

FINAL TECHNICAL REPORT / RAPPORT TECHNIQUE FINAL THE THIRD AFRICAN CONFERENCE OF SCIENCE JOURNALISTS 2018 REPORT

MESHA;

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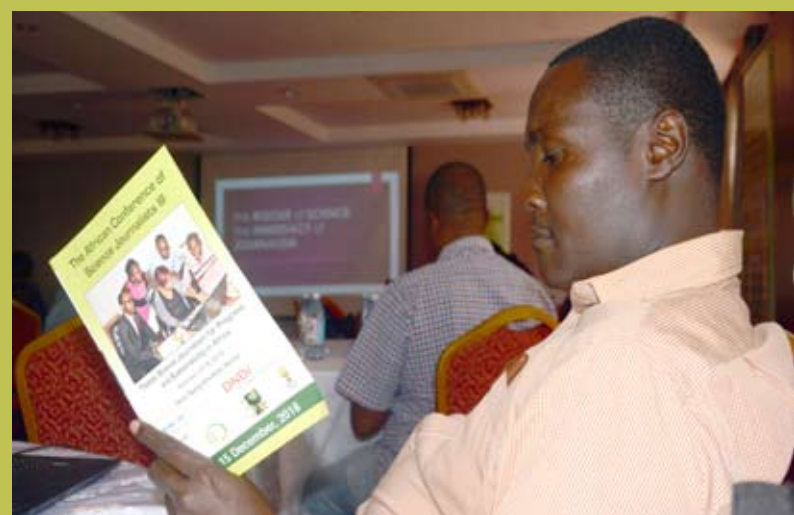


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The Third African Conference of Science Journalists 2018 REPORT

***Science journalism for Progress and Sustainability
December 13 - 15, 2018, Nairobi, Kenya***



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Who we are

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.

Executive Summary



Violet Otindo, MESHA Chairperson

Science journalism contributes significantly to the public's understanding and knowledge on varied areas of science. It is increasingly gaining traction among early and mid career journalists in Africa but remains disadvantaged compared to other fields of journalism like political reporting. The number of seasoned Science journalists continues to dwindle due to mass exodus to other areas of communication. This is why the Media for Science, Health and Agriculture (MESHA) strives to continually build bridges between scientists and journalists to help revitalize reporting of key issues in science.

For the third time since 2012, MESHA organized the 3rd Pan- African conference in Nairobi. The conference brought together over 50 delegates from 12 African countries with an aim to demystify science, promote networking among scientists, journalists and policy makers. This objective was built on the Conference's theme; Science Journalism for Progress and Sustainability.

The conference was officially opened by the Deputy Director in charge of research at Kenya's National Commission for Science, Technology and Innovation (NACOSTI), Mr Godfrey Kalerwa. He was representing the Director, Dr Moses Rugut.

For the third time, the organizers of the African Conference of Science Journalists started the conference by sending out delegates to field trips to have a firsthand experience with what various scientists and initiatives do among communities. To this end, 40 journalists, with an average of eight per group visited six sites within and outside Nairobi. Some sites were as far as Meru in Kenya's Eastern region. The field visits also provided them with opportunities to generate rich science stories from real experiences.

Three conference bulletins were produced during the conference as with financial support from IDRC. They put together a summary of the daily conference highlights including but not limited to field trips, plenary discussions and interviews.

The team of panelists at the opening session of the Third African Conference of Science Journalists described how best to position science journalism in reporting science and policy as each country gears towards attaining the 2030 Sustainable Development Goals (SDGs). According to the United Nations (UN) and The World Health Organization (WHO) reports, Africa still lags behind in their targets to attain SDGs.

In order to communicate science better, there is need for journalists to have in depth understanding of the subject matter. This includes how scientists conduct their work and handle controversies, the role of scientists and their organizations in decision-making, how scientific advice is used in policy making and finally the involvement of science journalists from the beginning of researches to the end.

The Conference also provided a platform to enhance the already promising engagement between science institutions and journalists. It tackled the realities of internet and mobile technology, in particular the increasing reliance on social media for news and information. Digital platforms open up new possibilities for reaching diverse audiences. Is this a bane or boon for science journalism? What opportunities are there for science journalism as we make the shift to digital television all over Africa? What about community radio, and its important role in reaching remote and local populations?

These are just some of the questions that the 2018 African Conference of Science Journalists sought to answer, as we look forward to a brighter future for science journalism and communication in the continent.

Violet Otindo, MESHA Chairperson

Preface



Aghan Daniel, MESHA Secretary

Science journalism in Africa is undergoing rejuvenation, after decades characterized by inadequate coverage, poor reporting and weak scientist-journalist relationships.

Today, we see renewed interest and commitment to science journalism by governments, donors and the private sector. The role of the science journalist is increasingly being acknowledged as the key to attain African countries' individual and collective development agenda.

Furthermore, the radically transformed technological and media landscape in Africa, increased support towards science journalists training, and closer researcher-journalist partnerships all point to the great potential for science journalism to play its part in the continent's progress and sustainable development.

A continental forum is needed to further solidify the gains in Science journalism in Africa, update science journalists on trends and latest researches, and provide training and network opportunities for journalists, communication professionals, and policy makers. This formed the major reason why we, as the Media for Environment, Science, Health and Agriculture (MESHA) decided to organize this conference.

We invited like-minded partners from non-governmental organizations, research institutions, government and the private sector to join us to organize the Third African Conference of Science Journalists (ACSJ III) in Nairobi, Kenya, held from December 13 to 15, 2018 in Nairobi.

We are happy to note that about 60 international and local science journalists from East, West and Southern Africa; communication professionals; scientists; and policy makers convened in Kenya for the Third African Conference of Science Journalists (ACSJ III).

The conference provided a platform through plenary sessions to discuss the current status and future of science journalism in Africa, and disseminated the latest updates in research and development affecting the continent. ACSJ III, similar to preceding conferences, was a vibrant networking and training zone that left participants re-energized and inspired especially through field trips to eight different sites in and outside Nairobi.

**Aghan Daniel
MESHA Secretary**

"Science reporters need to do more to "fight" for space just like their counterparts in politics. Maybe over time, the narrative of politics taking prominence will change."

Victor Bwire, Media Council of Kenya

Acknowledgement

The third African Conference of Science Journalists (ACSJ III) is the continuation of a long journey to bring together an array of stakeholders who tell the story of science in Africa in a factual and professional manner.

The Media for Environment, Science, Health and Agriculture (MESHA) hereby expresses its gratitude to the board and the Secretary of our giant association conference organizing team for the support they have given to ensure that the conference was well conceived, planned and executed meticulously.

Our major partner, the International Development Research Centre (IDRC) deserves special mention for their provision of funding and technical support to the conference. Being a third time conference, we were overwhelmed with the many positive responses and support from you. Without this support, the conference would probably still be in conception.

We also thank the following organizations for the support they accorded the conference organizing team in terms of resources and technical input.

These are Drugs for Neglected Diseases Initiative (DNDi), The National Commission for Science, Technology and Innovation (NACOSTI), AVAC and Bayer Crop Science. We also thank Centre for Science and Environment, India and Kenya Agricultural and Livestock Research Organization (KALRO). May I also mention Kisumu Medical and Education Trust (KMET) from Kisumu for standing with us.

We also sincerely thank persons and organizations who were behind the successful field trips such as the Kenya Agricultural and Livestock Research Organization (KALRO). The Africa Mental Health Foundation (AMHF), The Aga Khan University, Kamili Organization, International Centre of Insect Physiology and Ecology (icipe), The National Agriculture Research Centre, Thika and Jomo Kenyatta University of Agriculture and Technology (JKUAT) also fall in this category.



Agatha Ngotho, MESHA Deputy Secretary

This section on gratitude will not be complete without special mention of all our speakers, the hotel management for the serene environment accorded to us during the conference and all the participants from all over the continent for being part of this great forum.

We also thank the team that toiled to ensure we produced the Daily Conference Bulletin led by our Secretary and Chief Executive Officer, Aghan Daniel, Mike Mwaniki and Bozo Jenje. Special mention also goes to the participants who supplied all the stories and photos in good time. Your articles were of very high quality and we enjoyed working on them.

Agatha Ngotho, MESHA Deputy Secretary

"Despite increased interaction between scientists and journalists as well as improved science coverage, more has to be done to increase the number of solution based stories that can steer Africa towards attainment of the sustainable development goals."

