



Word from the Chief Executive



Dear Reader,

We welcome you once again to our newsletter; One Health Digest. We thank you for your interest in what we do

at AFROHUN. In this edition of One Health Digest, we have a rich menu for your reading pleasure.

We do have a rich collection of students' experiences working with communities to identify and work out how to address challenges with One Health dynamics. In Uganda, for instance, students working in teams or individually due to COVID-19 restrictions, students were placed in several districts in all parts of the country where they had immersive experiences working on different One Health issues, including nutrition (food security), Antimicrobial resistance, domestic and industrial waste management, sexual and reproductive health in low-income settings and COVID-19 community education, among many others. The students share how these activities conducted under the One Health Institute impacted their learning experiences, especially from a One Health perspective.

Our team in Tanzania shares experiences and results from the AFROHUN efforts engaging and building the capacity of One Health Focal Persons (individuals

AFROHUN Tanzania Sensitizes One Health Focal Persons on the One Health Approach

By **AFROHUN Tanzania Team**

One Health Focal Persons (OHFPs) in Tanzania are in-service personnel working in government departments and public institutions in human health, animal health and environmental sectors who were selected [More on page 2](#)



One Health Focal Persons who attended the training, contributing to the discussion

Africa One Health University Network CEO – Professor William Bazeyo - appreciates staff for excellent performance

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KEY HIGHLIGHTS



USAID
FROM THE AMERICAN PEOPLE

AFROHUN
Advancing One Health

in public institutions appointed by government as One Health Focal Persons to strengthen coordination of One Health work in Tanzania). The Tanzania AFROHUN team designed a training for the Focal Persons after realising there was a knowledge gap with some of them not sure what One Health really is and how they can fulfil their mandate. It is a powerful story demonstrating the value AFROHUN is extending to government efforts in building One Health capacity.

From the Democratic Republic of Congo, our team shares the training of 22 territory administrators from a province that is one of the most vulnerable to outbreaks of zoonotic diseases in the DRC. This is in addition to the numbers that have been trained over the last about 6 years. The capacity to manage and command outbreak responses, at this level of management has been significantly strengthened with long term contribution from AFROHUN.

In Tanzania, AFROHUN has had long-running support to rabies campaigns, particularly through the Students' One Health Innovations Club (SOHICs) in different

parts of the country, in a bid to contribute to the government's rabies elimination goal of eradicating the disease before 2030. At a high-level event in Kisarawe district, this year's campaign was launched by the District Commissioner – Honourable Joketi Mvogelo. Read about the experiences of the students, the communities they worked with and the partners AFROHUN Tanzania has been working with in these campaigns.

From Kenya the students of Moi University share with us how their tree planting activity on World Environment Day opened their eyes to the acute need for more involvement in environmental conservation and working with the wider society to create understanding for the need for planting trees.

We have a lot more in the newsletter, so please enjoy your reading!

Professor William Bazeyo

Professor of Occupational Medicine and Chief Executive Officer - AFROHUN

From page 1 and appointed to represent their workplaces in One Health issues so that they can report to the Prime Minister's Office One Health Coordination Desk (OHCD) and share experiences in the One Health area and how their institutions use the One Health approach in solving complex health problems.

The Focal Persons represent their workplaces in advocating for One Health approaches and linking them to the OHCD. These individuals were appointed by the Prime Minister's Office directing the workplaces to appoint a person best positioned to represent the workplace.

In terms of linkages with AFROHUN work, the Focal Persons, support AFROHUN activities and are members of One Health Technical working groups where AFROHUN

is represented. Very important to AFROHUN is that the OHFPs from Muhimbili University of Health and Allied Sciences (MUHAS) and Sokoine University of Agriculture (SUA) are already integrated into AFROHUN's work. Others are from Ministry of Livestock and Fisheries, Ministry of Agriculture, Ministry of Health and Environmental Council under the Vice President's Office.

The sensitization training conducted for them was to strengthen their understanding and critical appraisal of emerging pandemic threats and the One Health approach. When they were recruited, they were not sensitized about these issues and were not oriented on their responsibilities. AFROHUN was therefore requested to sensitize and orient them into these issues. The focus was to share experiences in the One Health arena and to plan

on how to continue networking with each other and with the OHCD.

Conducted in Morogoro, the sensitization workshop was organized by the Prime Minister's Office (One Health Coordination Desk-OHCD), with AFROHUN facilitators from MUHAS and Sokoine University.

The workshop objectives were 1) Sensitize One Health Focal Persons (OHFPs) on AFROHUN and Emerging Pandemic Threats (EPTs) and OH approach; 2) Orient OHFPs about formation, structure and functioning of OHCD; 3) Discuss historical aspects of OHFPs and expected roles and responsibilities, and 4) Deliberate on best working relationship between OHCD and OHFPs.

Participants were from AFROHUN, Muhimbili University of Health and



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Allied Sciences (MUHAS), OHCD, Director of Preventive Services Ministry of Health Community Development, Gender, Elderly and Children (MOHCDGEC), Ministry of Agriculture, Ministry of Livestock and Fisheries, SUA, President's Office Regional Administration and Local Government (PORARLG), WHO, FAO, ministries, government agencies and public institutions.

Participants found the workshop interesting as they acquired

adequate information from the presentations regarding One Health. It was also revealed that bringing together OHFPs was useful as it was possible to exchange ideas and learn from each other.

