One Health Digest A QUARTERLY PUBLICATION OF AFRICA ONE HEALTH UNIVERSITY NETWORK Volume 2 Issue 4 July- September 2021

Word from the Chief Executive



Dear Reader,

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut

laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

Lorem ipsum dolor sit amet, cons ectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem

Rwandan students trained on how to address priority zoonotic diseases using case studies

By AFROHUN Rwanda Team

Globally, diseases that are transmitted from animals to humans, or zoonotic diseases, account for over a million deaths per year. The COVID-19 pandemic outbreak helped raise awareness and accelerated the *More on page 2*



Students demonstrate how to wear protective gear while dealing with zoonotic diseases



Community Cleanliness should be embraced as a communal responsibility



Kenya Frontline workers' Training Needs Assessment provides key insights to improving Training...



The Kenya One Health Demonstration Site Field Attachment: A Learning Experience like no Other

Students' sensitization drive on Management of Communal Waste changes Community Attitudes: sanitation embraced as a collective responsibility

Waste poses a threat to public health and the environment....





vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi.

Lorem ipsum dolor sit amet, cons ectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

orem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, cons ectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea

Professor William Bazeyo

Professor of Occupational Medicine and Chief Executive Officer - AFROHUN

From page 1

implementation of One Health in many

countries including Rwanda.

AFROHUN, an international network of higher learning institutions aims, among other things, to transform the training environment and approaches in and outside Universities in abid to develop a One Health Workforce without disciplinary barriers; this is the principle of One Health approach.

In Rwanda, AFROHUN has been implementing One Health- related activities since 2010. An example is the recently concluded oneweek-long multidisciplinary training workshop organized for 50 students from diverse disciplines. The aim was to educate learners about the detection, control and management of zoonotic diseases using One Health approach, and the specific objective was to equip students with the capacity to deal with Rwanda's five priority zoonotic diseases, with an emphasis on disease transmission, prevention and control. The training was conducted through use of case studies and simulations.

under the 5-year USAID funded One Health Workforce Next Generation project that seeks to build necessary competences of future one health workforce in government, civil society, private sector and other key actors to prevent and quickly respond to disease threats using a One Health approach across human, animal and environmental sectors.

The participating students from the University of Rwanda (UR) and University of Global Health Equity (UGHE) worked together. One Health competencies that students included learnt management, communication, leadership, team collaboration, roles and responsibilities. and systems thinking.

The students were grouped in tens and then assigned priority zoonotic diseases for role play, case study, and field simulation exercises. Rwanda's six prioritized zoonotic diseases that were discussed include, Viral Hemorrhagic fevers such as Ebola, Marburg, Yellow Fever and Crimean Congo Hemorrhagic Fever, Avian Influenza, Rift Valley Students emerged from this training with positive experiences as they were exposed to real life scenarios and the learning that comes with it. They gained non-technical skills and attitudes that all One Health practitioners need, regardless of discipline or work level.

⇒ It The participating students from the University of Rwanda (UR) and University of Global Health Equity (UGHE) worked together. One Health competencies that students learnt included management, communication, leadership, team collaboration, roles and responsibilities, and systems thinking.

"This has been a learning opportunity for me. I have learnt the various components of the One Health initiative such as leadership, management, communication and the role of gender in managing infectious diseases. I have learnt how to approach One Health using systems thinking which will be beneficial to my career. Everything I have gained will help me to quickly respond to disease threats using

The training workshop was organized

2

a One Health approach across human, animal and environmental sectors", says **Dr. Ishema Leandre** from the University of Global Health Equity.

"This training has helped me to understand that in order to deal with One Health challenges and design interventions, we need to work with communities in a multi-disciplinary approach. I hope that all of us who attended this workshop will bring together the best we can do with the One Health approach, because the One Health approach recognises that the health of people is closely connected to the health of animals in a shared healthy environment," said

Umutoni Carine one of the students from the University of Rwanda.

"The reason AFROHUN Rwanda organized this training is because no one person, organization, or sector can address issues at animal-human-environment the interface alone. However, by promoting collaboration across all sectors, the One Health approach achieves the best health outcomes for people, animals, and plants in a shared environment. The role of academia in training professionals oriented in One Health is critical in building a global workforce capable of enhancing synergies of various sectors in improving health. This

training enabled Rwandan students to understand and appreciate the contribution of disciplines outside their own in predicting, detecting, and responding to the complex health challenges affecting Rwanda today," said **Dr Juvenal Kagarama**, Rwanda AFROHUN Country Manager.

The training workshop was held in Kayonza District, Rwanda's Eastern province, an area that is within the bounds of human-animalenvironment interface, where learners get to exercise One Health principles in a natural setting.

Community Awareness on Waste Management Reduces the Rate of Disease Transmission

Ritah Namisango – Makerere University PR Office

Poor sanitation and improper disposal of waste are some of the major One Health challenges facing urban areas today. Most communities lack knowledge about proper ways of managing waste products and maintaining a clean environment. St Anne village located in Kabowa Parish, Lubaga division is not an exception.

"Poor sanitation leads to transmission of diseases such as cholera, diarrhea and dysentery. It also affects human well-being, social and economic development. Therefore, Sustainable development calls for adequate and equitable sanitation," said **Denis Ssekatama**, a One Health student under the AFROHUN program at Makerere University.



Members of the community working with students in demonstration of how stakeholders should work together to keep the environment clean and free of disease-causing elements

During his interaction and involvement with the community, Denis Ssekatama noted that residents of St. Anne Village, Church zone faced other challenges including the prevalence of infectious diseases such as malaria which is accompanied by self-medication. The residents also reported rampant cases of loitering monkeys and dogs that end up feeding on the indiscriminately dumped waste.

A critical analysis of the challenges faced by the residents called for a One Health intervention approach focusing on improving sanitation through proper waste management, which in turn would reduce the prevalence of infectious diseases.

The community awareness program pointed out the correlation of poor waste management with the spread of malaria. "Poor waste management leads to blockage of drainage channels and stagnant water that are breeding ground for mosquitoes that cause malaria. Those suffering from malaria spend lots of money on treatment. Sometimes people lose life." Ssekatama therefore reiterated the need for prevention strategies such as proper waste management for a safe and clean environment. He also advised the residents to sleep under insecticidetreated mosquito nets.

According to Ssekatama, this interaction led to a change of attitude. The residents agreed to work with the student and the local leaders to clean the wells, swamps and unblock the drainage channels.

Ritah Namisango was delighted to find the AFROHUN One Health student in a meeting bringing on board the residents, local council leaders, KCCA, Village Health Teams (VHTs) and Uganda Red Cross Society (URCS) discussing the sustainability of this intervention. During the meeting, the residents formed a local committee to continue with the One Health approach aimed at maintaining good sanitation and hygiene as well as proper waste management.



