

CONFERENCE NEWS BULLETIN

DAY FOUR, FRIDAY, MAY 27, 2022

Why new rice varieties are the gateway to food security in Africa

Photo Credit | Harold Odhiambo



Slow regulatory pace and lack of awareness among farmers are some of the challenges to the rapid uptake of improved rice varieties.

By Joyce Chimbi | j.chimbi@gmail.com

African farmers and agribusiness investors stand to make an estimated US\$100 million to \$125 million in the early uptake and adoption of improved rice varieties, an expert has said.

"It is a good business opportunity for farmers and other early adopters of biotechnology marketers," said Dr Sanni Kayode, the Rice Project Manager and Director of the Alliance for Hybrid Rice in Africa (AHyRA).

He was addressing the Fifth African Conference of Science Journalists.

Dr Kayode said biotech advances had seen the development of improved varieties that can boost the yield by more than two tonnes per hectare.

"Hybrid varieties give two to three extra tonnes per hectare. Some can even get five to seven tonnes per hectare when there is good rainfall. And because the cost of seed is constant, the improved yield brings in better returns for farmers," he said.

According to www.statista.com, Africa produced about 24 million tonnes of rice in the financial year 2020/2021.

"The production might slightly decrease to some 23 million metric tonnes in 2021/2022, according to the source's forecasts," wrote Julia Faria on the organisation's website.

In 2021, the continent also imported 17,545 tonnes of rice, with sub-Saharan Africa accounting for 16,460 tonnes as the North Africa region bought 1,085 tonnes. This was an increase of 931 tonnes from a total of 16,614 tonnes in 2020.

Dr Kayode said the rice project was one of the ways for Africa to step up and ensure there was enough food for all.

"We should take up hybrid rice as one of the options to achieve food security and secure production sovereignty," he said.

The scientist asked governments to ensure the farmers were sufficiently supplied with good quality seed.

"Seed authorities need to have good quality grain that farmers can access," said Dr Kayode.

Photo Credit | Viola Kosome



Workers in a rice farm. Governments asked to supply farmers with good quality seeds.

He said regulatory bodies in African nations had recognised the game-changing potential of hybrid rice and had set up mechanisms to ensure it was adopted and fully commercialised.

Among the organisations spearheading hybrid rice production in the region are AATF/HEAL in East Africa, Africatec and Bayer in East Africa, Advanta Seeds, which operates in both East and West Africa, a series of Chinese firms in Sub-Saharan Africa and the International Rice Research Institute (IRRI).

Other partners include the Kenya Agricultural and Livestock Research Organisation (KALRO), Africa Rice and Kenya Seed Company.

He identified a slow regulatory pace and lack of awareness among farmers as some of the challenges to the rapid uptake of improved rice varieties.

"There is low awareness of the improved varieties among rice farmers and a slow pace of the release process in some countries. We need to educate the farmers and society in general on their benefits even as we seek and wait for approval," Dr Kayode said.

The expert also identified the high cost of developing new varieties as a barrier to fast and cheap rollout of the rice that is purposed for larger yields.

"Another challenge that we are yet to adequately meet on the continent is the high cost of hybrid seed production. As a result, our production capacity on hybrid rice is still low," Dr Kayode told participants.

He bemoaned African investors' lack of interest in the sector, saying it had resulted in a low capital base for the sub-sector.

"There is insufficient private sector involvement in the marketing and adoption of improved rice varieties. We need to replicate what the rice industry in the West is doing, through greater involvement by the private sector. The private sector is involved in funding rice production and marketing in Western economies," said Dr Kayode.

Private investors, Dr Kayode said, had also shied away from the production of improved and high-performance varieties designed to significantly boost yields from one of Africa's staple food crops.

"There is a low level of private sector's investment in rice seed production," he said.

Dr Maxwell Asante, a researcher based in Ghana's Kumasi, said his organisation had developed and rolled out two new rice varieties dubbed NUE and NEWEST to boost the country's rice production efforts.

The NUE variety, for instance, can save farmers up to US\$250 per hectare by improving the average yield by between 10 and 15 per cent while increasing the yield by \$700 annually.

Apart from reducing the use of inputs by 30 per cent and the overall production cost, it also results in carbon trade savings of \$53 per hectare in a year.

"One of the benefits of the NEWEST line is that resource poor farmers who cannot afford the recommended levels of fertiliser can still have good yields. This will improve livelihoods," said Dr Asante.

He said the new variety was climate-tolerant, adding that it would help farmers realise good yields in the current changed climatic conditions.

"The effects of climate change would be mitigated by using the NEWEST lines. Using the variety, marginal areas which cannot support rice can be cultivated," Dr Asante said.

The scientist said the varieties were subjected to the stringent global and national government tests and standards before being released for public use.

"We ensure we meet all the health and safety requirements before releasing varieties for general use. They are completely safe and ready for use," said Dr Asante.

West African countries urged to harmonise seed regulations

By Aimable Twahirwa

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Building effective regional seed systems in West Africa has been essential to successful agricultural transformation, diversification and intensification within the sector, food security, and inclusive market growth.

One key aspect of such a goal is to ensure smallholders' access to improved seeds, and this further increases crop yields, according to experts

Speaking during the Fifth African Conference of Science Journalists, Dr Yacouba Diallo, an expert in international development and agribusiness development at the Senegal-based Conference of African and French Leaders of Agricultural Research Institutes (CORAF), said a harmonised seed legislative framework is premised on the need to promote intra-regional trade as well as access to quality seeds by farmers.

Dr Diallo said a harmonised framework would lead to an efficient mechanism for production, distribution and marketing of seed, which would translate into increased access and usage of quality seed in West Africa.

Currently, actors have put in place a committee known as the West Africa Regional Seed and Seedling Committee (WARSSC) for the effective implementation of the seed regulation in this part of the continent.



Dr Yacouba Diallo, an expert in agribusiness development at the Senegal-based Conference of African and French Leaders of Agricultural Research Institutes (CORAF).

Thanks to this mechanism, a seed variety, if discovered in any ecological zone and released in a member state, can be multiplied and sold in another one.

However, the progress made seems to be challenged by the fact that different countries regulate seeds quite differently.

According to Dr Diallo, there is also a need to assess the pace of national efforts to implement regional seed measures after investigating the impact of regional harmonisation.

To address these challenges, the partner states under initiatives spearheaded by the CORAF/ WECARD have made progress in the development of procedures for the seed sector.

In major parts across West Africa, the private sector's role in seed system is increasing, with private companies actively involved

in seed multiplication and sale, yet much activity remains in the public sector, including varietal development.

