



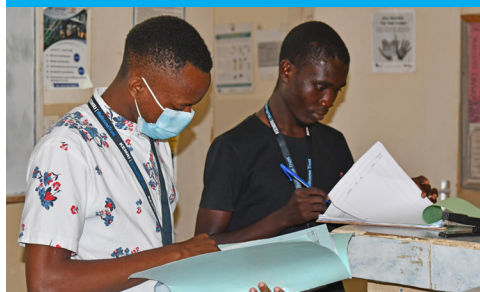
KEMRI-WELLCOME TRUST RESEARCH PROGRAMME

SCHOOLS ENGAGEMENT PROGRAMME OVERVIEW

About the Programme

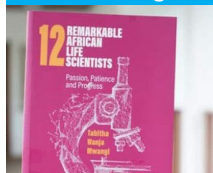
The KEMRI School Engagement Programme (SEP) aims to promote interest in science and science-related careers among students while enhancing awareness of locally conducted research. The programme delivers a range of educational and interactive activities, all developed in close collaboration with local schools, and key stakeholders, including the Ministry of Education officials, science teachers, researchers, students and others. In recent years, SEP has engaged students through a variety of initiatives, including mobile laboratory sessions, school visits to KEMRI, career talks, Young Person's Advisory Groups (YPAGs), I'm a Scientist Get Me out of Here project, Primary and Junior school science clubs, engagement with colleges and universities, science symposiums, and science literacy open days.

SEP broad aims



- 1 Promoting an interest in science & science-related careers
- 2 Promoting positive career aspirations among students.
- 3 Nurturing respect for communities involved in research.

Outstanding activities in 2024 and 2025



Book Launch

We launched a book titled the "12 Remarkable African Health Scientists" authored by Dr. Tabitha Mwangi. This initiative aimed at showcasing stories of achievements of African scientists to inspire secondary and university students on possible pathways to science.



Secondary School Science Symposium

We organized a symposium aimed at creating awareness of vaccines and antimicrobial resistance targeting junior schools and secondary schools students



SLAS and Mentorship Programme

12 exceptional high school graduates completed a three-month attachment at KEMRI-Wellcome Kilifi Campus, and one SLAS student attended the London International Youth Forum through a partnership between KEMRI-Wellcome and Young Scientists for Africa.



Mobile Lab (Primary and Secondary Schools)

The SEP team introduced the mobile lab to secondary schools in Kilifi County, sparking interest in science through hands-on experiments led by KEMRI researchers, complemented by an immersive virtual reality tour of KEMRI-Wellcome research labs.

OUR ENGAGEMENT APPROACHES

Hands-On Activities to Bring Science Closer to Students Using a Mobile Laboratory.

In the past years, SEP has explored the use of a mobile lab to enhance experiential learning among learners. The project provides students with opportunities to interact with scientific equipment and expertise, thereby bridging classroom learning with real-world science and research experiences. Further, it is an opportunity for under-resourced remote schools to participate in laboratory sessions. The assumption is that by engaging students in hands-on scientific exploration using a portable research laboratory increases the opportunities to spark students' interest in science. The project's implementation is made possible through collaboration with KEMRI scientists, Ministry of Education officials, and teachers.

With the support of KEMRI scientists, we co-developed the session contents and methods to ensure they are relevant to the learning needs of the students. The interactive sessions are conducted to allow students to explore the practical aspects of

scientific research. The mobile lab activities involved an introduction where scientists described their careers. They explained the different parts of the microscope and how it's connected to the TV screen.

The students also used microscopes to observe pre-prepared, stained *Plasmodium falciparum* parasites. These sessions provided a rare opportunity to witness real-world science in action. They also engaged in guided discussions on selected topics and participated in Question-and-Answer (Q&A) sessions with the scientists. To complement the laboratory activities, students also participate in a virtual tour of the KEMRI research Laboratory through a Virtual Reality (VR) video developed by Dr. Patience Kiyuka, a KEMRI scientist.

Over the past two years, we have engaged over 300 students from both JSS and secondary schools in the mobile lab sessions, gaining firsthand insight into the scientific research process.



OUR ENGAGEMENT APPROACHES

Enhancing Science Literacy Among Young People: A case study of the 12 Remarkable African Life Scientist Book To enhance science literacy and inspire students to pursue careers in science, we use materials developed by scientists as learning resources. One such resource is the *12 Remarkable African Life Scientists* book, authored by Dr. Tabitha Mwangi, <https://shorturl.at/wGfgA>, which we have actively integrated into our school engagement activities.

The book profiles 12 leading African life scientists whose contributions have significantly advanced population health and biomedical science. Through their personal journeys, the author highlights three central themes: **passion, patience, and progress**, which are interwoven across the narratives to motivate and encourage young learners.

The book serves as a powerful tool to inspire the next generation by showcasing the achievements of African scientists and positioning them as relatable role models for students. While primarily targeting junior and senior secondary school students, it also offers valuable insights for university students.



