

Minister of Water Resources and Irrigation Mohamed Abdel Atty Addresses "Egypt's Strategy for Managing Water Resources"

Below are highlights from the Minister of Water Resources and Irrigation's speech at AmCham Egypt's April 2 special breakfast meeting.

Key Statistics

85% of Egypt's water resources are used for agricultural irrigation systems, which are characterized by high levels of water loss leading to low efficiency. The causes of this include:

- Irrigation infrastructure that is about 100 years old
- Excessive watering
- Wasteful irrigation techniques

According to the minister, however, the water system's overall efficiency level is still one of the highest in the world at more than 90% because all water lost at the farm level or in the municipal system is recycled back into Egypt's water management system.

Egyptians typically consume about 80 bcm of water overall each year.

According to the minister, Egypt needs more than 114 bcm of water supply each year to have full self-sufficiency in covering demand from agriculture, industry and household consumption. However, only 60 bcm is available each year, creating an annual water deficit of 54 bcm. The deficit is covered by:

Importing water-intensive crops such as rice and wheat:

- Egypt is one of the biggest importers of water-intensive crops in the world.
- Egypt is the highest producer of wheat per drop of water.
- These imports save more than 34 bcm of water each year.

Water recycling:

- Represents 33% of yearly consumption (26.4 bcm)
- Egypt is the number one water recycler in Africa and is ranked second worldwide.
- Water recycling is highly affected by the degree of pollution in the water. A high level of water pollution puts pressure on Egypt's water management system.

Causes of Water Scarcity in Egypt

- The majority of Egypt's territory is desert, and the country's inhabited land area, concentrated along the Nile River, comprises only 7.8% of the total.
- Annual population growth is high at 2.5%, putting pressure on a slowly growing water supply.
- 97% of the water resources originate from outside Egypt's borders, making the supply highly vulnerable and sensitive to any uncoordinated upstream developments.
 - Grand Ethiopian Renaissance Dam (GERD):
 - This USD 5 billion project on the Blue Nile in northwest Ethiopia will flood 1,680 square kilometers for a reservoir holding up to 67 bcm of water. The minister expressed concerns

not only about the initial filling of the reservoir, but also subsequent refilling after times of drought. There is a need for long-term agreement on this issue.

- Climate changes and global warming
 - North: rising sea levels create imbalances in the Delta region
 - South: heat waves put pressure on Nile water levels (across all Nile Basin countries) and on household consumption of water.
- Agricultural water losses and water-intensive crop farming
- Municipal water losses

Strategy for Managing Water Scarcity – National Water Resources Plan (NWRP 2017-2037)

A four-pillar approach to mitigate Egypt’s water scarcity issues, the National Water Resources Plan is an EGP 900 billion, 20-year initiative involving nine ministries and various international partners. The minister expects eventual investments in the NWRP to be double the planned EGP 900 billion. The Ministry of Water Resources and Irrigation will contribute EGP 240 billion (27%) to the NWRP. The government will also be allocating EGP 70 billion of the initiative towards solving Egypt’s water shortage crisis.

Pillar 1: Water Quality	Treating sewage water, industrial water and wastewater Controlling pollution Managing solid waste Treating groundwater
Pillar 2: Water Conservation	Rationalizing crop cultivation Increasing irrigation efficiency Investing in farm technology (ex: an sensor was developed to measure the degree of land irrigation for farmers to cut down on excessive water use) Improving water management Optimizing the population’s water consumption Aggregating small land tenures into bigger areas (200+ acres)
Pillar 3: Water Resources Development	Desalination plants Fresh water harvesting and storage (from flash floods among other sources)
Pillar 4: Raising Awareness	Capacity building Awareness campaigns Media presence

The Nile as a Means of Transport: Lake Victoria-Mediterranean Navigation Route

Egypt is leading the construction of a 4,000 km multi-modal transportation route along the Nile from Lake Victoria in Eastern Africa to the Mediterranean Sea in Egypt, linking the other nine Nile Basin countries (Tanzania, Kenya, Uganda, Rwanda, Burundi, Democratic Republic of Congo, South Sudan, Sudan and Ethiopia).

- The project is intended to cut down on shipping and transportation costs between these countries, which are currently very expensive

- Feasibility studies were conducted in 2015 using USD 650,000 in funding from the African Development Bank.
- The project is expected to cost USD 12 billion.
- The minister cited the potential for public-private partnerships (PPPs) to complete the project.

Speech Highlights

On the NWRP financing:

“We need also to think about mobilizing finance, [so as] not to be a burden on the government. This is another issue, because whenever we talk about finance, we need to have sustainable finance to make our system work.”