But the level of awareness and adoption of new seed varieties appear to be low, most likely due to inadequate delivery systems, according to experts.

Official estimates show that Nigeria accounts for 60 per cent of the total seeds marketed in West Africa. Nigeria currently supplies over 50 per cent of the quality seeds that are used in West Africa.

However, agriculture experts noted that the largest constraints to productivity in West African agriculture is the inefficiency of the regional seed system.

"There is a need to facilitate the regional seed trade and expand the regional seed market," Dr Diallo said.

Critical lessons journalists learnt from coverage of COVID-19



Ensuring journalists report consistently on COVID-19 calls for strong networks

By Joyce Chimbi | j.chimbi@gmail.com

It started as an epidemic of uncertainty. Soon, there were endless reports of deaths and hospitalisation of critically ill patients as COVID-19 swept across towns and villages, bringing back the painful memories of the 1980s and 90s when HIV/Aids hit Kenya and sub-Saharan Africa for the first time.

"Persons and households of people affected by COVID-19 were stigmatised and those presenting symptoms such as sneezing or coughing were ejected from matatus (public service vehicles in Kenya), further heightening panic and fear," recalled Mary Mwendwa, a science journalist and editor at Talk Africa.

Psychological stressors became prominent as euphoria, phobia, stress and depression triggered by stringent restrictions, lockdowns and loss of jobs, took centre stage.

Within months of its onset, government data showed that as of September 2020, more than 740,000 people in Kenya had lost their jobs as the economy went into the most severe slump in over two decades.

This also triggered a wave of mental health concerns and further compounded the situation for science and health journalists on whose shoulder the task of reporting the pandemic in all its dimensions lay.

Speaking to journalists at the Fifth African Conference of Science Journalists, Ms Mwendwa put into perspective the landscape within which journalists reported the pandemic, exploring the new challenges and opportunities that such a public health concern presents.

"The context was rife with rumours, misinformation and conspiracy theories delivered through social media. There are those that said the virus came from animals in the market, others said coronavirus was created in the lab. This heightened fears and concerns, putting a lot of pressure on science journalists who had to sift through all these factors in search of facts and the truth," Ms Mwendwa said.

While capturing social opinion and rumours in digital public health reporting is a most critical role that journalists are expected to play, she said so is access to tools to facilitate the publication of accurate, timely and relevant stories.

Journalists face the pressure to deliver timely and accurate information, and navigating fact checking, which is critical to storytelling, she emphasised.

"COVID-19 exposed weaknesses in healthcare systems and gaps in our media houses. This includes the need to boost newsroom preparedness to handle infectious disease outbreaks and providing journalists with protective gear," said Ms Mwendwa.

"There is also the need to have active science desks in newsrooms and to re-evaluate the role of the media in a pandemic. There is a further need for trainings to help journalists navigate the challenging world of debunking misinformation."

As the virus spread, fuelled by the fear of the unknown, so did the rumours across borders due to the pandemic's complex nature, its highly specialised prevention and control measures that current generations have only heard of, amidst strict quarantine measures.

Ms Mwendwa highlighted the need to debunk rumours through available online platforms. Research shows that nearly 700 rumours around COVID-19 were debunked by the end of 2021.

The rumours were categorised under such topics as virus spread, vaccine protection, vaccine side effects, human immunity, herd

immunity, livelihoods, infertility and sterilisation, menstrual cycle, pregnancy, among many others.

This level of diffusion of truth led to significant levels of confusion and suspicions around who to trust. Scientists and researchers countered the confusion with transparent and open epidemiological research and journalists were again called upon to educate the masses about COVID-19, its prevention and control measures.

Often, journalists themselves did not understand research and developments around COVID-19, and this placed them at a crossroads of anecdotal evidence and scientific, empirical evidence.

Still, scientists, governments, ministries of Health and the World Health Organisation (WHO) continuously raised

concerns that COVID-19 had taken the form of false and fabricated content, alerting people that truth was being presented in misleading ways.

"But journalists did not always have access to the facts because all relevant information and updates around COVID-19 came from a single source, the Ministry of Health. Some scientists were not always available to speak to the media to help shed light on the difficult and fluid issue of COVID-19. These are the scenarios that characterised coverage of COVID-19," said Ms Mwendwa.

In the absence of past studies and in-depth analysis to rely on, journalists solely relied on information from the Ministry of Health.

Ms Mwendwa hailed the MESHA conference as a cross-border platform where journalists can share such challenges and find solutions to difficulties facing science journalism today.



Fifth African Conference of Science Journalists

Virtual Conference, May 24-27, 2022

Organised in partnership with



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MESHA Secretary Aghan Daniel takes science journalists through a training session.

Get out of your comfort zone, African journalists told

By Thomas Bwire | thomas.bwire2015@gmail.com

African journalists have been urged to take stock and re-evaluate their journalistic journeys and keep track of their abilities in the space of storytelling.

MESHA Secretary Aghan Daniel urged journalists to be organised and know their individual strengths and weaknesses.

"Ask yourself, where are you at and why are you here on the network?" posed Aghan.

He said journalists tend to lean on their comfort zone over a period of time, thus ending up wasting their productive careers that have been built over many years of practice.

Aghan said over the last 16 years since MESHA was formed, there have been a lot of gains and pain.

He said one of the biggest gains is the growth of the network's membership from 12 to the current over 90 members across different counties in Kenya.

The Captain, as he is fondly referred to by African media MESHA members, reminded journalists that in telling their stories, key sources come into play.

"Our big shelter is the government as they have given us the room to put into practice our skills. But this does not mean they can be the only voice in our stories," he said.

"You need to go out there and talk to other alternative voices in your story, as today's journalism is not about he said, she said kind of reporting but more of solutions journalism."

He urged journalists to think of experts, and scientists who can add value to their work that aims to improve existing policies as they bring emerging issues to light.

Journalists were also advised to consult colleagues whenever they have challenges. It was noted that majority of journalists are dying silently with personal and professional problems that if shared can be sorted out.

MESHA members also appreciated the contribution the network has made in the personal careers and growth.

"The 16 years have not been easy. We started off with scientists who didn't want to speak to the media and journalists who thought scientists were people from another planet talking about things only they understood.

Today, thanks to MESHA, that gap has been bridged," said MESHA Treasurer John Riaga.

Carol Otieno said with MESHA, getting sources of content has never been a challenge.

"I have learnt that no science story is a waste and all journalists should know that even just a filler or a letter to the editor can change lives. At MESHA, science information is always available, I have never failed to get any information each time I need it," she said.

