

KEMRI | Wellcome Trust

School Engagement Programme

Promoting an interest in science & science related careers since 2009



BRINGING SCIENCE & HEALTH RESEARCH TO LOCAL KENYAN SCHOOLS

Report by Schools Engagement Team

The School Engagement Programme (SEP) was established by KEMRI with the support of the Kilifi County Education Office. It aims at promoting an interest in science and science related careers among students and to promote mutual understanding between members of the community and researchers. From our early years, a decade-long of interaction with local schools is now gaining global recognition for undertaking high-quality engagement activities. All of this has been possible through the support from local education stakeholders, school principals and science teachers. For this and more, read on....

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2019 ENGAGEMENT ACTIVITIES

Report by SEP team

The KEMRI School Engagement Programme aims at promoting an interest in school science and science careers and an awareness of locally conducted research among students through a range of educational and experiential activities. All KEMRI-SEP activities have been developed through careful consultation with local students, science teachers, researchers and Kilifi County Education Officers and stakeholders.

In 2019:

- More than 60 KEMRI staff engaged with an estimated 4000 students across 50 Kilifi schools;
- Nine talented school leavers were hosted at KEMRI for a 3-month attachment (Since 2010 eighty students from Kilifi have been hosted for 3-month attachments at KEMRI);
- 629 students and 10 science teachers from 7 schools were hosted for a lab-tour at KEMRI
- Teams from 34 schools participated in the KEMRI science symposium;
- KEMRI donated prizes worth KES 383,953.00 including lab equipment, textbooks, mathematical sets and calculators, to local schools at our annual symposium and in support of Kilifi sub-counties science and engineering fair competitions.
- Five primary school science clubs were initiated;
- The cost of all these activities including transport and meals were covered by KEMRI.

Schools activities include:

- ◇ *School visits to the KEMRI laboratories*
- ◇ *Support for one student to attend science engagement in London*
- ◇ *On-line engagement*
- ◇ *Health and motivational talks from researchers*
- ◇ *Annual school science competitions*
- ◇ *Annual three-month attachment for 9 talented Kilifi school Leavers*
- ◇ *Research Debate groups*
- ◇ *Primary science clubs*
- ◇ *Supporting Kilifi Science and Engineering fair*

SEP Wins the Oxford Public Engagement Award 2019:

"These awards highlight the many ways that researchers engage with the public & demonstrate that excellence in engagement results is a 'win-win' for both researchers and communities alike."



Here's a summary of our engagement approaches...



School Visits

Students visiting the KEMRI Centre get an opportunity to learn about health research, interact with researchers in small groups and tour the research laboratories. This year, more than 600 students and 25 teachers from 10 local schools participated in this activity.



Touring the research laboratory

Touring the research laboratory is a central activity during student visits. It helps them to appreciate the relevance of science subjects through being given an opportunity to see the practical application of science that they learn at school. Students visit immunology and micro biology laboratories to see the equipment used, study processes and interact with staff.



Career and Motivational Talks

This is an activity that enables staff to reach out to larger numbers of students. Volunteering staff members are usually ferried to the schools to address students during the evening club time. More than 15 staff members participated in this activity and were able to engage with more than 2000 students.



Science and Engineering Fair

The science and engineering fair(SEF) is an annual event organized by the ministry of education. We usually support Kilifi county edition by inviting science club students to present their projects to researchers for critique so that students can improve their projects prior to competitions. We also support through donating prizes. This year we donated KES 383,593.00 to support local students.

Science Symposium

To spark an interest in science among young people in local high schools in Kilifi, the KEMRI School Engagement Programme annually holds a science symposium where students compete against each other in a science quiz. The 6th Science symposium was held in July this year and 34 out of the 38 invited schools from Kilifi and Ganze Subcounty participated. Each school brought three form 3 students and one teacher. Students were tested on biology, chemistry mathematics and general knowledge then a fun-filled oral quick-fire session in chemistry. There were lots of team building activities & prizes to be won!

School Leavers Attachment Scheme (SLAS)

The school leavers attachment scheme (SLAS) aims at giving talented students from Kilifi a taste of research going on at KEMRI-Wellcome Trust Programme. We target students who did their KCPE in Kilifi county, just completed high school and scored a mean grade of B+ and above in their KCSE. Students go through a competitive selection process where all eligible candidates are invited for an open day at KEMRI. They complete an aptitude test, after which the top students are selected for a panel interview. Eventually, nine (9) successful students are offered an opportunity to be attached at KEMRI for 3 months.

In 2019, the open day attracted 90 applicants. Students learnt about health research careers, the Kenya Universities and Colleges Placement system (KUUCPS), as well as other useful opportunities like the Higher Education Loans Board (HELB).

London International Youth Science Festival (LIYSF)



Each year we support students to apply for a Young Scientists for Africa (YoSA) to attend the London International Youth Science Forum (LIYSF). This is a two-week residential student event with lecture demonstrations from leading scientists, visits to world class laboratories and universities combined with cultural interaction, with 500 students aged 16-21 years old from 70 countries.

This year, George Ziro, SLAS 2019 cohort is the latest YOSA scholarship recipient to represent Kenya at the London International Youth Science Forum (LIYSF).

Science Discussion Clubs



In 2018 we initiated science discussion clubs in three secondary schools. During these regular club meetings, students get to learn about real current research which is going on at KEMRI, to critically think about the studies and share their opinions with researchers.