Mr. Ssekatama seen here in a dialogue with the community members that turned up for the exercise where the students provided One Health leadership

Mr. Ben Mugerwa, the L.C.I Chairman for St. Anne Zone thanked Ssekatama for boosting the morale of the residents to actively participate in proper waste management activities.

"We need to keep and uphold the activity of community general cleaning and avoid doing things that may result into blockage of our drainage channels. When people come out to help us, we should not relax, but embrace and maintain the good practices. I thank this student for his efforts to promote proper sanitation in our community," said the Chairman.

Mr. Tony Mawejje, an official from KCCA, Lubaga Division expressed pleasure of participating in community cleaning activities with the One Health student alongside the community members. "Let this service proceed to other areas within the village in order to promote sanitation. I urge you to be clean and to ensure proper sanitation", he said.

Ssekatama commended Makerere AFROHUN University and for presenting him with a golden opportunity to serve his community as well as the support that he received during the field attachment. He thanked his supervisors, Dr. Kizito Mugimba and Mr. Sean Puleh for the guidance they provided. He happily reported that through this field attachment, he acquired communication, listening, negotiation, administrative and management skills.



The general environmental living conditions of St. Anne Kabowa where the students conducted their One Health servicelearning project

4

Community Cleanliness should be embraced as a communal responsibility

By - Specify the Author here

The environment in which humans live has a significant bearing on the health and well-being of individuals and communities. This implies that the health of the environment has direct impact on the health of all creatures that survive in it, calling for a One Health approach in solving environmental challenges.

With the ever-increasing population coupled with poor urban planning, poor waste disposal and poor sanitation are emerging threats in new settlements. This was raised by Shalott Masika Asaaba, a student at Makerere University pursuing a Bachelor of Commerce degree. In her 2-week attachment at Katta village found in Nangabo subcounty, Wakiso district, Asaaba called for improving waste management and changing the perception of the community members towards general sanitation as a collective responsibility.

Working together with the community to identify health challenges in Katta Village, limited access to clean water, poor hygiene and sanitation-related health problems such as typhoid, poor waste disposal, poor sanitation and poverty were listed. The list was assessed to address a top priority community challenge and poor sanitation took the lead.

"I conducted door to door visits to 23 households with the help of local leaders to identify the challenges faced by the community. It was discovered that some households did not have pit latrines, and those that had could hardly clean them well. This was due to limited access to clean water. The community has only one well from where to collect water. It is a great challenge that the community does not have a specific place where domestic garbage can



Ms. Masika (right) in an interview with Ms. Namisango at Katta Primary School

be properly disposed." Asaaba stated.

During her intervention meeting, convening at Katta C/U Primary School with community members and local authorities headed by Mrs. Mariam Auma the L.C.I Chairperson, appropriate strategies were designed to address the challenge using available resources in the community. They agreed to have sensitization programs aimed at improving waste disposal and the perception of the community members towards sanitation. They agreed that it was only through collectively working together; the community, the professionals and leaders, that the challenge of poor sanitation could be effectively improved.

The program involved meetings and using door-to-door approach to engage the households in community cleaning. About 12 people participated including elders, youth leaders and Mr. Joshua Muwanguzi, the Headteacher of Katta C/U Primary School. The school administrator requested for a cleaning session at the school, where people were guided on how to clean their latrines. Other activities included slashing the school playground and collecting the littered waste around the school.

To make the program sustainable, a committee consisting of 6 people was formed to implement these activities. They promised to mobilize more people, especially the women to carry out frequent general cleaning.

Asaaba thanked Makerere University, One Health Institute under AFROHUN for availing her the opportunity to serve and be relevant to her community. She acknowledged the invaluable skills attained during her field attachment working with local authorities, youth leaders and other community stakeholders. Asaaba was able to acquire communication, problem-solving and management skills. Her attachment lasted from 26th July to 6th August, 2021 under the supervision of Mr. Tom Ngabirano of Makerere University.



One Health Students educate youth on Sexual Reproductive Health

By - Specify the Author here

"As a community, the level of sexual activity among the youth is very high, but if fellow youth come up with programs to sensitize them against the vices involved, a lot can be achieved. We are grateful as community leaders for this program that enables Makerere University students to make a positive difference in the lives of the youth, women and the community at large," said Ms. Beatrice Kabatambuzi, a woman representative on the Local Council who worked with the AFROHUNsupported students since their community entry.

Interacting with women and youth of reproductive age in Kimwanyi community in Katanga Village in Kampala district, the students discovered an urgent need of health education interventions in the community. The students under the AFROHUN-supported One Health Institute at Makerere University, organized community education and awareness sessions. Due to the prevalence of COVID-19 which hindered mass gatherings, the participants were divided into small groups as per COVID-19 prevention guidelines.

6

Speaking on behalf of the youth beneficiaries of the sensitization program, Ms. Mariam Nabatanzi said that the program had been a great eye opener towards improving their sexual and reproductive health. She committed to disseminate the message to fellow youth in the community who may have missed the opportunity to attend. "I have gained a lot from this sensitization program. I have known the dangers of involving myself into irresponsible sexual activity and have come to know that at my age as a youth, abstinence is the best way to avoid STIs and unplanned pregnancies. I will endeavor to share the same good information to my fellow youth in my community," she said.

Due to inadequate reproductive and sexual health knowledge, youth engage in unsafe sex practices which have led to persistent spread of Sexually Transmitted Infections (STIs), Urinary Tract Infections (UTIs), teenage pregnancies and unsafe abortions as well as early marriages. The infections often go undiagnosed and untreated because of the high levels of poverty among the people of Katanga, as well as limited access to healthcare facilities. In addition, little emphasis has been put on educational and other efforts to prevent infection occurring in the first place.

During their field attachment to Kimwanyi community in Katanga, Ivan Kirungi Nyankwarara and Lucia Ndanga Ruvarashe, in a discussion with community members and Village Health Teams noted that the youth engage in sexual activity at tender ages leading to early pregnancies. The problem is exacerbated when the pregnant youth resort to carrying out unsafe abortions to avoid facing the anger of their parents.

The students learnt that the community has got limited number of toilets which are used by many people. When people infected with diseases and infections like gonorrhea, syphilis and candida use the toilets which are not even cleaned well, others can acquire infections from such toilets. The community is challenged by girls, who after carrying out abortions, dump the fetus in drainage channels where birds and animals feed. This creates an environmental hazard to the community.