Kairu Karega, a Broadcast Journalism student at the University of Nairobi, said MESHA has become a home to student Journalists.

"I have benefited from the one-on-one mentorship I have received from MESHA members and the various training sessions that have been organised. I am so grateful that MESHA invests in us," he said.



Kairu Karega, A University of Nairobi student says he is benefitting from his membership at MESHA.

Another student from UoN, Odhiambo David, said, "The measure of greatness of an institution is defined by what it offers to its members. As a student, I enjoy being part of the MESHA community as it equips me with much knowledge, resources and a good link to specialists, scientists and veterans, hence building my health reporting status."

Aghan emphasised on fact checking on any story so as not to leave out any gaps.

"Think about quantity and quality. You need to never stop reading, our culture has really gone and this should be a wake-up call. Reading will enhance your knowledge and by attending such a conference, new information is added, but not just on this valuable content that will end up on your desks," he said.

The Media for Environment, Science, Health and Agriculture

The Media for Environment, Science, Health and Agriculture (MESHA) was founded in November 2005 in Nairobi, Kenya and is an organisation that provides support to science journalists covering health, development, technology, agriculture and the environment. It does so by offering training workshops, consultancies and encouraging networking through meetings and conferences among journalists, scientists and other stakeholders in Kenya.

The association emphasises on rural journalism and communication.

The idea for the formation of this association sprang up from the fact that there were many organisations and communicators in the fields of agriculture, environment, health and development.

However, few organisations in the region bring journalists covering these issues together, for better reporting in the media.

MESHA believes that in a democratic society where science must be answerable to the public, there is need to find new and innovative ways of effective mass communication about the benefits of science, and other areas of concern to the general public.

MESHA aims to ensure continuity, sustainability and consistent coverage of science and development issues as they arise.

www.meshascience.org

Ugandan villagers in project to save endangered mountain gorillas

By Bozo Jenje

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An integrated programme that provides alternative livelihoods is saving the lives of endangered mountain gorillas in Uganda.

According to Dr Gladys Kalema Zikusoka, the Chief Executive Officer of the Conversation through Public Health in Uganda said the one health programme incorporates the aspect of humans, wildlife conservation and the environment and has led to an increase of the mountain gorillas from 300 to 650 in the last 25 years.

The gorillas were threatened with extinction but are now safe after the local community was trained on human conflict resolutions and the benefits of gorillas from tourism.

“Earlier, individual families’ crops such as banana plants in the community were destroyed and there was no compensation. This led to illegal hunting, forcing their population to decline,” said Dr Zikusoka.

Speaking during the Fifth African Conference of Science Journalists, she said conservation efforts keep the world healthy and the habitat secure.

Dr Zikusoka said through the project, the community has built schools, clinics, and roads and realised the value of gorilla conservation.

She said the community earns about 20 per cent of the park fees from other species of animals,



Dr Gladys Kalema Zikusoka, the Chief Executive Officer of the Conversation through Public Health in Uganda.

including elephants, over 200 species of butterflies, four species of monkeys, 300 species of birds, and \$10 from all the permits issued annually.

In Africa gorillas are found in 10 countries, and in eight of those countries, the animal’s meat is consumed as a delicacy.

“It is only in Uganda and Rwanda where they are not eaten. Hunters are attracted to antelopes and bush pigs,” she said.

The community was also trained by the Gorilla Health and Community Conservation Centre on health.

The health programme involves preventing and controlling disease transmission between people and gorillas as the main focus, the Ashoka fellow said.

“We realised people made gorillas sick, we needed to improve the health of the people while also improving the health of the wildlife,” she said.

“To break the poverty cycle, we have engaged 270 village conservation teams and they promote good hygiene and sanitation, preventing and controlling infectious diseases such as HIV and tuberculosis, family planning, nutrition, and sustainable agriculture.” Dr Zikusoka said gorillas share about 98 per cent of genetic materials with apes, and can easily make each other sick and transmit to humans.

Now, the community has gorilla guardians who teach others to monitor the health of gorillas in the community so that they don’t pick diseases.

Dr Zikusoka stated that the community is aware of genetic diseases and how to prevent gorillas from poachers targeting bush meat and understands that being closer to people makes them sick.



A ranger wears a face mask to help keep the gorillas healthy. The DNA of monkeys, apes and gorillas is quite similar to the human one. We share 98 per cent of our genetic material with these primates, meaning that diseases can easily move across the species.

Keeping apes and humans happy together the Ugandan way

Omboki Monayo | omboki2725@gmail.com

Uganda's population of gorillas continues to thrive, thanks to a One Health programme targeting the residents living around Bwindi National Park.

"Over the last 25 years, our gorilla population has doubled. Our park is the only one that has been able to achieve this milestone in Africa. The other parks with gorilla populations are recording falling numbers," said of the Conservation Through Public Health (CTPH).

The Ugandan veterinarian is also the founder of CTPH, an organisation dedicated to the coexistence of endangered mountain gorillas, other wildlife, humans, and livestock in Africa.

According to the veterinarian, protecting the gorilla population was key for her organisation when the COVID-19 pandemic was reported in Uganda.

She said the measures were necessitated by the similarity shared by humans and primates.

"The DNA of monkeys, apes and gorillas is quite similar to the human one. We share 98 per cent of our genetic material with these primates, meaning that diseases can easily move across the species. This is why we had reports of gorillas catching COVID-19 in some other areas," said Dr Zikusoka.

She said there were cases of scabies among gorillas that would sometimes stray onto community land.

"After studying the incidences, we found that the apes were coming into contact with children's clothing that was infected with the pathogens. Scabies is a disease associated with poor hygiene, and when children are not going to school, they can easily pass it to the apes by crossing their paths," said the expert.

She made the remarks while making a presentation on One Health approaches to conservation at the Fifth African Conference of Science Journalists organised by Media for Environment, Science, Health and Agriculture (MESHA).

The gorillas are now safe after the local community was trained on human conflict resolutions and the animals' benefits from tourism.
Source: WWF



The celebrated veterinarian has won several international awards, among them the Edinburgh Medal and the UN Planet Person of the Year Award. She believes the scientific way is the proven option for dealing with societal concerns.

"Science is life. We should not only practise it, but also talk, write and post about it," said Dr Zikusoka

She said the project to protect the gorillas has been in place long before the pandemic, adding that it took intensive engagement with the local community to accomplish its goals.

"We had to talk to the locals and educate them on the importance of conserving the gorilla population that was attracting tourists to the area. We also helped them draft income-sharing proposals with the park management," said Dr Zikusoka.

