCAD, GIS, EDAMS software)
  - 4.3 Data processing
  - 4.4 Field data verification
  - 4.5 Evaluation and Analysis of data related to assets
5. **Asset maintenance**
  - 5.1 Collection of (administrative, economic, and financial) data
  - 5.2 Routine maintenance
  - 5.3 Active maintenance
  - 5.4 Preventive maintenance
6. **Condition and risk assessment**
7. **Asset Management**
  - 7.1 Maintenance and rehabilitation plan to minimize costs
  - 7.2 Non-revenue water management, (NRW)
    - 7.2.1 Distribution management
    - 7.2.2 Non-revenue water management
  - 7.3 Network rehabilitation plan

The plan should be accompanied by a well-defined configuration of specific forms for:

**Table 4: Construction of internal asset management system**

- I. **DATA RECORDING** (with fields for: element types, water pipes, valves, pumping stations and pumps, reservoir stations and reservoirs, water meter wells, control valves, supply points, water wells, treatment plants, connections, pressure damping devices, vent valves, hydrants).
- II. **ASSET MAINTENANCE SYSTEM** (with areas for: forms of asset maintenance, units, types of services/units, positions, employees, distribution of units by Administrative Units, roads, defects and maintenance activities, inventory groups, inventory items, equipment, plant groups, vehicle types, plants, group number, and vehicles.
- III. **JOB CARD FOR ROUTINE MAINTENANCE** (with fields such as job status, job card number, type of service, defect advertiser, defect number, contact details, defect location, investigation, recommended maintenance activity, element, item comments, inspector comments, job done by, duration, deadlines, supervisor comments, current employee work, current support services, current warehouse items.
- IV. **JOB CARD FOR ACTIVE MAINTENANCE**
- V. **JOB CARD FOR PREVENTIVE MAINTENANCE**

# 5 : SHUKALB Technical Assistance Capacity in asset management

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SHUKALB has accumulated extensive experience in supporting WSS Companies in integrated asset management. Three years of experience using the EDAMS software system in 18 utilities across the country has created recognition of good practices in integrated asset management. Their implementation is a function not only of the capacities that are built within WSS Companies, but also of investing in modern tools and systems of management practices.

SHUKALB's experience is based on a wide group of professionals with long experience in this sector, who have participated in regional

activities, networking, and development of good practices, including those in the implementation of International Standards for Asset Management and ISO 55000/55001/55002.

SHUKALB is an organization with the resources and knowledge needed to support WSS Companies in a sustainable analysis, planning, and management of their assets, making smart and cost-effective decision-making, understanding the risks, and avoiding infrastructure defects in the water supply, sewerage and wastewater treatment system.

### **Position Paper Message:**

Integrated Asset Management remains one of the weak points in the water supply and sewerage sector, not yet **directly addressed**.

Its **standardization** through the improvement of the regulatory framework will lead to **the improvement of the performance** of these WSS Companies and the quality of the data collected at the central level to plan towards **the distribution of subsidies and support with capital investments**.

Necessary interventions include **support in planning** by WSS Companies for asset management and **human and technological capacity building** for this process.

**SHUKALB experience** in the field of asset management will enable WSS Companies to incorporate and use advanced information technologies which help them improve performance at the company level and the quality of data collected by institutions at the central level.

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