To address this challenge of One Health dimensions, the duo opted for sensitizing youth and women to provide them with the knowledge necessary and information on sexual and reproductive health. According to Ivan Kirungi Nyankwarara, a Makerere University student pursuing Bachelor of Social а Sciences, they educated the youth on the dangers of early involvement in sexual intercourse and equipped them with knowledge on the prevention of STIs and UTIs.

"We have engaged a number of youths in sensitization programs on how to prevent the spread of these infections. We empowered them with information that they could share with their peers whom we may not be able to reach out to. We have encouraged the youth below the age of 18 to always abstain and concentrated on education or get involved in other productive activities. If they conceive at an early age, they stand chances of carrying out abortion or death." Kirungi explained.

In addition, Lucia Ndanga Ruvarashe, an international student from Zimbabwe, doing her Bachelor of Laws Makerere University said that the community lacked information about preventive actions and family planning measures. She attributed the prevalence of STIs and STDs to poverty whereby young people have high demand for items they could not afford from their parents, so they end up engaging in transactional sex, which exposes them to infections.

Ms. Ndanga stressed the need to provide knowledge

using the available resources and counselling such that the youth could open up to talk about the challenges they face. "It is also important to train and inform them about the sexual reproductive rights and the law, such that they are encouraged to always do the right thing. Most of the youth in this community come from disadvantaged families and need to be helped."

the Pleased with sensitization program of the One Health students attached to Kimwanyi community, Mr. Fred Isabirye, a member of the Local Council in charge of security commended the students for addressing a challenge which most people in the community were hesitant to talk about. He said, "Our youth have benefitted a lot from this sensitization program.

When we help the youth, we help the next generation and future leaders. If we mishandle them now, the world will be in jeopardy."

Mr. Kirungi and Ms. Ndanga acknowledged their field attachment program, as a very wonderful educative experience. They attained communication skills, problem identification and intervention planning skills, community mobilization, and realized the relevance of the aspects of gender and age in providing information to communities. Thev commended the Makerere University One Institute Health under AFROHUN for the opportunity and support. They also appreciated Ms. Winifred Kansiime and Dr. Christine Acio for the great supervision and guidance they provided

Working with a Rural Community to Tackle Antimicrobial Resistance using the One Health Approach : Improving Nutrition versus Self-Medication

By Evaline Nagawa

Anti-Microbial Resistance (AMR) is one of the most challenging threats to human and livestock health in modern times. In AMR, micro-organisms such as bacteria become resistant to antimicrobial drugs used to treat infections and diseases. The resistance leads to ineffective medicines and untreatable infections that increases the risk of spread to others, death and imposes huge costs to individuals, society, and the health system.

It is estimated that at the current pace, the mortality due to AMR will also have devastating effects on global economy, especially that of the Low- and Medium-Income Countries where the health systems are more fragile.

According to Evaline Nagawa, a graduate of Social Sciences of Makerere University and a beneficiary of the One Health Institute attached to Kisoga community

Evaline Nagawa in white coat talking to the community members about the value of nutrition in warding off persistent infections and curbing against AMR



situated in Mukono District, AMR is a very serious health challenge, but unknown to majority of the ordinary people. Given the interdependence of human, animal, and environmental dimensions of antimicrobial resistance, she deemed it logical to take a One Health approach when addressing the problem.

Reports from Kisoga community indicated that many people were with self-medicating antibiotics while others used substances with antimicrobial properties. Thus, for her project, antimicrobial resistance was prioritized as the One Health challenge due to the intense health threat it posed to the community, and country at large. There was a great need to devise means to reverse the effect of AMR by reducing on the level of self-medication.

"We need to focus on food as the main source of medicine. We came up with a measure dubbed, 'we can eat our food as our medicine, and not medicine as our food. The approach focused on improving nutrition with food being the first line of treatment and opting for medicine as the last resort. We can use the food we eat to build body immunity to resist diseases instead of taking drugs,' Nagawa said.

After а thorough assessment, Nagawa together with various community stakeholders observed that the prevalence of health challenges like poor waste disposal, poor drainage system as well as poor nutrition was intensifying the spread of infectious diseases in that community. She added that due to poverty, people could not seek for professional medical help, but rather resorted to self-medication, mainly on antimicrobials.

thorough assessment, After a working with various stakeholders in the community, Nagawa realized that the occurrence of antimicrobial resistance is positively correlated with prescribed outpatient drug use on a national level. She noted the escalating habit of people taking medicines without proper diagnosis and prescription by a qualified doctor. In a review of medical records at various health centers in the Kisoga community including Herona Hospital, Global Medical Center and Rapha drug stores, it was revealed that antimicrobial overuse, misuse and possible resistance existed among the community members.



A community education session during one of the student's intervention phases

"Misuse and overuse of antimicrobials are the main drivers *in the development of drug-resistant* pathogens. Using insufficient or unnecessary dosages of drugs increases the risk of drug resistant spread bacteria and the of antimicrobial drug resistance. We have to take steps to preserve the continued effectiveness of existing antimicrobials by eliminating their inappropriate use and limiting the spread of infection," Evaline Nagawa remarked.

She noticed the high proliferation of drug shops for human, animal and crops which are managed by unqualified and unlicensed personnel in the community. An interview with the Ntenjeru-Kisoga Town Council Agricultural Officer revealed that many people were using crop drugs such as Dythene to treat fungal infections like ringworms in humans. The Officer further reported that some livestock farmers were using antiretroviral drugs (ARVs) to boost body weight in pigs!

In her intervention on improving nutrition as a mitigation measure to antimicrobial resistance among residents of Kisoga Community, Ms. Nagawa involved the community in health and nutrition education activities and advised them to strengthen their immune system through daily intake of Vitamins A and C. She engaged households in selfprovision of home-grown Sukuma wiki (collards) as a source of vitamins A and C, which are ideal for a strong immune system and cell growth as well as income generation.

Sukuma wiki as a vegetable was chosen because of its high nutritious content level and its potential to continuously grow leaves for over four months. It is also easy to plant and maintain in the biveera (polythene bags) and at full maturity, it flowers and produces seeds for continuous multiplication. The project targeted to establish 200 model Sukuma wiki garden packages for 50 households in rented single or double roomed houses with limited space.





Sukuma week seedlings that the students used to demonstrate to the community members. These were distributed to them after the training

In the end, the community was delighted and thanked Ms. Nagawa for availing them with the necessary information and knowledge on the importance of nutrition and proper the potential threat of antimicrobial resistance. They demonstrated the ability to transfer the knowledge gained, to others in the community reduce infectious to

diseases in the community and reduce the need for antimicrobials. The 50 beneficiary households who participated in the project were able to receive 2 *sukuma wiki* seedlings each to plant in their respective homesteads.