As a result of successful negotiation with park management, the locals are enjoying 20 per cent of the park entry fees, among other benefits.

The veterinarian firmly believes that the One Health message is not too heavy or complicated for teens and children.

"We can spread the One Health message to the young people and children through talks in schools, wildlife clubs and even the newspaper pullouts designed for children. It is never too early to start talking to them about the need to stay healthy while conserving the natural life around us," she said.

She gave an example of her two sons who have already begun writing about conservation issues.

My son Tende wrote an article on gorillas that was published in The Monitor during last year's World Gorilla Day. His elder brother has also written a book on conservation.

Working with the park management, CTPH devised a system to protect the gorillas.

"We devised a social distancing protocol of seven metres between humans and the apes, in addition to enforcing a mask mandate and sanitisation requirement," she said.

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*Science is life.
We should not only practise it, but also talk, write and post about it*

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When a journalist lacks credible sources in a story, his/her credibility becomes questionable.

Nilewell, a platform for science journalists and experts to share information

Ruth Keah | rkeahkadide@gmail.com

Reporting COVID-19 was made difficult by lack of experts as the pandemic raised its ugly head in Africa.

Delegates attending the Fifth African Conference of Science Journalists heard that speakers were not easily available to clarify issues to assist journalists to report accurately on the issue for the sake of the public.

Ms Mary Mwendwa, the editor of Talk Africa – an online publication – narrated how, when the first case of COVID-19 was confirmed, the Ministry of Health was the only source of COVID-19 data. This was a challenge in delivering our news timely. Even then, journalists unattached to big media houses were barred from attending the daily in person briefings.

This is despite the fact that journalists have a role to provide clear information when there is uncertainty and hold authorities accountable.

Mwendwa said when a journalist lacks credible sources and variety of sources in a story, then the credibility of the writer becomes questionable.

“When you lack credible sources in your story and cannot quote a variety of sources, then your credibility as a writer in that piece is questionable,” she said.

The sentiments were echoed by the Secretary Media for Environment, Science, Health and Agriculture (MESHA) Aghan Daniel. He said the way journalists package science stories with credible and variety of sources matters a lot.

He said when experienced journalists write stories that are not well sourced which turn out to be untrue; the public loses the trust in them.

“If a superstar forwards to you something and later on you find out that it is misinformation, then you lose trust,” he said.

He therefore emphasised the need for science journalists to work together and come up with ways to help each other in sourcing for experts to help in telling science stories.

With those and many challenges journalists face today, Info Nile came up with a new innovation that would bring together scientists and science journalists to tell science stories credibly - the Nilewell.



The platform helps journalists get the right resources and data, besides building trust between journalists and scientists.

Speaking to science journalists and communicators during the E-conference, Annika McGinnis from InfoNile said Nilewell is the first platform in the Nile Basin that connects water and environment scientists with journalists to collaborate, produce and share knowledge on water, biodiversity and the environment.

According to Annika, some of the problems journalists face when writing science stories sometimes have to do with inaccessibility or unavailability of scientists in particular fields. "Others are inadequate science communication skills, and scientists providing complex information," the expert said.

They therefore came up with the idea of creating the Nilewell platform, where journalists, scientists and communication

experts can create their accounts and communicate easily with each other from any part of the world.

The platform also helps journalists get the right resources and data, besides building trust between journalists and scientists.

She said the platform is on its piloting stage, but it has already given them some positive results.

"It took us about two years to come up with the platform and we launched it just last month. So it is something that is still on its piloting stage, but we have already received positive feedback from journalists who have connected with the platform," she said.

According to Annika, such initiatives will help journalists get the right information, even in times of pandemic, so that journalists can give the public the right information.

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The platform is on its piloting stage, but it has already given them some positive results

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Joy of telling climate change stories in local dialect



Farmers are the most affected by climate change. Journalists should be on the lookout for its impact on agriculture.

By **Tebby Otieno** | tebbyotieno62@gmail.com

Having watched the news on climate change in international media, Shemei Agabo, a Uganda documentary producer, was convinced that the worst affected by the crisis in Africa were missing out on key messages.

Agabo, who describes farmers in his country as the most affected people by the effects of climate change, then developed an idea that could break the communication barrier created by use of language and jargon by mainstream media. "I started to question the storytellers, whether they aimed to get to the audience with their stories.

This is how I came in, using a local dialect," said Agabo on the last day of the Fifth African Conference of Science Journalists.

Even though he knew his story would not have more engagement, Agabo was so sure that by reporting stories on climate change in his local dialect, he was going to pass the message home. That is how he produced *Kabale climate change documentary*, *Enturire*.

Agabo, who had just graduated from university, revealed that he did not have the resources to produce the documentaries. Fortunately, Infoline bought his idea and supported him with a story grant and he managed to tell the story the best way he wanted.

"It occurred to me that actually climate change conversations end in the boardroom, and they are pulled by technical people," he said.

Agabo used his seven-minute opportunity to challenge health experts to avoid using jargon when addressing media to make it easier for journalists to pass climate-related stories to the masses.

"We journalists tell stories; not so that we enrich ourselves, but so that we see a change in our communities," he added.

The climate change enthusiast also told how challenging it was for him to report on the Conference of Parties (COP 26), which was held in Glasgow, UK in November last year.

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We journalists tell stories; not so that we enrich ourselves, but so that we see a change in our communities.

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Visualisation is no longer a luxury but necessity in storytelling, say journalists

By Kairu Karega | kairukarega@gmail.com

As the Fifth African Conference of Science Journalists drew to a close, the need for science reporters to embrace new methods of telling stories dominated the discussions.

