

Young scientists are Tanzania's future

Attracting students to study science subjects can often seem like an impossible task. In Tanzania, less than one-fifth of students enrolled in tertiary education are studying science, engineering and technology subjects, making Tanzania one of the lowest ranked countries in the region. And yet, engaging students in science has the potential to allow the youth to make a unique and valuable contribution to solving abiding development problems.

Science, technology and innovation are intimately connected with development and have produced advances leading to healthier, wealthier and more productive lives. Getting young people interested in and curious about science at a young age and familiarising them with basic scientific research techniques is a vital step in supporting a better future. This is the core aim of Young Scientist Tanzania (YST), an annual competition which popularises science amongst young people and encourages them to seek innovative solutions to everyday problems. This year the exhibition of competing projects will be in the Diamond Jubilee Hall in Dar es Salaam from August 5-7.

The Embassy of Ireland has proudly sponsored YST since its inaugural exhibition. In 2012, I returned to Tanzania as Ireland's Ambassador having lived and worked here in the early 1990s, and visiting the inaugural exhibition was among the first of my official engagements. It is difficult to describe how impressed I was as I walked through the Diamond Jubilee Hall, talking with

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confident young people from 100 secondary schools across the country who had worked on a diverse range of scientific projects. Each student had taken a problem related to their daily lives and, with the support of teachers, sought a scientific solution. Each project had brought its initiators on a unique scientific journey of discovery.

The winners of Tanzania's Young Scientist Exhibition visit Ireland annually to participate in Ireland's Young Scientist Exhibition which is over 50 years old. The competition in Ireland, which provides the inspiration for YST, has an illustrious history, contributing to the promotion of science, technology and innovation amongst Irish students. Former participants have gone on to launch biotech companies, become technology entrepreneurs and developed careers as biochemists, astrophysicists, doctors and professors.

Not unlike the situation that faces Tanzania today, the Irish Young Scientist was launched at a time when science was not popular choice for students in Ireland. Both science teachers and students needed an extra incentive to engage with how science works in a practical way, rather than as a set of abstract theories that are difficult to grasp, involving exams that are difficult to pass.

This practical approach is central to the success of Young Scientist Tanzania. It excites and energises students by enabling them to see the potential of science. Students are

encouraged to generate ideas for their projects based on the realities faced in their communities. Students and teachers are then provided with mentoring and practical advice on experimental methods suitable for their own environment at regional workshops. Students and schools are also linked up with appropriate mentors from academia, the government, development and private sectors.

By nurturing talent and the natural curiosity of young people, the exhibition provides a

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valuable platform for young people to demonstrate their capacity for innovation. By supporting them to practically apply scientific methods to local problems, the exhibition enables students to realise the value and contribution of science to creating a better future.

Ireland's own economic development is testament to the power of science and technology to unlock the potential of a young population. Ireland's economy has transformed from being one largely dependent on primary agriculture to becoming the European base for many of the world's top global software companies, global pharmaceutical corporations and agro-processing firms. Ireland hosts the European headquarters of Twitter, Facebook

and LinkedIn and many other internet and financial services companies. All these ventures are driven by a tech-savvy workforce and they create employment, generate wealth and contributed to a real GDP growth of 4.8 per cent in 2014, the fastest in Europe.

The available evidence points to the importance and potential of science, technology and innovation to drive growth and bring social change to Tanzania. Harnessing this potential will require government, academia and the private sector to identify innovative ways of engaging young people in science and to increase

enrolment rates in scientific subjects. The Young Scientist exhibition is just one such innovative approach.

Speaking to those young students in the Diamond Jubilee Hall in 2012, I urged them to continue on their path of questioning and learning, reminding them that *Kwa nini* is the most important word in any language. Now four exhibitions later, I continue to be impressed and inspired by the ability of young people in Tanzania to ask the question "Why?" and to find innovative solutions to local problems through the application of science. The potential for change is enormous.

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