It was conclusively noted that it was essential to prevent infections, reduce over-prescribing of antimicrobials and improve sanitation and hygiene as well as infection control. Nagawa suggested actions necessary that included improvements in antimicrobial use regulation and policy, surveillance, stewardship, infection control, sanitation, animal husbandry, and alternatives to antimicrobials as well as educating the people about the dangers of selfmedication.

The project conducted by Evaline Nagawa was titled "Improving nutrition as a mitigation measure to antimicrobial resistance among residents of Kisoga Community in Mukono District." It was supervised by Dr. Saphan Muzoora (Makerere University), Mr. Nicholas Mugabi (Makerere University) and Ms. Christine Acio (Lira University).

Ms. Nagawa involved the community in health and nutrition education activities and advised them to strengthen their immune system through daily intake of Vitamins A and C. She engaged households in self-provision of home-grown Sukuma wiki (collards) as a source of vitamins A and C, which are ideal for a strong immune system and cell growth as well as income generation.



The Kenya One Health Demonstration Site Field Attachment: A Learning Experience like no Other

By - Kenya AFROHUN

In August of this year, AFROHUN conducted field-based Kenya for undergraduate and training graduate students in One Health approaches to addressing issues within selected communities through service-learning at One Health Demonstration Sites. Thirty (30) students comprising both undergraduate and of graduate students, were exposed to multidisciplinary One Health interventions. This training is a hallmark field-based experiential learning training approach in the AFROHUN network, which has contributed to development of a future workforce that is competent in addressing complex health challenges at the community level, including outbreak response. Indirectly, it has also become evident that the current workforce that supports the training while students are in the field, have had their capacity and knowledge in One Health built and strengthened.

After several years of implementing this training approach, AFROHUN Kenya assessed the impact of One Health activities in existing One Health Demonstration Sites and identified new sites. Information generated through the assessment has also been utilized to build collaborations and partnerships, as the network works towards strengthening its sustainability strategies.

Field-based experiential learning opportunities provide platforms for those involved to interface with the

10

practical aspects of their study. It is for this reason that AFROHUN Kenya organized the demo-site activities at Mpala and Loitokitok in August 2021. The participants had unforgettable, enriching experiences. This article provides their insightful encounters in the two places.

The Mpala Research Centre is in Ewaso ecosystem in Central Kenya. It was opened in November 1994. There are two catchment perennial rivers, Ewaso Nyiro and Ewaso Narok. The region is an expansive savanna landscape inhabited by wildlife populations. It is a beautiful terrain with different kinds of landscapes that provide a spectacular view of various wild animals in their natural habitat. The Research Centre is a facility for research, education, and training. It is a place that can accommodate small groups of students on a study quest as well as several long-term researchers who opt to stay there for long periods.

The One Health Demonstration Site field attachment training was conducted for five days in August 2021 for students from the University of Nairobi and Moi University. The training experience exposed the students to the interface involving humans, wild and domestic animals and the environment.

This training approach that takes on a service-learning model, impacts students, faculty and communities in different ways.



Sukuma week seedlings that the students used to demonstrate to the community members. These were distributed to them after the training

Maureen Madzo Arome, a master's student of Public Health at Moi University, confessed that she never knew this before the visit to Mpala Research Centre. The field trip was therefore a very interesting experience and a learning moment for her. This opened her eyes about how the human-animal-environment interface collectively contributes to facilitating the nice, natural geographical sceneries that we enjoy.

Maureen felt that the faculty planned and administered the five-day training pretty well, in a manner that made sense to the students. She reported that, "the blend of theoretical sessions and field activities made the training very interesting and informative as the activities were well-planned and the faculty being well-prepared and informative. We had enjoyable group work sessions where group members comprised different disciplines. It was also interesting to learn about the interdependence between humans, animals and the environment where any change in one can impact negatively on the other and vice versa."

The five-day training not only offered Maureen a learning opportunity but also a special chance to network and interact with various professionals specifically in the line of her training: nursing. She fully believes that this will go a long way in fully equipping her to make a desirable impact in addressing diseases in the community as a health professional. "Networks and interactions that I built with professionals in animal and environmental health sectors will help me in surveillance of the environment including vectors and animals to better address diseases in the community."

Field-based learning activities provide students with the opportunity to directly interact with the people they will serve once they have become professionals. Such activities also give students the chance to apply the knowledge they have gained in the classroom. In the process, they get firsthand information from community members concerning health issues of concern.

During the visit to Mpala Research Centre, the students also visited the nearby Lelkiji Village. *"The community visit to Lelkiji Village was quite interesting. Interaction*

with the community members facilitated the application of knowledge learnt in class on principles of planning a community intervention." During this visit, priority challenges that adversely affect humans, animals and environment interactions were identified as humananimal-environment conflict, limited knowledge on zoonotic diseases, low levels of animal vaccination, limited access to water and poor sanitation and poor access to healthcare among others.



Sukuma week seedlings that the students used to demonstrate to the community members. These were distributed to them after the training

Mercy Kosgei, a Masters student in Public Health at Moi Univesity, also had wonderful experiences during the demosite training." She discovered, through interactions, the relevance of multidisciplinary collaborations in addressing societal issues involving humans, animals, and their environs.

Mercy considered the training very intensive. She believes that her encounter exposed something new to her. "As a social researcher, I am walking out of AFROHUN training knowing that all organs of the ecosystem are interdependent, and thus the need for a collaborative approach to address one health issue." She feels that her research base was broadened.

Mercy observed that culture has a big impact on the advancement of life. *"Culture shapes our ways of doing things and affects our values thus defining what we consider right or wrong."* This is a key determinant in how we view diseases and how we respond to advice on prevention and control. As a social scientist, she emphasized the



importance of comprehending how peoples' cultural values, social and environmental conditions impact on human behavior, further noting that human behavior has direct influence (negative or positive) on the environmental system. This, results in gradual or drastic changes on the climate which in turn affects the life of humans, wild and domestic animals. This complex interaction of factors illustrated to Mercy the value of the One Health approach.



The intricate nexus between animal, human health and the environment is a breeding area for One Health challenges

According to Mercy, human behavior must change through community engagement in such a way that the community understands that they are part of the team that seeks to find a solution, not just beneficiaries of the actions designed to solve the problem. She emphasized that for the community to change their perceptions, the transition should start with One Health Stakeholders. *"I was glad to be equipped with skills and competencies to bring this to life during the demo-site training."* She appreciated the transdisciplinary approach in addressing complex challenges in the community through One Health approach.

During the demo-site training, Edith Tesot, a Master of Nursing student (maternal and neonatal health) at Moi University, recorded several things that needed intervention. One challenge was that humans, domestic and wild animals shared a common, unprotected water source which leads to

12

transmission of diseases between species.