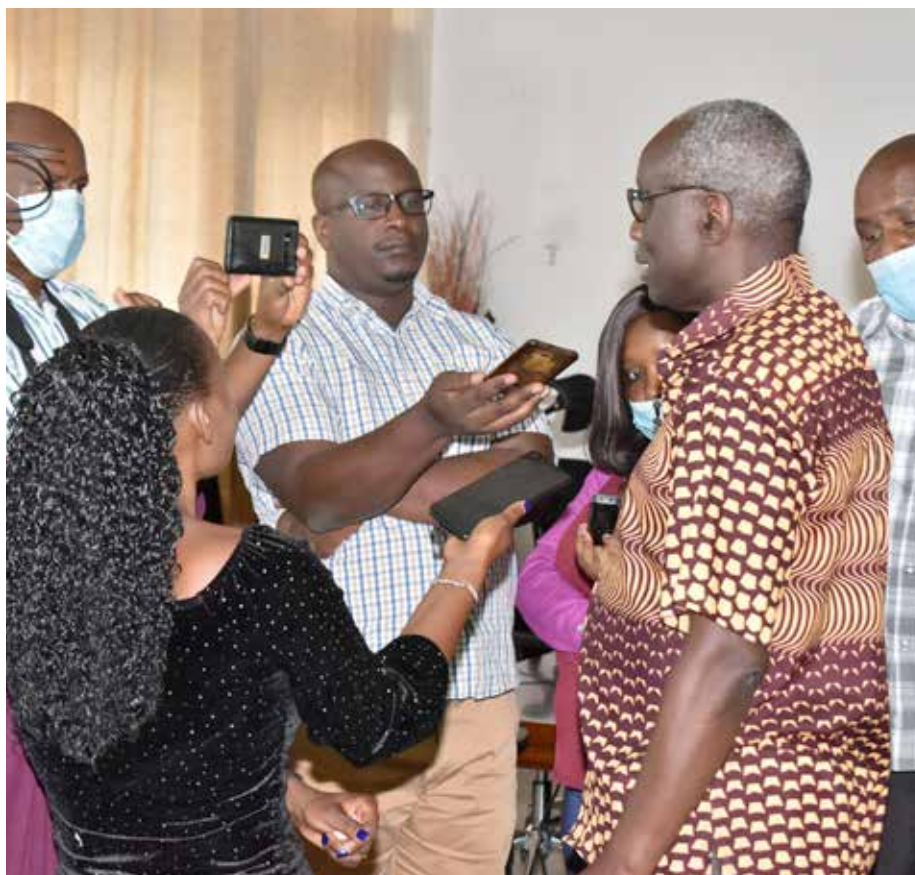
"I got frustrated by how science stories were told. I wanted to tell the climate change story in a different way," said Shemei Agabo, a Uganda-based journalist.

Mr Agabo shared his experience producing the documentary *Enturire*, which uses a local storytelling approach to show how climate change is threatening sorghum. He also used data visualisation tools to make his story simpler. He produced the film with the support of InfoNile.

In today's data-overwhelmed world, when we are constantly bombarded with information and struggle to make sense of it, using data-driven storytelling can assist audiences understand the information and extract value from it.

Some of the data visualisation tools that journalists can use include geodata, satellite imagery, which is used to measure, track and identify human activity around the lakes, juxtaposing, Google timelapse and drone imagery.

It is also important that science stories be packaged in a language that the locals can understand. "I kept the story in a local dialect because I wanted to bring it to the people of Kabale," said Mr Agabo.



Using data-driven storytelling can assist audiences understand the information and extract value from it.

Miriam Watsemba added her voice on the same: "We should localise climate change stories by putting them in local contexts that will help local communities understand how it is a global problem."

Ms Watsemba localised her photography by displaying photos she had taken and translated the captions into the local language for the locals to understand and appreciate the impact of climate change through the photos.

"Collaboration and networking is very important when telling stories," Mr Agabo said.

"To tell human centric stories, have conversations with people, listen to their experiences and reality and localise their narratives," added Ms Watsemba.

Journalists can also use digital tools such as Nile Well, an online platform that connects water and environment scientists and journalists in the Nile Basin, in their reporting. They can also find accredited journalists and credible scientists on the platform.

Data journalism is the future of all journalism, but if we are to make it effective, we have to localise it and make it simple for people to understand and enjoy reading our stories.

MESHA empowers African science journalists with one of a kind conference

By Odhiambo David
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The measure of greatness of an organisation is defined by what it gives to its members. MESHA (meshascience.org) has been in the fore front to equip its members with knowledge, resources and providing a link between them and specialists and scientists to help them better their reporting.

Speaking on the last day of the Fifth African Conference of Science Journalists, MESHA Secretary Aghan Daniel said for 16 years since its formation, MESHA has provided a platform for resource mobilisation and idea sharing through the several science cafes, bootcamps, conferences and trainings to its over 90 members.

Annually, MESHA budgets for and holds close to 40 interactive sessions for its members. Each session touches on the vast world of science, health, agriculture, environment, biodiversity and technology, among other topics that affect humankind.

This week, MESHA made it big for its members again. In collaboration with other organisations, including JRS Biodiversity Foundation, DNDi, AATF, InfoNile, Water Journalists Africa and Hivos, it organised the Fifth African Conference of Science Journalists.

Bozo Jenje, MESHA Chairperson, in his opening remarks, said the conference provided a platform for new insights and development in science research, networking



Journalists attend a training session. Annually, MESHA budgets for and holds close to 40 interactive sessions for its members.

opportunities through interactions that promote exchange and sharing of ideas among participating journalists, scientists, farmers and traders.

“It is an opportunity for the development of new story ideas and new areas of research in critical issues of water, biodiversity, climate change and health,” said Mr Jenje.

The presentations began afterwards, with Day One dwelling on presentations on decolonising global health; ending HIV; antimicrobial resistance; reproductive health in Africa; and Leishmaniasis.

On the second day, the journalists were urged to be brave and careful enough to run investigative stories. “Yes, there is danger and journalists have suffered the consequences of running some investigative stories, some have even lost their lives. That should however not silence us,” said Shitemi Khamadi of Africa Uncensored.

Several presentations were also made on plastic and microplastic waste in Lake Victoria, highlighting their dangers to the ecosystem.

Day Three of the conference dwelt on agriculture and biodiversity. Amos Rutherford, Team Lead, Research and Innovation at Legacy Seeds Ghana, said it is a shame that Africa as a continent has 60 per cent of the world’s arable land, yet it is food insecure.

The seed expert gave a snapshot of the challenges farmers in Africa face in the course of food production, including lack of quality seeds, crop nutrition inputs, droughts, a land tenure system that does not allow commercial farming, pests and diseases, unstructured market systems and weak financial architecture.

To fight this problem, Dr Simplice Noulala, Head of Agriculture and Food Security Division at the African Union Commission, urged governments to strengthen and harmonise biotechnology policies and biosafety regulations to create an enabling environment for biotechnology development on the continent.

Journalists urged to fact-check their stories before publishing



Ms Mwendwa says journalists had a rough time reporting on COVID-19 because of misinformation shared on social media.

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When the first COVID-19 case was first reported in Kenya in March 2020, many citizens were scared of the disease.

Amina Mzee from Kisauni in Mombasa County, Kenya, was one such person. One day she attended her uncle's funeral in Taita Taveta County. When she returned home, she caught a flu and sore throat.

Amina quickly went for the COVID-19 test and luckily tested negative. After that, she swore to take the COVID-19 vaccine immediately it was made available.