As a way forward, participants suggested to OHCD to: carry out stock taking/inventory for existing OHFPs and establish a database; initiate and write to sectors/institutions to appoint OHFPs based on professional background,

experience and participation in OH effectively and frequently communicate and work closely with OHFPs; and establish a feedback mechanism for day-to-day activities performed by the OHFPs. They also recommended to hold quarterly meetings between OHCD and OHFPs; develop reporting tools (Quarterly reporting from OHFPs to OHCD); evaluating the implementation of OH Strategic plan, and identifying lessons learned.



Participant contributing to discussions (Guest of Honour in the center)

Participant working in groups during the training



Africa One Health University Network CEO – Professor William Bazeyo - appreciates staff for excellent performance

The Author of this Article needs mention here



Staff and project partners posing for a group photo on Day 1 of the work planning meeting

The Africa One Health University Network (AFROHUN) Chief Executive Officer, Professor William Bazeyo has thanked network members that have participated in COVID-19 interventions for the contribution, especially those that have worked with students, giving them opportunity to build critical competencies.

Addressing AFROHUN country teams and Secretariat staff at Marina English Point Hotel in Mombasa – Kenya, Professor Bazeyo noted that times are challenging but staff have continued

to work and cause change. *“You have made me happy on behalf of management that you have continued to work. I take pride in you and thank you that you have held the flag high”,* he said.

He urged the team to develop workplans that are achievable, so that the network can create impact and be proud of itself. He emphasised to the team to note that the AFROHUN One Health Workforce Academy is real, will be starting soon and will deliver what is expected of AFROHUN.

Talking about transitioning

from the current state to being prime recipient of USAID funding, he cautioned the team against taking this process for granted, noting that the time is either now or never. *“We either are ready to take responsibility for the project or we are seen as failures”,* he added.

He thanked the One Health Workforce Next Generation project, other partners and USAID – the funder- or all the support that has been rendered to the network.

The AFROHUN Regional Program Manager, Dr. Irene Naigaga called upon

AFROHUN staff to love what they do, do it well and work to sustain the AFROHUN name which has fast become a catch word. *“There is demand for the work that we do and the product that we produce. We have to ensure quality and deliver the right product and service”.*

The one-week event also featured a number of training sessions in financial management, communications, partnerships and resource mobilisation, monitoring and evaluation reporting, among others.

 *Love
what you do
and do it well*

The AFROHUN Regional Program Manager, Dr. Irene Naigaga called upon AFROHUN staff to love what they do, do it well and work to sustain the AFROHUN name which has fast become a catch word.

Mass Dog Vaccination Campaign Launched in Kisarawe District, Tanzania

By **AFROHUN Tanzania Team**

“It has been five years since Tanzania prioritized several zoonotic diseases including rabies to be eradicated before 2030 and this campaign today is critical. We cannot wait any longer because people have continuously been bitten by rabid dogs and losing their lives.” This statement was given by the District Commissioner of Kisarawe, Honourable Ms. Joketi Mwegelo, during the launching ceremony of the Mass Dog Vaccination Campaign in the district.

To initiate and operationalize the rabies elimination campaign through funding by the United States Agency for International Development (USAID), AFROHUN Tanzania in collaboration with the Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), Ifakara Health Institute (IHI), Ministry of Livestock and Fisheries (MoLF), Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC), organized and successfully conducted the mass dog vaccination campaign in Kisarawe district.



Students attending the launch of the rabies eradication campaign in Kisarawe district

In Tanzania, rabies is endemic causing an estimated 1,500 annual deaths. In most cases of human rabies, the virus is transmitted through the bites of rabid animals, which shed the infectious virus in their saliva. It is well-known that animal bite injury records are an accurate indicator of rabies exposure incidence. Rabies has been reported consistently to relevant authorities in the past 5 years with Kisarawe district being among the districts reporting frequent outbreaks of rabies.

In 2014, there were 18,000 dogs in Kilosa District out of which only 600 were vaccinated during that year. This vaccination coverage is less than 4% which means it will never be possible to eliminate rabies unless the coverage is more than 70%.

To achieve this coverage, the World Health Organization (WHO) and World Organization for Animal Health (OIE) advocate a ‘One Health’ approach to rabies control and suggest vaccination coverage of at least 70% of the dog population in a

rabies-endemic area to prevent the spread of rabies between dogs and people.

To bring the above fact closer to Tanzania, studies show that there are 4.5 million dogs and more than 2 million cats nationwide while Kisarawe District alone has about 4,600 dogs and cats with unknown vaccination coverage to date. Kisarawe district is one of those with highest risk for rabies in Tanzania as its wards and villages are close to the Selous Game Reserve. This is the

reason for the campaign taking place in the district.

“The owners of dogs and cats must come forward to vaccinate them in order to protect humans who are the ultimate victims of rabies.” The Director of Livestock Services from the Ministry of Livestock and Fisheries **Prof.**

Hezron Nonga warned the audience during the launching ceremony.

“In a global strategy to eradicate rabies by 2030 vaccination for these animals with a high coverage is mandatory”, **Professor Nonga** noted. He also said that mass dog vaccination is a proven strategy in preventing rabies in humans; it is less costly compared to treating humans who have been bitten by rabid dogs.