Edith contemplated several measures that could be put in place to help the people of Lelkiji. Firstly, the link between One Health Frontline Workers of human and animal health in addressing disease outbreak, prevention, detection and treatment should be well illustrated. Secondly, the community should be sensitized on protection measures, safe use of locally available resources, existence of zoonotic and communicable diseases, and how to prevent disease outbreaks





Community engagement for knowledge creation and education is one of the most viable approaches to ...

Dr. Janerose Mutura, a Veterinarian from the University of Edinburgh also had a very inspiring encounter during the field activity at Mpala Research Centre. Before coming to Mpala for the field experience, she only had a theoretical comprehension of the One Health concept. However, the encounter at Mpala gave her a deeper insight into the practical aspects of it. She said, "I had a theoretical understanding of the One Health concept from my interaction with it as an undergraduate through the University of Nairobi, One Health Club but I was struggling with how to incorporate it in my work as a veterinarian."

As part of the team that engaged the men of Lelkiji village, Dr. Janerose observed the importance of understanding existing social norms at the planning stage. This, according to her, helps to achieve ownership and guarantee impact.

The major problem, according to Dr. Janerose, that the people of Lelkiji community face is waterborne diseases. This is because they share water points with domestic and wild animals. They even feared that they were exposed to metals and pesticides that came from upstream where agricultural activities were practiced.

Since some of the community members depended fully on herbal medicine, Dr. Janerose wondered about the influence of this on Antimicrobial Resistance (AMR); whether the rise of AMR was affecting the effectiveness of their remedies; the overall understanding of AMR; and whether they had the right tools to combat it.

Visiting the Kenya Long term Exposure Experiment (KLEE) site run by Professor Truman P. Young offered a great opportunity to Dr. Janerose and her team. Learning how the research used different types of enclosures to demonstrate the separate and combined effects on the vegetation by cattle, mega-herbivores (elephants and giraffes) and other indigenous large herbivores was an eye opener.

"I would love to thank AFROHUN for the opportunity to interact with the different professions and to put One Health in practice." Her only prayer was that "the cohort will keep the fire burning and will grow to form a consortium that will inform positive policy changes in the region", she said

Kevin Atito, a Public Health Epidemiologist, noted that animals are susceptible to diseases just like humans, yet they do not receive as much attention as is needed. Kevin stressed that animal health should receive more attention since most zoonotic diseases *"form early signaling species of pathogen shifts and pathogen jumps across species."*

For Marianne Awuor Odhiambo the field-based training was a lifechanging exposure. "I now have the required knowledge and skills to further improve myself as a One Health practitioner." One of the main attractions for her during the training was the role of data in improving research outputs, prevention and control of diseases. According to her, "data-informed estimates of financial uncertainties and projections of costs of health and animal insurance predictions premiums with of expected zoonotic outbreaks should be encouraged from the community level."



Marianne feels that the training enhanced her capacity and motivated her to actively participate in managing and solving future complex health events.

Rachel Otuko, a Public Health Officer and an Epidemiology and Biostatistics student at the University of Nairobi

shared that this experience enhanced her analytical and communication skills in a way that no other training had done. The field-based activity was a time of growth for her. Interacting with professionals from different fields and learning from them made her to open up more and share her thoughts on different issues.



Students from different postgraduate disciplines worked together in groups to identify problems and think through solutions

Forinstance, she realized that focusing only on antibiotic prescriptions at the hospital will not solve the AMR problem since drug resistant bacteria can still be transmitted from the environment and animals to humans. The way forward, according to her, is to incorporate the One Health triad and probably partner with some of the friends she had made from different disciplines. This, she believes, will help her to better articulate the issues around Antimicrobial Resistance.

Robert Ofwete, a veterinarian working at the Kenya Snakebite Research and Intervention Center, at the Institute of Primate Research and a student at the University of Nairobi, agreed that the experience was spectacular. *"The encounter has not only cemented my knowledge and understanding of One Health but also added new concepts that will positively impact on my career as a public health professional...". What he learnt included team building, elevator pitch, the Robert and* Doreen tool, social behavior change, communication, and community engagement among others.

Dr. Ruth Njoroge, a student Veterinarian at the University of Nairobi, believed that there would be collective gain if concerted efforts were made to conserve the ecosystem. Also, she asserted the need to take account of the environmental changes and how they are likely to impact on disease distribution and disease patterns.

The much anticipated One Health Demonstration Site training conducted over a period of 3 weeks in Loitokitok was not only exciting but also insightful and enriching. This town is located within the foothills of, and from it, one can easily have a clear view of Tanzania's Mount Kilimanjaro. It is a small, growing town in southeastern Kenya. The students were drawn from three universities namely, the University of Nairobi, Moi University and Maasai Mara University.

Brian Wekesa, a student pursuing Veterinary Medicine felt that the training contributed greatly to his interactive skills with the community. He also got the awareness on how to implement the One Health approach.

Doing something as a team with people one has not met before can be quite adventurous. To this extent, one of the participants remarked, *"It was a joy and really enjoyable working in the teams and especially with people we've never met before and from different faculties."*

To Sandra Aiyabei who is a Pharmacy student at the University of Nairobi, the program made her to comprehend the value of involving community members and using One Health approach in identifying and prioritizing challenges in the community, as well as developing sustainable, evidencebased interventions with them. She reported, *"I was challenged to view situations through a broader lens and to think ahead - what would be the consequences of an action?"* She asserted that this kind of an outlook is important when dealing with complex problems that require multifaceted solutions. To her, the field experiential training was foundational.

Chris Koyan, a Maasai Mara University student of Animal Health and Production, engaged the community on COVID-19 in their local language, using materials developed by AFROHUN. Being able to communicate with the community in their own language was an exciting experience to him. It enabled the community to follow the engagement with ease and to feel that One Health was indeed part and parcel of their lives. A key lesson that Chris learnt was that the community members had the potential to prevent and control diseases.

Esther Akoth, a Moi University student of Environmental Health appreciated the fact that some One Health situations may require working under pressure. She elucidated that "without field-based experience, I probably wouldn't have learnt vital life skills such as working with a team and working under pressure yet being consistent and producing excellent results."

The field activity sharpened the participants' abilities to comprehensively assess needs, solve problems, and be analytical. Kirigwi Sarah Wanjiku, a Maasai Mara University student of Animal Health and Production, affirmed to have acquired these vital skills. In addition, she learnt how to examine local and global health problems in One Health perspective.

In conclusion, the field experiences at Mpala Research Centre and Loitokitok were verv enriching. They offered participants the the opportunities to blend theory and practice.

