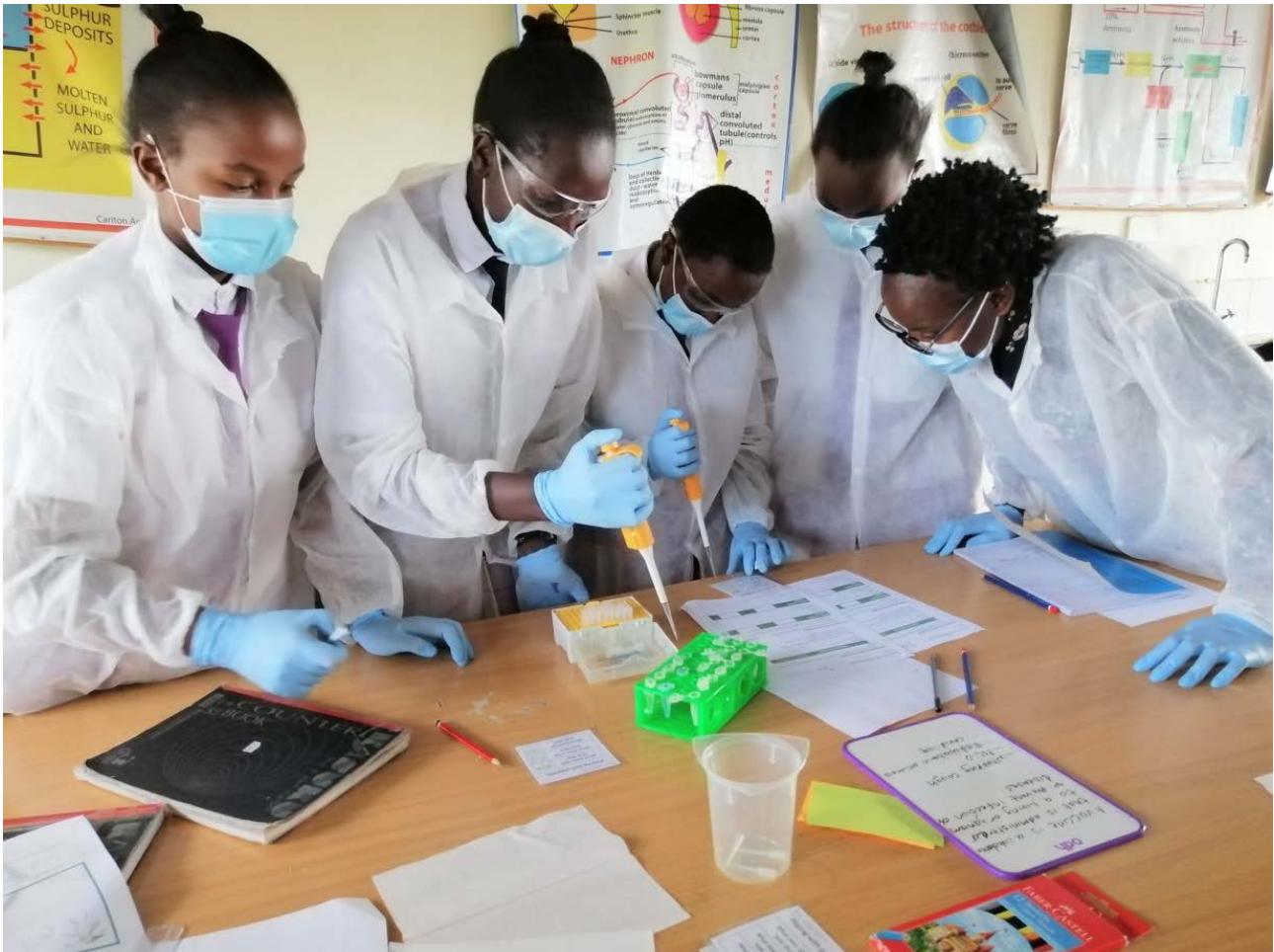




INSPIRING THE NEXT GENERATION OF WOMEN SCIENTISTS IN KENYA

**REPORT ON THE KEAWARD-IVVN AFRICAN SCHOOL OUTREACH PROGRAM
(ASOP) ACTIVITY HELD AT ST. LOISE GIRLS SECONDARY SCHOOL, NANYUKI
TOWN, LAIKIPIA COUNTY, KENYA
15TH JUNE 2021**



Ms. Celestine Makokha, a research scientist with KARLO, assisting some girls during the hands-on vaccination experiment during the ASOP outreach activity at St. Loise Girls Secondary School, Nanyuki