However, months later after the vaccines were developed, Amina had decided she did not want them anymore. Reason? She had been getting a lot of negative information about the vaccines on social media.

"Most of the time we believe in our leaders, so when I saw some Kenyan leaders being reluctant to take the jab, I also developed cold feet," Amina recalls.

She says she some misinformation she she saw on social media was about women missing their monthly periods, infertility claims and even people paralysed after taking the vaccine.

"I therefore decided not to take the vaccine instead of risking my life," she says.

Amina was not the only one. Kenya is struggling to reach its vaccination target to date.

All these have been blamed on citizen journalism and bloggers who share a lot of information online without verifying the facts.

Speaking during the Fifth African Conference of Science Journalists, Mary Mwendwa, a journalist from Talk Africa, an online publication, called on journalists to always fact-check and include experts' voices in their stories so that they can give accurate information to counter the misinformation spread online.



Science journalists urged to write stories that connect with people's everyday life.

She agrees that journalists had a rough time when reporting on the COVID-19 pandemic because of the information shared on social media, most of which were not from experts and were misleading.

Ms Mwendwa said some of the challenges that journalists encountered in reporting the pandemic include pressure to deliver timely reports and misinformation.

Additionally, some experts were not easily available, with journalists depending only on the Ministry of Health for data and information about the disease.

But by having credible sources and experts, Ms Mwendwa said, journalist will be able to distinguish themselves from bloggers and citizens who in most cases don't have access to these experts.

"Fact-checking is very critical in storytelling, especially science stories because the right information saves lives," she said.

MESHA Secretary Aghan Daniel called on journalists to be objective and have the right sources who will ensure they publish factual and credible stories. He also called upon journalists to stay in associations so as to share ideas on how to package science stories correctly.

"It is very important for journalists to work as one family and share ideas because the information they have when written correctly saves lives," said Mr Aghan.

He encouraged science journalists to write stories that connect with people's everyday life.

"What I want to tell journalists is science stories sell, I always tell journalists to humanise science sto-

ries, look at the proximity of the story, politicise the story, link the stories to the SDGs and they will always see light of day and save lives," said Mr Aghan.

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It is very important for journalists to work as one family and share ideas because the information they have when written correctly saves lives

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Journalists urged to collaborate to tell the African story



Collaborative journalism projects across the continent has changed the way African stories are being told.

By Clifford Akumu | akumu.clifford@gmail.com

The Fifth African Conference of Science Journalists came to an end today with a clarion call for journalists to embrace cross-border collaborative efforts in telling the African narratives.

The uptick of collaborative journalism projects across the continent has since changed the way African stories are being told.

"We look forward to more cross-border collaborations between journalists in telling the African science stories," InfoNile Co-founder Annika McGinnis told journalists at the virtual meeting that brought together journalists, researchers and communicators from across the continent.

MESHA Secretary Aghan Daniel, in his closing remarks, said, "As journalists, we must now learn to work with others if we are to grow professionally."

"At Mesha we would like to thank all the journalists who have endured the four days of intensive and insightful presentations on science issues. I hope each one of you will put into practice the knowledge in their books to help mentor the new generation of new science journalists," said Bozo Jenje, MESHA Chairman.

The last day of the conference brought to the fore the importance of new techniques in storytelling. Mrs McGinnis took journalists through the new important resources in telling the science stories, among them geojournalism and Nilewell platforms.

"We are looking forward to collaborating with journalists across Africa to tell good stories," she said.

Mr Jenje added, "With these new techniques such as geojournalism, journalists will now be able to show facts where stories were done and how they are impacting on a particular area."

Shemei Agabo, a Uganda-based documentary producer, narrated his frustrations on telling the science stories before collaborative efforts.

"I got frustrated on how science stories were told. I wanted to tell the climate change story from a local dialect," he told the virtual meeting.

"Collaboration and networking is very important when telling stories," added Agabo.

Aghan further said MESHA has been chosen to host the 2025 IFAJ Annual Congress, which will bring together agriculture journalists from across the globe.

"We hope most of journalists on this call will join us for this in-person meeting. We are willing to fund the journalists from other countries who have been collaborating with MESHA in various ways to attend the meeting," said Mr Aghan.

Mr Jenje hailed the support from the conference funders and promised the meeting the organisation was looking forward to an in-person conference next year.

"The topics were timely. We are looking forward to an in-person Sixth African Conference of Science Journalists. We thank our funders for their support," he said.

Why military combat against illegal fishing in Lake Victoria is a two-edged sword

By Ann Mikia

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Human activities around and in Lake Victoria such as farming on the shores, overfishing and use of wrong fishing is slowly but surely killing biodiversity in the lake, an expert has warned.

Dr Mark Olokotum, a Uganda-based Aquatic diversity scholar, said things are however changing for the better as locals have started appreciating the importance of conserving the lake and the lives it supports.

"After sensitisation of area residents living around the lake we are witnessing a change as they have now resorted to using fishing nets with big holes, which enable them to spare the small fish until they mature," said Dr Olokotum during the Fifth African Conference of Science Journalists.

According to the International Union for Conservation of Nature (IUCN), illegal, unregulated and unreported (IUU) fishing is posing a severe threat to the survival of fish species in Lake Victoria.

Lake Victoria is the second largest freshwater body in the world and the largest lake in Africa.

It is the chief reservoir of River Nile and is shared by the three East African countries of Tanzania, Uganda and Kenya.

A 2018 IUCN report warns that some 76 per cent of fish species in the lake currently face extinction. This includes crustaceans like shrimps and crabs, which are important to local livelihoods.

Photo Credit | Christine Ochogo



Excessive use of force by the Ugandan army has instilled fear and injuries in fishermen they have apprehended

Experts describe fish as a renewable resource and one of the national resources that can rejuvenate the economy of the East African countries.

Fish therefore needs to be protected to grow and it was this realisation that made Uganda come up with a raft of measures to save small fish to grow.

The Uganda fisheries inspector Mugawi Innocent says the country has enforced the management of fisheries resources for the last 10 years. In 2017, Mr Innocent said, the Ugandan army was ordered to help the Ministry of Agriculture, Animal Husbandry and Fisheries to curb illegal fishing aimed at increasing the fish biomass because the fish factories were almost closing down.

Lieutenant Cannon Dick Kaija is the commanding officer for the Fisheries Unit in Uganda.

In the enforcement of the illegal gear law, he says they check whether the boats measure 28ft and above and also monitor whether the right boats have registration according to the district of the landing site it operates from.

