

CSC Evaluation and Monitoring Programme

# Bridging the Gender Gap in Education and Science in Cameroon

*Dr Glory Enjong Mbah*



**Gender Equality and Quality Education are two key goals of the Sustainable Development Agenda that require immediate and sustained action by all participating countries, including Cameroon, a west-central African country with a population of just over 25 million.**

In a country where just over half (53 percent) of the children attend secondary school, this situation has been worsened by violence and instability which started in 2016 affecting mostly the country's North-West and South-West regions and forcing thousands more children out of school. In 2019, UNESCO reported that over 300,000 children were out of school, three-quarters of whom were girls. The under-representation of women and girls in education, and specifically in science education and research, remains a cause for concern not only in Cameroon, but globally. Currently, approximately 30% of the world's researchers are women. This is also an issue in education around the world, with less than a third of female students choosing to study science subjects at tertiary level.

While more work is required to get girls into education generally, those already enrolled in higher education also require inspiration to take up science subjects and careers in research. Not only will this help bridge gender gaps but will give women scientists and researchers the opportunity to achieve their potential and effectively contribute to addressing a variety of development challenges. Glory Enjong Mbah, a Commonwealth Alumnus who studied for a Master's degree in Drug Discovery at University College London in 2011 is a pioneering member of the International Veterinary Vaccinology Network. As part of the school

outreach programme administered by this network, Glory conducts workshops and training for science students, aimed at motivating and inspiring girls to take up careers in science and research. In addition, she is currently undertaking research in Cameroon aimed at eliminating river blindness, an infectious disease that causes blindness or severe visual disability and has infected a total of 18 million people worldwide, 99% of whom live in Africa.



**Dr Glory Enjong Mbah** is a Commonwealth Scholar of 2011 who studied for a Master's degree in Drug Discovery at University College London. Upon completion, she enrolled for a PhD in Cameroon to further build on the skills and knowledge acquired during her time in the UK. She is currently working as a Lecturer and Postdoctoral Researcher at University of Bamenda in Cameroon. As a follow-up to her PhD studies, her most recent research activities are focused on investigating neglected tropical diseases, specifically river blindness, which is a common and serious disease in Africa. She is also a pioneer member of the African Schools Outreach Programme, organised by the International Veterinary Vaccinology Network in partnership with institutions across Africa. As part of this network, she has been conducting workshops and training sessions in secondary schools, aiming to inspire the next generation of scientists, with a focus on girls. In addition, she voluntarily mentors young women in her community, aged 12 to 34, empowering them to obtain education, acquire other skills outside academia and become financially independent.

## Training the Trainer: Applying Effective Teaching methods in Science Education

Glory completed a Master's degree in Drug Discovery from University College London through the Commonwealth Scholarship in 2012. This experience gave her the impetus to take up further studies to build on the skills and knowledge acquired through her Scholarship experience by enrolling for a PhD at her local university [University of Buea], which she successfully completed in 2019. Since 2020, she has been working as a lecturer in the Department of Biology at the Higher Teacher Training College (HTTC), one of the professional schools at University of Bamenda that trains teachers for high school and secondary education. As a lecturer, Glory regularly draws on the teaching techniques she observed her former UK lecturers using while she was a student during her Master's studies.

**'The main difference I have made in teaching, based on the skills I acquired during the Scholarship, is my method of delivery that I've been applying while teaching on campus here.'**

In her lectures, she has incorporated the use of images, as opposed to just providing notes, one of the teaching methods that she identified as a student which effectively helped her to retain information. Her current students have also commented on the effectiveness of this approach in helping them with the learning process.

**'I've been getting great feedback from the students. Every now and then, I have students say to me that they enjoyed the lesson and that they think they're retaining more.'**

To make her classes more interactive Glory asks students questions throughout her lectures, another technique encountered in the UK, engaging with them, and encouraging them to come up with innovative ideas through creative thinking. Through her teaching activities at the University of Bamenda, she has reached a total of 115 student teachers who have since become teachers themselves.

**'We are training teachers of secondary education and high schools. So, once they're posted to their various schools, this teaching method will help them deliver their information differently too. I think I've instilled in them a different view to the teaching profession.'**

## Investigating River Blindness: One of the Most Neglected Tropical Disease

Outside of teaching, Glory is also involved in research projects focused on investigating river blindness as a follow-up to her PhD research studies. One of the most neglected tropical diseases, river blindness is transmitted by black flies and mostly affects communities that live close to fast-flowing rivers. It has been most prevalent in the rural areas of Cameroon, where the problem is aggravated by lack of adequate health care facilities and interventions.