The book elaborates stories from 12 African researchers who have broken the proverbial glass ceiling in the field of research despite their humble backgrounds. This book aims at inspiring young people towards research.

Dr. Tabitha Mwangi

The official launch of the book was conducted in February 2024 at St. Thomas Girls Secondary School, bringing together over 100 students from schools across Kilifi County alongside participants from Pwani University. The launch included interactive sessions with authors and contributors, fostering meaningful dialogue and inspiration among students.

For more information, click here: <https://shorturl.at/YydeH> and <https://shorturl.at/U6tpq>





Science Literacy Open Day

KEMRI-Wellcome, in partnership with Kilifi County Library Services and partners including Pwani University, SHOFCO, Moving the Goalposts, and KESHO Kenya, organized a **Science Literacy Open Day** in November 2024 to spark young people's interest in science.

The event, held at the Kilifi County Library, brought together **199 junior secondary and high school students** who had read Twelve Remarkable African Life Scientists. Each library received 20 copies of the book and structured reading guides to support the programme.

Students showcased their creativity through **51 presentations**, from speeches and poems to skits and songs, reflecting their understanding of African scientists' journeys and connecting

these stories to their own career dreams. The experience inspired many to pursue science-related fields, develop stronger study habits, and adopt a more positive attitude toward learning and personal growth.

Secondary School Engagement

The Secondary School Programme engages 49 public secondary schools within the Kilifi Health and Demographic Surveillance System (KHDSS) area. Each year, 10 schools are selected to participate in facilitated visits to KEMRI laboratories and career talks. In addition, annual activities such as science symposiums, science literacy open days, and science essay competitions are conducted across all 49 schools, using both face-to-face and online platforms to maximise and enhance reach and participation.



OUR FACE-TO-FACE ENGAGEMENT ACTIVITIES

Students visit KEMRI laboratories

In 2025, 649 students from public, private, and international schools visited the KEMRI-Wellcome Trust Programme for hands-on exposure to real-world research. They explored microbiology and immunology labs, learned about lab safety, biobanking, malaria culture, DNA and PCR machines, and participated in interactive sessions with scientists, deepening their understanding of scientific concepts and careers.

Career and Motivational Talks

In 2025, KEMRI reached 1,700 students through career and life skills sessions that introduced diverse science careers and academic pathways. Scientists shared personal career journeys, hosted Q&A discussions, and inspired curiosity. In 2024, KEMRI also supported Barani Secondary School's Career Expo in Malindi with mobile lab demonstrations and interactive career talks.

Secondary School Science Symposium

The 2025 Science Symposium, themed around the 12 Remarkable African Life Scientists book, was held at Pwani University and brought

together 140 students from 46 Kilifi County schools. Through skits, poems, songs, and spoken word, students showcased creativity, engaged with scientists, and deepened their interest in STEM careers and scientific thinking.

Young Persons Advisory Groups (YPAGs)

In 2025, 151 students from five secondary schools joined KEMRI's Young Persons' Advisory Group (YPAG) sessions to learn about research ethics, review processes, and KEMRI's role in health research. The programme built confidence and ethical awareness, culminating in a July symposium where 61 students presented posters showcasing their insights and learning experiences.

I'm a Scientist, Get me out of here, Kenya Edition

I'm a Scientist, Get Me Out of Here (imascientist.or.ke) connects students with Kenyan scientists through online chats, Q&As, and voting to inspire science careers and challenge stereotypes. In 2025, 38 schools from Kilifi, Kwale, and Mombasa participated, posting over 2,000 questions. Winners included Arnold Lambisia, Dr. Justa Wwangi, and Dr. Michael Kimwele



COLLABORATION WITH OTHER PROJECTS

Vaccines and Microbial Resistance (VACAMR) logo competition

The VACAMR project, a KEMRI-Wellcome Trust collaboration on vaccine hesitancy and antimicrobial resistance, held a continent-wide logo competition involving institutions from Kenya, Ghana, and Nigeria. In Kenya, 31 schools submitted 138 entries, showcased during the 2024 Science Symposium. Students engaged with scientists, received feedback, and one from Chumani Secondary School earned third place internationally.

Vaccinology Engagement

As part of the Vaccine Workforce Development Programme (VWDP), the Vaccinology Engagement initiative nurtured future talent for Africa's vaccine ecosystem. In collaboration with the School Engagement Programme and Bioscience Department, VWDP hosted lab tours and career talks for 153 students from three secondary schools, following a teachers' planning session to align learning objectives.



PRE-UNIVERSITY ENGAGEMENT

The School Leavers Attachment Scheme (SLAS)

The School Leavers Attachment Students (SLAS) Programme, launched in 2010 by KEMRI-Wellcome Trust Research Programme, was created to inspire Kilifi County students to pursue scientific careers. It offers hands-on research experience to recent high school graduates with a minimum KCSE grade of B+. Candidates attend an open day featuring interactions with researchers, KUCCPS, and HELB officials for career and funding guidance.

