

The potential impacts of the Renaissance Dam on Egypt's water resources are outlined in the document as follows:

1. Escalating costs for new projects and operation & maintenance (O&M):
  - o The costs associated with implementing new water projects and maintaining existing infrastructure are rising, posing financial challenges to the water sector.
  - o Specific groundwater sources mentioned in the document include:
    - o Nile Aquifer
    - o Moghra Aquifer
    - o Coastal Aquifer
    - o Nubian Sandstone Aquifer
    - o Fractured Rocks Aquifer
    - o Karstified Carbonate Aquifer
  - 3. o These challenges highlight the complex issues that the water sector in Egypt faces, requiring strategic planning and sustainable solutions to ensure water security and availability for the population.
  - o Drought periods causing an 86–96 cubic meters deficit in 6 years and depletion of water in the lake, resulting in a 100% reduction in electricity production.
- Water quality degradation:
  - o Pollution and degradation of water quality are significant challenges in Egypt, affecting the availability of clean and safe water for various
4. During the filling period of the dam, which is assumed to be 6 years, there could be:
  - o High flooding periods leading to a reduction in lake water level by 10–13 meters and a reduction in lake volume by 43–53 cubic meters.
  - o Moderate flooding periods leading to a reduction in lake water level by 16–22 meters and a reduction in lake volume by 63–78 cubic meters.
- Nile River:
  - o The Nile River is a crucial water source for Egypt, providing a significant amount of water for various purposes.