Kenya Frontline workers' Training Needs Assessment provides key insights to improving Training and building competencies By AROHUN Kenya

In Year 1 of the One Health Workforce Next Generation project, AFROHUN-Kenya conducted a One Health training needs assessment (TNA) for frontline workers in Kenya, including Community Health Workers (and/ or Community Health Extension Workers) and Agricultural Extension Workers, among others. AFROHUN Kenya aims to engage the frontline workers in One Health responses to emerging issues, thereby improving communication and collaboration across the sectors. The needs assessment aimed at identifying gaps in knowledge, attitudes and practices, and One Health competencies of the frontline workers. The aim is to design training workshops based on gaps identified through the needs assessment in subsequent years, eventually enhancing the capacity of frontline community workers to prevent, detect and respond to One Health issues in the community.



A long-range view of the stakeholder workshop participants to validate the training needs assessment findings

In Year 2 of the project, a stakeholder workshop was convened where the TNA report was presented to stakeholders and existing training materials reviewed to determine the extent to which they meet the identified training needs and gaps. Among other things, the workshop provided opportunity to explore areas of synergy with organizations that have programs which may address gaps identified in the Training Needs Assessment, including FAO's ISAVET program.

The needs assessment among Frontline Workers in Kenya was conducted by experts capable of translating One Health from concept into action. It had three main objectives. Firstly, it was to ascertain the various needs and One Health competency gaps prioritized by healthcare workers. Secondly, it was intended to identify One Health knowledge, attitudes and practice gaps in the training of Frontline Workers in Kenya. And finally, it was intended to determine needs that are not being addressed by programs already training Frontline Workers.





A representative from the Public Health Officers and Technicians Council making a presentation on existing trainings at the workshop

The Training Needs Assessment utilized multidimensional а framework to explore health workforce needs at individual, institutional contextual levels. and A literature review was done to examine previous assessments conducted for the health workforce and other workforce sectors with a focus on crosssectoral themes.

The assessment survey was completed by Frontline Workers in environmental, animal, and human health with the human health sector having the most respondents. It measured employee satisfaction and engagement and examined workplace environment among other aspects.

Following the successful undertaking of the assessment exercise, AFROHUN Kenya facilitated a stakeholder's consultative workshop in July 2021 to present the findings from the assessment and deliberate on them.

The organizations that attended the workshop included AFROHUN Kenya, Moi University, East African Community (EAC) Secretariat, University of Nairobi, Kenya Red Cross Society (KCRS), Food and Agriculture Organization (FAO), Institute of Primate Research (IPR), Medicines Technologies and Pharmaceuticals Services (MTAPS), Core Group, Public Health Officers and Technicians Council (PHOTC), Environmental Institute of Kenya (EIK), Kenya Veterinary Board (KVB), and Maasai Mara University.

The discussions in workshop the further deepened understanding of the assessment findings, by the stakeholders. For instance, a key stakeholder reported that there was a positive reception among stakeholders with more entities engaging in One Health activities, further clarifying that there was

incorporation of more actors in One Health, beyond universities that were initially the core stakeholders that were actively involved.

The One Health that competencies were identified included management, communication. culture. belief and gender, leadership, collaboration and partnership, values and ethics, systems thinking, policy, advocacy, and research.



One Health Digest: A quarterly publication of Africa One Health University Network

Volume 2 • Issue 4 • July - September 2021





Presentations on what is available and what is needed to address the gaps were made by different subject matter experts in the stakeholder workshop

On the other hand, areas of weakness that required more training were also identified, and they were communication, use of digital technologies, provision, and use of personal protective equipment, lapses in prevention, preparedness mechanisms, and response community engagement, networking, and collaboration among various sectors, especially during pandemics.

The findings of the Training Needs Assessment revealed that the identified areas of weakness could have been brought about by the effects of COVID-19 pandemic on the work environment. This caused many to adopt digital technologies in doing things that could be done differently. The assessment also identified the need to ensure adequate collaboration among stakeholders to improve preparedness and response which has been a key challenge globally

The stakeholders agreed that there was urgent need to develop a course to address the identified gaps. The stakeholders further agreed that there was a need to develop a

course with relevant modules that would address the identified gaps. Such a course would also take care of the contemporary aspects of work frontline workers needed to be effective in-service delivery during threats of public health importance.

Subsequently, the need to identify areas of synergy took centre stage because of the need to ensure that the modules achieve their objectives. They also discussed the availability of existing training materials, infrastructure in various organizations and recognition by professional bodies on the need to incorporate the course into curricula and award of continuous professional development points (CPDs) to their members.

The output from the workshop was the plan for the development of Training Modules that would be piloted first before scaling them up, to many frontline workers. The topics were identified and content for each of the modules would be adopted from the existing AFROHUN modules. Three new modules were also identified to be incorporated into the short course. These were: 1) One Health Approach to Pandemic Preparedness and Management, 2) Digital Communication Tools and Applications, and 3) Psychosocial Support.

The stakeholders affirmed their support to this way forward and provided great inputs into the proposed modules. They committed to provide support through their respective experts.

Following the engagement, Kenya Veterinary Board (KVB) members were awarded 5CPD points from the workshop. This was based on two reasons. Firstly, it was because of their active involvement in the stakeholder workshop. Secondly, one of their representatives gave an assurance of their commitment to the partnership and engagement.

In Year 3 of the One Health Workforce – Next Generation project, AFROHUN Kenya will embark on finalizing training programs and organizing events to address the needs identified.



Students Partner with Community to Save Wetlands from Abuse and Contamination



Ritah Namisango and Proscovia Nabatte - Makerere University PR Office

Many of the households in slum communities have been reported to indiscriminately dispose their waste. The problem is likely to escalate with the rapid increase in population and unplanned urbanization, resulting in slum development. A big number of people who live in Kikaaya Village in Kawempe Division, Kampala District live in crowded and informal slum settlements located in low-lying zones and wetlands.

The overcrowding and development of more informal settlements in the Kikaaya community has exposed swamp areas to great danger. There is swamp filling activity and releasing of waste from toilets into the drainage channels that eventually end in the swamp. This creates a health challenge to humans, animals and birds and the environment at large. In addition, the people who settled in wetlands lacked knowledge on how to manage them.

Faced with this One Health Challenge, four (4) students from Makerere University namely Kuteesa Victor, Jemba Pius, Muhanguzi Brian and Owot Raymond came up with an intervention aimed at saving the Kikaaya swamp from abuse.

According to Jemba Pius, the swamp was a very critical point of focus because it concerned the entire community. The students realized the need to work with the community to avail them with knowledge and information about preserving wetlands, proper disposal of waste as well as sustainable programs in protecting wetlands. The students also noted that the drainage channels and springs to and from the swamp needed to be dug and kept free from waste.

