

# Gayaza High School and Jinja College came in second and third positions respectively

By Martin Kitubi

A team of four students from Nabisunsa Girls' School emerged victors out of hundreds from eight schools who participated in the inter-school Aqualibrium water competition at Viva College School in Jinja.

The winners were Hasifa Narvule and Sharifah Nabrye (A'level) and Fahimah Hamzah and Hibah Asilwe (O'level).

Their school was awarded a sh1m cash prize, whereas Gayaza and Jinja College got sh700,000 and sh400,000, for second and third positions respectively.

Nabisunsa scored over 80% marks from three different juries.

The school competition was supported by Ministry of Water and Environment and National Water and Sewerage Corporation (NWSC) civil engineers, who also served as judges.

Other schools which took part in the contest were St Mary's College Kisubi, King's College Budo, Busoga College Mwiri, Kira College Butiki and the hosts, Viva College School.



Nabisunsa Girls' students plan their water connection system during the competition

## VALUE OF CONTEST

The Aqualibrium water competition is intended to expose learners to practical use of processes on how water gets to their homes, given the differences in locations.

"The competition also breaks classroom monotony, allowing learners to use theories learnt in school that influence their daily lives," says Simon Mukisa, a physics teacher.

The water grid intrigues learners and teachers about challenges involved in the design of water distribution systems and make practicals useful educational tool.

Students are required to configure pipe work between reservoirs such that when a supply reservoir is drained, it does so in a prescribed manner to each of the demand reservoirs in different locations.

They are also given time to try out various configurations and options within a prescribed time limit, after which their networks are tested.

Nabrye studies physics, chemistry, mathematics and ICT at Nabisunsa Girls' School. She commended the organisers: "We came from the country's best performing schools and the competition was tight. We loved it and I call on other schools to join next year."

Emmanuel Kazinde, a Senior Six student at Busoga College Mwiri, said: "I love civil engineering and the challenge has exposed me to what I am likely to do."

*The competition exposes students to challenges in their daily life and how to overcome them as aspiring engineers*

# Nabisunsa leads at engineering contest

The competition emphasises the importance of engineering, water distribution networks, supplying safe and clean drinking water to the citizens in rural and urban settings.

It also encourages learners to take mathematics and science subjects.

The competition was first held in South Africa in 2003. The South African Institution of Civil Engineering (SAICE) engaged schools to participate.

In Uganda, it was developed by Moses Lubanga Kisaame, a civil engineering graduate from University of Cape Town in South Africa.



Gayaza High School came second in the contest



Students of Viva College School, the hosts, during the contest. Photos by Nicholas Kajoba

much water will be collected in three cans.

**Teachers react**  
Rhoda Ssentongo, a teacher at Gayaza High School, says: "Information in textbooks must be proven through practicals."

She added: "The competition exposes students to challenges in their daily life and how to overcome them as aspiring engineers."

John Kyeswa, a physics and mathematics teacher at Viva College School, explained that knowing how much water one has from the source helps water engineers to tell how much can be transmitted.

**Education officer speaks out**  
Elia Kisambira, the senior education officer in charge of secondary schools in Jinja district, commended Viva College School for introducing the Aqualibrium competition, saying it breaks the belief that education is about passing exams.

"What the teachers are doing is in line with the ministry's recommendations. I advise all schools to embrace this initiative and other similar activities," Kisambira explained.

"It was inspiring to watch secondary school students in South Africa. I got the idea to start the same competition in Uganda. The organisers talked to schools to participate in the competition and it is paying off," Kisaame noted.

The Aqualibrium Challenge was developed in South Africa by Prof. Kobus van Zyl of the University of Cape Town to expose the complexities of water distribution networks to learners.

However, the competition became international after schools from other Southern African countries, including Swaziland and Zimbabwe, participated with over 10 editions of the competition.

The success of the competition at the regional and national level has ensured its continuity.

Teams comprising three students each were presented with a physical model of a simplified water distribution network.

### Engineers speak out

**Titus Were**, civil engineer, Jinja municipal council  
During my time in secondary school, we never had such practical classes. In future, these students will become better engineers than us.

**Dianah Nasasira**, civil engineer at the water ministry  
I commend schools for embracing the Aqualibrium water competition. It is interesting and exposes junior engineers to life after school. It should be financed by the Government to instil the love for engineering and water among youth.



**How does it work?**  
The water supply systems assimilations are designed to train science students, especially those with a passion for civil engineering, how to distribute water to different locations.

Learners are tasked with designing a model water distribution network using pipes of different measurements (5mm and 6mm) to distribute water equally into three collecting cans on the network.

On arrival for the competition, students are provided with user manuals, pipes, joints, assimilation ground maps and beakers, which serve as reservoirs.

The network, ground mapping used for water distribution in the competition, depicts the water cycle, with the major impacts affecting the distribution of water, including distance, relief and pressure.

Each school is represented by four students and these are given an hour of a dry-run, then two hours of producing the final tasks under close watch of judges.

Students are judged on how well they execute the task, working on a penalty points system.

The one-hour dry-run, which students are seeing for the first time, helps students to plan, design, build and operate their grid on how