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A GREEN FILTER TO SAVE THE PLANKENBRUG RIVER

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The Green Filter is an outcome of collaborative efforts around addressing the serious pollution problems of the Plankenbrug River. On the 16th of March an inauguration event will take place in George Blake Road, Plankenbrug from 09h30, and anyone who shares a vision of a green economy are urged to attend.

The Plankenbrug River receives greywater, polluted stormwater and effluent overflow from Kayamandi and Enkanini Informal Settlement of Stellenbosch. The recently formed Stellenbosch River Collaborative was looking to improve the water quality in the town's rivers, and through funding raised by Wildlands is supporting the piloting of an Eco-Machine technology to divert and treat water from the Plankenbrug River.

In the Stellenbosch Municipal District, Biomimicry South Africa partnered with John Todd Ecological Design (JTED), Informal South, Greenhouse and Maluti GSM worked as a team in developing innovative ecological technologies to treat the highly concentrated greywater that flows out of the Langrug Informal settlement in Franschhoek. The resulting designs include source control, local and regional treatment systems based on Biomimetic and Ecological design principles. The downstream (regional) treatment system is based on the trademark EcoMachine concept developed by John Todd Ecological Design. This design, together with all other components has been developed through a co-design process with the community, government, and the project team.

A second design has been developed in Partnership with JTED, Biomimicry SA and Isidima Design and Development to pilot the EcoMachine Technology as a means to treat the Plankenbrug River in Stellenbosch. This river is heavily polluted from urban run-off arising from Enkanini Informal Settlement, Kayamandi, and the adjacent industrial areas.

Residents of informal settlements do not usually have running water or formal plumbing in their homes. Community taps are located at various stations throughout the informal settlements and residents fill up buckets of water and carry them back to their homes for drinking, cooking and washing. After use, this water may contain detergents, personal care products, food solids and human waste. Because this water has to be carried to the home, people are incredibly efficient with their water use, leading to a highly concentrated greywater which is more appropriately classified as wastewater. This wastewater is then discarded outside the home, where in the absence of a formal sewerage network, the wastewater combines with the stormwater drainage and discharges, untreated into the river.

The wastewater described above discharges into the river systems, namely the Berg River and Eerste River which are required to irrigate orchards and vineyards. The exportation of fruit and fruit products such as wine is an important aspect of the economy. Bacterial counts of the river water that do not meet regulatory standards have serious negative implications for the export of agricultural products. This economic factor, in combination with a growing awareness of the overall declining health of the rivers from eutrophication and contaminants, has galvanized the Western Cape region, to seek solutions for their water crisis. Through the Biomimicry-inspired Wastewater treatment systems described above we have the opportunity to offer a sustainable and ecological treatment solution that will support the health of the river and also bring forth a new era of healthy, life-giving infrastructure to informal communities throughout South Africa and beyond.

The inauguration of the Green Filter is aptly taking place during National Water Week. 'The National Water Week is an awareness week campaign by the Department of Water and Sanitation. It serves as a powerful campaign mechanism re-iterating the value of water, the need for sustainable management of this scarce resource and the role water plays in eradicating poverty and under-development in South Africa.' (www.gov.za)

The honorable Mayor Conrad Sidego will be in attendance at the inauguration of the Green Filter - which bears testament to how important this project is to the Stellenbosch Municipality.

"This approach is ground breaking and could, if piloted successfully and monitored carefully to ensure success, revolutionize the wastewater treatment facilities in Langrug and similar areas of the Western Cape (and the rest of South Africa and Africa)," said Jonny Harris of Isidima. "What is most relevant is that these systems not only solve ecological challenges, but provide significant opportunities for job creation, therefore addressing the principles of the Green Economy."

Wildlands is the appointed agent of the Stellenbosch River Stewardship Action for the Plankenbrug River. "We are also actively involved in the Simonsberg Conservancy, the greater catchment area of this river basin, and the Eerste River as part of the Stewardship program," said Andrew Whitley,

Deputy Director of the Greening your Future initiative at Wildlands. “As such we will continue our work of the last 2 years to assist with pollution, erosion control, alien plant clearing and restoration of the riparian zone - with trees grown by our Treepreneurs* in Stellenbosch.” This project is funded by the Department of Environmental Affairs’ Natural Resource Management Land -User Incentives II Programme.

“Wildlands would like to highlight that none of this groundbreaking work would have been possible without the support of its partners,” said Whitley. “Thank you - Global Nature Fund (GNF), the Stellenbosch Municipality, the Innovation City of SA, Isidima Design & Development, John Todd Ecological Design and Biomimicry SA, Sika, Karcher and the Stellenbosch River Collaborative.”

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