

# SECURING EGYPT'S LIQUID GOLD:

## NAVIGATING THE FINANCIAL GAP TOWARDS WATER SECURITY

In the arid expanse of Egypt, where the scorching sun relentlessly embraces the barren earth, a treasure lies in the Nile — liquid gold, embodied in its life-sustaining water. This precious resource holds the key to Egypt's prosperity and survival, but it faces a formidable adversary among other challenges — a substantial financial gap.

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As Egypt races against time to achieve sustainable development goal no 6 on water by 2030, bridging the divide in water financing becomes paramount. By bridging the financial gap Egypt can safeguard its future and achieve water security. This article proposes a comprehensive framework on how Egypt can sustain the liquid gold, exploring the challenges, potential solutions, and the pivotal role it plays in shaping the nation's destiny under the relentless desert sun.

Egypt faces the fundamental challenge of achieving water security while needing to do more with less. With a

rapidly growing population and limited water resources, the country relies heavily on the River Nile as its primary water source. However, climate change exacerbates the situation, putting additional strain on water availability. In response, Egypt has implemented strategies such as water conservation, infrastructure development, desalination, irrigation efficiency, international cooperation, and research and innovation. These efforts aim to optimize water usage, improve agricultural practices, and ensure equitable sharing of water resources. Through a comprehensive and sustainable approach, Egypt strives to overcome its water security challenges and achieve a secure and prosperous future.

As Egypt strives to meet its vision for sustainable development by 2030, financing the water sector emerges as a critical hurdle. Limited resources, aging infrastructure, inefficient governance, and a growing demand for water services necessitate a new paradigm to

bridge the financial gap. Ensuring water security is a pressing concern for Egypt, given its increasing population and water scarcity issues. To meet the ambitious sustainable development goals outlined in Egypt's Vision 2030, a fresh perspective on financing the water sector is imperative.

### **Egypt's quest for water security: navigating challenges, building resilience**

Egypt is facing the challenge of surpassing its renewable water resources, and the situation is projected to worsen due to population growth and increasing water demands from different sectors. Egypt recognizes the potential impacts of climate change on water resources, and efforts are needed to address the existing water scarcity and ensure sustainable water management for the future. According to the National Water Resources Plan (NWRP 2017) of Egypt, the River Nile provides an average annual water availability of 55.5 billion cubic metres (BCM). However, this falls short by 33.75 BCM compared to the water demand outlined in the Nationally Determined Contributions (NDCs). Egypt is categorized as a water-scarce nation, yet it has not yet reached the critical threshold of absolute water scarcity, which is defined as 500 cubic metres per person per year. As of 2018, the

**The World Bank's Egypt infrastructure report states that an investment of approximately \$45 billion is required for water projects**

available freshwater per person per year in Egypt stood at 570 cubic metres.

On the other hand, Egypt faces the challenge of limited financial resources to invest in water infrastructure development and maintenance. Clearly, the financial status quo of the budget directed to the water sector is not enough to meet the ambitious SDG6. The high cost of implementing sustainable water management practices, such as wastewater treatment plants, water recycling systems, and water conservation initiatives, requires substantial funding.

According to The World Bank's Egypt infrastructure report, it states that an investment of approximately \$45 billion is required for water projects in addition to the current baseline projections. The report highlights that over 75% of rural communities in Egypt lack wastewater treatment facilities, emphasizing the need for investment specifically in this area. The World Bank estimates that around \$14 billion will need to be invested solely in wastewater treatment facilities to address this gap.



## To meet the sustainable development goals outlined in Egypt's Vision 2030, a fresh perspective on financing the water sector is imperative



Egypt's water infrastructure is facing the dual challenge of aging infrastructure and increasing demand. Many water treatment plants, pipelines, and distribution networks require significant upgrades and rehabilitation. Furthermore, population growth and urbanization have led to an escalation in water demand, straining existing infrastructure. Financing the necessary expansions and

improvements is vital to ensure reliable water services for all.