"We also check if the fishermen are using undersize nets, undersize hooks and prohibited nets such as monofilament and trawl nets. Fishermen operating in the lake commercially also ought to have the right licences; namely, fishing licence, trade licence and transport licence," said Kaija.

The enforcement of the illegal fishing law by the Ugandan army seems like a double-edged sword, though.

It has helped protect the Nile perch in Ugandan waters, if the fish factories that were almost closing down but are back into business is anything to go by.

On the other hand, the fishermen complain about the inhumane mishandling they have encountered at the hands of the law enforcers.

The enforcement of the law happens in both Kenya and Uganda.

At Port Victoria in Kenya, Stella Simiyu narrates how her husband, who is a fisherman, was arrested by the Ugandan fishermen in August 2021.

"When they got him in the lake fishing, they first beat him up, forcing him to jump in to the lake but they got him out and went with him. We were called by other fishermen who informed us that he was beaten badly and taken to Uganda," narrates Ms Simiyu.

The Beach Management Unit Chairman of Matolo in Sigulu, Uganda, Osbert Okeyo, confirms that many fishermen have died due to fear of arrest.

He says they prefer drowning to being arrested by the Ugandan army. He says some fishermen live with injuries, while others have lost property because of illegal fishing.

"In Uganda, they want fishermen to use big boats from 28ft and over and for the nets to be 5 inches plus for tilapia and for the hooks from 9 inches and above. In Uganda, so many forces police the lake – Uganda



The case of dwindling fish in Lake Victoria is likely to affect many livelihoods

People Defense Force (UPDF), Uganda Revenue Authority and the Fisheries Department," says Mr Okeyo.

The case of dwindling fish in Lake Victoria is likely to affect many livelihoods.

Timothy Odede, the director of fisheries in Busia County, is against the use of excessive force in enforcing the law.

"The status of the fishermen is not the middleclass and if you arrest to the last man, the next to be born will still go to the lake. We therefore need to be more creative and sensitive in dealing with the fishing problem," he said.

Mr Odede said the biggest headache is to reduce the fishermen and fishing gear in order to increase the biomass in the lake.

He however prefers a different approach. "It's more expensive to police the lake than investing in the lives of the affected people. If you look at the battalion of soldiers in the lake in terms of their allowances, fuel and logistics, I think it would be more cost effective to invest in alternatives instead of management by the gun," he said.

The excessive use of force by the Ugandan army has instilled fear and injuries in fishermen they have apprehended. It hasn't curbed illegal fishing either.

Dr Olokotum confirms that the enforcement against illegal fishing in Lake Victoria was only effective in two years from 2017-2019 but old habits started creeping back.



Kenya's Health Cabinet Secretary Mutahi Kagwe and Chief Administrative Secretary Mercy Mwangangi give an update on COVID-19 infections.

Editor: COVID-19 exposed weaknesses in our newsrooms that need fixing

By Carol Otieno Miyawa | lolwecarol@gmail.com

Science journalists have been urged to always fact-check their stories to publish accurate and credible information.

Speaking during the last day of the Fifth African Conference of Science Journalists, Mary Mwendwa, and editor for Talk Africa, said for journalists, the COVID-19 pandemic is an unprecedented news story.

Ms Mwendwa said reporting on COVID-19 involved sifting through misinformation or disinformation to ensure the story published is not misleading.

She said social media is full of stigma, rumours and conspiracy theories about COVID-19.

"The role of a journalist covering the COVID-19 pandemic is to provide clarity when there is uncertainty and to hold authorities accountable," she said.

Ms Mwendwa highlighted the sources of COVID-19 information as World Health Organisation, national and county governments, research institutions such as Kenya Medical Research Institute (KEMRI), patients, health workers, general public, health facilities and care givers.

"A journalist must not publish any information on COVID-19 until it is verified," she said. Ms Mwendwa gave an example of the Madagascar herbal remedy that was not approved by WHO.

She said some of the challenges that journalists faced while covering COVID-19 include pressure to deliver timely and accurate information. She said some experts were also not easily available, adding that given that the Ministry of Health was the only source of COVID-19 data in Kenya, it was not easy to get information in time.

Ms Mwendwa said some of the things that COVID-19 exposed include the weakness in healthcare systems, newsrooms preparedness to handle infectious disease outbreak, the need to have active science desks in newsrooms, the role of media in society and need for more trainings.

"Reporting information is a journalist's top priority, but when providing context, perspectives and potential solutions, journalists also have the chance to be constructive," she said.



Journalists from India and Africa take a group photo in 2019. Speakers at the just concluded Fifth African Conference of Science Journalists urged for factual and accurate science reporting.

Science journalists challenged to file factual and objective stories devoid of personal opinions

By Mike Mwaniki | mikemwaniki2016@gmail.com
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Science journalists have been urged to adhere to journalistic tenets by filing factual and objective stories devoid of personal opinions.

Speaking during the virtual Fifth African Conference of Science Journalists, MESHA editor Godfrey Ombogo urged journalists to also avoid single-sourcing their stories.

"As a science journalist, there is a need to ensure your stories contain quotes from several sources instead of single-sourcing as the latter is regarded as dangerous journalism," he said.

"As editors we always have issues with single-sourced stories. There are a number of sources a journalist can refer to enrich their stories."

The editor urged science journalists to rely more on experts and ensure they cross-check all information, particularly from politicians and government officials who have a tendency of making "outrageous allegations without any backing".

Mr Ombogo said science journalists must always quote recognised and approved sources, including World Health Organisation (WHO), Ministry of Health (MoH),

Sustainable Development Goals (SDGs), data reports, science journals and experts well known in the field of the subject.

His sentiments were echoed by Christophe Hitayezu, a senior journalist from Rwanda, who said factual information helps the public to know what they believe in.

"Facts separate rumours from what is right for public consumption," said Mr Hitayezu.

Another renowned journalist from Uganda, Julius Odeke, discouraged science writers from taking scientific statements from leaders and politicians without verifying the facts.



TRAINED: Since the formation of MESHA 16 years ago, it has enhanced collaboration among science journalists in Africa and other countries.

"Our leaders and opinion shapers are useful in giving us leads to stories but we should not take their words at face value. However, this does not mean that they always lie," said Mr Odeke.

Earlier, MESHA Secretary Aghan Daniel urged science journalists to "humanise" their stories as much as possible as this makes them more interesting to read or listen to.

"As journalists, we also need to politicise our stories while ensuring we prioritise them due to their proximity as well as linking them to Sustainable Development Goals," said Mr Aghan.

In September 2015, the United Nations adopted the 2030 Agenda for Sustainable Development that includes 17 SDGs.

