The second day of the conference started with a plenary chaired by Prof. Berihu Gebrekidan from Mekelle University in Ethiopia. The session included a presentation on environmental management for One Health by Prof. Woutrina Smith and another on community and government engagement for One Health given by Uganda Red Cross Society chief executive Robert Kwesiga.

Prof. Smith gave a brief overview of PREDICT, noting that it focuses on improving policy and planning processes and outputs through multi-sectoral partnerships for health security. She gave details about their surveillance capabilities and their training modules.

Responding to a question on how to keep away bats from houses, Smith said there are no known measures of chasing away bats from houses adding that this is a study opportunity researchers can take on. She, however, noted that some people have applied measures such as the use of repellents, peanut shells in the evenings and eucalyptus extracts.

Kwesiga gave a background about the Uganda Red Cross Society, noting that in partnership with the Government, they organize technical working groups, implement joint programmes, capacity building and engagement of district disaster management committees, in addition to surveillance. However, the actual work is done by local authorities and community members who are able to detect an epidemic and report it. They start by creating awareness.

A major challenge when it comes to One health and community is lack of resources, which hinders sustainability.

After the presentations, the chairperson of the Africa One Health Network, Mischeck Mulumba, disclosed that they are in the process of developing a five-year plan and a website. He also said the World One Health congress is expected to be held in Africa (Cape Town).
Environmental management for One Health

Continued from Page 1

Break Out
In the seventh session, plenary was followed by four breakout sessions. Breakout 5 session was held under the theme Environmental management for One Health.

The presentations were:
- Farmers' Awareness Towards negative impacts of pesticide use on health and the environment By Noel Korukire
- Environmental risk factors associated with dental fluorosis among individuals and domestic animals living on Gihaya Island, Lake Kivu, Rwanda by Mr. Theodore Habiyakare

A study assessed farmers awareness towards negative effects on pesticides from Coortika cooperative with 560 farmers. Key findings revealed farmers' awareness was still low on the negative effects of pesticides.
- Environmental risk factors associated with dental fluorosis among individuals living on Gihaya Island, Lake Kivu, Rwanda By Mr. Theodore Habiyakare

The study included 88 livestock owners and 186 students who were screened to evaluate the different sources with fluorosis levels. Also, cassava leaves and roots, fresh beans and their leaves, rainwater; Lake water and borehole water, soil, small fishes and grasses were sampled for fluoride levels.

Results recorded 74.2 humans cook using L. Kivu water, 95.7% drink borehole water and 24.7 livestock drink borehole water. However, 99.5% humans succumbed to fluorosis, while animals suffered from mild to moderate effects. They recommended a need for collaboration between different ministries and engage further researchers to possibly find out the risk factor such as food preparation, F levels in cooked food in the studied community.

Continued from Page 1

He recommended that efforts should be made by the government and non-governmental organizations to promote health literacy in the context of One Health Approach through mass awareness.
- Seroprevalence, Risk Factors and Community Perception of Foot and Mouth Disease in Cattle Under Extensive Management In Southern Tigray By Nigus Abebe.

The study revealed that majority of the households either don’t vaccinate their animals regularly (47.5%) or vaccinate only when outbreak occurs (43.5%).

He recommended that any intervention program should consider the risk factors, which have association with sero-positivity of the disease. Consistent community sensitization should be in place.
- Adherence to revaccination of dogs against rabies, a campaign organized by University students, presented by Mr. Nathan Kutshi

He noted that people who participated in the campaign were willing and adhered to free vaccination, but the sustainability of the process was not easy since people could not afford. He recommended that the government should try to reduce the cost of vaccination.

Chair/ Keynote speaker: Arnold Ezama

Giving the keynote address on community and government engagement for One Health, Anold Ezama said problems start and end with the community. As such, Ezama said the Uganda Red Cross has a unique aspect of community and government engagement. For instance, they train volunteers to be able to train their community members and also to mobilize them when there is response. Ezama said this is in line with global health security, which basically talks about early detection and action of contagious diseases such as Ebola.

One health approach in Mali-Perrenization challenges

Presenting about Perrenization challenges in Mali, Dr. Diarra. J. Souleymane said during the Ebola Virus disease outbreak in 2014 to 2015 in Mali, infective internal multi-sector coordination was one of the main limiting factors for effective response.

As such a number of interventions were used to institutionalize One Health (OH) Approach and sustainability challenges to better prevent, detect and respond to public health threats.

One Health Approach in 2019 Lassa Fever outbreak response in Edo State in Nigeria.