**KEAWARD
JUNE 2021**



International
Veterinary Vaccinology
Network



Acknowledgements

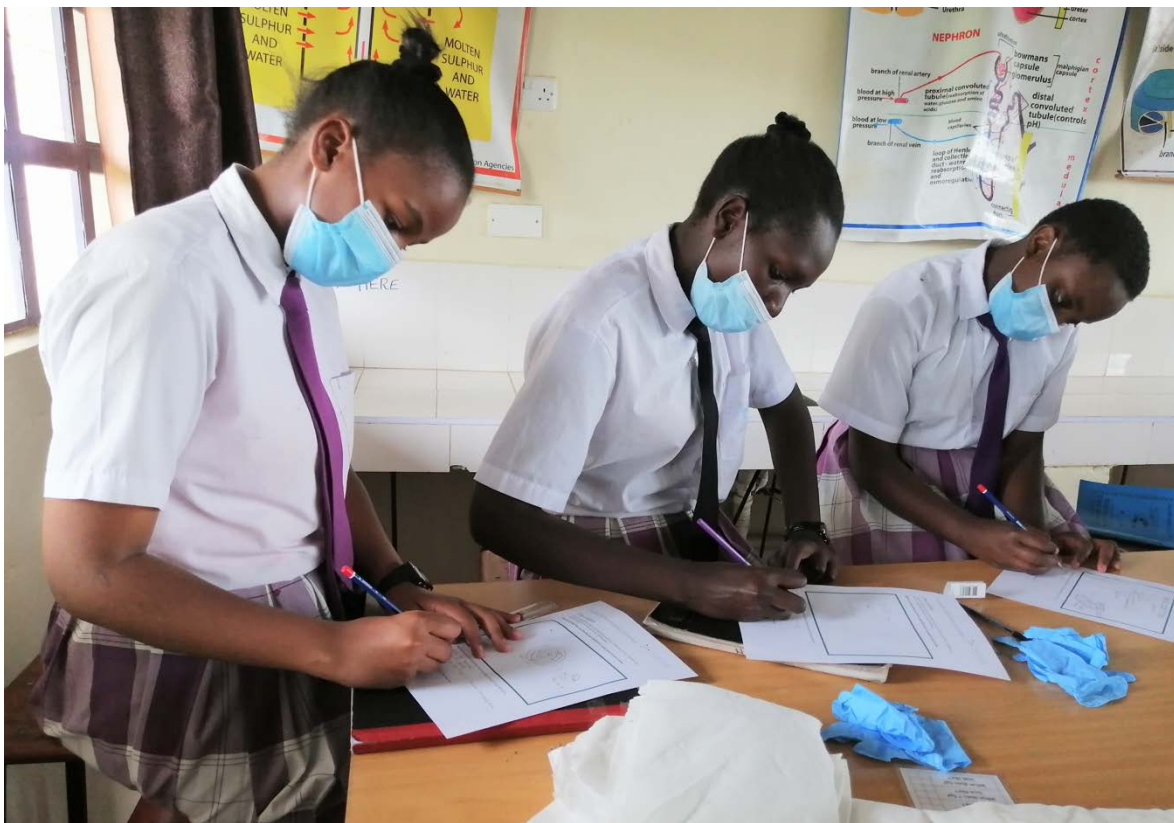
The School Outreach activity at St. Loise Girls Secondary School was coordinated by the Kenyan Chapter of the African Women in Agricultural Research and Development (KeAWARD). Five (5) women scientists drawn from Kenya Agricultural & Livestock Research Organization (KARLO), University of Nairobi (UoN), State Department of Livestock and the Directorate of Veterinary Services (DVS) facilitated the hands-on vaccination experiment. Four of the scientists are members of KeAWARD. The International Veterinary Vaccinology Network (IVVN) which coordinates the African Schools Outreach Program (ASOP) financed the delivery of this activity. The African Women in Agricultural Research and Development (AWARD) supported transportation and accommodation logistics. KeAWARD acknowledges liaison support and partnership of the County Government of Laikipia provided by Ms. Patricia Muiko, Chair, Public Service Board who is also an AWARD fellow and Ms. Peris Mutua, Director of Vocational Training at the County who linked us up with St. Loise School during KeAWARD's extension officer capacity building workshop, the sidelines of which the outreach activity was undertaken. We appreciate the logistical support provided by St. Loise Girls School led by Teacher Jane Mithia, the Head, Science Department. KeAWARD also appreciates the commitment and dedication of the women scientists; Catherine Taracha, Sarah Akwabi, Celestine Makokha, Beatrice Twei and Esther Kanduma, who coordinated, prepared and delivered the hands-on vaccination laboratory experiment as St. Loise in Nanyuki. **Thank you all!**