Prof. Nonga said that there is a window of opportunity in the country as the process of rabies vaccines manufacturing in Tanzania will be completed next

year. This means the vaccines will be readily available to control rabies. The opportunity will make the vaccines cheaper and will offset the cost of vaccination especially for those in rural settings who currently cannot afford to take their dogs for vaccination.

Furthermore, AFROHUN Tanzania Country Manager, Prof. Japhet Killewo said, in the campaign, veterinary students from SUA have been trained on dog vaccination and human health students from MUHAS will be involved in registering dogs and owners, educating pet owners on the importance of the vaccine, the symptoms and effects of rabies, providing vaccination information as well as issuing vaccination certificates to dog owners.

“It is expected that the campaign will be carried out every year to work in partnership between medical students from

MUHAS and veterinary students from SUA who have great skills in vaccinating all species, educating the community about rabies and how to eradicate it, as well as to play a role in mobilizing the community in protecting Tanzania community against rabies”, **Professor Killewo** emphasized.

Prof. Killewo added that a lot of groundwork had been done in preparation for this campaign. These included meetings with stakeholders to sensitize them about the importance of using the student learning-and-service model on a yearly basis to conduct these campaigns in the country until rabies is eliminated. The stakeholders included MUHAS and SUA. Which are ready to be releasing their students on a yearly basis for the campaigns. Other stakeholders were the MoLF and the President’s Office Regional

Administration and Local Government (PORALG) which are ready to mobilize locally generated resources to support the participation of students in the campaigns.

Prof. Killewo cited two other previous mass dog vaccination campaigns in which AFROHUN, and FAO had been involved, one being in Kilosa One Health Demonstration Site where more than 2,000 were vaccinated and in Moshi district where more than 8,000 dogs were vaccinated in 2018 to control a rabies outbreak. Both the campaigns were funded by USAID. The current campaign was conducted for five days, and more than 1,500 dogs and cats were vaccinated. In her campaign launching speech, the District Commissioner applauded all those who participated in the campaign and thanked USAID for providing the financial support.



A man holds his dog as it is being vaccinated (left) as a student enters records in a book (right)

Kenya Students One Health Innovations Clubs members in massive Tree Planting move as the students' body plans to go National

By AFROHUN Kenya Team

AFROHUN Kenya is in the process of establishing a National Students One Health Innovations Club (SOHIC) platform, drawing from the current three (3) participating AFROHUN Kenya institutions. This platform will be directly under AFROHUN Kenya and will be a key landing pad for new collaborations with other institutions of higher learning (e.g., universities, technical vocational education and training institutions and middle level colleges) that are responsible for training the One Health workforce. The National SOHIC will be a platform where all student-related

activities can be coordinated. Such activities include mentorship programs for secondary and primary schools, local SOHIC symposia, outbreak simulation challenges, outreach activities and participation in One Health Case Competitions. Institutionalization of One Health through this approach will ensure a solid base for collaborations with other institutions of higher learning responsible for training professionals under the One Health umbrella.

This tree planting drive attracted 54 students, planting a total of One

Thousand Two Hundred (1,200) seedlings in Ndaragwa sub-county in Nyandarua County; 217-240 kilometers away from Nairobi, roughly a 4 to 5-hour drive.

The activity provided the existing SOHICs with space to work together as well as a strategy to demonstrate the value of such student bodies in addressing One Health issues of national and local importance.

The students at Moi University that participated in this campaign, took time off to reflect on how the exposure impacted them.

“It was really amazing for me to participate in such an activity and contribute usefully to conserving nature and the ecosystem”.



ADEN ABDULLAHI MOHAMED is a 4th year Environmental Health student. He says the activity impacted him through learning and interacting with different people and gaining different skills - communications, leadership and self-confidence.

“The activity impacts me in that I now realize that our health depends on the safety of our environment, I now see that there's a need for interdisciplinary approach to protect our health, one health approach is the way forward”.



SIMON PEY TIEK is 4th Year BSc. Environmental Health student. His participation in the activity gave him awareness that as a young person he has responsibility to protect the environment and ensure the restoration of the ecosystem. He gained competencies in communication, leadership, collaboration and teamwork.

“Through the activity, I got the opportunity to interact with new faces from different disciplines and I learnt a lot from them”.



OBIERO COLLINS OUMA, 1st Year Bsc. Medical Laboratory Science says conducting the tree planting exercise in a primary school is a significant thing and a clear indication that the organization/network is taking milestone steps in appreciation and conservation of the environment.

Through the activity he acquired the skill of tree planting.

“Participation in tree planting broadened my knowledge on afforestation. The trees will create a habitat for many animals and birds”.



ELSE CHEMTAI, 1st year Bsc. Environmental Health student. She is glad to be one of the participants, saying that planting of trees should be a continuous process and not only done on World Environment Day. As a result of this exercise, she realized there is need to educate people on environment protection not only planting trees but also taking care of their surroundings, thus protecting the health of animals and humans as well.

“With the increasing level of global warming worldwide, there’s need for ecosystem restoration and one way of achieving this is by planting as many trees as possible which act as carbon sink”.