**'My PhD research focused on finding pre-clinical animal models for drug screens against river blindness, currently affecting approximately 2 million people in Cameroon.'**



Her research involves investigating potential animal models<sup>1</sup> that can be used to screen or test new drugs or vaccines for this disease, an area she developed skills in during her Master's and PhD studies. This is an integral step in the development of these medical interventions and choosing the animal model that most closely resembles the expression of the disease in humans is critical to assessing the safety and efficacy of an intervention.

**'I mentioned that my MSc was in drug discovery. And, in the process of drug discovery, there's a part that has to do with working with animal models, and that has always been one of my main areas of interest.'**

Having identified three potential models during her PhD study, her current research work is now focused on validating those models in collaboration with other researchers and investigating a potential link between river blindness and diabetes, searching for potential avenues to the elimination of river blindness.

**'The knowledge that I have from that time during the MSc helped me to easily fit into the research team when we were working on animals.'**

Apart from the technical skills learned and practiced during her Master's, Glory also emphasised the invaluable soft skills that she honed during her studies in the UK, including proactiveness, versatility, and people management skills. She explained that these skills were helpful when she had to adapt to a new work environment while studying for her PhD. Glory also applies these soft skills in her current research role which involves interacting with other researchers and required her to relocate to a new town, which happened to be a hot spot of socio-political unrest in Cameroon.

**'You have people from different backgrounds, ethnicities, religions, and understandings. I had to learn to work with everybody and try not to step on toes knowingly or unknowingly. So, those kinds of skills that I gained while on Scholarship on people management, I was able to apply them in the research team.'**

Drawing on the skills learned during her Master's, Glory noted that her ability to innovate has played a pivotal role in overcoming challenges that she has encountered in conducting her research activities. For example, when Glory joined her current research team, she used her research and problem-solving skills to identify better software for presenting data that was easier to use for the team.

**'My experience in the UK has helped me to see challenges as opportunities. When I'm working and I come across a challenge, I'm fired up to find a solution. This has really helped me to be able to break some boundaries that I couldn't have before.'**

Her team members have learned these approaches to research and problem solving from her, and she hopes they can apply these to their own work in the future.

## Empowering the Next Generation of Women Scientists in Africa

In addition to her teaching and research activities, Glory is a pioneer member of the African Schools Outreach Programme organised by the International Veterinary Vaccinology Network which works in partnership with institutions across Africa. This collaborative initiative was launched on International Women's Day in 2019, and its overall aim is to inspire the next generation of young female scientists in Africa by providing female scientists working in veterinary vaccinology across Africa with the training and resources to host school outreach workshops in their own countries.

One of the motivations for Glory to join this network was her first-hand experience with (and observation of) the gender imbalance that exists in her area of expertise, both as a scientist and a researcher. To counter this, she joined the International Veterinary Vaccinology Network, and participates in activities to encourage and empower girls and women to develop careers in science and research.

**'In my research team, each time we go on field work, nine out of ten times I'm the only female on the team.'**

By training and sending scientists like Glory out to deliver the programme and to pilot outreach activities in secondary schools across Africa, the network has managed to give hundreds of students a hands-on experience with scientific techniques, as well as an opportunity to interact with female role models in the field. The network also provides support for collaborative delivery of the programme, promoting a peer-to-peer support network of female veterinary scientists in Africa.

**'A lot of us [women in science] grew up in a setting where we joined the science field without mentorship. So, we are just finding our feet as we go along. What we do is to encourage young females to follow their dreams in science.'**

As of 2020, the International Veterinary Vaccinology Network's African Schools Outreach Programme had trained **15** female scientists and **20** local volunteer-scientists and had worked with over **30** science teachers. A total of **276** students, **91%** of whom were female, experienced laboratory sessions in Kenya (**120**), Nigeria (**76**), Zambia (**40**) and South Africa (**40**), and over **1,200** students were mentored.

1. An animal model is a non-human species used in medical research to study the development and progression of diseases and to test new treatments before they are given to humans, because it can mimic aspects of a disease found in humans.

To deliver this programme, the network collaborates with the Easter Bush Science Outreach Centre (EBSOC), the African Women in Agricultural Research and Development (AWARD) programme, the African Vaccinology Network (AfVANET), the International Livestock Research Institute (ILRI), the University of Ibadan, and the University of Zambia. In 2020, a total of six schools in Kenya, Nigeria and Zambia benefitted from the programme, including all girls' schools such as Ole Tipis Girls High School in Kenya and Lusaka Girls Secondary School in Zambia.