KeAWARD facilitators at arrival at St. Loise Girls school, Nanyuki

Background

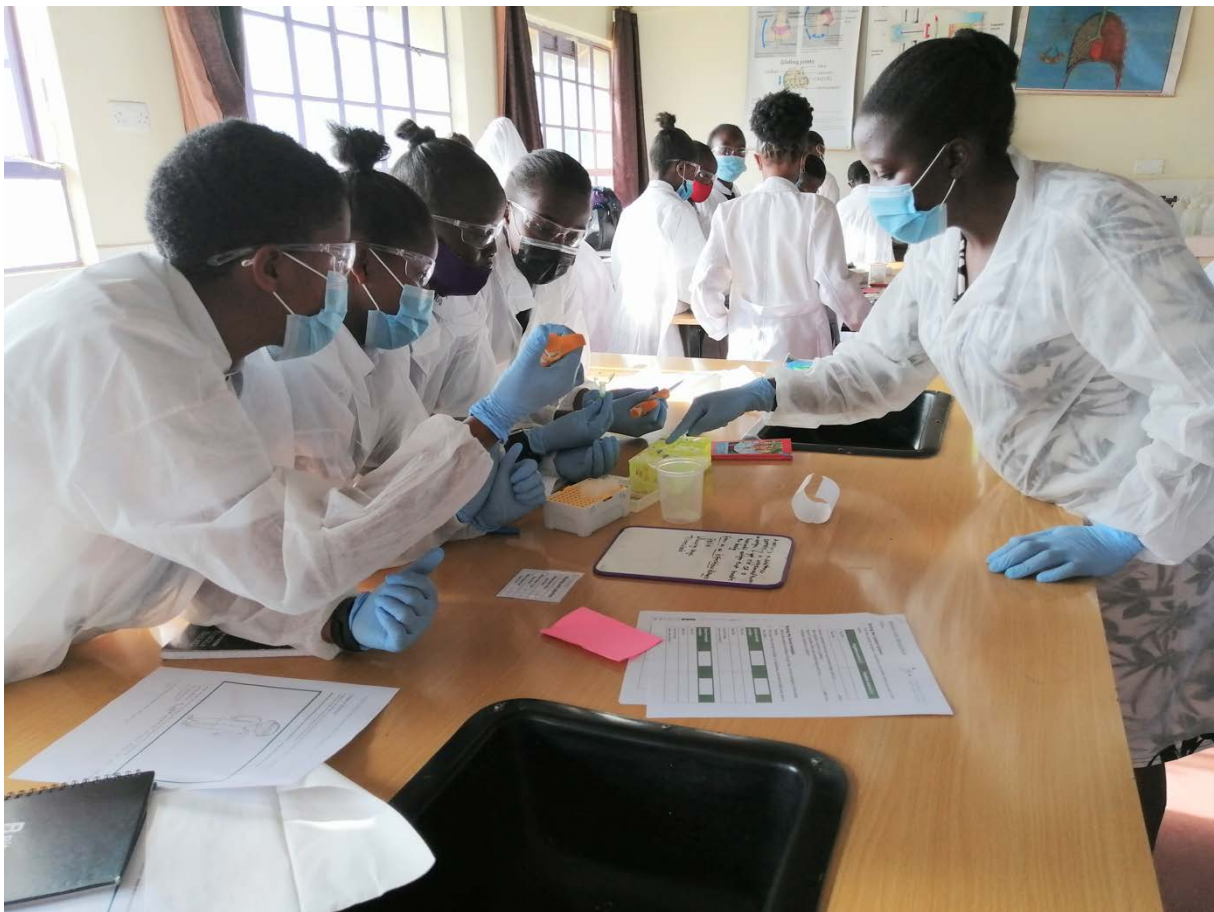
The International Veterinary Vaccinology Network (IVVN) has been running a Schools Outreach Programme with an objective of inspiring the next generation of African scientists through an interactive workshop delivered by female researchers from local universities and research institutes. Since its inception in 2019, Kenyan women scientists have delivered a hands-on workshop to two schools to help explain basic scientific skills and the subject area of immunology/vaccinology that IVVN is involved in. So far, a total of 120 girls have been empowered in Kenya. In 2021, KeAWARD which is involved in empowering agricultural communities and learners is upscaling its school mentorship mission to grow the number of women pursuing STEM and science careers in Kenya. The Chapter has targeted to empower at least 200 schoolgirls through the IVVN African School Outreach Program. While on a capacity building workshop of extension officers in Nanyuki town, Laikipia County, KeAWARD members seized the opportunity to extend the science mentorship to students of St Loise Nanyuki Girls Secondary School. The school, which was started in May 2007, is an academic centre of excellence for girls from disadvantaged backgrounds. A large part of Laikipia county is home to pastoralist communities and therefore, the school provides quality education and boarding facilities to the less fortunate girls from these and other communities within the County. The school has an enrolment of about 450 girls. The school has maintained a good performance at the national exams and is ranked among the best schools in the County.



