

Aqaba Water Company as a Utility of Future

Rawashdeh Islam

Planning and Project Management Section, Aqaba Water Company, Aqaba, Jordan

***Corresponding author:** Rawashdeh Islam, Planning and Project Management Section, Aqaba Water Company, Aqaba, Jordan.

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Abstract

Aqaba Water Company is established in August 2004 aimed to deal with the water situation in the Jordan Kingdom as a strategic challenge requiring a parallel between the needs of industry and agriculture and considering drinking water as the most important subject with the limited water resources. In addition to upgrading the services provided to subscribers, which reflects positively on the investment climate and provides an enabling environment for all investment sectors.

Keywords: Aqaba Water, Smart Utility, Systems, Management Contract, Strategic Challenge.

Introduction

The establishment of Aqaba Water Company (AW) was in line with the rapid development and growth witnessed in Aqaba, particularly with the presence of the Aqaba Special Economic Zone Authority (ASEZA), established in 2001 under a special law. This made Aqaba an attractive investment hub in various fields, in addition to being the only seaport in the Kingdom Aqaba Water Company established in August 2004 aimed to deal with the water situation in the Jordan Kingdom as a strategic challenge requiring a parallel between the needs of industry and agriculture and considering drinking water as the most important subject

with the limited water resources. In addition to upgrading the services provided to subscribers, which reflects positively on the investment climate and provides an enabling environment for all investment sectors. Aqaba Water Company is the first company of its kind in the Kingdom to be entrusted with managing of water and sanitation sectors in its coverage area. It is worth mentioning that Aqaba Water Company is a national limited liability company, Water Authority of Jordan (WAJ) owns 85% while Aqaba development company/ Aqaba Special Economic Zone Authority (ASEZA) owns 15% of its assets.

Table 1: Aqaba Water Company KPI's Past and Present

Indicator	Year 2004	Year 2024
No. of inhabitants	98,000	242,000
Water Subscriber (No.)	19,616	45,131
Water Supplied (million m3)	13.140	30,400,349
Water Network Length (km)	880	1,256
Population served by water (%)	99	100
NRW (%)	37.3	30.8
Wastewater Subscriber (No.)	14,430	40,120
Wastewater network length (Km)	277	333
People served by wastewater services (%)	73.6	87

Eye on the Future

Based on the National Water strategy (2023-2040) towards achieving sustainable water security and the comprehensive Wa-

ter Master Plan (2021-2050) that was prepared to determine the expectations of water demand until the year 2050, this plan was prepared with the contribution of all effective stakeholders and

based on Urban Plan that prepared by Aqaba Special Economic Zone Authority, to determine the expected population growth of the Aqaba Governorate; Which help Aqaba Water in updating its business plan and identifying upcoming projects that serve the company's main objective of excellence in providing water and sanitation services.

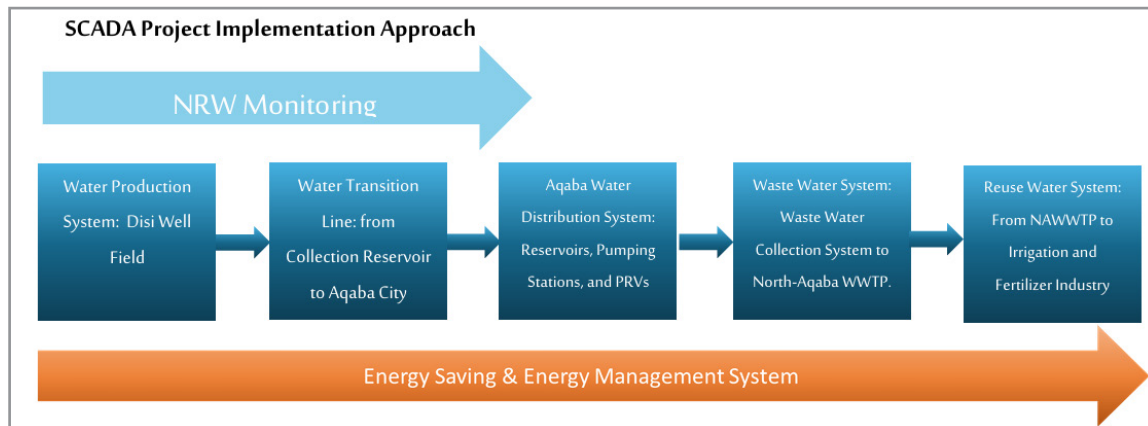
Digital Transformation

Aqaba Water is committed to a smart utility transformation to offer visibility and control across the entire water system, reduce Non-Revenue Water (NRW), achieve operational efficiency, enable the customers to better control to their water use, insight

into all aspects of the utility operations and help in dealing with the challenges we face.