Otula Owuor, MESHA Patron

Conference Picture Speak



Victor Bwire, Deputy CEO Media Council of Kenya



Prof. David Ndeti of Africa Mental Health Foundation



Manuel Odeny of the Star Newspaper, Kenya and Hellen Kawiche of Star TV Tanzania keenly follow the proceedings



Caroline Miyawa of Radio Nam Lolwe and Angela Okech of Nation Media Group actively participate at the conference



TV journalists Claire Stephane Sikka of TV/Soleil FM from Togo Benin and Awori David NTV/Daily Monitor Uganda capture mementos at the Conference



A researcher demonstrates how a drone works during a field trip organised by WARREC

The over 40 journalists went to 5 field trips in various research sites. The objective was to provide journalists with a first hand experience with research in the field away from abstract presentations that often characterize conferences. It also gave them an opportunity to understand and report on various research activities from the field.

Field Trip Number One: Kamili Organisation

This trip provided journalists with an opportunity to experience the day to day challenges mental patients go through. Kamili Organization is an NGO that strives to provide equal access to services, affordable care and improvement of the quality of life of those with mental health illnesses in Kenya.

Field Trip Number Two: The Africa Mental Health Foundation (AMHF), a non-governmental organization provided journalists with opportunity to explore more about research in mental and neurological health and substance use to generate evidence for policy and best practices in the provision of affordable, appropriate, available and accessible mental health services. Was established in 2000 by Professor David M. Ndeti and three of his students from the Psychiatry department of the University of Nairobi.

Field Trip Number Three - icipe: This was an agricultural trip featuring a project known as Insect feed for poultry and fish production in sub-Saharan Africa.

Feeds represent one of the most important inputs in livestock production, particularly in poultry and fish production systems. The project showcased how dried insect products may now be used as a protein source in livestock feed. Insect products are less costly than fish meal, which is currently widely used as a source of protein for the feed and which influenced the development of regulatory standards for using insects in poultry and fish feeds in Kenya and Uganda.

The project, now entering its second phase, is based at the International Centre for Insect Physiology and Ecology (icipe). Journalists visited the labs at icipe and freely interacted with scientists involved in this work and discussed the significance of this breakthrough to food security in Africa. IDRC and ACIAR (Australian Centre for International Agricultural Research) support this project financially.

Field Trip Number Four: Infant lives: Aga Khan University, improving Infants lives: This field trip was based on a new health project 'Improving early childhood development and well-being in refugee and other marginalized countries.' The Nairobi project is co-led by Aga Khan University's Institute of Human Development and the Sinai Health System of Canada. It is part of comparative but separate global work on early childhood development conducted by the Alliance for Human Development and its local implementing partners in South Africa, Bangladesh, and India. This project is co-funded by IDRC and the Aga Khan Foundation.

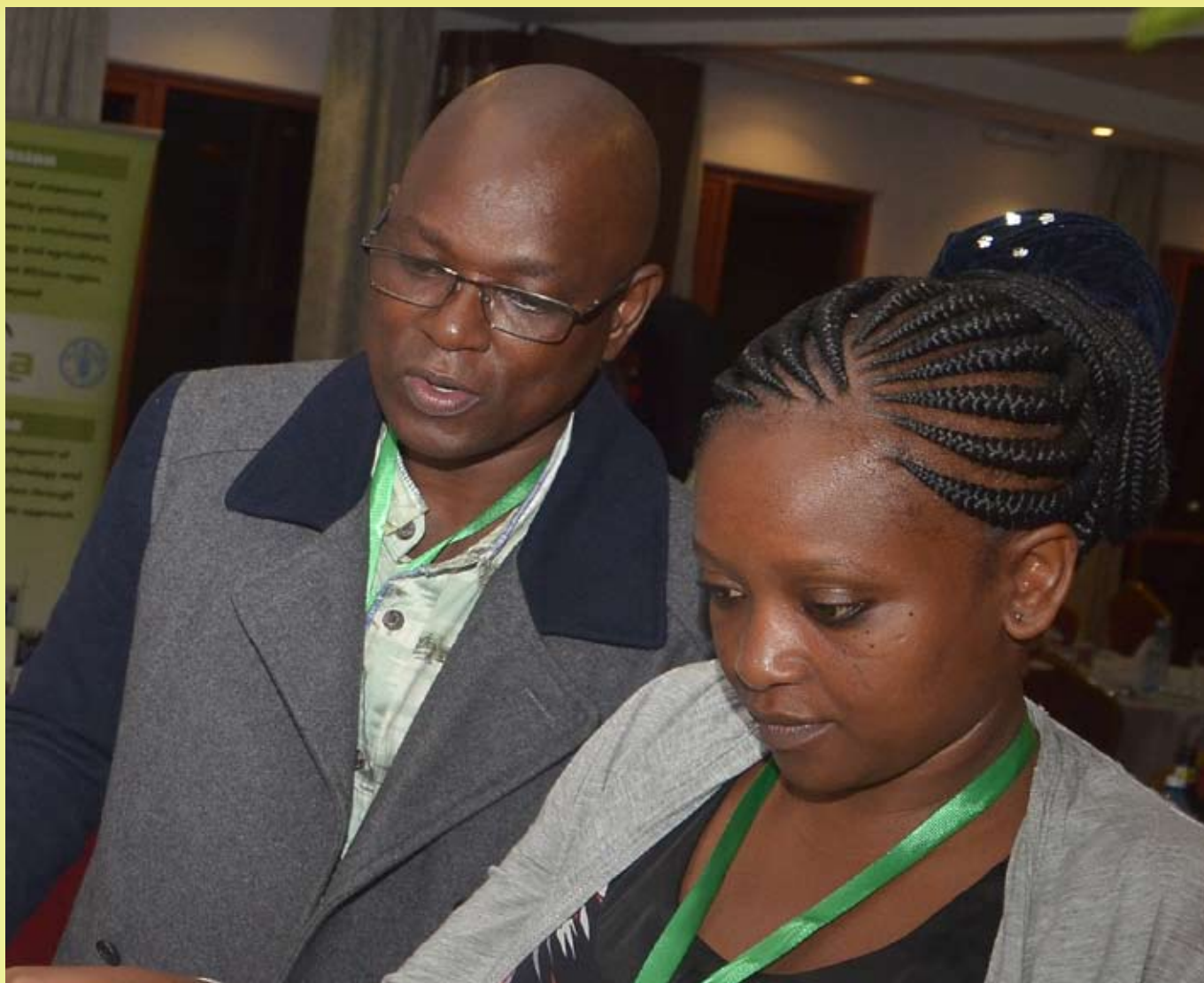
Field Trip Number Five: National Sericulture Research Centre, Thika: The Government of Kenya partnered with the government of Japan to revitalize sericulture sub sector. Silk farming was introduced in Kenya through a similar partnership in 1972 but since 1982, the sector did not grow as was expected. The partnership includes establishing a firm basis for sericulture research at the Centre. The journalists observed silk farming in progress including silkworm rearing; mulberry farming and observed the silk factory currently under construction.

Field Trip Number Six: This was a visit to the project called Smart Water for Agriculture (SWA) in Meru town, nearly 200km to the East of Nairobi. Leveraging on the use of technology in agriculture, JKUAT's Water Research and Resource Center (WARREC) in collaboration with SNV-Netherlands is implementing two Smart Water for Agriculture (SWA) projects in Meru County.

The projects aim at assessing water productivity of crops grown under irrigation for smallholder farms and evaluate the technical performance of the Rota Sprayer irrigation system with regards to water application uniformity. The Flying Sensors project, uses drones, referred to as 'Flying Sensor' to assess water management and crop health in irrigated fields of cabbage, potatoes and other vegetables.

A flying sensor is a small drone that can fly up to 200m above ground and take high resolution images utilising the Near-Infra Red (NIR) spectrums of light. The images are later decoded and the information shared with farmers.

"Using this technology, farmers can discover diseases on plants and stress indicators which are impossible to see with the naked eye thus encouraging precision farming," explains Prof. Bancy Mati, WARREC Director and the project team leader.



Bozo Jenje, a freelance journalist and Ruth Keah Kadide of Radio Rahma intermingle at the Conference.



Phillip Muasya of Standard Newspaper



David Ngumbao of Baraka FM

Conference Picture Speak



Vincent Yusuf Ayaka of Daily Trust Nigeria makes a contribution at the conference



Elizabeth Oronga, a Siaya based broadcaster shares a light moment with Nima Aden Cheik Ali of Djibouti Post



A photo of edible cricket taken by Kofi Djamessi, SciDev, Togo during a field visit to International Centre of Insect Physiology and Ecology. Scientists at icipe have discovered new edible cricket species with 60 per cent protein content.