Building on the principle of "leaving no one behind", the new Agenda emphasises a holistic approach to achieving sustainable development for all.

Aghan said since the formation of MESHA 16 years ago in Nairobi, the organisation had made great strides in enhancing collaboration among science journalists in Africa and other countries.

"In Kenya, for example, the organisation has been at the fore-front in enhancing mentorship programmes among science journalists as well holding regular science cafes, boot camps, trainings as well as conferences and publication of the monthly Sayansi magazine, among others," he said.

However, for science journalism to thrive, Mr Aghan added, there was need to have the requisite resources and organisation among the members.

"As Africans, we need to speak and support each other as we cooperate and mentor others. It's a fallacy for some people to claim that science stories do not sell," he said.

Talk Africa Editor Mary Mwendwa recalled the challenges journalists faced when the first case of COVID-19 was reported in Kenya.

"Some of the challenges included pressure to deliver timely and accurate information, unavailability of some experts and the fact the Health Ministry was the only source of COVID-19 data in Kenya," said Ms Mwendwa.

However, following the onset of the COVID-19 pandemic, some of the lessons we learnt as science journalists was that fact-checking is critical in storytelling.

"The pandemic exposed weaknesses in healthcare systems while newsrooms preparedness in handling infectious disease outbreaks (protection gear and bio-hazard plans) was lacking in most media houses.

"We also realised that there is a need to establish active science desks in newsrooms as well as more trainings to enable journalists debunk misinformation which was rife especially in the social media," she said.

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CONFERENCE NEWS BULLETIN

is a publication of MESHA,
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Conference of the future: A journalist's perspectives on the 5th African Conference of Science Journalists by MESHA

By **Tebby Otieno**

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As the MESHA Fifth African Conference of Science Journalists drew to a close last Friday, many things kept crossing my mind.

First, it must take a stroke of some genius to organize such a big conference. The amount of work that goes on in the preparation of this conference must be enormous laced with a lot of hard work, I suppose.

The manner in which the themes were arranged to fit in snugly into four days, with the first day being set aside for health, the second day dedicated to agriculture, with environment, biodiversity and climate change being the main concern on day 3 – struck me with awe.

Issues of what we do – reporting science journalism - fitted in snugly on day 4 - the last day of the Conference. This excellent, meticulous arrangement and planning only comes from experienced conference directors.

I found this approach stimulating, enriching and professional. So logical were the presentations that



Tebby Otieno: It is high time the government started funding the African Conference of Science Journalists to make it a must attend forum for those interested in science and science stories.

as a first time attendee, I felt nothing but joy. When the conference began, within the first three presentations, my fear, mixed with anxiety, quickly evaporated, leaving me in the realization that this was a Conference of note. So, as they say, I sat back, listened and enjoyed.

At exactly 1am each subsequent night, we received the day's conference bulletin! What a surprise! With barely any resources,

the Secretariat managed to put together this daily publication with the alacrity of the Korean Sword! Whatever magic our Secretary, Aghan Daniel uses on his team to put up such an out of the world show, remains a mystery for me and perhaps to many MESHA members.

Wait a minute. And so where did the International Federation of Agriculture Journalists emerge from to make such scintillating opening remarks at the beginning of the conference! This is yet another aspect that has left me in awe! The opening ceremony had three speakers, - our own MESHA Chairman, Mr Bozo Jenje, a representative of InfoNile, our partners in the Conference, Alis Okonji and Lena

Johansson, the President of ifaj. She shed a lot of light on the Federation and stated that human rights and freedom of speech were key tenets in promoting science journalism.

The keynote speech, from Dr Samuel Oti left me thinking – how can I contribute towards decolonizing health rights and funding for my own African brothers and sisters?

The day of health.....mine. This was a gem. An experts spoke eloquently on how much hope there was in the introduction of the vaginal ring in the intervention against HIV that left me wondering – have all women of Africa heard of this ring? Then came the presentation on U=U by Dr Lazarus Momanyi, a Ministry of Health official. U=U basically means undetectable is equal to untransmittable. Good enough, I now know that adherence is key in wrestling HIV/AIDS. I asked our Conference Director, Nduta Waweru why they had to bring a science café into the conference and her answer was....."Our funders, AVAC, okayed our request for this session, adding that it is rewarding to once in a while meet other journalists who ordinarily do not attend the cafes."

I also noticed that this year, there were more than 5 sessions on biodiversity.

Why the prominence to this branch of conservation? The organisers told me that since February, MESHA received funds from JRS Biodiversity Foundation to do a project called Journalists Acting for Biodiversity (JAB). This support enabled the invitation of four scientists to talk about biodiversity at the Conference.

Sessions on agriculture were mouth-watering. That there are 500 species of edible insects in Kenya was an amazing fact that has convinced me now to believe that insects have a big role to play in food security in Africa. From the agriculture session, I picked the knowledge that I need not worry about Genetically Modified Organisms since our endemic species are intact – in fact they are kept in a gene bank! And very country has its own genebank.

It was also cool to note that there is a fallacy about so called farmer saved seeds, as our farmers do plan what is called grain and not seed. Where are all these seed people been? I have kept on wondering. That there are regulations that seek to ensure that we do seed business harmoniously within the economic blocs. Even though I am an avid reader, I have decided that I will read even more. How come I have all along not known that there are continental

guidelines the use of Biotechnology for food and agriculture? Thanks to the Conference now I know. It was gratifying to hear Dr Simplicie Nonou, Head of Agriculture and Food Security at the African Union Commission talk about biotech in Africa and led us as journalists into understanding what is happening in Africa as a whole.

It was a brilliant idea to bring science journalists to share with us their experiences in covering climate change. I learnt a lot and will practice what I heard other journalists across the borders do.

Calling on African governments and international agencies

If any event needs funding from agencies, the UN body, African Union, large and international NGOs, the Kenya Government etc - that event is the MESHA Fifth African Conference of Science Journalists.

This Conference holds the future for African science and should hence be made BIG. It is that single event that provides a forum to showcase science being done in Africa. It is that gathering that acts as a single market where all the science done in Africa yearly can be brought together and presented to the masses – devoid of jargon.

My take is that the Conference is that a must attend event by all who work in the space of science. It will require attendance from each of the 54 African countries, it can be our heritage where the West come to listen to us as they savour our science.

I call on the industry players, producers of goods and services in Africa to come out and support the Conference. This conference can no longer remain low keyed. It must attract the high and the mighty!

Come on people of Africa and put money in this Conference.



The Daily Bulletin from the first three days of the conference.