ESTHER AKOTH is a 4th Year Bsc. Environmental Health student. The tree planting activity brought students from different disciplines together with a common goal of restoring the ecosystem. Esther says she was able to learn how trees interrelate with the rest of the environment, animals and humans. Trees are habitats for some animals, they purify the air and absorb harmful gaseous pollutants which would otherwise cause detrimental effects on the health of both human beings and animals; trees also help in soil and water conservation. She also gained communication skills, problem solving skills, the power of teamwork, creativity, and tree planting knowledge.

“Through the different activities in this event, I got to interact with fellow students from various disciplines who are also passionate about One Health, and this helped broaden my mind and be challenged in multiple ways”.



VERAH ANYANGO ODHIAMBO, is a Bsc. Environmental Health student in 4th Year. She says she is passionate about conserving the environment and this activity gave her the opportunity to participate in a conservation activity and proudly be part of those contributing to the betterment of the environment. She says her participation in the activity challenged her to advocate for better ecosystem health.

Training and Mentoring of Territory Administrators in Infectious Disease Management in Equateur Province

AFROHUN DRC Country Manager

Territory administrators from all 10 territories of Kongo Central and all 5 territories of Kwango were trained in infectious disease management in 2018, under the One Health Workforce (OHW) project. A follow-up practical training was done in Year 1 of the OHW-NG project in the context of COVID-19.

In Year 2 of the One Health Workforce -Next Generation project, AFROHUN DRC conducted a 5-day training workshop for another cohort of 22 territory administrators in Equateur, one of the most vulnerable provinces for zoonotic disease outbreaks, such as Ebola. Five experts oversaw the training in collaboration with the trained agents from the Ministry of Interior.

DRC has been facing several infectious disease outbreaks such as Ebola, yellow fever, cholera, COVID-19 and many others. Territory administrators are local leaders acting as government representatives at

the territory level. They oversee management of all issues regarding the population they serve including outbreak management. Leadership is key in infectious disease management. Training territory administrators along with their technical team including district health officers, animal health officers, hygiene and environmental officers can strengthen collaboration in the management of health emergencies. Since 2018, all the territory administrators of Kongo Central (10 territory administrators) and Kwango (5 territory administrators) provinces of the country have benefited from this training.

The following competencies were covered during this training: leadership and collaboration, risk analysis, infectious disease management, risk communication for community engagement, gender and One Health and systems thinking.

These competencies will enable

local leaders to effectively manage infectious disease outbreaks using the One Health approach.

This training conducted by experts coming from the ministries of Health, Animal Health and Interior provided knowledge in introduction to One Health, One Health competencies, risk analysis, infectious disease management, and risk communication and community engagement.

The training was organized by the Ministry of Interior with support from AFROHUN.

Participants said the training changed the way they will go about the business of management of disease outbreaks and health emergencies.

“We have been managing outbreaks, but this is our first time to be trained. This training will be very helpful not only for me, but for all the territory administrators. We will lead differently this time.” **Mr. Alain Elodi**, Provincial Ministry of Interior.



Participants being awarded certificates at the end of the training

“Ebola outbreaks are very common in my region, this training helped us to learn about risk analysis. This will help us to map all at-risk areas and prepare in multidisciplinary teams to respond efficiently.” **Mr. Crispin Mputu**, Territory Administrator of Bikoro.

After this training, AFROHUN DRC is planning to implement a ToT for inspectors of the Ministry of Interior to be able to deliver this training to all the provinces of the country. This is also a sustainability approach to doing this work.



A participant speaks on behalf of the rest during the training closing ceremony

A Student's unique experience on the AFROHUN One Health Field Experiential Learning model

By - Makerere University PR Office

In 2013, with funding from USAID, the Africa One Health University Network (AFROHUN) – OHCEA then- of which Makerere University is a member, initiated the One Health Field Experiential Learning (OHFEL). The program aims at enhancing students' knowledge and competencies in applying a collaborative multisectoral approach and find solutions to pressing health challenges in communities. The 1st Cohort of One Health Field Experiential Learning comprised 46 students from a diverse range of disciplines.

The One Health Field Experiential Learning (OHFEL) is a short student-centered field learning experience that is geared towards enhancing student's knowledge and vision on managing community health challenges. The program is offered by Makerere University College of Health Sciences, School of Public Health and College of Veterinary Medicine, Animal Resources and Biosecurity through the Africa One Health University Network.

According to Ms. Angella Musewa- the AFROHUN- Uganda Country Manager, the training brings together students from diverse disciplines to learn and practice together and

employ the One Health approach to identify and implement solutions to community health challenges.

"We convene lawyers, doctors, environmentalists, veterinarians, social workers, development economists, journalism and communication students, agriculturalists, and students from other disciplines with a focus on grooming and mentoring them on the relevance of approaching complex health challenges from multidisciplinary perspectives," she said.

Ms. Musewa noted that the vigorous training nurtures students' ability to identify, assess and prioritize any health challenges when they engage with communities. *"We envision a joint students task force that is ready to positively impact their communities through sharing insights, knowledge, ideas and experiences. Each student is given a platform to contribute to solution development bringing in competencies from their areas of specialization,"* she noted.

This year -2021- a total of 53 students were enrolled on the One Health Field Experiential Learning program under AFROHUN. According to the

selection committee that was chaired by Dr. Peninah Nsamba, selection of students was done in collaboration with the faculty facilitating the Makerere University One Health Institute. Successful students were chosen on a competitive basis, ensuring multi-disciplinarily and gender representation.