Group photo: Participants and scientists

1.0 Opening Session

1.1 Why the media must tell the African science story objectively

The one-of-a-kind three-day conference, convened by the Media for Environment, Science, Health and Agriculture (MESHA), brought together young and experienced journalists. Over 40 science journalists and 12 scientists from all over Africa attended the conference whose theme was; Science Journalism for Progress and Sustainability in Africa.

Mr. Godfrey Kalerwa, Deputy Director in charge of research at the National Commission for Science, Technology and Innovation (NACOSTI) opened the Conference. He called on media to help the public to develop an inquisitive culture and urged them to also have a nose for new research happening in many institutions across the continent gathering dust on shelves. "I also laud scientists for opening up to journalists but I urge you to open up even more to help the very useful information you are creating, reach the intended users and help better lives," he added.

1.2 How can we position Science Journalism to contribute to sustainable development goals?

During the event, senior scientists unveiled the latest breakthroughs in scientific findings in animal health, agriculture and environment. This provided a platform for stakeholders to discuss the current status and future of science journalism in Africa in addition to disseminating latest updates in research and development affecting the continent.

"The meeting is a continuation of MESHA's work – that of bringing scientists, journalists, communication officers and other actors under one roof to discuss science that impacts directly on human life," said Aghan Daniel, the secretary of MESHA, Africa's most active science journalists association in Africa.

Mr Otula Owuor (MESHA Patron), Dr. Kathryn Toure (IDRC), Mr Godfrey Kalerwa (NACOSTI), Mr. Victor Bwire (Media Council of Kenya) and Ms Virginia Wangari Ndung'u of KALRO who were among the officials at the opening ceremony urged journalists to tell the African science story objectively and boldly. Mr Otula said science journalism in Africa had come a long way with scribes being educated and trained to embrace solution based journalism. "Awards given to scientists on their work should reach the market, and the best way is through African journalist with regular science beats," said Mr. Otula.

While addressing the organizers of the conference, Mr. Kalerwa observed that science journalists must take advantage of the renewed interest and commitment to science journalism by governments, donors and the private sector. He pledged to continue working with MESHA to promote science journalism on the continent.

According to Dr. Toure, the role of the science journalist is increasingly being acknowledged as key to the achievement of African countries' individual and collective development agenda.

Furthermore, the radically transformed technological and media landscape in Africa, increasing support to training for science journalists, and closer researcher-journalist partnerships all point to the great potential for science journalism to play its part in the continent's progress and sustainable development. "Working with science journalists has helped IDRC to directly reach populations with their innovations," she said.

Media Council of Kenya Deputy CEO, Mr. Victor Bwire said unlike political and entertainment stories which are event based, science stories can splash the front pages of publications if journalists gave their work a little push. "Africa is hungry for science stories and the challenge remains with journalists to ensure this is achieved," said Bwire.

He further noted that free flow of information is critical to the development of a wholesome society and an essential pillar for informed judgment but reiterated that this power is skewed in favour of the sensational.

Bwire explained that there is a context to this imbalance of information and referred to it as "intellectual malnutrition." The issue of breaking the mysticism of science and science reporting is a challenge that is surmountable according to him.

He urged scientists and researchers to come out from their closed doors to demystify the language of science. Breaking the language barrier means disseminating scientific information in simple bits for mass audiences. He however stressed the need for journalists to strive to earn the trust of scientists. "Political reporting is "the recourse of touch-and-go journalists" driven by the dynamics of the news market: circulation trends and newsstand sales," he said.

The politics of "page-one" is always "politics as headline news." He believes that current readers are changing their view of political news. They now want more development than political stories hence journalists should take advantage and churn out impactful science stories.

MESHA Secretary, Aghan Daniel noted that Africa is hungry for science stories and the challenge remains with journalists to ensure this is achieved.

Ms Violet Otindo, the Chair of MESHA urged participants to take such gatherings seriously as this could be a once in a lifetime opportunity to showcase the excellent work that scientists in Africa do amidst dwindling funding and sometimes unsupportive policy environment. "The conference comes against a backdrop of growth and development in the digital sector in Africa and hence provides an opportunity to explore how technology could transform the way communication is disseminated and received," she said.

"It has been a bumpy ride for the three years trying to organise this conference. The triumphs and setbacks have today made us stronger. Our membership in Kenya has increased to over 100, with at least more than 50 other colleagues country wide requesting to join us," Ms Otindo said.

MESHA is currently considering including other African science journalists to become members in order to increase collaborations and cross border African stories. MESHA prides herself in mentoring journalists from "writing just stories" to writing award winning stories.

Previous Pan African science journalists meets and conferences, all organized by MESHA, have served as eye openers to the need for regular African science journalists meetings, where journalists and others working in scientific communication, advocacy, and research have exchanged ideas.

The first African Conference of Science Journalists was held in 2012 in Nakuru, Kenya. MESHA also publishes SAYANSI, the only science magazine by a science journalists' association globally.

This session set the pace for insightful two day vibrant discussions on how journalists and scientists can better tell and sell the African science story.



Participants are all ears

2. CONFERENCE PRESENTATIONS

The main conference days were characterized by presentations, discussions, panel debates and case studies testimonials. There were no breakaway sessions as has been the tradition in the past two editions of the Conference. This enabled participants to attend all sessions.

2.0 AGRICULTURE

2.1 Africa's Dwindling Agriculture Fortunes by Dr. Jemimah Njuki – IDRC

Negative stereotype on agriculture and a gap between researchers and journalists has created a narrative of dwindling agriculture in the country. According to NEPAD in 2017, despite the continent having an increase in agriculture productivity in the past 30 years, there has been a misconception on the sector with the biggest brunt felt by small scale farmers. "For the past three decades, agriculture in the continent has increased in the continent by 160 per cent an increase that clearly exceeds the global production," Dr. Jemimah Njuki, a researcher said.

The presenter who is a senior project specialist in Agriculture and Food Security for International Development Research of Canada said that the main cause of a feeling of the poor growth of agriculture is high government estimates of growth in the sector across the continent which is never reached. "Every year governments have projected 6-8 per cent growth in agriculture, but actually the growth has been at 4-5 per cent which doesn't meet the target estimates to make the belief that it is dwindling," Dr. Njuki noted.

According to the researcher, the best way to rectify this is through a six step process which starts with having a problem and solution model which moves to the second phase of having hints on the main problems. The third step then entails creating a connection to the dwindling and slow growth followed by the fourth process of getting an expert decision. The last two steps will involve handling stereotypes and beliefs in the sectors by finally having data and evidence to boost it. "Researchers should simplify their language for journalists to make it easier to communicate with the public in a simple and clear way," Dr. Njuk said on importance of media in the whole matrix.



Dr. Jemimah Njuki, a researcher with IDRC

In 2014, African presidents adopted the Malabo Declaration, which among other raft measures committed its countries to allocate 10 per cent of her Gross Domestic Product to Agriculture. This was to end hunger by 2025 by doubling productivity through inputs to reduce malnutrition which is the main cause of stunting in children. "But slow growth of agriculture in the continent is the main failure by countries to commit to the declaration, Dr. Njuki noted. The declaration showed that it is important to place strong emphasis on increasing production through subsidies to critical input like fertilizers.

2.2 Winning the fight against Maize Lethal Necrosis Disease (MLND) and the Fall Army worm (FAW) – CIMMYT and KALRO

Dr Steven Mugo began his presentation by saying that Maize and Wheat Improvement Centre (CIMMYT) has embarked on an ambitious program to develop high maize resistant seeds that are tolerant to the Maize Lethal Necrosis Disease (MLND).

A senior breeder at CIMMYT based at the Africa office, Dr Mugo announced that a number of new varieties have been rolled out to farmers in an attempt to wipe out the disease in the farms.

Dr Mugo said that CIMMYT Global Maize Program, based in Nairobi, Kenya, has been collaborating with Kenya Agricultural and Livestock Organisation and so far they had intensively screened over 150,000 maize germplasm entries over the last five years.

The CIMMYT team also discovered and validated genomic regions in maize conferring MLN resistance, and then transferred MLN resistance into 30 elite, Africa-adapted inbred lines that were MLN-susceptible. This whole process was completed in just three years, using molecular marker assisted breeding.