Presenting about the One health approach in 2019 Lassa Fever outbreak response in Edo State in Nigeria, Dr. Dr. Mfon-Obong Paul said scaling up involvement on the state will enhance sustainability of one health diseases prevention activities.

Innovation Poultry intervention for reduced underweight and Anemia among under 2-year-old Ethiopian children: cluster Randomized community Trial 2018

Anteneh Omer said poultry interventions have shown promising results in reducing undernutrition in Ethiopia. Omer said the gift ceremony intervention where a gift of two laying local chicken was given to all children through engaging religious and community leaders improved poultry production and egg intake up to 18 eggs per month per child. Consequently, this increased hemoglobin levels significantly and also reduced anemia by 55%.

Menstrual hygiene is an understated area yet it directly influences development

Addressing community health challenges using One Health Approach — Reusable pads

Angel Kange said most women do not have access to sanitary pads. Therefore, women need to know the options they have and what they can use.

She said menstrual hygiene is an understated area yet it directly influences development. For example, if a girl or woman has menstrual cramps, they will miss school thus affecting school attendance or work which directly impacts on economic productivity of a country.
One Health workforce development

Continued from Page 1

Three continuing professional development courses and their facilitation guides were developed.

She concluded by noting that Combing Kern’s six steps and a multidisciplinary group of participants to develop CPD short course for demand driven One Health Approaches is an effective way to ensure core competencies for knowledge, collaboration, communication and professionalism are emphasized and featured in OH CPD courses.

Prof Omer Njanjou made a presentation titled Curriculum revision for the One Health Field Practicum at the Universite Des Montagnes

The process of designing the curriculum development involved 17 multidisciplinary faculties, academic coordinators, and field mentors.

Five Models were identified for soft and technical competences needed by the students:
1. Epidemiological investigations
2. Risk analysis
3. Prevention & response
4. Legislation & administration
5. Community immersion

Building an operational One Health Competency Framework for Workforce Training and Resilience was the title of Prof Katherine Pelican’s presentation. She noted that the workforce for that outbreak should be drawn from the whole country involving all agencies that can contribute. This is especially important in a under-resourced settings.

It takes a Village to Raise One Health Champions: A Multidisciplinary Bilateral Partnership for Training Educators, Researchers and Civic Leaders was the presentation by Dr Janna. It noted that the One Health Collaborative is aimed at training the next generation of leaders through a One Health Approach; utilizing systems thinking to equitably improve the health of humans, animals and the environment using multidisciplinary training, evidence-based research and implementation science.

Alice Nyiragama presented about Nursing in One Health: Leading on the Frontline in Practice and Policy to Prevent Outbreaks and Promote Health on behalf of Prof Carolyn Marie Porta.

Results indicated nursing students described benefits including:
- Inter-professional experiential learning, skills-building and faculty mentorship.
- Nurses involvement in pre-service One Health activities has been low.
- There is need to increase nursing student engagement in interprofessional field-based learning activities.

Dr Kabibbala Patrick Arthura presented findings from a Two-week model of undergraduate One Health Field Experimental Training At Makerere University, Uganda.

Findings from pilot: 92% understood the one health concept, 89% acquired team building skills, 81% improved their communication skills, 75% obtained community engagement skills, 77% of the students strongly agreed that they gained skills in developing innovations to solve one health challenges.

Outcomes:
- In 2018, a total of 31 OH students were enrolled and trained at a unit cost of $2,221
- In 2018, a total of 56 OH students were enrolled and trained at a unit cost of $886.4
- In 2019, a total of 65 OH students were trained at a unit cost of $725

Students were able to demonstrate the capacity of 3,000 individuals, conducted from 2016 to 2018; In 2019, a total of 63 OH students enrolled and trained at a unit cost of $886.4

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In 2019, a total of 65 OH students were trained at a unit cost of $725

Outcome of competitions
- Through these competitions, students are more interested in One Health concept and improve their OH core competencies.
- Strong relationship built among OH student clubs in Vietnam and students from other countries in Thailand, Malaysia, Indonesia as a premise for future exchanges and cooperation.
- The awareness campaign competitions had an added benefit of creating useful community outreach materials. Students learned about rabies and AMR, while designing effective communications materials and strategies to address them.

She concluded by noting that national and international competitions increased student learning and student club engagement.
Day Two

1. A cross section of judges listening to presentations
2. A delegate reacts to a presentation
3. Mr Robert Kwesiga, the Secretary General Uganda Red Cross Society makes a presentation
4. Some of the foreign delegates listen to a presentation
5. A delegate makes a presentation
6. A delegate makes a presentation
7. Some of the delegates that attended the sessions
8. Delegates listening to presentations
9. Panelists in a group photo with winners
in pictures

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Breakout session 8

Its theme was One Health and Antimicrobial resistance.