**'International Veterinary Vaccinology Network was recently shortlisted for the 2020 Nature Inspiring and Innovative Science Awards, and I was the lead scientist for the application.'**

Following an involuntary temporary break from their training activities due to the Covid pandemic, Glory and colleagues from International Veterinary Vaccinology Network resumed the African Schools Outreach Programme in 2021, reaching four more secondary schools in Nigeria (2) and Kenya (2).

In 2021, an outreach training workshop was delivered to **160** students from United High School and Isanbi Comprehensive High School in Nigeria. In Kenya, **82** students were trained at Naivasha Secondary School. Following the training, Glory's Team mentored and offered career guidance talks to **1,000** schoolgirls at this school. In Loise Girls Secondary School, in Kenya a training workshop was conducted with **40** girls.

As well as the school workshop delivery training that she and her colleagues received prior to participating in the outreach programme, Glory spoke proudly of the soft skills acquired during her MSc and PhD studies, and how they had enabled her to effectively conduct her outreach activities, including delivering training and presentations.

**'I got a good number of communication and public speaking skills from both the MSc and the PhD because of the conferences that I had to attend and speak at and share the science. For an exercise like this, I had to input some of these skills from there.'**

To further expand the work of the International Veterinary Vaccinology Network and reach out to a wider range of audiences, educating them on the importance of science and research in finding solutions to animal and human health issues, there are plans underway to use social media, local university websites and newspapers, and government ministries to distribute information. Local universities will also be engaged in research projects and activities in line with animal and human health topics to get students and early career researchers interested, particularly targeting women and girls who are currently under-represented in science research in Africa.

Glory and her colleagues also plan to make use of posters to disseminate information in the rural communities where they collect samples for their research activities.

**'We will use posters with images so that the illiterate members of the rural community can also learn about the dangers of river blindness.'**



## Tools to Succeed: Empowering Women and Girls with Entrepreneurial Skills

As well as supporting and motivating girls in the academic sector, Glory has been involved in broader voluntary community work since 2016. She provides mentorship to girls and women from a local church group, equipping them with vocational skills that can help them to become financially independent. To support this mission, she has conducted over 40 vocational training workshops, focused on entrepreneurial skills and the identification of potential income generating activities such as knitting, baking, and cooking.

'I have a church group of young girls that I groom to be independent, especially financially. And so far, we've been able to have some start-ups and some good reports from them.'

Glory provides vocational mentorship to a group of **38** young women (ages 13–32). As of October 2020, she had organised **14** training sessions and workshops, providing skills acquisition and mentorship, and **40** sessions on vocational training. Consequently, **5** start-ups have been established by mentees because of these workshops, with **7** volunteers, **2** NGO staff, **2** waitresses, and **4** Master's students.

'At the moment, the people who have had start-ups are doing very well. Because I remember, some of them could not afford to pay their own rent before. Now at least, they can afford to live on their own. Some of them had dependants and had difficulties paying their school fees. Now, they can at least raise money to pay their fees. Some of them have gotten married, and these skills help them support their homes in running their finances.'

While many start-ups established by Glory's group of mentees have been success stories, there have also been some dropouts. However, the group still tries to provide participants who have had difficulties with support and encouragement as beginning a start-up can be a difficult process.

'We are still trying to encourage those people (who gave up on their start-ups) to continue or not give up. So, it has its ups and downs.'

Outside of her involvement in science, research, and volunteering, Glory has found time to establish a start-up of her own. In 2019, she founded a clothing company [which was relaunched in 2021] focused on designing and promoting traditional outfits to reinforce the value of tradition in Cameroon. While it is still in its infancy, she hopes to eventually create employment through this initiative.

Glory is also a strong supporter of the CSC and has been actively involved in promoting Commonwealth Scholarships by conducting training workshops and offering advice to potential applicants. Through these activities she is contributing further to her goal of promoting education and development and supporting as many people as possible to achieve their dreams.

### More about Dr Glory Enjong Mbah's work

<https://www.intvetvacnet.co.uk/ivvn-african-schools-outreach-programme>

<https://www.researchgate.net/profile/Glory-Mbah>

[https://www.instagram.com/elegant\\_embroiderycmr/?utm\\_medium=copy\\_link](https://www.instagram.com/elegant_embroiderycmr/?utm_medium=copy_link)

### Commonwealth Scholarship Commission in the UK

Woburn House

20-24 Tavistock Square, London WC1H 9HF

Email: [evaluation@cscuk.org.uk](mailto:evaluation@cscuk.org.uk)

Website: [cscuk.fcdo.gov.uk](http://cscuk.fcdo.gov.uk)