The presenter added that the MLN is still high in Kenya, Ethiopia, Uganda, Tanzania and Rwanda with an average prevalence of 27.5 per cent. "This disease is lethal and we have joined efforts with the national governments and other government agencies to develop tolerant seeds to help in eliminating this disease," he told the gathering.

Dr Mugo said CIMMYT works closely with Kenya Agricultural and Livestock Research Organization in collaboration with other seed companies to develop more resistant seed varieties in Kenya. "We have a rigorous system of keeping a check list on the seeds we are giving out to farmers. This helps us to pull out seeds that are not tolerant to the disease," he said.

He added that winning the war against the new maize disease is an uphill task that needs concerted efforts from different stakeholders.



CIMMYT and KALRO scientists at an MLN research field in Naivasha

Mugo pointed out that the countries with high prevalence were bound to lose out in achieving zero hunger and reducing poverty as outlined in the social development goals if the war on the maize disease is lost.

Farmers, he noted, will continue to have poor harvest as a result of the disease thus affect the seed value chain. "The disease is bad and can wipe out a whole maize farm resulting into famine and poverty in family households," he said. He further announced that a number of mechanisms are being employed to keep away the disease from the farms. "We have a strong surveillance team even along the borders of this country. Besides that we are encouraging farmers to practice crop rotation, early planting and diversify farming," he said.

The disease was first reported in 2011 in a village in Bomet County, in Kenya's Rift Valley before it spread to other parts of the country attacking maize fields. Mugo says the most common symptoms of the disease include loss of green coloration on leaves and premature drying of husks.

2.3 FAW trail and how to contain it **By Dr Zachary Kinyua of KALRO**

Fall Armyworm (FAW), *Spodoptera frugiperda*, is a plant pest with larvae (caterpillars) as the destructive stage. FAW was first reported in Kenya in March 2017 but has since rapidly spread to all maize-producing areas.

Maize is the most preferred host of FAW, but it has been noted on other crop plants such as sorghum, rice and wheat. According to research, the pest attacks over 80 plant species. But in maize, it can reduce yields by up to 80%.

Dr Zachary Kinyua, head of Crop Health Research at Kenya Agricultural and Livestock Research Organization (KALRO) said that Kenya is seriously affected by fall army worm. FAW has now been reported in 43 counties out of 47 counties.

FAW has recently become a serious threat to the food security in some regions leading to losses of up to 60 per cent in some cases.



Phillip Keitany of KTN, Kenya and Egessa Hajusu of New Vision, Uganda keenly follow a presentation

Kenya's economy is highly dependent on the agriculture sector which contributes 25 per cent to the Gross Domestic Product. The country is seriously affected by FAW. In 2018, about 20,000 hectares was infested with the worm. During the 2017 April-May period alone, a total of 250,000 hectares of maize crop had been affected by the FAW, said Kinyua. In fiscal losses during the same year, the country recorded 1.05 million 90 kilogram bags of maize loss that were valued at USD 3.15 million.

But all is not lost. Dr Kinyua noted that losses of up to 20 per cent have been reduced through various interventions. There have been various efforts to boost fall army worm detection and control through technical support from a multi-institutional technical team initiative.

There are various interventions that have been made to mitigate the effects of fall armyworm in Kenya; harnessing technical expertise to guide management of FAW, confirmation of FAW infestation in Kenya, Issuance of an alert to counties to trigger surveillance, research for integrated management of FAW and authorization of pesticides for interim use and efficacy evaluation among others.

2.4 New cattle vaccine: How media can help slay Contagious Bovine Pleupneumonia **By Mr Hezron Wesonga**

A partnership between Kenya Agriculture and Livestock Research Organisation (KALRO) and local science media, would be vital in creating and promoting awareness about a new vaccine that could save thousands of herds of cattle from a disease that threatens livelihoods of millions of people across Africa.

While KALRO has developed a new vaccine that protects cattle against infection and possible death from the deadly Contagious Bovine Pleupneumonia (CBPP), public awareness about its existence remained low despite its effectiveness against the lung disease.

While making his presentation, Mr Hezron Wesonga, a scientist with KALRO, told journalists that the development of the vaccine had already received coverage from the media but much more needed to be done to create the desired effect among farmers.

"The project received wide and positive coverage, however we do not know if our message created the desired effect among farmers," the researcher observed.

"It takes a long time, 10 - 15 years for a livestock



Journalists should highlight impact of animal diseases

vaccine to move from development to users, but the CBPP vaccine has taken only 7 years and requires two more years before it reaches the farmer, our target is awareness creation among all stakeholders and prepare farmers to adopt it," he added.

The vaccine has been under development since 2012 with funding of the Canadian Government, "It uses a new technology called "reverse vaccinology," is thermostable - meaning it does not require cold chain storage, and can be produced in large quantities" Wesonga explained.

Partners in the project include Canada's IDRC and the International Livestock Research Institute (ILRI).

On the other hand CBPP only infects cattle and in rare cases water buffalos, is only found in Africa, and can only be controlled via the use of a vaccine, according to Wesonga.

Researchers, he said must work with the media to tell the stories of their work to help the public understand the role the experts play in agriculture.

It was also important for researchers to get feedback on impact of the information that the media disseminates, so as to aid selection of the appropriate method of reaching target audiences and at the right time.

to livestock breeding - By Dr Moses Olum

Over one million cattle die annually as a result of East Coast Fever disease resulting to an annual loss of approximately \$300 million. Also known as theileriosis, ECF is a disease of cattle and buffalo which occurs in Africa and is caused by the protozoan parasite *Theileria parva*. The disease is the most virulent/severe form of all theilerioses which is almost similar to the malaria parasite – *Plasmodium*.

Dr. Moses Olum, a research scientist at Kenya Agriculture and Livestock Research Organization (KALRO), says that East Coast Fever disease affects 11 countries in Eastern and Southern Africa where roughly 28 million cattle are at risk. "East Coast Fever disease has a devastating impact on pastoralists and smallholder (dairy) farmers since a cow dies every 30 seconds from the disease," he disclosed.

Dr. Olum mentioned that the disease is mostly spread by ticks and infected cattle dies within 3-4 weeks of post infection. He stated that there are three ways to control ECF which are; tick control to prevent infection, drug treatment to cure sick cattle and ECF vaccine to prevent clinical disease.

In explaining how these methods work, Olum cited that ECF vaccine only protects against ECF but it gives no protection against other theilerioses such as Corridor Disease – a disease found in southern Africa or any other tick-borne disease such as red water and heart water.

"These three methods all work but in different ways and since ECF is a massive problem, all the 3 methods are needed as best control strategies," he stressed.

He told the conference that dipping or spraying



A section of participants follow proceedings

susceptible animals with Acaricides helps to kill and prevent ticks that bite and facilitate its spread.

“ECF has a high potential to spread with the uncontrolled movement of infected cattle and climate change since the distribution of the tick vector and suitable tick habitats is wider than that of the parasite,” said Olum.

However, he mentioned that pollution and resistance increases challenges of Acaricide efficacy on ticks therefore necessitating need for further research on better control methods.

The presenter informed the meeting that KALRO had so far produced two ECF vaccines that exist in the market today namely; Marikebuni – 1 strain (used across East Africa) and Muguga cocktail - 3 strains. Both have been approved by the Directorate of Veterinary Services.

He added that KALRO was also producing a new batch of ECF vaccine with funding from USAID. Under this funding, they will produce 300,000 -500,000 doses of the vaccine. “On ground to form vaccine, these 0.5 million vaccine doses will be produced in a period of 2 years and will cost about Ksh. 15 million (USD150,000),” he added.

On working with the media, “we are now in a digital transformation where through mobile phones people get their information on the go,” he said. Breaking news can be accessed on real time, social media has become the biggest ‘sign-poster’ to online content and a place to grow an engaged community of supporters, with video being the fastest growing online medium.

He noted that the fastest growing digital users are the youth who are often opinionated but can influence greatly how far the news goes. He encouraged media to be more proactive in researching about what is happening beyond their countries to be more equipped with relevant knowledge to change behaviour through their writing.

Dr Olum at the same time reminded journalists that most people rely on media to be informed about scientific advances and their consequences in a world where science is changing rapidly hence the situation called for a sustained delivery of news presented in an entertaining way to ensure that the audience is glued to their channels or medium. He urged journalists to present their news without exaggeration but bear in mind that the audience needs to be tantalized especially on technical stories.