It's worth to mention that AW has adopted the Utility of the Future (UOF) framework supported by the World Bank -ranked 100th worldwide among utilities that have obtained recognition under the UOF framework. As a part of the UOF program, AW developed a 100-day action plan which focused on achieving quick, practical improvements in operation, management efficiency, service quality and institutional performance. Aqaba Water company, adopt many systems to achieve this goal for example:

Supervisory Control and Data Acquisition (SCADA) System: SCADA Project Implementation Approach



- SCADA is Part of Aqaba Water Company NRW Strategy
- Cover All Aqaba Water Company Sites of total 112
- Real time Monitoring of Water Flows at each Water system segmentation.
- Integration with AMI water meter system to calculate NRW at each DMZ.
- Real Time Monitoring and Controlling the pressure at Aqaba Water network.
- Real time Monitoring of Power Consumption at each station and each Equipment.
- Energy Server help the Engineers to find the Energy Saving Opportunity (ESO's) by collecting and analyzing the data automatically and validate Electricity bills with SCADA Electricity Consumption Report.

Advance Metering Infrastructure (AMI) System

Testing of meters resulted in that 25% of water consumed through meters is unregistered.

AW has moved toward adopting AMI and smart water meters as a part of its digital transformation strategy and efforts to improve water service management, AMI benefits:

- NRW Reduced by enabling early detection of leaks and abnormal consumptions
- Improve billing accuracy: automated meters reading ensure accurate billing, minimize human errors and reduce customer complaints
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- Increased Revenue by lower operational cost by reducing field visits, improving maintenance planning, and enabling faster response to network issue.
- Increased visibility on billing data and information – Up to 15 minutes consumption Information
- Enhance customer service: customers can better monitor their water consumption, while the company can respond more quickly and effectively to inquiries and complaints.

Enterprise Resource Planning (ERP) System

By using ERP, we streamline our business processes, improve customer engagement, and gain valuable insights into operations.

ERP Key Benefits

Company level

- Capabilities to provide a comprehensive view of your business operations.
- Common data definition for all legal entity.
- A real-time system data access.
- Increased productivity and reduced operating costs.
- Improved internal and external communication.
- Support growth, integrate with other tools and systems.
- Foundation for future improvement and expanding.

Process level

- Streamline processes and help achieve greater efficiency.
- Improve our supply chain management.
- Help team work smarter and more efficiently by free up valuable time for team to focus on more important tasks.
- Streamline tasks and reduce manual errors. With automated workflows.
- Allowing teams to work together seamlessly and efficiently, no matter where they are located.

Customer level

- Enables faster response times, ensuring that customers receive timely and accurate information whenever they need it.
- Helps improve communication between businesses and cus-

tomers.

- Can be customized to meet the specific needs of customers.

In addition to many systems that serve the smart transformation process like pressure management system, GIS, FIX system for maintenance, X7 system for billing and also very soon we have a new system for billing and LIMS system for laboratory.

Management Contracts in Southern Governorates

In 2022 Aqaba Water company sign with the Ministry of Water and Irrigation a contract to manage the operation of water and Wastewater in the southern governorates (Karak, Tafila, Ma'an) to be operated under Management Contracts by Aqaba Water for four years. This contract aims to enhance water service and delivery to Citizens, improve billing and minimize the estimated bills, enable the staff by implementing capacity building programs, knowledge Transfer, monitoring KPI's and Ensure the contract objective are well maintained and governed. Among the most important performance indicators achieved by the company in the southern governorates, which constitute about half the area of the Kingdom, for example, is the NRW indicator, which witnessed an improvement of about 25% from the base year, increase in the coverage rate by 31% compared to the base year, and an increase in revenues as a result of actual billing by 13% from the base year.

In conclusion, Aqaba Water Company represents an advanced model of the Utility of the Future, having successfully moved beyond the traditional role of service providers to become a smart, sustainable, and innovative organization that places people and the environment at the heart of its strategy. Through embracing digital transformation, enhancing resource efficiency, investing in renewable energy, and applying global best practices in governance and sustainability, the company demonstrates its ability to address water scarcity and climate change challenges while achieving long- term water security. The experience of Aqaba Water Company not only reflects a forward-looking vision for the water sector in Jordan but also serves as a regional benchmark for how utility companies can build resilience, foster innovation, and shape the future.