On Egypt’s Water Efficiency:

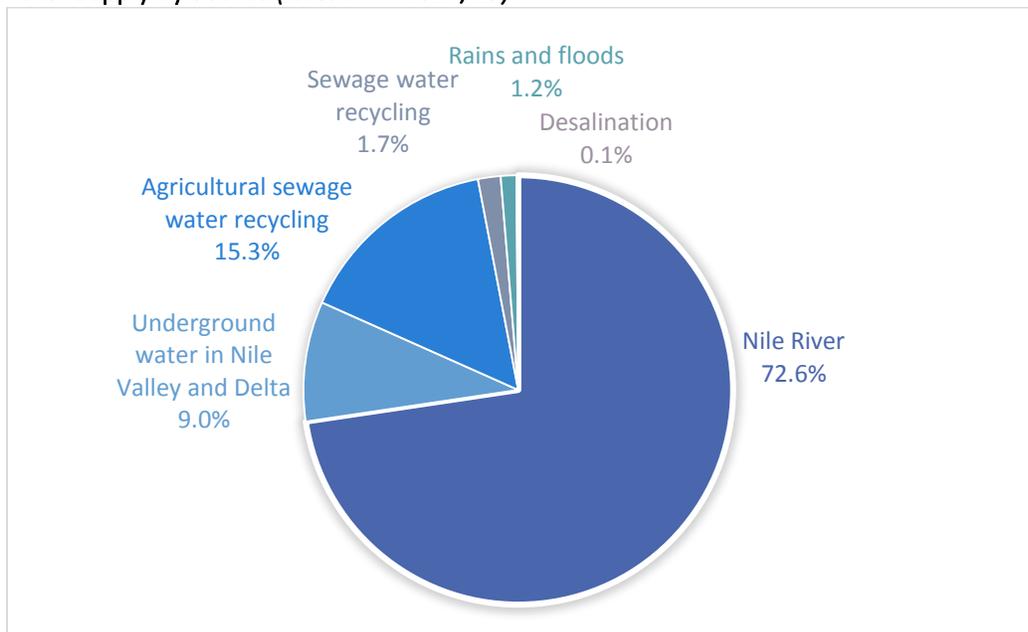
“Contrary to popular belief, Egypt’s water efficiency is one of the highest in the world at more than 90%. On the global level, Egypt suffers from water inefficiency due to water loss in agriculture and industry. However, water lost on the farm level or in the municipal system is drained and recycled back into Egypt’s water management system. As per international literature, water quality exceeding 90% is considered exceptional.”

On the New Water Resources Law (which would toughen punishments for misuse of water):

“The law was discussed in the Cabinet and they endorsed it and transferred it to the Parliament [in September 2017]. This law is important for us because it will put us on the track to managing these challenges and the scarce water resources.”

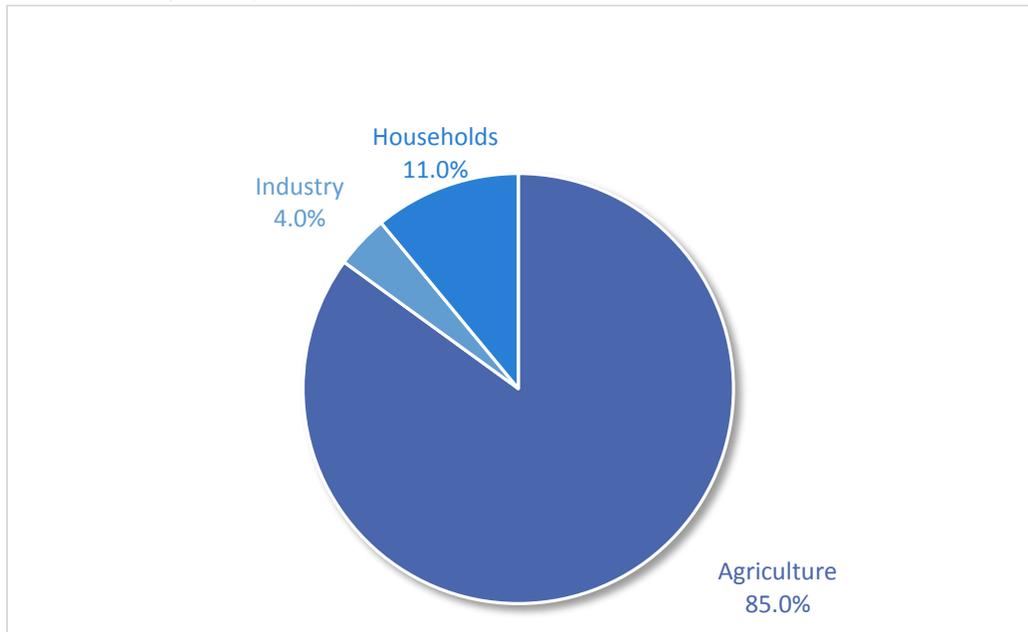
Egypt’s Water Utilization

Water Supply by Source (latest - FY 2014/15)



Source: CAPMAS

Water Consumption by Sector (latest- 2016)



Source: FAO

Drinking Water Statistics (latest- FY 2015/16)

Amount of clean water produced (billion cubic meters, bcm)	9.3
Amount of water sold (bcm)	6.6
Per capita share of clean water (cubic meter)	102.1
Number of clean-water-producing stations	2,694
Water loss from total clean water produced (%)	29

Source: CAPMAS