Recruitment is competitive, students take aptitude tests and interviews before 12 are selected for a 3-month attachment across departments such as Laboratory Sciences, IT, Health Systems, Clinical Research, and Epidemiology. In 2025, over 200 applied, and to date, 143 students have benefited from the programme, gaining practical research exposure and mentorship that continues to nurture future scientists.



Science Mentorship Program

The KEMRI-Schools Engagement Programme (SEP), in partnership with the Science Mentorship Institute (SCI-MI) and Stanford University, provides mentorship for SLAS students through a blended model of face-to-face and virtual sessions. Each student is paired with mentors from KEMRI and SCI-MI, focusing on research and soft skills

development. The programme culminates in a capstone project presented during a “poster party” and seminar, allowing students to showcase their work, receive feedback, and strengthen communication and confidence. SEP supports coordination, mentorship, and technology throughout, ensuring a seamless learning experience that builds research capacity and inspires future scientific careers.



London International Youth Science Festival (LIYSF)

KEMRI, in partnership with Young Scientists for Africa (YoSA), supports exceptional SLAS students to attend the London International Youth Science Forum (LIYSF), promoting global scientific exchange. Over the past five years, seven students have participated. In 2025, Noel Munga Bokoro represented Kenya, presenting his *AI-powered SmartCrop* project on early tomato disease detection, showcasing youth-led innovation and the SLAS programme's role in nurturing future scientists.

Primary and Junior Secondary School Engagement

The Primary and Junior Schools Engagement initiative nurtures scientific curiosity among young learners using hands-on, student-led activities aligned with Kenya's Competency-Based Curriculum. Partnering with 15 schools in Kilifi County, it promotes science through clubs, mobile labs, and symposiums. In 2025, 77 pupils from 11 schools showcased creative science models, from human systems to IT and waste management, guided by KEMRI scientists who offered feedback and mentorship.



I want to stand up for science by inspiring students in my village to chase their dreams in science and academia, reminding them that regardless of their background, no human is limited.

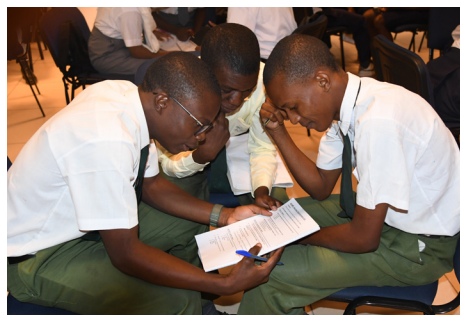
Noel Munga

COLLEGES AND UNIVERSITY ENGAGEMENT

This activity aims to deepen students' understanding of scientific research, empower the next generation of African researchers, and foster dialogue among young university students in Kenya. The engagement is implemented in collaboration with universities, research teams, student associations, and organizations committed to advancing the youth agenda in science and health.

The Kenya Medical Training College (KEMTC) Kilifi campus organized a visit to the KEMRI laboratories in 2024 for the medical

engineering students. The visit offered 34 students valuable hands-on experience and insights into the maintenance and servicing of critical laboratory equipment. In addition to observing lab procedures, students explored essential infrastructure such as the incinerator, central processing unit, and air handling unit, gaining practical knowledge of their functions and maintenance. Through direct interaction with KEMRI scientists and technical staff, students enhanced their understanding of core processes in laboratory technology, linking theoretical learning to real-world applications





THE SEP ENGAGEMENT APPROACH

Participatory planning and implementation

The KEMRI SEP is structured as a process of continuous participatory involvement. It actively collaborates with education stakeholders for policy guidance and support, schools and teachers for effective planning and implementation and KEMRI staff for coordination and expert support.

Consultative and planning meetings are

conducted with the different players to ensure clear communication, foster continuous improvement of activities, anticipate potential challenges, and align work plans, ensuring the smooth and effective execution of activities. The approach creates meaningful and impactful learning experiences for students while reinforcing relationships within the broader school community.

UPCOMING/EMERGING PROJECTS

The SEP team won two Global Health Bioethics Network Bursaries, which are established to promote and support small-scale collaborative research projects on practical ethical issues relating to global health research and practice.

a) Exploring the Ethical Responsibility of Schools in Prioritising Adolescents' Mental Health project:

This collaborative study will be carried out between the AHRI (South Africa) and the KWTRP (Kenya). The aim is to explore the ethical implications of schools prioritising academic achievement over mental health and to understand how school administrators, teachers, and parents perceive the school's role in addressing students' mental well-being alongside academic demands. It seeks to highlight the ethical challenges and propose solutions for more balanced approaches to adolescent care in educational settings.

b) Examining Pupil's Perception of Climate Change, Health and Ethics:

The study aims to investigate how pupils perceive ethical issues related to climate change and health, and how these perceptions are influenced by teachers, and community values in Kenya and Malawi. The engagement will focus on the ethics whilst engaging pupils with climate change and health through non-formal interactions designed as '*Primary Science Clubs Climate Change Symposium*'. The content will be aligned to the competency-based primary school curriculum in Kenya.