As students learn about science and hone in on their own critical thinking and communication skills, we are able to gather students insight in to the way we implement research,

We hope that some of these students will become future researchers.

Notice how we combine a number of engagement approaches? Face to face interactions? We also use less-intense, online interactions to reach students !



I'm a Scientist Competition (IAS)

"I'm a Scientist, Get me out of here" (IAS) is an on-line platform where students get an opportunity to learn about science and science careers through asking questions and chatting with scientists. In 2019, 500 students across 18 Kenyan secondary schools communicated on-line with 12 prominent Kenyan scientists. The event took place over a 2-week period during school club-time in June 2019 and was supported through permissions from the MoEST.

All on-line chats, questions and responses are moderated to ensure on-line content is appropriate for students.



"Students chatted with scientists on a range of topics"



Primary school engagement (PSE)

The Primary School Engagement (PSE) aims to promote interest in science by drawing on locally available resources to engage pupils in practical science activities in their respective schools. We initiated science clubs in 5 schools from Kilifi North (2), South (2), and Ganze (1) Sub counties. Pupils engaged in an exciting range of over 40 practical activity sessions aligned to the primary school curriculum. Participating schools include; Gongoni Primary, Takaungu Primary, Kilifi Primary, Mkongani Primary and Silala Primary.

KEMRI - Primary Science Symposium

The KEMRI-Primary science symposium was an opportunity to bring together all participating science clubs from the 5 schools for a fun-filled 'science meet-up' at the KEMRI-Wellcome Trust Research Programme premises. This was a platform for pupils to visit a research facility, exchange ideas, develop their curiosity and present their science models to peers! Held on July 2019, the symposium brought together 120 participants (100 pupils & 20 teachers).

Activities involved research lab videos, mosquito breeding (malaria research), quickfire quiz and model presentations. We acknowledge the support of scientists who were on hand to adjudicate & interact with pupils; Dr. James Otieno, Mary Bitta and Patrick Katana. Lab officers, Mike Opiyo, Robert Mwakesi, Gabriel Nzai and Dr. Marta Maia for setting up mosquito breeding practicals.

Our Success stories ...

Three students have been competitively selected to attend the London International Youth Science Festival courtesy of Young Scientists for Africa (YoSA) scholarship.



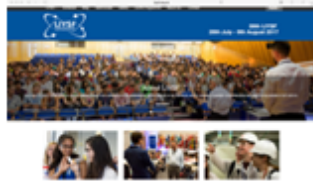
Ammy Mwasambu



Clement Nyiro



George Ziroh



Rehema Gona

- 2011 – School Leaver Attachment
- 2019 – Post Grad Diploma KWTRP/PWANI
- 2019 – Submitted application for Wellcome Trust Masters fellowship



Jacob Kazungu

- 2011 – School Leaver Attachment
- 2015 – Post Grad Diploma KWTRP
- 2016 – KEMRI Assistant Research Officer
- 2018 – Wellcome Trust Masters Fellow
- 2019 – Post-masters research UHC



Claudia Kahindi

- 2013 – SLAS – Scholarship for degree in USA
- 2017 – Law grad -Connecticut USA
- 2019 – Rhodes Scholarship Jurisprudence/Law Oxford University

One student recently awarded a Rhodes scholarship to study Jurisprudence in Oxford. Two students returned to KWTRP to complete a post-graduate diploma internship and applied for a Wellcome Trust Masters fellowship. Rehema has just submitted her WT Masters application.

Meanwhile, Jacob Kazungu completed his MSc in Health Economics, at London school of Hygiene & Tropical Medicine and returned to the Programme to work on his post masters research project on Universal Health Coverage.

Engaging schools in Kilifi beyond 2019

Looking to the future, we aim to continue with the school activities mentioned in this booklet as well as initiating additional exciting projects which we hope will spark our students imagination and nurture a passion for science. These activities comprise:

Sophie Uyoga (AAS)



Sickle cell comic book for primary children

Inspirational Book for secondary schools



10 outstanding Health Researchers from sSA

Patience Kiyuka (AAS)



“Taking the lab to the village through immersive technology.”

Summary of all 2019 KEMRI School Engagement Programme activities

		Number of participating:			
Activity		Schools	Students	KWTRP research staff	Teachers/ education stakeholders
Secondary schools	Stakeholder meeting	-	-	8	4
	Teacher planning meeting	16	-	5	20
	Students' visit to KWTRP	10	629	53	25
	Researcher school visits	7	2800	15	7
	Research debates Group	3	47	10	3
	Science & Engineering Fair	30	600	3	50
	Science symposium	34	102	5	34
	On-line engagement through IAS (+10 schools in Nairobi Kisumu and Nakuru)	8 10 (NBI)	200 300 (NBI)	12	8 10 (NBI)
	Attachment open day	-	79	12	1
	3-month attachment students	-	9	-	-
	Initiating and funding a "Robotics" club in St Thomas	1	20	1	1
	Marine Ecology project with Dr Bernard Fulanda (Pwani University)	2	22	5	7
Primary schools	Planning meeting with teachers	10	-	4	10
	Establishing 5 school science clubs (40 visits to 5 schools)	5	200	5	10
	Science club competition at KEMRI	5	100	18	10
Total (estimated adjusting for overlaps)		50	4000	60	50

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