He urged the media to understand their subject well to be able to ask relevant questions as they interact with scientists. He also said that media could creatively use different available communication tools to promote vaccine uptake thus enhance people's understanding on vaccine benefits, challenges and effects. This will help to increase awareness among people on the available information pertaining to ECF vaccines. Dr. Olum made a reference to the fact that the media is the mirror of society and hence had power to create an intellectual environment in any society." Media activities can set the agenda for public discussion regarding a topic and bringing sensationalism, propaganda and political slogans in its content," he further stressed.

Media should investigate allegations to bring out the truth about science stories, giving an example of the claim that measles, mumps and rubella vaccine was associated with autistic spectrum disorder (ASD) – Lancet 1998.

3.0 HEALTH

3.1 HIV Viral suppression in children: The challenge – By Dr Emma Momanyi, Pediatric and Adolescent Advisor, University of Maryland and NASCOP

The presenter took delegates through the background of HIV in Kenya and went into discussing the journey of HIV Viral suppression in children (CALHIV). She presented on 90-90-90 cascade care, the age disaggregated viral suppression rates, the challenges and barriers and the call to action for viral suppression in CALHIV. She explained how children and adolescents get infected. First, through vertical transmission, which refers to transmission from mother to child either during pregnancy labour, delivery or through breastfeeding. Transmission can also occur by horizontal transmission. This happens when a child/person gets into contact with blood, semen, vaginal fluids and rectal fluids of a person who is infected with HIV.

Children (0-14 years)	15-49 years	50-64 years	All ages
NUMBER OF PEOPLE LIVING WITH HIV			
105,200 7% prevalence	864,600	523,600	1,493,400
NUMBER OF NEW HIV INFECTIONS			
8,000	27,200	17,600	52,800
TREATMENT COVERAGE			
86,300 81% coverage	713,500 82% coverage	322,100 62% coverage	1,121,948 75% coverage
AIDS RELATED DEATHS			
4,300 15%	10,100	13,800	28,200

Overview of Kenya's HIV landscape 2018

So why should journalists and every other person care about viral suppression in children? The current national Paediatric and Adolescent Viral suppression for CALHIV in Kenya currently stands at 63% compared to >80% for adults. In simple terms, it means as a country, we are not doing well in making HIV positive children stay healthy and reduce the number of virus in their bodies. If this continues to happen, we may have many of them dying or getting more resistant strains of the virus hence their treatment will be more toxic and costly. This means sweeping away a whole generation.

Journalists can support to raise awareness on importance of suppressing the virus in children, what parents and caregivers can do to support. It is also important to help increase the percentage of viral suppression in children by reporting on;

- Sustained viral suppression which is a clear indicator of a good treatment outcome for PLHIV.
- To attain viral suppression, many factors have to come into play. These factors include facility related, health system related and client & community related factors that interact in a complex health system.
- That for children and adolescents, care giver knowledge and support is crucial to achieving and maintaining viral suppression.

3.2 Anti-microbial resistance: The big deal – by Dr Evelyn Wesangula, Dept of Antimicrobial Resistance, Ministry of Health – Kenya

The speaker informed delegates that about 700,000 people die annually due to drug resistance globally and by 2050 the number is expected to increase over 10 times more.

This is an equivalent of almost 10 million people dying annually by 2050. Half of the deaths will occur in sub-Saharan Africa if the world does nothing about anti-microbial resistance (AMR) - the phenomenon which occurs as a result of bacteria resistance to antibiotics which is becoming a major concern globally.

The speaker from Kenya's health ministry in charge

of Antimicrobial Resistance (AMR), said cases of resistance had become more common in the sub-Saharan Africa region.

The World Health Organization (WHO) warns that the prospect of the world entering a 'post-antibiotic era,' where common infections can no longer be cured, is real. She said that, increased cases of drug resistance was posing a threat to the significant gains made in the fight against diseases. While there are many causes of antimicrobial resistance, Dr Wesangula singled out both over use and under use of the antibiotics as some of the reasons which led to this public health concern. This is accentuated by free-for all access of drugs in pharmacies, drug stores and market places, and unregulated prescription in health facilities.

Dr Wesangula said apart from long hospitalization due to drug resistance many lives are lost - a situation which should compel governments to act.

"It is a problem with a wide range of consequences. Those who have resistance will have faceless options of treatment and will be forced to try different medicines which in most cases are costly," she added.

Dr. Wesangula, called on journalists to intensify their reporting on science by putting relevant authorities to task to intensify efforts to enforce laws on adherence prescription procedures for antibiotics.

"No one is safe, when it comes to anti - microbial resistance; we cannot achieve the sustainable development goals if we do not move with speed to address it. This is because it has a direct impact on our population and food security," said Dr Wesangula. According to the expert, it will cost our economy USD 120 trillion by 2050 if nothing is done to avert the situation.

She further stated that strides made in the health sector will be hard to manage if anti - micro bacterial continue to be ineffective. "We have made advancements in medicine, for example we can have complicated deliveries happening or have pneumonia being treated but because of the loss of effectiveness of antibiotics all these things are actually going to be difficult to manage," the expert noted.

Misuse and overuse of anti-microbial by human

beings is the major cause of anti- microbial resistance, she observed. "Misuse is like what you do and what I do, I do not complete my dose and over use is when you go to the doctor with a cold and you insist that he gives you the antibiotics that can hit it hard and hit it fast, we do not necessarily need it but we will still take it as medication," she said.

Dr Wesangula also pointed out that environmental contamination was another key area that needs to be looked into if we plan to overcome antimicrobial bacterial resistance. "Who monitors what the pharmaceutical industries release into our rivers? Do we have a special sewerage system for farmers, hospitals, industrial and domestic effluent? Everything ends up in the same place and the same water is used for irrigation of plants. If these plants have not been properly processed we stand a chance of getting resistant bugs," the expert pointed out.

The presenter added that pharmaceutical companies have become tired of producing new anti-micro bacterial, a situation that is putting the world at risk. "It is now 30 years since a new class of antibiotics was introduced to the market, nobody is interested in investing in developing a new drug because as soon as it is released to the market the microbe develops resistance."

3.3 Impact of local maternal and reproductive health innovations in low resource settings by Emmanuel Oyier, KMET, Kisumu

Mr Oyier began his talk by stating that a new device which can prevent uterine bleeding during delivery in Kenyan hospitals had been introduced into the market. The Uterine Balloon Tamponade (ESM - UBT), he said, stops bleeding in women within five to ten minutes after delivery.

He termed the device as cost-effective and locally manufactured by his employer, an NGO KMET in Kisumu county.

He narrated that a study carried out by the University of Nairobi in 2016 showed that nationally, 17 women aged between 18 to 49 years die every day due to this condition. This translates to at least one woman dying every hour.

He went on to say that the first Confidential Enquiry

into Maternal Deaths (CEMD) in Kenya was done in 2014 by the Health Ministry. It revealed that between 6,000 to 8,000 women are estimated to die every year from post-partum haemorrhage (PPH). The report identified the most common causes of maternal deaths as; obstetric haemorrhage 192 (39.7%); non-obstetric complications/indirect maternal deaths 96 (19.8%) and hypertensive disorders associated with pregnancy 74 (15.3%).

Maternal mortality accounts for 17.4% per cent of the total number of deaths of women of reproductive age. The maternal deaths impact on the survival of new-born, wellbeing of families and the economic productivity of the affected communities. The United Nation Population Fund (UNFPA) says maternal mortality has reduced by 44% worldwide over the past two decades but in Kenya the maternal mortality ratio remains high.

In 2015, Kenya recorded a total of 32,021 maternal deaths of women aged between 18 to 49 years due to post-partum haemorrhage.

Out of 47 counties in Kenya, 15 counties accounted for 98.7% of the total maternal deaths. In order to prevent such deaths, from 2013, both national and county governments committed themselves in setting aside more resources and personnel to reduce the high number of women dying from PPH.

Some of the steps that were proposed include constructing more health care facilities, constructing accessible roads, providing good equipment and skilled personnel in the existing health care facilities.

Experts say the newly introduced device (ESM-UBT) is an evidence-based, low-cost, effective, easy to use and safe solution for uncontrolled PPH.

3.4 Africa's Growing Burden: The case of Non Communicable and Infectious Diseases – By Dr Sam Oti

Non-communicable diseases (NCDs) are by far the leading cause of death in the world, representing 63% of all annual deaths (which translates to 36 million out of 57 million global deaths).



Dr Sam Oti, Senior Program Specialist IDRC

The big four non-communicable diseases that claim lives are cardiovascular diseases, cancer, diabetes and chronic respiratory diseases.

