



## Young hydrologist tackles water resource management and planning head-on, Eastern Cape



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Meeting Nompilo Mahlobo, who was adjudicating the National Competition of the South African Youth Water Prize (SAYWP) at the Manhattan Hotel in Pretoria in June, was such an exciting moment for WIN-SA. We listened to her moving motivational talk directed to the competitors who were getting ready to showcase their projects to the panel of judges. We had a chat with her and our interest, of course, was to get to understand how she now found herself employed by the Department of Water and Sanitation (DWS) in the Eastern Cape Province. Interestingly, her journey started with the very same competition way back in 2006.



*Nompilo in her office in East London, Eastern Cape*

Nompilo's entry into the water sector dates back to 2005 when she, along with her fellow members of Mehlokazulu High School's environmental club in KwaZulu-Natal, decided to start an awareness project on river health. This project was entered into the SAYWP and came 2nd in the national leg of the competition. For her team, this was not enough. They then re-entered the competition in the following year (2006).

"We won the National SAYWP competition when we showcased an innovation involving the use of grey-water to make 'liquid compost'. This innovation saw us competing in the Stockholm Junior Water Prize representing South Africa which was an absolute honour and privilege," elaborates Nompilo.

Developing a value added grey-water 'Plant Tea'  
In 2006, Nompilo, together with her high school friends,

Thabile and Thokozani Mbanjwa, developed an innovation which they called 'Plant Tea'. This is a liquid fertilizer which is composed of grey-water and a variety of organic household wastes, which not only saves water but also recycles plant nutrients.

The objective of their project was to help people in informal settlements to conserve precious water and to determine the effectiveness of Plant Tea as a fertilizer.

According to Nompilo, to test the quality of the mixture, they compared the effects on four agricultural plots using four different treatments involving plain grey-water and regular tap water. "The 'Plant Tea' proved to be more efficient and effective than both the plain grey-water and tap water."

### **Mentorship and career development**

The Department has played a pivotal role in Nompilo's career growth in the water sector. She was funded by the Department to undertake studies in any field within the water sector and she chose to focus on hydrology. Although she is enjoying her work, Nompilo is still studying further. "I am currently pursuing postgraduate studies and I am still being funded by the Department. Leaving university for the workplace, I entered into the graduate programme of the Department and had the opportunity to work with people who have expertise and know-how. Most importantly, I needed to grow my knowledge in the water sector and I am excited that I have gotten the opportunity to understand the entire value chain of water and also the policies that govern the water sector at large," she says.



### Facing water resources management head-on

Nompilo is currently working under a division responsible for water resources management and planning. Her work involves the authorisation of water uses which involves the use of hydrological models to determine the water balance for specific areas and to give an indication on where further development opportunities exist.

"I am also involved in the development of water conservation and demand management plans for irrigation schemes and water user associations. This involves developing water management plans and auditing of water use for these schemes to improve water use efficiencies," she adds. "We are currently in the planning phase of adopting of a historically Black-owned agricultural scheme. We are also undertaking to develop a catchment management strategy for our water management area of Mzimvubu-Tsitsikamma (WMA 7). This will look at the status quo of water use, water resources available for further development and determining the profile of the management area. This strategy will assist the department in identifying 'hotspot' areas in terms of inefficient water use practices, identifying areas that can still be developed and indicate which areas have reached maximum capacity."

Opportunity to grow within the water sector  
Nompilo's work has increased her awareness on how important water is for development. She has learned that without water, all sectors would come to a standstill. She also believes there is a lot of room for growth in her current job. She has discovered which aspects of the water sector interest her the most and plans on pursuing these.

"I would also love to move to delving more into water conservation and demand management and find means of improving water use efficiencies," she says.

Nompilo wants to start focusing on coming up with technological devices and implementing them in the agricultural sector, which is the largest user of water in the country right now. "I have seen that there is a gap in understanding the business of water, especially in rural areas. People do not seem to have the relevant information that will assist them in utilising water efficiently and creating economically viable businesses. I hope that I can assist in bridging that gap," she adds.

### New ideas and water innovations

Nompilo believes that the water sector is wide open and is ready for new and interesting ideas. With the change in trends, innovations are required to accommodate new developments. For example, she stresses that new data and ideas are required to assist in improving current knowledge to make more informed decisions within the sector for planning and further management of water.

According to Nompilo, the youth must be involved as early as possible to ensure the transfer of skills by the outgoing members of the water sector. "Furthermore, I think the school curriculum should cover environmental issues so that an interest is nursed from an early stage and the youth can come to understand the importance of safeguarding, managing and using natural resources more efficiently."

### Re-visiting high school water project

When enquiring if Nompilo would still want to revisit her high school project she said, "I would gladly continue with the project. With the recent research being done on potential uses of grey-water, I would like to see how that information would help in improving our innovation." Nompilo stresses that she would particularly like to see her project being implemented amongst emerging farming practices, especially to see it getting piloted in one of the schemes. She is currently gaining more data that can be used in its implementation on a larger scale.

"I believe we need to continuously find ways of reusing water to ensure that it covers a wider range of uses. And I believe that my innovation can be a means to do so," stresses Nompilo.

"My intention is to potentially partner with the Department of Water and Sanitation, perhaps provincial Departments of Agriculture and any other interested bodies to see this happen," she concludes.

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