Inefficient governance and limited private sector involvement contribute to the financial challenges in Egypt's water sector. Weak regulatory frameworks, lack of transparency, and bureaucratic obstacles hinder effective resource allocation and utilization. Insufficient collaboration between public authorities,





service providers, and financial institutions limits access to innovative financing mechanisms, impeding the sector's growth and sustainability.

**From scarcity to sustainability: Egypt's journey to water security**

Egypt has undertaken several megaprojects in the water sector to address its water-related challenges and ensure sustainable water resources. Notable among these projects is the New Cairo Wastewater Treatment Plant, designed to enhance wastewater treatment capacity and improve water quality. Additionally, the Toshka Project aims to transform the arid Toshka Depression into arable land through an extensive network of canals, tapping into water resources from Lake Nasser. Desalination plants along Egypt's coasts, particularly in the Red Sea and the Mediterranean Sea, provide alternative sources of freshwater. These megaprojects, along with others focused on infrastructure development and water management, demonstrate Egypt's commitment to bridging the water supply gap and ensuring sustainable water resources for its population.

**The new paradigm for financing a water-secure future in Egypt**

Egypt faces several challenges in financing its water sector. Limited public resources, inefficient allocation and utilization of funds, and underperforming service providers are some of the key obstacles. Furthermore, attracting private sector investment and establishing sustainable financing relationships require a paradigm shift in the sector's governance and operations.

**Component 1: efficient planning, budgeting, and resource allocation**

Egypt must take the lead in establishing robust policy, planning, and governance frameworks to enhance the water sector's efficiency and creditworthiness. This involves the strategic allocation of



resources and prioritizing investments in water infrastructure. Transparent budgeting processes and effective financial management systems will not only attract commercial finance but also ensure optimal utilization of public funds.

### **Component 2: enhancing service providers' performance and governance**

The underperformance and inefficiencies of service providers pose a significant opportunity cost to both the government and the sector. Addressing this challenge requires improving the performance and governance of these entities. Implementing performance-based contracts, fostering transparency, encouraging healthy competition, and investing in capacity building are vital steps towards unlocking untapped financial resources within the water sector.

### **Component 3: leveraging public funds to attract commercial finance**

Recognizing the limitations of public funds alone, Egypt needs to leverage these resources to attract commercial finance. Public-private partnerships and blended finance models can be em-

ployed to encourage private sector participation and investment in the water sector. By strategically utilizing public funds as catalysts, Egypt can unlock additional capital and expertise. Building strong relationships between service providers and banks is crucial, as it allows for sustainable financing relationships and knowledge transfer.

### **Component 4: capacity building and knowledge transfer**

Enhancing the capacity of water sector professionals, service providers, and financial institutions is essential for effective resource management and sustainable financing. Knowledge sharing platforms, training programs, and technical assistance initiatives can facilitate the transfer of expertise and promote best practices.

### **Component 5: digital transformation of the water sector**

Digital transformation presents an unparalleled opportunity for Egypt's water sector to bridge the financial gap, attract new finance, and achieve SDG 6. By leveraging digital technologies for

efficient data management, smart metering, predictive analytics, digital financing platforms, and enhanced monitoring, Egypt can optimize resource allocation, enhance efficiency, and demonstrate its commitment to sustainable water management practices. Embracing digital transformation will not only bridge the financial gap but also position Egypt as a leader in leveraging technology for water security and sustainable development.

Embracing this new paradigm for financing Egypt's water sector offers numerous benefits. Efficient planning, budgeting, and allocation of public resources will lead to optimized investments and improved sector efficiency. Enhancing service providers' performance and governance will result in cost savings and increased financial viability. Leveraging public funds to attract commercial finance not only increases available capital but also stimulates private sector involvement and innovation.

Addressing the challenges associated with financing Egypt's water sector requires a comprehensive and innovative approach. By adopting the proposed framework, Egypt can overcome limitations posed by limited public resources and underperforming service providers. Efficient planning, improved governance, and leveraging public funds to attract commercial finance is integral to achieving water security and sustainable development goals. With a collective effort from the government, service providers, and financial institutions, Egypt can ensure a prosperous and water-secure future for its citizens.

**Egypt must establish robust policy, planning, and governance frameworks to enhance the water sector's efficiency and creditworthiness**