According to the March 2013 World Health Organization (WHO) report, 80% of all NCDs deaths occur in low and middle income countries. Senior Program Specialist, International Development Research Centre (IDRC), Dr. Sam Oti, mentioned that non-communicable diseases affect both sexes almost equally at all ages. In his presentation, Dr. Oti regretted that deaths as a result of non-communicable diseases continue to rise.

"WHO global health estimates project an upward increase trend of 20 million global deaths in 2016 to 100 million deaths by 2060 as compared to deaths resulting from communicable diseases and injuries," Dr. Oti said.

NCDs negatively impact on a nation's productivity

since it entrenches many people in poverty due to high cost of treatment and undercuts productivity.

In Africa, NCDs contribute to the high disease burden due to shared risk factors namely; unhealthy diets, tobacco use, physical inactivity and use of excess alcohol.

“These risk factors frustrate all efforts geared towards attaining Sustainable Development Goal three (SDG3) which aims to ensure healthy lives and promote wellbeing for all by 2030,” he added.

The presenter noted that WHO global action plan response to prevent and control NCDs as per the United Nations review meeting held on 10 - 11th July 2014 in New York, came up with a set of 9 global NCD targets for 2025.

These targets: 25% reduction of premature deaths resulting from NCDs, 10% reduction on use of harmful alcohol and reduce physical inactivity by 10%. In addition populations need to reduce salt/sodium intake by 30%, and 30% reduction on tobacco intake. Countries should aim to achieve a 25% reduction of high blood pressure, 0% increase of diabetes and obesity, 50% increase on drug therapy & counseling and 80% increase on NCDs medication and technology.

However, Dr. Oti regretted that funding for NCDs has been insufficient despite the fact that the cost of prevention is lower as compared to treatment.

The specialist mentioned that since 2000, funding has been 1–2% which is US\$ 492 million out of US\$ 36 billion of the total amount required and this level of funding is insufficient to attain the nine targets in WHO Global Action Plan on NCDs.

He cited that from 2011 to 2025, the estimate cost of NCDs will drain over US\$ 50 trillion from the global economy. Fortunately, preventing NCD is very cheap and would cost a paltry US\$ 11.4 billion.

Other frustrating factors in African countries



Women in a village in Rwanda visit a nutrition centre near Kigali: Unhealthy diets have been cited as a cause of non-communicable diseases in Africa

he mentioned are sluggish and disjointed development of treatment guidelines and disease or risk factor specific policies, programs or action plans, industry interference, slow implementation of some targeted laws and regulations e.g. SSB Tax in South Africa, these among others.

“It is high time African governments put more effort and commitment in ensuring they attain these public health gains,” he said. Partners and societies need to implement these recommendations in a broader strategy while donors need to fund NCD communication and advocacy aggressively.

“African institutions such as The African Union (AU) and other sub-regional bodies such as West African Health Organization (WAHO) and various country offices could potentially play stronger roles in advocating for more NCD policy efforts in Africa,” Dr. Oti stressed.

4.0 SCIENCE JOURNALISM

4.1 Why is media coverage of neglected diseases dwindling? By Dr Joseph Othieno

Dr Joseph Othieno, a vet doctor and communication expert with Kenya Tsetse and Trypanosomiasis Eradication Council (KENTTEC) wonders why sleeping sickness or Nagana in animals still falls under neglected diseases yet people were dying? Othieno further notes that one death recorded for every disease should be seen as an epidemic and should result in aggressive public health awareness interventions.

Mass media gained powers as a credible source of communication (hypodermic/magic bullet theory), but the advancement in ICT has added to the powers of the mass media.

In today's media space, almost every government has a communication office which has eased agenda setting. This has also helped in shaping public understanding of how these offices operate and how they can be of help to the communities they serve.

Communication personnel, he noted in his presentation, need to uphold proximity and prominence of key news values as they interact with journalists. He also added that other news values to uphold include; the abnormal/extremes/oddity and timeliness. To this list, he added consequence, conflict, and human interest whenever handling mass media publicity on any issue.

With the above in place, Dr Othieno still wondered why diseases such as sleeping sickness or Nagana still remains neglected. He said that there is need to look at new angles to the problems of neglected tropical diseases (NTDs).

He added that enormous challenges curtail NTDs media publicity across the country. Such include the fact that it is hard to pitch NTDs to editors or even to journalists, apathy towards NTDs by the mass media, complexity of science/health reporting aspects of it eg it is a challenge to identifying the news values – coverage of health news is normally shallow and reactive coupled with poor rapport between the scientists or experts and mass media (What is news?). Overall, he added that there are very few health



Journalists at work: The media have been called to pay more attention to neglected diseases

communication experts (print and electronic media). To win the fight on NTDS there needs to be new approaches that includes mass media rapport, mass media capacity development to report on T&T, news worthiness of the "neglected" problem, mass media avenues – opinion articles, news articles, features, radio and TV programs, advocacy and lobbying among others.

4.2 What do editors look for in a pitch/story?

By Felista Wangari, Nation, HealthDesk

Ms Wangari made her presentation by posing the following questions:

1. Have other stories been written about this? Probably. Why is yours different? What angle are you taking?
2. Why now? Why is this story timely? What are you pegging it on?
3. Who are you going to talk to? Sources – primary/secondary/data/documents.
4. How will you tell the story? How will you engage the reader? There is more than one way to tell a story? It doesn't have to be the usual text. It could be a social video, a data visualization, a podcast, a Q&A, a photo essay, etc. Think of fresh ways to tell your story.
5. Is it relevant? Why should a reader care? Will they connect with it? Why should they read it? How does it affect people in the real world? Why is this story important?
6. What are you trying to accomplish with this story?
7. Does your story have depth? Have you included people?
8. Solutions journalism – is it a story about people responding to a problem? Audiences are getting tired of gloom and doom? Journalism that highlights solutions. (people responding to problems)
9. Science journalism - beyond health. A lot of reporters gravitate around health. Go beyond the comfort zone.
10. Data journalism – Health, science and environment has a lot of numbers/data. Use them to tell your stories for more impact. Visualise them and make them meaningful for readers.

4.3 The African Science Desk – How you can pitch for our stories – Ms Susan Gichoga, Senior Grants Office, African Academy of Sciences

The presenter Ms. Susan Gichoga, Senior Grants Officer at African Academy of Sciences (AAS), began by informing the journalists that the academy's vision is to transform lives through science.

Ms Gichoga went ahead to state that AAS, headquartered in Nairobi is the only continental Academy in Africa enjoying the support and recognition of the African Union (and with joint programmes with NEPAD Agency), several governments and major international partners.

She further mentioned that AAS had three approaches to address Science, Technology and Innovation (STI) in Africa. This includes a think tank and advisory functions; implementing science programmes and recognising excellence.

Gichoga added that their Africa Science Desk, a two-year project, aims to build the capacity of science journalists in Africa. It funds science stories on the strategic areas of the AAS, which are health & wellbeing; environment, climate change and its impact on health and food security; natural sciences; policy and governance.

In the project, early-career African journalists are paired with senior science journalists internationally and continentally.

"We have 15 senior science journalists who are reviewers and mentors, they provide the mentorship needed to improve the quality of science reporting in Africa," added Gichoga. She also gave a summary of the application process stating that calls for applications were issued alongside terms and conditions.

An individual's application is then subjected to a review process by at least two independent senior journalist mentors separately. They have no clue that they are reviewing the same application to reduce bias. After review, they score then this is collated, an average is given and the top 4 scorers get to be awarded.

On accessing pitches, she stressed that they are strict on relevance to ascertain if it is a science story that focuses on current and topical issues. Checks if the story provides context and its importance to the setting/ readers.

They also check if there is a human interest angle/ element to the story (using a case study of a person who is impacted by what the journalist wants to write about).

Finally, they determine if the three proposed interviewers are relevant to the story.

Originality and creativity of a story is important. They look at aspects such as originality if not covered before or a new exciting angle to a running/developing story. The reviewers will also question if the story is within the AAS strategic areas to see if it is fit to remit. Another must have are links to at least three previously published science stories.

The AAS will then look at the proposed budget to see if it is realistic (not blown up or too little to meet the demands of the story) and then they will supplement or adjust, respectively.

Once accepted AAS will provide up to \$700 for the journalist's research, help link up the journalist with a mentor and require that the story be published within a month.

