



## INTERNET ARTICLE

### RAINMAKER

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Kwazi Zwezwe, a grade nine (9) learner from a rural village of Nokweja in KwaZulu-Natal (South Africa) will be flying the flag of the country when the Stockholm, Sweden, World Water Week's (WWW's) Junior Water Prize Competition takes place towards the end of the month.

And as for Zwezwe, a learner from Ixopo High School, it is all systems go for this year's WWW event to be held in Stockholm, Sweden from 26 – 31 August, 2018.

He will be accompanied by his teacher, Mr Richard Agyemang-Boadu.

South Africa will attend this event to support the learner. The country has won the International Stockholm Junior Water Prize Competition twice through the winners of the South African Youth Water Prize (SAYWP).

The SAYWP is a project on science and innovation. It targets high school learners (from Grade 9 to Grade 10). The national winner represents South Africa in the Stockholm Junior Water Prize (SJWP) in Sweden, competing with learners from 30 countries annually.

The highlight of this event is the holding of the Stockholm Water Prize Competition. The Stockholm Water Prize is the world's most prestigious prize in water. The WWW is the annual focal point for the globe's water issues. It is organized by the Stockholm International Water Institute (SIWI).

Zwezwe's project, titled "Rainmaker" scooped him the first prize of the South African qualifying leg of this world competition.

The super confident Zwezwe explained how he developed this winning concept that is probably going to set him up on course to international stardom should he win the Stockholm event. "It was while looking at the outside of a bottle with ice that this idea then came to mind."

This idea prompted Zwezwe to design a model called the "Rainmaker", which uses a prototype as the main component to dehumidify the air, causing it to condense into droplets of water by the use of a thermoelectric cooler.

The concept of using air to produce water is not relatively new in the markets; however, existing systems are either too expensive or complex, and thus cannot be implementable to a rural community or population at large.

South Africa being a water scarce country that receives little to no rain most of the time; a system that produces water from the air sustainably is an ideal solution for combating the impacts of droughts. The rainmaker is designed using cheap and easily accessible materials such as a CPU, SLA battery, aluminium heat sink, solar power/wind power as an alternative power supply and a thermal compound.



## water & sanitation

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Over a period of 24 hours, 1, 2 litres of water is collected, and according to laboratory chemical analysis, the water produced is as good as rainwater. The water produced can be used for household purposes such as gardening, lawn irrigation, crop irrigation, car washing.

Drinking is permissible provided that a disinfectant is applied first. This model is best suitable for regions that are humid, such as KZN, Eastern Cape and Mpumalanga and not dry provinces like Gauteng. With a bigger model, it is estimated that in 24 hours, 20 litres or 0, 2 kilolitres will be collected. The Rainmaker is one step in being an alternative source of water.

Every year during this time, experts, practitioners, decision-makers, business innovators and young professionals from a range of sectors and countries come to Stockholm to network, exchange ideas, foster new thinking and develop solutions to the most pressing water-related challenges of today.

**Ike Motsapi**