Giving an overview on AMR detection levels in Africa, the keynote speaker, Dr Mouiche Moktar, said most African countries, save for Zambia, lack the capacity to detect AMR, thus making treatment difficult.

He said to address the challenge, there is need for multi-sectoral AMR-NAP to strengthen country AMR capacities, inter-sectoral collaboration and communication should be encouraged to permit a one-health approach in addressing AMR.

Dr Madi Savadogo presented research in Zoonotic Diseases in Senegal.

The study involved an assessment of knowledge, attitudes and practices of human and animal health actors regarding antimicrobial resistance.

Findings showed that antibiotics resistance is as a result of ineffectiveness to pathogens, limitation of options and expensive costs.

Study results also highlighted the fact that knowledge and behavior of the actors is a risk factor for the development of antibiotic resistance.

The situation shows the need to strengthen the awareness and education for stakeholders, in addition to research on the prevention of antimicrobial resistance.

Alice Kiari of the University of Nairobi presented on farmers’ knowledge, attitudes and practices on antimicrobial use and resistance in Gatundu North sub-county, Kiambu County in Kenya.

Findings show that majority of farmers were mixed farmers relying on farming as their main source of income.

Antibiotics were often the drug of choice for poultry and cattle keepers.

Less than 20% of farmers understood the dangers of misuse of antibiotics, while 93.3% of farmers thought that antibiotics were an effective way of preventing diseases.

Kiari recommended that farmers be given information and equipped with knowledge and practices that reduce the risk of AMR.

Farmers should be encouraged to comply with prescription information by the veterinarians but should also be trained on the need to seek information on antimicrobial usage, observance of withdrawal periods and the appropriate disposal of any remaining antimicrobials after treatment.

Dr Denis Zofou’s presentation was on Hospital-based disease transmission as a major factor to Antimicrobial Resistance. He noted that if the problem of resistance to antibiotics is to be addressed, focus should be on advocacy to policy makers and other stakeholders on hospital-driven risk factors to AMR, in-service training and sensitization, set-up antimicrobial resistance surveillance nationwide.

Noel Gahamanyi from Tanzania shared a systematic review on the burden and antimicrobial resistance profiles of thermophilic Campylobacter species among under-five children from developing countries.

The review shows that thermophilic Campylobacter species are frequently isolated in five children in developing countries.

The data on AMR also showed an increasing number of Campylobacter strains resistant to antimicrobials.

In this study, the one health approach along with strong control and monitoring programs were recommended as very key to curbing the burden of Campylobacter infections and associated AMR issue.

Dr Mohd Faizal Ghazali discussed the outcomes of the study about the prevalence of Methicillin-resistant Staphylococcus aureus (MRSA) among veterinary staff and farm workers in Terengganu-Malaysia.

One of the objectives for the study was to determine the antibiotic resistance pattern of S. aureus and MRSA collected using antibiotic disc diffusion method. The study showed low prevalence of MRSA among veterinary staffs and farm workers.

MRSA isolates was found to be resistant towards clindamycin, kanamycin, penicillin and chloramphenicol.

Dr Ghazali recommended continuous sensitization, washing hands, PPE and biosecurity, in addition to farm surveillance of illegal antibiotic usage.

Reactions from participants

Dr Martin Barasa, the Regional Head of Programs, Veterinarians Without Borders asked whether there is research-based evidence showing that AMR could be as a result of quality of antibiotics resulting from handling, other than abuse and misuse of antibiotics.

Another participant commented that AMR could be a natural phenomenon of survival for the fittest other than resulting from misuse.

A participant from the Medical Research Council of Uganda asked if there is a correlation between AMR and use of herbal medicine.

In response Dr Zofou said the effects could be direct or indirect, adding that there are similar chemicals in both herbal medicine and antibiotics and using them together could cause a resistance. He urged researchers to consider studying the issue.

Global Health Case competition semi-finals were held at the end of Session 8. Five teams took part in the semi-finals, where each team was expected to come up with a response strategy to an Avian Influenza outbreak in an East African country. After each presentation, a panel of six judges asked questions, which were answered by any member of the team. The top two teams were those from Rwanda and Kenya who are expected to participate in the finals scheduled to be held today.
Countries should utilise information they give to WHO

It was a question and answer session.

Qn: How can environmental participation be engrafted in One Health?
Oyo: There are technical working groups from ministries, departments and agencies. There is also sharing of data between animal and human health.