They will also require proof of publication (link from your media house's website or YouTube page or pdf format). They provide a non-accountable pitch fee of \$350 with every story.

The program has yielded fruit to 41 stories funded and published between mid-October and mid-September 2018. The stories span across health and wellbeing (15), Climate change (6) food security and nutrition wellbeing (14), STEM (2), Science advocacy and Policy Agenda (1), Water and Sanitation (2) and Sustainable Energy (1). In terms of gender the funds were awarded to 19 females and 15 males.

4.4 Journalists and Open Data, Ms Stellar Murumba, Code4Africa



Stellar Murumba, Manager Code for Africa

Data for reporters and activists is important since it gives information that is structured and organized for reference and analysis.

Ms. Stellar Murumba, Manager Code for Africa, while making her presentation, stated that journalists need open data for storytelling and engagement since it gives clarity of communication on facts and figures for easy public understanding and also compliments the story.

"Open data is being used in many different ways, for example, to evaluate schools, understand budgets, and conduct data journalism," she added.

Murumba mentioned that as much as data should be freely used, reused and redistributed to anyone for any purpose, not all data held by governments can or should be made open. Governments routinely withhold or restrict certain types of data to safeguard personal privacy, property rights, public safety or national security.

"Open data should be non-personal with no information that identifies a person. For example, aggregated health statistics for a region can usually be made public. Health records of an individual cannot, the locations of classified military facilities can also not be shared," said Murumba.

In her presentation, Murumba mentioned that there were five (5) star open data model developed and introduced by Sir Tim Berners Lee, same inventor of the World Wide Web, which is a common tool for understanding data “openness.”

She mentioned that open data can be put to use in many different ways by journalists. They can use open data to develop or document important stories and ask data-driven questions.

For example in understanding government spending, many governments publish their budgets as open data and citizens use open budget data to better understand local spending and participate in shaping their governments’ priorities.

In most cases, governments and organizations make data available online through an open data catalogue, like a search engine. She further explained that for accuracy and credibility, collections of open datasets with important metadata will help one know who published the dataset, when it was last updated, what kind of information it contains and what time span it covers.

In finding data, she mentioned that there are hundreds of different open data portals around the world and one needs to use a search engine. It is important that journalists hone their skills in data mining to maximize on these tools.

“Try searching for “open data” and the topic or country you are interested in. For instance, “open data health,” “open data Johannesburg”, or “open data North West,” she explained.

The Principle of Right to Information (R2I) is the right of a country’s citizens to access information in a timely manner that is under the control of public authorities.

However, when sharing data analysis or data-driven stories, Ms. Murumba said it is important to cite the data sources you use. Doing so credits the original provider and provides credibility to your work.

The speaker noted that one needs to share their own developed and improved dataset by publishing it since sharing the original data allows others to see how one reached one’s conclusions and reproduce your work. This helps in contribution to the open data community which depends on data sharing for sustainability.

“Sharing data means others can use it for their own purposes. If others also share their work, you might benefit from their improvements and insights,” she added.

If dataset is your original work/creation, you can use either Creative Commons licences covered in Lesson to patent but if the dataset was obtained from a third party under an open licence, you should follow the terms of that licence.

The speaker also talked about how to create a narrative out of data, what to look for when analysing data (patterns and trends over time, similarities, contrasts and outlier interesting or unusual exceptions), and data driven storytelling resources.

5.0 ENVIRONMENT AND WATER

5.1 Water and Sanitation in Africa: A status report – UNICEF

The presenter, Engineer Sahr Kemoh started by saying that between 2018 and 2050, its estimated that with a birth rate of 20 million babies every year, the population in this region which will soar to 653 million in the 32 years. Unfortunately, this whopping figure does not compare with the slow pace at which proper toilets and sewerage management connections are coming up.

The expert pointed out that at the moment, 6 out of 10 people have been pushed to defecate in the open due to insufficient sanitation facilities. And the situation could get direr with the additional 653 million people. “The alarming population growth would detrimentally reverse the gains made towards assisting households or villages access to clean water and attain Open Defecation Free (ODF) status over the years,” he said.

This situation, whose negative implication to water and sanitation in the communities affected, could lead to death of up to half of that population, said Mr Kemoh. The World Health Organization (WHO) defines sanitation as the provision of facilities and services for safe disposal of human urine and faeces. Unicef figures show that about 57 million people practice open defecation (OD) with the rate of eliminating the practice estimated at 2.2 million people per year. In order to effectively deal with it and eliminate open defecation by the targeted 2030 to attain sustainable development goal number s6, the elimination rate has to be more than double to reach atleast 5.5 million people. Only 14 percent of the population, ranging from just one percent in Ethiopia to 48 percent in Tanzania, washes their hands with soap. About 223 million people out of the 260 million from the region don't wash their hands with soap and water.

Mr Kemoh added that inadequate sanitation has been a major cause of diseases world-wide and it is feared that the high population growth will heighten disease burden for communicable diseases like cholera, typhoid, infectious hepatitis and polio, crypto most of which spread rapidly bringing sudden death to many people.

5.2 Reporting Science and Environment in



Richard Mahapatra

India – Down To Earth experience - By Richard Mahapatra

Science journalists need to have at their fingertips what makes a good narrative science story.

Mr Richard Mahapatra, editor of the India based magazine **Down to Earth** states that a compelling science story must have two elements; strong characters and gripping actions.

Mr Mahapatra also noted that to be an excellent science writer you need to be a story teller with an ability to localize a global story.

Some of the topics that journalists could pursue and localize include; Africa and rare diseases in India, Arctic and Indian storms, Indian scientific failures and Africa's doom and ecological destruction in Africa.

Science journalism is about turning most complex investigations into human interest angles hence the need to tackle the politics of science. Science communication, like any nonfiction writing, tries to portray truth but how that truth is portrayed-and what is included or left out-depends on the writer's intention. Therefore a science writer's job is to translate science into English.

Mahapatra noted that every experiment is a story. There is a beginning, middle and the end. There is a reason it was done, the way it was done, and what it ultimately means. That's the story. Scientists are not trained to think in those terms. It's up to the science writer to find the narrative and make science accessible.

He also elaborated how African science journalists can partner with the India-based environment watchdog CSE. The rise of virtual reality has also set in, making images, data visualization and infographics the website's best friend hence journalists are now exploring use of data to communicate science. Use of data has become the new tool of communication since stakeholders are craving to see proven impacts of any research.



Souparno Banerjee

5.3 How the Centre for Science and Environment works with the media

Centre for Science and Environment (CSE) is a unique institution that carries out research not only for dissemination to drive change.

The organization which is based in New Delhi, India, publishes a science magazine, Down To Earth, which has a track record of publishing credible sound research and reportage for over 25 years.

The magazine captures alternative voices to ensure the reports are accurate and objective on science and environment.

Souparno Banerjee, Senior Director, Outreach and Publications CSE said that they use the information collected to help lay emphasis on research for policy that can be acted upon and create an impact.

In his presentation, Mr. Banerjee stated that Down To Earth magazine has very rich content, based on research and work dating back over 30 years.

"The content inside Down To Earth magazine contains a wide range of relevant subjects both global and regional since CSE works in consultation with multiple bridge heads such as other Indian institutions, Indian journalists as well as resources from other parts of the world," he stressed.

The presenter went on to mention that even though CSE is based in India, they give opportunities to African contributors to write on niche issues in the variety of content delivery modes such as print resources, data and infographics, multimedia and video.

On empowering journalists on issues science and environment reporting, Banerjee stated that they hold series of briefings and workshops with the media and at the same time offering fellowships and partnerships with media associations like MESHA.

He also mentioned that they have an institutional set-up The Anil Agarwal Environmental Training Institute (AAETI), which is a school of Development Communication and Environment Journalism.

"Partnering with the media helps us build journalists skills on how best to go about reporting on niche issues to make journalism impactful and this also builds CSE rapport with them and other sources," he added.

When catching a story, the presenter advised journalists to know and understand their niche and get details of the story by engaging relevant sources to find out the impact it has created.

Journalists need to write for a target audience and by doing so it is important to understand and know your target audience to encourage readability of the copy.

One also needs to unpack the technical science jargons in the story without losing out on the details and relevance.

Banerjee further advised that journalists need to question the sources on the technology, methodology and credibility of the story by also questioning the evidence presented.

In gathering information a journalist needs to have multiple voices e.g. Talk to consumers/public authority/scientists/doctors/companies to make your story objective and factual.

