That leaky faucet dripping every second wastes 1 to 5 gallons of water each day. Making water fit to drink costs money and so does sanitizing it on the other side of the drain.

If you plugged the drain of your 70-gallon tub and that faucet dripped at a rate of one gallon a day, the tub would overflow in 70 days. Is that slow? No! It's really fast compared to the rate that water is renewed in lakes and rivers. If the tub renewed at the same rate as an average lake, it would take 17 years to overflow.

The 'residence time' of water refers to how long it takes different water body systems to renew themselves. A healthy system replenishes the water in equilibrium to hydrological cycles, and human activities, that deplete it.

Imagine pulling the plug on your full bathtub; the water cycle is disrupted as it drains faster than it can refill. When this happens on a grander scale, water shortages happen - people, industries, and ecosystems suffer.

As precipitation patterns change and warming temperatures increase evaporation... and as rising population levels increase demand for fresh water...we must be prepared to find and conserve fresh water in new ways.

In the future, we might develop pneumatic waterless sewage disposal and evaporation-free irrigation. Maybe it'll be you who figures out how to reclaim 100% of water we use. Maybe you will figure out how to efficiently and safely manufacture water from oxygen and hydrogen.

Already, a young man in Africa invented waterless baths while people in the Middle East are harvesting fog. In Peru, University engineers invented a billboard that can extract 26 gallons of drinkable water each day from humid air.