Students illustrating an image of a scientist at the start of the mock experiment

Delivery of the vaccination laboratory experiment

An introduction of the outreach program was done through the liaison of Ms. Patricia Muiko, an AWARD fellow based at the County. The necessary preparations for the visit were put in place including COVID19 precautionary measures. Then hands-on vaccination experiment was delivered in the afternoon of the 15th of June by five KeAWARD scientists drawn from three partnering institutions. They included Dr. Esther Kanduma (UoN/KeAWARD), Dr. Catherine Taracha (KARLO/KeAWARD), Ms. Sarah Akwabi, (Directorate of Veterinary Services/KeAWARD), Beatrice Tuei (State Department of Livestock/KeAWARD) and Ms. Celestine Makokha, KALRO). The women scientists engaged a total of forty (40) girls between the age of 13-19 years in Form two to four. The scientists worked in turns to lead different sections of the experiment while the rest worked with the pupils at their stations. Three science teachers participated in the lab sessions.



Ms. Sarah Akwabi a Parasitologist based at the Directorate of Veterinary Sciences assisting the students during the interactive vaccination experiment

Summary of pupils evaluation and feedback

Feedback received through a student evaluation carried out at the end of the activity from 39 girls engaged indicated that they all enjoyed the exercise. Majority of them found the experience to be fun, enjoyable, rewarding, inspiring, interesting, informative and exciting. About 70% of the girls enjoyed doing the experiment after learning how to use the pipette, testing the samples and observing the reaction and colour changes. About 18% of the girls found the experiment to be challenging. For thirty percent (30%) of the girls, the favourite part was interacting with the mentors and asking them questions. While 80% of the girls enjoyed all the different parts of the experiment, 20% least enjoyed the 'Draw a scientist' activity, mainly because they were poor in drawing.



Madam Jane Mithia, Head of Science Department, assisting the students during the vaccination experiment

All the girls agreed women can be scientists and that they could become scientists in future. They all reported learning that vaccines are used to prevent animal and human diseases from spreading and that they would tell their families about the experience they had during the workshop.



Excited students outside the science laboratory after the vaccination experiment

Some quoted feedback on the favourite parts of the workshop:

“Hearing our mentors’ story because it inspired me a lot”

“Interacting with the scientists. Because they are all females who are dominating in the field of science, and this inspires me very much”

“The advice section. Because I have been motivated, my esteem is now high. I have known it is possible to make it”

“Inspiration and mentorship part. Because as I was mentored, I learnt to improve and got new skills that I will use in order to make my life and be the scientists I wished to be”

“Testing the samples, it was my first experience”

“My favourite part of the workshop was testing the vaccine to identify those who were vaccinated. It was really enjoyable, fun and interesting. When asking questions, I am really motivated and inspired.

“Testing the samples, it made me feel that I would like to become a scientist”

The three teachers who participated in the mock experiment rating of the content, structure, pace, equipment, knowledge, approachability and organization of the outreach team ranged between good and very good. They particularly liked the fact that it was very interactive, and it encourages and motivates on career choice. On how the workshop achieved different parameters such as providing

an opportunity for hands-on practical lab experience, an opportunity for pupils and colleagues to meet and speak with scientists, improving pupils confidence in experimentation and practical science, increasing and reinforcing understanding of vaccines, jobs in animal science and inspiring pupils to think about science as a career option, the rating was either very or quite successful. The teachers agreed that the workshop increased the students interest in science, made the students aware of careers in science, increased their motivation to pursue science and provided an opportunity for the girls to realise, science is a career they could pursue. As to the changes they would propose to achieve the aims of the workshop, they suggested that more time be allocated to the mentor/student question interaction time and that the opportunity be extended to all the students. They indicated that they would recommend the workshop to other schools and would like to have the outreach team return next year or come again with another workshop.

Quoted comments from the teachers:

” The workshop was successful and more of these should be done to motivate students to have a positive attitude towards sciences ”

“More visits will inspire learners on science related subjects ”



Group photo: Facilitators, teachers and students at the end of the outreach activity

The scientists also donated trees which included fruit trees such paw paws, mangoes, avocados, bananas to be planted to promote food and nutrition security, afforestation and environmental conservation.