Qn: How do these new policies impact on your work?
Oyo: There is no impact in the sense that they work with guidelines that are already in existence. They are then domesticated in order for countries to own and adopt country specific ones.

Qn: What would you look for when providing funds for research?
Jean Marie Vianney Habarurira: Supporting collaborative research as opposed to isolated efforts when it comes to human health because with outbreaks of epidemics isolated interventions are not effective.

Qn: How is data being utilized?
Dr. Leonard Mboera: There is a problem of data utilization. Ministries, government agencies generate a lot of data and shelf it. So, there is a lot of blame game between researchers, government and academia. Decisions must be made on evidence found in the data. It is absurd that countries submit weekly reports to WHO yet they fail to utilize this information.

Qn: What evidence are you looking at to shape policy?
Athman Mwalando: At the African level, there are many documents available for use while at the global level there are documents like tripartite agreements. They give guidance on how to use One Health approach in control of diseases like zoonotics.

General Questions:
Qn: What can be done to leverage the impact of students and universities at policy level.
A participant from Senegal recommended that institutions embrace multisectoral approach in pooling students.

Qn: How is One Health communicated to those in urban settings?
Jean Marie noted that it is limited to those with access to information mostly those in urban settings.

Qn: Are there opportunities for student placement?
At EDCTP, they support research entities like JCRC that offers placement to students.

Session 10
Session 10 comprised breakout panels 5 and 6 and a breakout workshop.
Breakout Panel 5 was a Students Panel on experiences with field-based training and community and government engagement.

Dr. Ruth Grace, Mbarara University, Uganda
We had our training on poor waste management and engaged the community on town cleaning and sensitized the on water pollution.

Mourice Mbunde, Muhimbili University of Health and Allied Sciences, Tanzania
One Health Innovation Club collaborated with FAO and vaccinated of 6701 dogs and 1037 cats following an outbreak in May 2018. Also sensitized students about Antimicrobial resistance.

Nathan Kutshi, University of Kinshasha
In 2016, we did free vaccination of dogs and sensitised communities about one health. We have done trainings on AMR.

Samantha Mukonjia, Student at University of Nairobi
We have embraced innovative solutions during the interaction amongst humans, animals and environment. We had a training at the demo site in 2017 introduce one health concept; collaboration that takes place in different sectors.

Happy Jeombosco Asifiwe, University of Rwanda
We had a demo site in 2010; we were trained with skills on community assessment and research methodology. Also formed focus groups to discuss with farmers one health challenges associated with poor hygiene.

The skills building workshop was titled Learning Opportunity: A Hands-on Orientation of the One Health Policy Model and led by Dr Scot Moreland. He said he worked with partners to design a one health policy model.

At the end of this workshop participants learnt the basic logic and structure of the model to design scenarios based on different assumptions and to generate and interpret results of the model.
Information sharing crucial in disease prevention

In breakout panel 6, Dr. Alexandra Medley of the Centre For Disease Control, USA gave an overview of animals movements in Uganda. She noted that animals move in many ways yet they and their products are often not screened for diseases, thus putting the public at risk of diseases. So, there is need to intensify border screening for both animals and humans.

She pointed out that to prevent zoonotic diseases at the border, coordination, collaboration, communication, information sharing and data reporting are crucial.

She concluded by saying that One Health approach can promote border health security to prevent the cross border spread of zoonoses.

Timothy Wesonga from Arusha, Tanzania said the EAC developed a contingency plan using a One health approach to address the outbreak of disease.

Godfrey Pimundu, from the Uganda National Health Lab Services said the country has 1,500 laboratories commonly known as hubs, which are used in the testing animal, environmental and human samples. But of all these hubs, it is the One Health hub that is more operational and functions more optimally. He explained that of the 1,500, ministry of health chose 100 labs and improved their infrastructure, personnel, quality of service.

He, however, revealed that their major challenges include long sample transformation to the laboratories, limited diagnostic capacities.

Pimundu called for strengthened block capacity to detect diseases and aid prevention and or treatment.

Question

James, a participant from Kenya asked whether Wesonga was aware of the transportation of donkeys from Tanzania, Ethiopia and Somalia to Kenya. He said such a trend could lead to serious transparency problems such as disease outbreak. He asked what Kenya or any other EAC is doing to address deal with this.

Dr. Wesonga said if transportation of these donkeys is done within the law and comply with the standards, there isn’t much that can be done. He however said if the donkeys are brought in illegally, then the issue needs to be forwarded to the border control for redress.

The major challenges are long sample transformation to the laboratories, limited diagnostic capacities.

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