"We decided to approach this One Health Challenge from a public health perspective through dealing with the root cause of the challenge of poor waste disposal. We noted the dire need to sensitize the community on waste management. When you look at the water in drainage channels, it is contaminated. If animals and birds feed on this contaminated water, it may cause health problems to them as well as the humans who will consume the animals and animal products in future. Mosquitoes do breed in this water which escalates the problem of malaria in the area," lemba explained.

Kuteesa Victor also cautioned that disposal of solid waste in drainage channels blocks the flow of waste or rainwater which leads to flooding. He explained that floods are associated with many disease epidemics such as cholera and dysentery. When it rains, waste is soaked and its content carried through the land, eventually making its way into the water channels. He further pointed out that poor waste management is also associated with attraction of vectors and creating an odorous environment.

"The people in this area are settling in a swampy environment. The residents were complaining about floods which were becoming an unbearable problem. There is also serious abuse of the environment, coupled with rampant outbreak of diseases such as typhoid, diarrhea, and malaria. This area is a breeding ground for mosquitos, bacteria and flies that lead to diseases such as typhoid, diarrhea, and malaria," Kuteesa mentioned.

Together with the local council leadership and residents, the students cleaned the drainage channels freeing them of solid waste. The students also sensitized the residents on the dangers of mismanagement of waste and emphasized the need for the community to get involved in activities aimed at making Kikaaya village a clean and safe environment.



A section of the community and student participants in the drainage cleaning exercise

18

To sustain this One Health intervention, the students engaged the local council committee on health and sanitation. Since this committee is responsible for ensuring the wellbeing of people in the community, it will continue with the implementation of the students' initiative to maintain and protect the swamp from abuse.

Mr. Abel Mutambuke, a resident of Kikaaya underscored the need for continuous sensitization of the community on the dangers of dumping waste into the drainage channels and the swamp. He added that the local leaders should bring to book some people who construct latrines in swamps and later release sewerage into the drainage system. He called upon KCCA to construct a well-built (protected) drainage system to curb the problem of floods, most especially when it rains.

The students thanked the community members who worked with them during the field attachment. These included Mr. Ssebuggwawo Robert- the L.C.I Chairman, Mr. Wilson Jjagwe- the Secretary and Guide, Ms. Hadijah Nalubwama and the Information Secretary (publicity), the VHTs led by Ms. Namayengo Sarah and other community stakeholders.



The students and community members take time off to pose for a group photo at the end of a productive day

My field experience at home village Kigunga - a tale on One Health solutions

By Diana Manju

My name is Diana Manju, a graduate from Makerere University with a Bachelor of Arts in Social Sciences, majoring in sociology. I am a cohort 2021, Africa One Health University Network (AFROHUN), fellow.

I thank AFROHUN and its partners for the One Health Institute Field Experiential learning, a training that has introduced students multidisciplinary to а approach of detecting and managing One Health challenges. Throughout the training, fellows, are encouraged to go back to their communities and find out the most pressing

challenges with the aim of working out realistic and applicable solutions with the community members.

Engaging my community was a journey worth walking. I feel satisfied that I was part of the team that positively changed my community. From that experience, I learnt that though we have a lot to offer to the community, the community is also rich in knowledge that we should tap into. The time I spent interacting with members of Kigunga Village, my knowledge in community engagement and societal construction

expanded. This experience also unveiled my communication skills that for long I was not sure of.

I conducted my Field Experiential learning at my home village in Kigunga, Mukono district. At first, I wasn't sure of how to penetrate the community, however, with the help of our Local Council 1 Chairperson, I was able to undertake a community



Diana Manju during the interview with the Makerere University PR Office staff



assessment to understand the village norms and culture and be able to engage with community members on the different problems they were facing.

Through, a door-to-door method of engagement, I noted that excessive dust, pollution, malaria, dysentery, diarrhea, poor waste disposal and poor sanitation were the most common challenges faced by community members.

In a constructive discussion held at LC I offices, community members collectively selected poor waste disposal as the most pressing challenge that needed urgent attention. They were much concerned about the irresponsible disposal of used women sanitary pads and baby diapers that they suspect has led to the increased spread of diseases such as diarrhea and dysentery.

Coming up with solutions

Before we engaged communities, we were advised by supervisors and mentors not to impose solutions on the communities. According to Mr. Dickson Tumuramwe who is my field supervisor, community members will welcome and pay much attention to solutions suggested by them.

During the focus group discussions that we conducted at the Local Council 1 offices, it came out clearly that poor waste disposal is caused by lack of a designated place where village members can dump garbage. I am happy to note that one of the community members voluntarily allocated part of his land for a village dumping site.

The community also agreed that before the garbage is dumped at the site, it should be sorted to separate the organic waste from non-organic. This was done in sprit of decomposing the organic waste for farm manure and processing plastic for recycling.

A committee with LC 1 leadership together with community members was formed. This is responsible for continuous sensitization of the community on proper waste management, as well as creating awareness on the new village dumping site. The committee is also responsible for developing a strategy on community work (Bulungi Bwansi) where members are expected to engage in periodic cleaning of the village.

In addition, with a team of colleagues, I helped the community to draft regulations and guidelines in reference to community cleanliness and proper waste management. I could not do this alone, so I worked hand in hand with environmentalists, veterinaries and lawyers to interpret laws and regulations on waste management, and environmental conservation to the community.

I commend AFROHUN for enabling students to understand and appreciate the contribution of disciplines outside their own. As a humanities student, I had challenges in accepting that I can work on a health-related project. This is also reflected in my hesitation to apply for the fellowship thinking it was designed for scientists especially those working in health.

I thank AFROHUN for the opportunity that allowed me to know my community better and be part of the team that solved their most pressing challenge that has for years been neglected.

Students' sensitization drive on Management of Communal Waste changes Community Attitudes: sanitation embraced as a collective responsibility

Ritah Namisango – Makerere University PR Office

Waste poses a threat to public health and the environment if it is not stored, collected, and disposed of properly. The perception of waste as an unwanted material with no intrinsic value has affected attitudes towards disposal. The management of waste is worsened by unsustainable practices that promote environmental contamination and the spread of diseases.

In Uganda, the open dumping of waste in uncontrolled sites, open burning of waste and mismanagement of waste in slum areas which are already densely populated coupled with water pollution pose public

20



Students and a community member display some of the materials they used during the community sensitization drive

health issues in such communities.

Thanks to the AFROHUN One Health field attachment program which presented an opportunity to three students namely Baguma Natweta (Makerere University), Blaise Kiyimba (Makerere University) and Roda Uwiringiye (Uganda Christian University) to cause a positive difference in Nalwewuuba Village in Mulago II Parish, Kampala District.

