

**WATER:** Steps needed to prevent shortages, and recycling is one of them

# Could you drink recycled sewage?

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WOULD you be happy to drink tap water recycled from sewage? If the idea makes you feel uncomfortable, think again because you may have to at some stage in the future.

Increasing demand for water in the Pietermaritzburg and Durban area is putting so much pressure on water resources that alternative sources need to be found to prevent shortages.

As a result, Umgeni Water (UW), the bulk water supplier for the area, is investigating ways to supplement and save water. This includes the recycling of wastewater, including sewage, because a KZN-wide study has identified this as an important potential source of potable or clean drinking water.

The study was done by the Department of Water Affairs and Forestry. As a result, UW has com-

## DIRECT RE-USE RECYCLING: SOME COUNTRIES HAVE DONE IT FOR DECADES

**SOME countries have been doing it for decades and Namibia's capital city, Windhoek, not only does it, but is also a world leader, in recycling wastewater.**

**The purification of wastewater, including sewage, for drinking purposes is called direct reuse.**

**Windhoek has been successfully practising direct reuse of wastewater for human consumption for more than 35 years and is reportedly still the only example of this type of reuse in the world.**

**Indirect reuse is the use of recycled water**

**mixed with other water, like rain or river water. This is practised in England, Germany, Belgium, Singapore and California and Arizona in the U.S.**

**Several cities in Australia and Vancouver in Canada are reportedly also looking into augmenting their water supplies through reuse. Research conducted in the 1960s by the London Metropolitan Water Board demonstrated that the maximum number of times water can be recycled is up to 11 times before its taste makes "some sensitive people" feel sick.**

**— Wikipedia and the International Water Association, iwa.com**

missioned investigations into re-using wastewater in both the Msunduzi and eThekweni municipalities.

UW spokesman Shami Harichunder said that at present, treated wastewater from Darvill wastewater treatment works near Sobantu is released into the

Msunduzi River, which flows into the Mgeni River and on to Inanda Dam.

Water from Inanda Dam is treated and purified at Durban Heights or Wiggins Waterworks and pumped to the eThekweni municipal area. Pumping these volumes makes the process costly.

UW tries to operate its water supply infrastructure as efficiently as possible by reducing the cost of pumping large volumes of water, wherever possible.

A cheaper alternative would be to purify the wastewater discharged from Darvill, which is at a higher altitude than Durban, and

then allow it to be gravity-fed to consumers, rather than pumped, thereby reducing operating costs.

Two possible options are being investigated to supplement water supply to the Umlaas Road reservoir in Camperdown, which supplies the Umgungundlovu and eThekweni municipal areas.

The project is called the Umlaas Road new water project.

The first direct reuse would be to build an advanced treatment plant at Darvill to turn wastewater into drinking water. The water would then go to Umlaas Road reservoir to be blended with water from Midmar Dam.

The second option, called planned indirect reuse, involves taking water from the Msunduzi River downstream of Darvill, and pumping it to Umlaas Road water treatment works to be treated to drinking water standards before being redistributed. For this option, Umlaas Road works would

need to be re-commissioned.

With funding from the Water Research Commission, engineering and environmental studies are being done to compare the two options, Harichunder said. These include building a demonstration plant at Darvill to test treatment options. The plant will operate for 18 months and will provide a valuable training facility for research and education.

"New water supply infrastructure is expensive and can result in tariff increases and associated environmental impacts. Wastewater reuse, however, is considered an environmentally-friendly alternative that is cheap compared to other alternative sources such as desalination.

"The outcomes of our investigations will be presented to stakeholders ... before any decisions are made to proceed with the project," Harichunder said.