In conclusion the CSE Senior Director challenged journalists to be broad minded and find out what other relevant stories they can get from the original story they are pursuing.

6.0 SPECIAL SESSION - MEDIA SCIENCE CAFÉ

6.1 HIV research - PrEP



Dr Nelly Mugo, Chief Research Officer KEMRI

As an informal interactive session, delegates were allowed to freely share thoughts and how best journalists can cover HIV research. Kenya Medical Research Institute (KEMRI) chief research officer, Dr. Nelly Mugo revealed that studies showed PrEP conferred over 90 per cent protection against HIV infection when taken consistently and correctly during the period when at risk.

She urged people most at risk of HIV infection to enroll on Pre exposure Prophylaxis (PrEP) to protect themselves from the disease. PrEP is a combination of two drugs that people most at risk can take before sex to prevent HIV infection. Existing evidence, Dr Mugo noted, shows that people at on going risk who take Tenofovir disoproxil fumarate (TDF) and emtricitabine (FTC) as PrEP have a 90 per cent lower chance of being infected with HIV than people not taking it.

"Journalists have a crucial role to play in mitigating against barriers - which include myths and misconceptions - on the use of PrEP," she said.

"As scientists, we are particularly concerned over the high rate of new HIV infections occurring among our youth aged between 15 to 24 years. This age group contributes to 50 per cent of the infections," Dr Mugo noted.

The Health Ministry offers PrEP free-of-charge in selected public health facilities as part of a combination HIV prevention programme for people most at risk of HIV infection. While PrEP is for any one at an ongoing risk, there are groups that are at higher for example young people, serodiscordant couples, people who inject drugs and sex workers and men who have sex with men among others.

"As scientists, we are particularly concerned over the high rate of new HIV infections occurring among our youth aged between 15 to 24 years who are contributing 50 per cent of the infections," Dr Mugo noted.

The KEMRI chief research scientist added, "At the same time, I would like to urge journalists to be protective especially on our young girls while covering sexuality issues."

As a country, it is time to rethink how sex education for our youth in our schools is taught to enhance awareness."

At the same time, Dr Mugo also warned of an upsurge of sexually transmitted infections (STIs) in Kenya such as syphilis, gonorrhea, chlamydia and mycoplasma genitalia which cause infertility and were especially difficult to detect in women.

According to a newly released World Health Organization (WHO) report titled, "Coming of Age: Adolescent Health," the world now more than ever before has more young people.

Of the 7.2 billion (42%) people worldwide, over 3 billion are younger than 25 years. Around 1.2 billion of these young people are adolescents aged 10 and 19 years. Young people also face sexual health challenges such as sexually transmitted diseases and high teenage pregnancies.

At the same time, the Kenya Aids Indicator Survey (2012) warns that young people are at a higher risk compared to the general population. Most are having unprotected sex.

Dr Mugo asserted that we have a responsibility to protect our youth - whose population is huge by making it our business to know what they are doing in protecting themselves.

"Although the number of new HIV infections among new borns has declined drastically, we are extremely worried at the increased cases among our youth," she noted.

Kenya has recorded the highest number of people in Africa taking PrEP. Currently, more than 20,000 people are taking the drugs, which were rolled out by the Ministry of Health in May 2016.

7.0 CONCLUSION AND RECOMMENDATIONS

Inaugurated in August 2012, The African Conference of Science Journalists has come a long way to become a significant event in the calendar of science journalists, scientists, communicators and policy makers in Africa. As the bar is raised higher each year, expectations among delegates also continue to rise especially in the quality of the program, the calibre of speakers in this rapidly changing industry as well as quality of planning and logistics.

The conference's planning has to be meticulous from A to Z. This means that more resources have to be dedicated to move beyond just being a three day conference where presentations are given to becoming a forum where skills are honed, ideas shared and best practiced show cased.

From the presentations and discussions during the conference, MESHA looks at enriching the conference through:

1. Enrolling more mentees through its mentorship programme. Young science journalists and experienced mentors are paired up in the lead up to, during and after the conference.
2. Honing skills for scientists eager to write for the masses in the wake of increasingly complex topics in science.
3. Revive discussions with relevant parliamentary committees to give visibility to science issues and look for ways of making the government walk the talk on budget allocation to science be it health, technology transfer, environment and agriculture.
4. Reach out to more organizations working in science to partner very closely with MESHA to among other things keep the conversation on key science issues going
5. Include a research component on science journalism to run throughout the year to help come up with evidence based interventions in the media.
6. Reach out to Universities and other tertiary institutions teaching journalism to incorporate science reporting as a skill at their level
7. Encourage more female journalists to write science stories especially to help expose the ever rising challenges for women
8. Organizing an independent conference in between the year to focus on the science journalism profession in light of overwhelming interest from professionals across the continent. This will include sessions on empowering the journalist to be proactive in marketing and fundraising for their science stories.
9. Organizing more forums and workshops on solution based science journalism
10. There is need for science based organizations to work closely with national associations to design an effective M&E system to ensure that the conference recommendations are actualized before the next Conference.
11. That there is need for the journalists who attended any of the African Conference of Science Journalists (ACSJ) conferences to be updated regularly on emerging issues in science in various countries. This will help them be proper watchdogs in their respective countries.
12. Deliberate efforts must be made by partners/ sponsors of the three conferences to ensure that each and every issue raised in sessions is followed up so that the African Conference of Science Journalists entrenches itself as an influential and active platform.

Appendices

Links to post conference stories

<http://barakafm.org/2018/12/14/2-out-of-5-kilifi-children-are-stunted/>
<https://www.standardmedia.co.ke/farmers/article/2001309936/icipe-trains-farmers-on-use-of-maggots-to-make-animal-feed>
<https://www.nation.co.ke/business/seedsofgold/Drones--the-new-scouts-for-diseases--pests-on-the-farm/2301238-4962170-6kkkedz/index.html>
<https://www.nation.co.ke/health/Drones-come-in-handy-for-pest-and-disease-control/3476990-4955904-1uy3x0/index.html>
<https://www.farmers.co.ke/article/2001309936/icipe-trains-farmers-on-use-of-maggots-to-make-animal-feed> <https://youtu.be/S9eNX9M8DuU>
<https://www.standardmedia.co.ke/ktn/m/video/.../next-frontier-modern-rice-farming>
<https://www.youtube.com/watch?v=S9eNX9M8DuU>
<http://stisenegal.com/les-mouches-soldtas-noirs-pour-ameliorer-la-production-aviaire/>

	Impact of local maternal and reproductive health innovations in low resource settings by Emmanuel Oyier, KMET, Kisumu
3.15pm - 4.15pm	Animal Health Contagious Bovine Pleuro - Pneumonia Vaccine - Dr Hezron Wesonga East Coast Fever Vaccine - Dr Sammy Ndungu
4.15pm - 5.00pm	Science journalism Mass media publicity for a neglected disease: Lessons from Tsetse and Trypanosomiasis in Kenya – Dr Joseph Othieno
5.00pm - 5.30pm	HEALTH BREAK
5.30pm - 8.00pm 8.00pm - 11.00pm	MESHA Annual General Meeting (By invite only) Production of Day One Bulletin led by Francis Mureithi, John Muchangi, Leopold Obi and Mike Mwaniki
DAY THREE: Saturday, December 15, 2018	
8.30am - 10.30am	What editors look for in a pitch/story: The experience from Nation Media Group – Ms Felista Wangari – Editor Daily Nation Health Desk, The African Science Desk – How to pitch for our stories Ms Susan Gichoga, Senior Grants Officer, African Academy of Sciences Journalists and Open Data, Ms Stella Murumba, Code4Africa Moderator: Chaacha Mwita, Internews
10.30am - 11.00am	HEALTH BREAK
11.00am - 1.00pm	HIV Research: What journalists need to know about PrEP in Kenya
1.00pm - 2.00pm	LUNCH
2.00pm - 4.00pm	Environment Reporting Science and Environment in India – the Down To Earth experience and how African journalists can partner with the Centre for Science and Environment (By CSE)
4.00pm-5.00pm	Environment Politics of Water, Environment, Climate Change - Eng Wangai Ndirangu, Water Cap Water and Sanitation in Africa: A status report - Sahr Kemoh, UNICEF
5.00pm - 6.30pm	CLOSING SESSION
6.30pm - 8.30pm	Production of the Daily Bulletin

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Prof Bancy Mati, Director of JKUAT's Water Research and Resource Center (WARREC) addresses journalists at a field trip in Meru, Kenya