Interactive meetings involving our students, local council leadership and residents identified poor waste disposal as the dominant challenge in this urban community.

"The challenge of poor waste disposal is rated at 98%. This is due to lack of a specific place in this area where waste can be disposed of. Other challenges include high levels of poverty, prevalence of hunger/ food insecurity as well as diseases such as malaria, typhoid and worm infections in the infants."

Identifying the One Health Challenge

The students together with the community members identified the One Health challenge associated with poor waste management and disposal.

From various discussions with the community, it was noted that dumping the waste in any free space degrades the environment. It also causes an irritating smell when decomposed. These places become breeding grounds for vectors such as flies and mosquitoes which transmit germs and parasites to humans exposing them to diseases. Animals that feed on such waste carry germs and diseases. Human beings who eventually feed on such animals get infected. In some instances, animals also feed on polythene bags and end up dying causing losses to the owners.

Blaise Kiyimba observed that dumping of waste in trenches and drainage channels was the major cause of blockage of drainage channels in the area. When the channels are blocked, water floods into peoples' homes when it rains hence destroying their household items. This may also result into spread of water-borne diseases.

The Students' One Health intervention focused on enhancing the capacity of the community to manage solid waste in Nalwewuuba Village. The students sensitized the community on proper disposal of waste for a clean environment and a healthier community.

According to Roda Uwiringiye, it was the most feasible intervention they could take on as students. "We came up with the idea of sensitization as an intervention because its impact can last longer. If people keep on recalling that they were told that improper disposal of waste can result into health problems such as diseases, they can take action to prevent infection or the spread of diseases," Uwiringiye said.



Members of the community contribute to a discussion during one of the sessions the students had with them

They highlighted the dangers of waste material such as plastic bottles that end up blocking the drainage channels leading to flooding of water when it rains which destroys their household items. James Baguma informed the residents that some waste could be utilized into useful material to reduce on the amount of waste to be disposed of. They also advised that some waste could be burned and destroyed completely.

"Some of the waste can be recycled into useful material to reduce on the amount of garbage to be disposed of. Plastic bottles can be used as decorative material in various places. Peels from food such as banana can be left to decompose and used in gardens as compost manure. Instead of disposing banana peelings into drainage channels, they could be utilized as feeds to animals such as cows and goats," Baguma advised.

One of the residents of Nalwewuuba Village, Ms Silver Teo Nabatanzi, who participated in the sensitization program revealed that poor sanitation was due to the attitude of people who felt less concerned about cleaning their community. She commended the students for the sensitization program that positively changed people's attitudes to prioritise sanitation.





The students pose for a group photo with Ms. Nabatanzi (second left) and Mr. Patrick Musoke (second right) at the end of the students' service-learning project

"Since the students came into our community, people have greatly changed their attitude towards sanitation and cleanliness in general. The information provided through sensitization has been so relevant in transforming people towards community sanitation. Sanitation is now a collective responsibility," Ms. Nabatanzi mentioned.

Pleased with the sensitization program, Mr. Patrick Musoke, the L.C.I Chairman for Nalwewuuba village said the community was privileged to host students who availed them with relevant information on sanitation. He called upon Kampala Capital City Authority (KCCA) to come on board to accomplish what the students had initiated.

"I am happy that our community hosted the students. The problem is that most of our challenges could not be dealt with in the community due to lack of resources and tools such as hoes and spades to carryout community work like cleaning of drainage channels. There is no specific place for disposing off garbage and the KCCA garbage collection vehicles are not regular, this makes waste disposal difficult," the Chairman said.

The students successfully completed their 2-week field attachment with gratitude towards Makerere University and the AFROHUN One Health Institute for the program. They appreciated their supervisor, Dr. Anthony Mugere for his effort towards their successful completion. They also commended the community for the cooperation and good reception.

How STOP Spillover has engaged stakeholders in Uganda using the outcome mapping approach

By Susan Babirye – STOP Spillover Communications and Knowledge Management Officer, Africa Region

The Strategies to Prevent Spillover (STOP Spillover) project believes that to reduce the risk of future zoonotic spillovers and pandemics, we need to engage local communities, governments, and stakeholders from across sectors. That's why we've adopted the outcome mapping technique - to engage stakeholders both at national and subnational levels in reducing future risk of zoonotic viral spillover, amplification and spread. Outcome Mapping (OM) is a structured participatory tool that uses a bottom-up collaborative process to engage all Spillover Ecosystem stakeholders and focuses on how people and communities relate to one another, to animals and to their environments.

STOP Spillover is a five-year USAID funded project that is being implemented in priority countries in Africa and Asia by an expert global consortium made up of 14 institutions and led by Tufts University. For the Africa region, the project implementation is led by the Africa One Health University Network (AFROHUN).

STOP Spillover focuses on empowering stakeholders,

asking them where they think the interventions would be most effective. Then, the consortium's experts work together with stakeholders to put in place risk reduction interventions and test them.

In August 2021, 60 national-level stakeholders came together to discuss their priorities for STOP Spillover's work in Uganda. This meeting helped guide the consortium on which pathogens and interfaces are the top priorities, what gaps need to be addressed to help prevent future zoonotic virus spillovers in Uganda, and who needs to be engaged in this process. Participants at the virtual consultative meeting included multi-sectoral stakeholders from One Health government ministries, non-governmental organizations, private entities, and from academia and training institutions. The meeting takeaways included a consensus on which spillover interfaces were most important and which traditional and non-traditional stakeholders to further engage. These included the Bat-Human Interface, the Wildlife-Livestock-Human Interface. and Uganda's Points of Entry. In addition, stakeholders identified what gaps currently exist for the prioritized

interfaces: Knowledge, Ecological, and Behavioral.

The STOP Spillover team then engaged 45 sub-national stakeholders on one of the prioritized interfaces, the bat-human interface. The sub-national engagements were conducted in Bundibugyo district - selected because of its history of zoonotic diseases, and current social and economic activities that promote human-bat interactions. The subnational stakeholders highlighted and focused on three sub-counties with high-risk areas for the bat-human interface. They identified three areas of high risk for this interface: bats in agricultural fields (cocoa and banana plantations, gardens), bats in national parks (eco-tourism, caves, mines, trees, bat hunting), and bats in buildings (homes, schools, hospitals, churches). Participants then identified the outcome targets for reducing spillovers from bats to humans, as well as critical partners to involve in risk reduction and mitigation measures that STOP Spillover will implement.

Click here to read the full report on Uganda's Outcome Mapping sessions

Provide the link





for International Development (USAID). The contents are the responsibility of One Health Workforce Next Generation implementing partners (AFROHUN) and do not necessarily reflect the views of USAID or the United States Government.