The One Health Field Experiential Learning that was held in August, commenced with a theoretical training on the principles of One Health that was conducted virtually using the Makerere University E-Learning Environment (MUELE) and zoom. In these sessions, students were introduced to; Leadership in Infectious Disease Management, Gender and Associated Risk Management, Outbreak Investigation and Emergency Response, Bio-Risk Management, Antimicrobial Resistance and Health Policy and Analysis. Other Modules included: Community Engagement and Introduction to Field Experiential Learning.

"Like 2020, the challenge of the global COVID-19 pandemic required changes in the way we implemented the OHFEL activities in 2021. The One Health Field Experiential Learning (TOFEL) guide



Students used different approaches to engage the communities in addressing One Health issues in the communities where they were placed.

was therefore useful with reference to the modifications imposed by the COVID-19 global pandemic situation,” noted Sarah Nitumusiima-Administrator, AFROHUN -Uganda Office.

2021 students’ community engagements

Upon completion of the theoretical training, students were grouped into three teams; Team Curfew, Team Lockdown and Team Essential). These were deployed in their respective communities across the country. According to the Field Coordinator Dr. Ronald Nuwamanya, a favorable representation of students undertaking field trainings was reached with over ten (10) districts covered.

“We had students in Kayunga, Mukono, Kampala, Wakiso, Jinja, Pallisa, Fort Portal, Kiryandongo, Gulu, Amolatar, Sironko, Luweero, and Ngora districts,” he mentioned.

He was happy about the strong reception students received from communities as well as support from local community leaders, mostly Local Council Chairpersons. Flavia Nalujja, a fresh graduate with a Bachelor’s degree in Environmental Health noted that her Local Council 1 Chairperson Mr. Ssematimba Kizito was very key to her community entry process.

“At first, the community was not that receptive, and this could be attributed to COVID 19 fears and the total lockdown period. However, I was able to move door-to-door with Mr. Ssematimba who ensured that we convince the community to be part of the project. With his support, I was successful.”

In the field, students undertook various health-related activities which included identification of health challenges and development of practical One Health solutions, developing and executing of community interventions as well

as evaluating the activities and interventions for outcome and impact. Some of these interventions include community health awareness and education campaigns, waste management, water resource protection, among others.

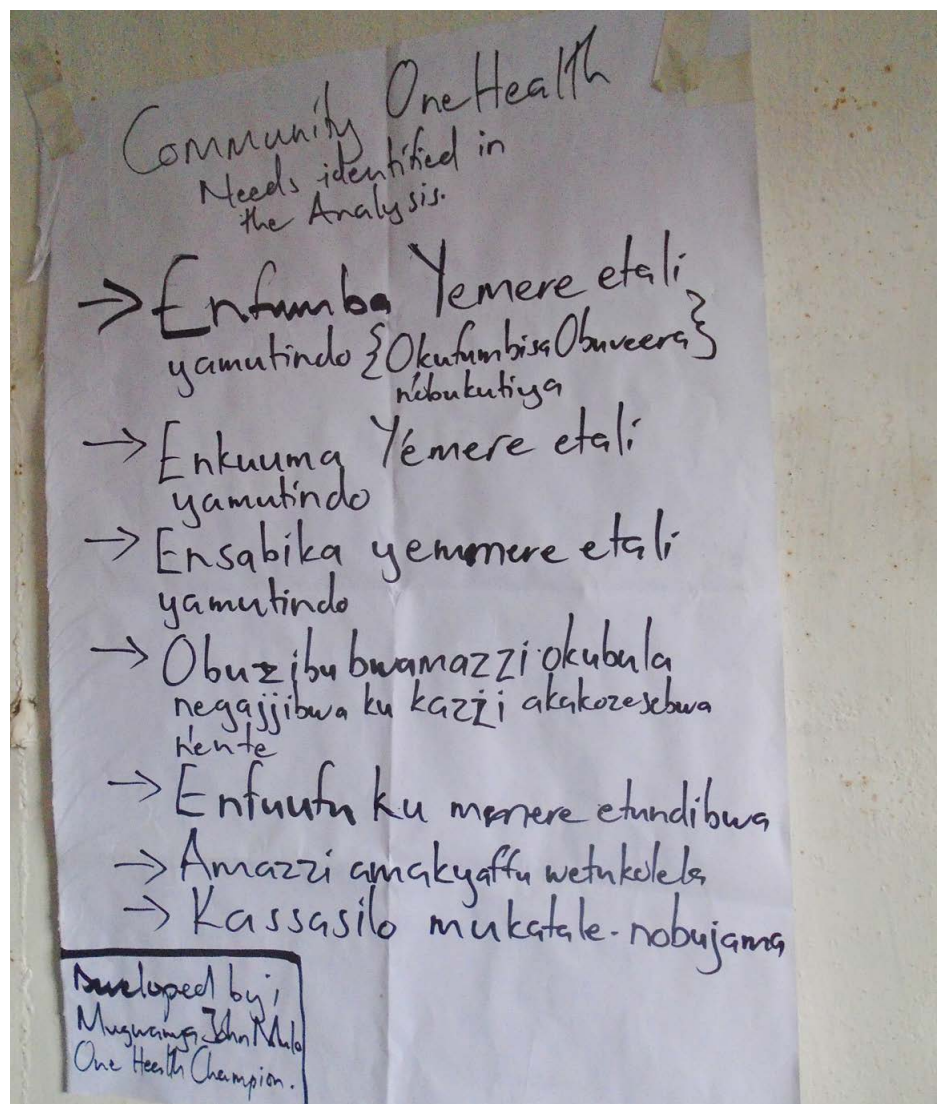
In an interview with Proscovia Nabatte (Makerere University PR Office), Dr. Saphan Muzoora, one of the field supervisors acknowledged the effortless dedication by students to their work. “The ideas and community solutions formulated by students and community members were amazing, with strong interventions such as using food to reverse Antimicrobial resistance in our bodies, using black soldier flies to manage massive organic waste among food processing companies,

enhancing knowledge on the risk factors of COVID-19 among home attendants”, he said.

