

How optimal water use can support food security, reduce waste in Africa

While wastewater reuse presents a sustainable solution in supporting food security amid looming water shortages, the infrastructure costs present a barrier to widespread adoption in South Africa. Manufacturing plants, particularly local branches of international food and beverage producers, are, however, increasingly investing in treatment facilities, enabling them to reuse their own wastewater and achieve zero liquid discharge status.



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This is according to Hennie Pretorius, industry manager: water and wastewater at Endress+Hauser South Africa, who will participate in IFAT Africa next year. Endress+Hauser is seeing growing adoption of wastewater treatment and analysis solutions in the South African private sector.

Eliminating megalitres of waste

This contributes to food security by eliminating megalitres of waste in food processing, he says. However, the reuse of treated wastewater in agriculture has some way to go. “In South Africa, treated wastewater is not being used directly for agriculture at scale,” he says. “The reasons for this include the costs of infrastructure to pipe treated wastewater to remote farms, and the fact that many of the country’s wastewater treatment plants are not operating optimally. Inadequately treated wastewater used for agriculture could pose a risk to crops, farmworkers and groundwater.”

However, with megalitres of water wasted daily, more efficient wastewater use will become increasingly important in closing the gap between water supply and demand – expected to [top 17% by 2030](#).

“Currently, most of the country’s water demand is met from surface water resources, but this approach is not sustainable. The minister of human settlements, water and sanitation, Lindiwe Sisulu, and her team appear to have the political will to change the water environment, but we will have to move faster towards more sustainable approaches to water and wastewater use,” he says.



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Addressing food waste to reduce water demand in manufacturing

Prof Linda Godfrey, manager: Waste RDI Roadmap Implementation Unit, DSI and principal scientist: waste and circular economy at the CSIR, notes that better utilisation of resources in production and manufacturing would go a long way to addressing food security in a sustainable way.

“Addressing the food waste problem would impact on resources such as water and energy needed to produce food,” she says.

With around a third of edible food produced either lost or wasted each year, a great deal of work is now being done to address the issue. In support of the Sustainable Development Goals, the Department of Environment, Forestry and Fisheries, in partnership with the CSIR, have developed “Consumer food waste prevention and management guidelines” aimed at preventing avoidable food waste, and minimising and properly managing unavoidable food waste in South Africa.



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Food loss and waste voluntary agreement

The Consumer Goods Council of South Africa is collaborating with the EU and the South African Government to establish a food loss and waste voluntary agreement, Godfrey says. The [agreement on reducing food waste and loss](#) is expected to be signed later this year at the annual CGCSA Summit and is intended to mark the beginning of initiatives to ensure that surplus food, which is still safe for human consumption, can be donated to needy families in South Africa where an estimated 13 million people go to bed hungry every night.

“As with many big environmental issues, there is political will to address food waste and food security, but the question comes down to what is being done on the ground?” Godfrey says. She notes that food waste not only threatens food security, it also wastes valuable resources: “Think of the amount of labour, water and energy going into food production, and the associated climate impacts.”

She believes food losses and waste must be addressed where they occur throughout the value chain – from agricultural systems, through supply chains, to retailers, by applying technologies and approaches appropriate to the African context.

IFAT Africa 2021

Achieving sustainable food production to ensure food security in Africa has multi-faceted challenges that requires action across many sectors, says Suzette Scheepers, CEO of IFAT Africa event organisers Messe Muenchen. “With this in mind, IFAT Africa will be co-located with Food & Drink Technology Africa and Analytica Lab Africa, and will also feature a new Renewable Energy Zone – powered by IFAT. The new feature will showcase solar, wind, hydropower, biomass and biowaste solutions and services to bring together stakeholders across the broader value chain to discuss trends and view solutions.”

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