

STUDENT SCIENTISTS

ADDRESS GLOBAL DEVELOPMENT CHALLENGES



SCIENCE FOR
DEVELOPMENT **AWARD**

BT YOUNG
SCIENTIST &
TECHNOLOGY
EXHIBITION



Winner of the BTYS
Science for Development
Award 2019, Sean Byrne
from Avondale Community
College, with Minister
Helen McEntee



**Self Help
Africa**



Irish Aid

An Roinn Gnóthaí Eachtracha agus Trádála
Department of Foreign Affairs and Trade

THE SCIENCE FOR DEVELOPMENT AWARD

The “Science for Development Award” is presented at the BT Young Scientists Exhibition to a research project that addresses sustainable development challenges faced by communities in Africa.

The award is organised annually by the Development Education team at Self Help Africa, and is sponsored by Irish Aid. This provides the entrant with a travel bursary to fund the cost of one student and their teacher to travel on a fact finding ‘research’ visit to Africa.

Previous winning projects have included using eggshells as a filtration system to remove heavy metal pollutants from water, investigation into using CRISPR-Cas9 to genomically edit *Paramecium Caudatum* to purify *Vibrio Cholera* infected water, fuel-efficient cooking stoves, solar-powered water purification devices, ergonomic seed planting tools, to name a few.



BT Young Scientist Founder Dr. Tony Scott and Tánaiste Simon Coveney with students of North Monastery Secondary School displaying their project of an economical sensor that leads to the conservation of water using sound frequency.



Dr Tony Scott BT Young Scientist Founder addresses the audience at the showcase event in Iveagh House 2019

SCIENCE FOR DEVELOPMENT SHOWCASE EVENT

Each year after the BT Young Scientist & Technology Event, Self Help Africa invite a selection of shortlisted student projects to present at a Science for Development Showcase in Iveagh House. This event gives students the opportunity to demonstrate and discuss their projects with science educators, technical experts and development practitioners as well as their peers.

At the 2018 event Simon Coveney, Tanaiste and Minister of Foreign Affairs and Trade lent these words of encouragement to students, *“Keep doing what you’re doing and challenging norms because that’s what we need from a new generation of thinkers in Ireland.”*



The Rise and Fall of the Fall Army Worm, presented in the Biological & Ecological Sciences, Senior Group. Students (from left) Marcelina Krzywelzinska, Shane Boguis and Joanne Lui from Desmond College, Limerick

Seán Byrne (18) from Avondale Community College won the ‘Science for Development Award 2019’, presented by Minister of State, Helen McEntee



WHO IS ELIGIBLE TO ENTER

This award is open to any entrant (individual or group) who has been accepted in the Intermediate or Senior sections of the BT Young Scientist & Technology Exhibition, and whose project addresses an issue facing people living in the Global South.

Projects could include:

- Biological and Ecological Sciences
- Chemical, Physical and Mathematical Sciences
- Social and Behavioural Sciences
- Technology

Learn more about the competition:

www.btyoungscientist.com

www.selfhelpafrica.org/ie/education/

Self Help Africa's Development Education team offers school workshops to schools interested in entering the 'Science for Development' Award. These workshops highlight issues for further investigation and demonstrates idea generating techniques.

We encourage schools who intend to submit projects for the BT Young Scientist Exhibition to contact us and learn more about this special category Science for Development Award. See contact details overleaf.

Self Help Africa also works with local schools and libraries who choose to host mobile phone interactive

Science for Development exhibitions. These exhibits are curated to highlight some of the challenges and adaptations used by people living in communities where Self Help Africa work. The aim is to deepen the understanding of the causes and effects of issues related to Climate Change, Gender Equality, Ethical Trade and Sustainable Agriculture.

PROJECT CRITERIA

The winning project of the 'Science for Development' award should clearly address a specific issue in a Global South context and show a willingness to learn more.

Topics that could be addressed could include but are not limited to:

- Hunger eradication and food production
- Plant / Pest disease identification and prevention
- The environment (e.g. deforestation, clean water & sanitation, soil fertility, soil erosion, pollution)
- Climate change
- Appropriate and sustainable technologies
- Health care, HIV/AIDS, TB eradication

Habibou Tiendrebeogo, pictured harvesting groundnuts at her home in Nomgana Village, Loumbila, Oubritenga, Plateau Central, Burkina Faso



WHAT ARE THE CHALLENGES?

Self Help Africa works with some of the world's poorest and most marginalised people. Amongst the challenges people face in their daily lives are:

- Famine and food shortage
- Limited access to water for drinking or irrigation purposes
- Limited seed stock to produce crops
- Poor soil fertility and land degradation
- Poor sanitation
- Inadequate healthcare
- Problems with transportation and accessing markets
- Threats posed by crop pests and disease
- Absence of agricultural advice & support
- Challenges cooking, preparing & storing food
- Limited access to credit (micro-finance)
- Insufficient/unreliable access to electricity
- How to best access/utilize new 'smart' and mobile technologies (eg phone apps)
- Rapid diagnostic testing
- Mobile banking and accessing up to date trading data.
- Soil testing
- Access to small scale workshop digital fabrication options

Those are some of the challenges. Why not research more and present your project at the next BT Young Scientist and Technology Exhibition?

SPEAKING ABOUT THE CHALLENGES



Above: Sacred Heart Clonakilty students Fódhla Áine Ní Dhálaigh, Jessica Sweeney meet Tiyanjane Horticultural Club in Malawi. Right: Testing out the student's Ergonomic Planter

STUDY VISIT

An annual field visit to one of Self Help Africa's programme countries is facilitated for students and teachers. This takes place during the Spring half term holidays. The chosen award winner joins a team who travel together to meet with local people in schools, universities and local communities and share information about issues affecting their lives.



CONTACT US:



www.selfhelpafrica.org/ie/education



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**Self Help
Africa**

If you would like to develop BT Young Scientist projects that address challenges faced by people in the Global South, we can help.

- One of our team could visit your school and facilitate a workshop to look at the role that innovation plays in African development.
- We can provide materials to help with your research.
- We would be happy to answer any questions that you have about the competition, or talk through any project ideas you might be considering.