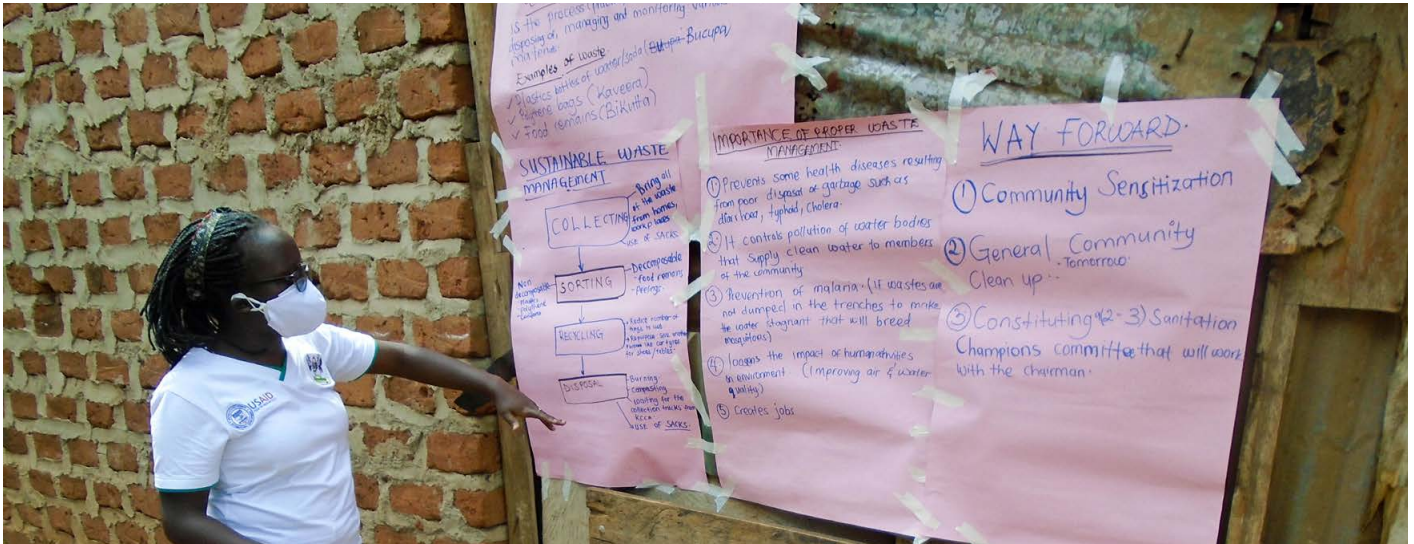
What students say about the training

Students welcomed the training as an incubator program for students’ ideas and innovation on solving One Health challenges. According to Evelyne Nagawa, the training tested her ability to define the kind of communities to engage when solving specific problems. Achom Belinda described the One Health Field Experiential Learning as a platform upon which she challenged her leadership skills.

“Getting close and engaging community members, I have been challenged to take up leadership



A flipchart displaying some of the issues identified in the community by students and stakeholders in Nakulabye market



A student taking community members through key waste management issues in Makindye division, Kampala district.

in my community as a public administrator. The training has also enabled me to put into practice what I have been learning in school. To AFROHUN, I am forever grateful,” she remarked.

“I thank USAID, AFROHUN and partners for considering me for this fellowship. As a student of nursing, I have been always concentrating on humans at health centers, However, through this training I have been trained to save lives from a multi-disciplinary perspective of community engagement,” said **Mbulaka Remmy** Allan, a student at Uganda Christian University-Mukono, pursuing a BSc. Nursing.

Community embracing community engagement process

The training was equally embraced by communities. Community members in Kisoga village, Mukono district were delighted to learn how they can use food to reverse the trend and effects of antimicrobial resistance. Mr. Kasolo Moses, a member of Katikamu, Luweero district applauded the idea of instigating a spirit of giving back to communities among students. “We are happy to see that our own children are mobilizing us for a community cause “Bulungi Bwansi”.

Background about One Health

One Health is a collaborative undertaking, utilizing multidisciplinary and multi-sectoral, approaches, locally, regionally, nationally, and globally, to achieve optimal health for people, animals, environment and their ecosystems. The One Health approach has been implemented by many governments and agencies and institutions to achieve global and national health security. In doing so, many countries, including Uganda, international organizations, civil society and other stakeholders are able to meet the objectives of

the Global Security Agenda (GHS), which is a commitment to securing the world against public health threats.

