

Why we need to treat our dams as the investments that they are

By [Chetan Mstry](#)

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As many of South Africa's major dams fill to capacity, we can breathe a sigh of relief. But we can't become complacent. South Africa is considered a dry country because of our unevenly distributed rainfall. Many of us get our water from dams and rivers that capture the rain.

According to the Water Research Commission, South Africa has over 500 government dams, holding a combined quantity of 37,000 million cubic metres of water (or 15 million Olympic swimming pools) and around 4,000 privately-owned dams. We invest in South Africa's future by managing these dams and their sources and supporting the infrastructure that connects that water with communities.

A dam's many uses

Dams are vital for social progress: the world spent over \$2tn in the 20th century to create large dams and reservoirs, a figure reported by MIT's Mission 2017: Global Water Security group. They cover many important uses, such as irrigation, water supply, energy, and flood control. Dams are instrumental to modern society, covering many different needs:

- Irrigation: up to 40% of farmlands irrigate using water from dams (MIT).
- Energy: hydroelectric power generates 5% of SA's electricity, a figure that will grow with renewables (*Journal of Energy in Southern Africa*).
- Water supplies: most of the water used by local communities come from surface water (UN Water).
- Flood control: Major dams, such as the Vaal dam, help control water flow after major downpours.



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Dams are investment accounts for water. Most of South Africa's rainfall would end up in the oceans, yet dams capture up to 70% of downpours, storing vast quantities of water to support surrounding communities. (SANCOLD)

Managing SA's dams

But they are not inexhaustible. Unless well-managed, dams can run dry or become contaminated. As cities such as Cape Town and Chennai have experienced recently, it's an enormous concern when dams levels get very low. The best way is to treat our dams as the investments that they are.



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There are several actions South Africa can focus on to improve and maintain water availability:

- **Support infrastructure maintenance:** A considerable number of local dams don't provide enough water to

surrounding communities because the water can't reach them. Improving infrastructure maintenance and monitoring can improve water delivery. Modern equipment and digital management solutions make maintenance more predictable and affordable.

- **Invest in modern treatment:** Treatments to make water consumable can damage the environment, including dam ecosystems. Investing in new treatment technologies, such as ozone and UV, significantly reduce water contamination without raising prices.
- **Reduce non-revenue water:** Roughly 40% of water in South Africa does not generate revenue due to leaks or inadequate metering data (Water Research Commission). Municipalities can raise significantly more revenue if they use new methods such as acoustic leak detection and wireless meter readings.
- **Promote water savviness:** Growing towns and cities consume more water, but nearby dams can't increase overall volumes to match. Promoting savvy water use will reduce the pressure on water supplies.
- **Recharge water sources:** Most of South Africa's water comes from the surface - dams, reservoirs and rivers. But a substantial amount emerges from underground sources, also called groundwater. We can maintain and improve those resources through strategic water planning, reducing water pollution, and recharging aquifers.

South Africa has many dams, and they can support our water needs. With sufficient investment in maintenance, planning, and responsible water use, we can ensure our dams keep on storing this valuable resource.

We can rejoice that dams are filling up again. But we mustn't forget the fresh memories from drought-stricken parts of the country or that some areas are still suffering from drought. Water can run out, and even the largest dams can turn into mud puddles. But if we invest in dams for the future, our dry days could stay behind us.

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