With funding from USAID, through AFROHUN, Makerere University, through the One Health Institute (OHI) has carried out several trainings to enhance the capacity of students in identification, investigation, responding to and managing global health challenges, through various channels, such as a field attachment/ Experiential learning to facilitate hands-on learning through community service.



Students working together with community members, demonstrating the value of collaboration for improved health outcomes.

One Health: Use of the Black Soldier Fly is a sustainable approach to save Community from poor Organic Waste Disposal



By - Proscovia Nabatte, Makerere University PR Office

Born and raised in Namakandwa village, Kangulumira Town Council, Kayunga district, Lubega Abby says that over the years, Kayunga district has faced a problem of poor and massive waste disposal generated by out-growers and food processing companies.

In an interview on his field experiential learning experience with Proscovia Nabatte, Lubega Abby an AFROHUN Cohort 2021 Fellow and a graduate of Uganda Christian University-Mukono, said that Kayunga being known for extensive food production, it is attracting small and medium companies that have mastered the art of value addition to agricultural

produce for higher paying markets, nationally and regionally.

He however, noted that during the manufacturing process, the companies produce massive waste with no proper management strategies. *“Many factories engage in open dumping within the limited space they have at their company premises. They also let the waste into swamps and other water bodies. Some waste is dumped on the roadside as well as neglected land sites,”* he noted.

This problem was emphasized by Mr. Moses Muliro, the Chairperson of Namakandwa village, who said that failure to have a proper

waste management strategy by the processing companies has posed serious health challenges to community members. *“These dumping sites are accessible to our children and animals. We always live in fear of cholera, dysentery and diarrhea outbreaks.”*

Introducing the Black Soldier Fly for organic waste management

According to Lubega, the field experiential learning model enabled him to critically reflect on Black Soldier Fly (BSF) as an effective organic waste decomposer especially to food production and processing companies.



The Black Soldier Fly larvae has been used for waste management for quite some time now and has proved effective!
Source: BioEnergy Consult

“During the orientation with our supervisors, we were tasked to come up with sustainable One Health solutions within our communities. Poor waste disposal being the major challenge in my community, I reflected on using the BSF to manage the waste. This is an idea I extracted from the knowledge I attained when pursuing an international training course in organic agriculture and the experience I gained while working with Marula ProTeen a renown Black Soldier Fly breeding company in Uganda,” he noted.

In a meeting held with the village leadership, community members and the leadership of some of the food processing companies, Lubega introduced the idea of BSF as a potential organic waste decomposer. In the same meeting, members also discussed the benefits and sustainability approach of the idea. Amani village offered to be a demonstration site where the idea was first applied and tested. The positive results called for an extension to other companies.

Amani houses a company that deals in fruit processing. The company exports dried and processed pineapples, vanilla and coffee. It also employs up to 200 people. Within the same premises, is a kindergarten that was put in place as a form of corporate social responsibility. The kindergarten hosts more than 100 children below the age of 6.

According to Lubega, the company produces massive waste that is dumped in a small open site within the company premises. He noted that the company’s waste management measures such as open dumping, burning, and collection by another company (garbage collection company), were not sustainable and had cost, time and health implications.

On the days the waste was left open to decompose or waiting to

be collected, it attracted so many flies. *“We could not know when the flies moved from that pit and visited the kitchen or the eating area. When it comes to children, they are sometimes uncontrollable when they want to play. In a second, they are already at the pit,”* he explained.

He noted that in several research studies, the Black Soldier Fly larvae has been recognized as an effective decomposing factor of mass organic waste. Newton, 2004, highlights that Black Soldier Flies are good decomposers due to a large mass of larvae that can vigorously break down organic matter within a short period of time.

He explained that 500g of Black Soldier Fly larvae can decompose more than a tonne of waste in ten (10) days and they eat up to 60% of the waste. Their maturity period is 14 days, and their decomposing mechanism is determined by their growth. *“In addition, the rearing process is so easy and time effective without involving too much elaborate preparations. A small space with recycled basins, jerrycans and nets can help to serve the purpose. These materials can easily be accessed in the community cheaply or at no cost,”* he stated.

The sustainability process of the project

According to him, Black Soldier Flies are everywhere as long as someone masters the technique of harvesting them. Secondly, a Female Black Soldier Fly lays about 500-1000 eggs and all these have high chances of survival hence laying fertile ground for expansion of the process.

Lubega notes that it is only the second cycle of the BSF (larvae) that feeds. The pupae stage is always dormant and the adult BSF only feeds on water. This explains its short life span of 7 days.

“Research clearly highlights BSF

as non-vectors and not harmful to human beings and animals. The larvae that is relevant for decomposition purposes, is a disinfectant. There is comfort in rearing the BSF since you will not experience any smell from the rearing grounds. During the process of decomposition, 40% that is left behind is manure that can be used in gardens or be sold off,” he explained.

BSF rearing - a sustainable side business

Lubega states that BSF rearing can be a supporting side business to companies and community members. The larva is a potential alternative source of proteins for both fish and animal feeds. *“1kg of fresh BSF larvae can be bought at UGX 15,000/=. With the short maturity period, this could be a very good business to invest in. Secondly, the operation costs are very low, one person can handle the entire rearing process,”* he mentioned.

According to Lubega 500g of young BSF larvae introduced in a small medium basin can in return yield about 5-10kgs mature BSF larvae, when they are well-fed. Within the 14 days period, the 500g would have consumed more than a tonne of waste and they are ready for harvesting. The remaining waste after the decomposition process is manure, very useful for vegetable and fruit agriculture.

He thanked AFROHUN, Makerere University and USAID for the opportunity granted to him to cause positive change in the community. In the same spirit, Lubega thanked Amani Community and the entire Namakandwa Village for the warm reception and support that enabled him to undertake his field experiential learning. *“Special thanks to the supervisors and mentors who guided me throughout the process.”*

One Health Student joins the fight against COVID-19

By - Ritah Namisango – Makerere University PR Office

The World Health Organization (WHO) declared COVID-19 a Public Health Emergency of Global Concern on January 30th 2020. The pandemic has claimed the lives of many, including medical workers also disrupted the normal way of living, with governments all over the world declaring lockdowns of varying degrees, restricting movement and travel, banning social gatherings, closing universities, schools, businesses, and churches. In developing countries such as Uganda, where most of the population survives not on savings or income from investments, but on day-to-day struggles to earn a living, it led to escalating poverty levels. This fragile situation coupled with loss of jobs, fear of death and loss of hope culminated in public anxiety with many Ugandans having limited access to authentic information.

The COVID-19 pandemic was characterized by limited information about the management of the disease, its treatment and home care services, particularly during the early stages of the outbreak. This created tension and panic among Ugandans leading to a proliferation of myths and misconceptions about the virus with dire consequences on the implementation of preventive and mitigation measures. In Uganda, it is common knowledge that some sections within the population classified COVID-19 as “a political” disease. This is because the Presidential campaigns were approaching. When the President of Uganda, H.E Yoweri K. Museveni would address the nation with public health messages restricting movements and social gatherings, some Ugandans and politicians perceived it as a political strategy in favor of the incumbent.

Public health research proves that

provision of adequate and timely information is very important in the fight against any disease, more so in outbreaks, the magnitude of the COVID-19 pandemic. Lack of information breeds myths and misconceptions as some people exploit the information gap to spread falsehoods.

It was a blessing when a Makerere University student, Atwine Mukama Tayebwa, pursuing a Bachelor of Science in Biological Sciences majoring in Biochemistry joined the fight against the spread of myths, misconceptions and falsehoods about COVID-19. Tayebwa's One Health intervention focused on sensitization through increased dissemination of knowledge about COVID-19 and creation of social support and empowerment groups.

During his One Health field attachment at ANCA Biotech Limited, a COVID-19 testing facility that offers clinical and laboratory services in Bugoloobi, Kampala district, Tayebwa worked with the different teams at the facility to intervene in the fight against COVID-19. Through interviews and discussions with the medical, security, housekeeping, transport, customer care and finance teams on the challenges they had each faced in dealing with COVID-19, it was discovered that misperception of the available information existed. He therefore identified the need to sensitize the public and provide the most appropriate information.

“Through my community assessment, I identified knowledge gaps in the fight against COVID-19. This was specifically in the areas of vaccination, understanding the signs and symptoms of the new Delta Variant and home-based methods to use to boost one's immunity against the virus. There were also

several individual misconceptions in the community about the virus, some rendering it as a myth, witchcraft and others a ‘political disease’. We believe that providing the public with timely and credible information with appropriate interpretation is very essential to improve the public's understanding of the virus.” Tayebwa mentioned.

During his engagement with the teams at the facility, the community was actively involved in the fight against COVID-19. He said the intervention programme offered the community a platform to actively implement workable solutions in their unique roles towards the fight against COVID-19.

➔ **As a student, Tayebwa said that the One Health intervention program sharpened his leadership, teamwork, communication, and research skills.**

Tayebwa then embarked on sensitization of the different staff at the facility through more increased dissemination of information about COVID-19, and creation of social support / empowerment groups to not only positively impact this specific community, but also be ambassadors of robust change and sensitization to their individual communities. Together, they developed sensitization materials, to share with their respective communities where they came from.

He emphasized the need to address the challenge of knowledge gaps on COVID-19 in the various communities and with various personnel. He appreciated the multi-disciplinary and multi-professional approach in the fight against COVID-19. He said

the sensitization programs would empower the community members to be active ambassadors in the fight against COVID-19, not only at the clinic and laboratory facility, but in the different communities they individually came from.

“To ensure that this programme continues to benefit the community, I have shared my intervention measures with the facility and community leadership as well as other stakeholders. The sensitization

materials will continuously be updated to ensure that they are always up to standard and are therefore approved to continuously be in circulation within the community.” Tayebwa remarked.

As a student, Tayebwa said that the One Health intervention program sharpened his leadership, teamwork, communication, and research skills. He added that when he went on ground, he experienced a genuine feeling of the challenges people

where facing in the fight against the pandemic, and thus the ability to generate realistic interventions and solutions.

He commended Makerere University and the One Health Institute under AFROHUN for the opportunity granted to him to apply his knowledge and skills in giving back to the community. He was so grateful to his supervisor, Dr. Anthony Mugeere for the guidance provided to him during his 2-week attachment.

Connecting the Dots: Helping Market communities in Kampala Understand the Disease Transmission Chain

By - Ritah Namisango & Proscovia Nabatte – Makerere University PR Office

Many times, we talk about health, and we leave out markets. Yet the centrality of the market in people’s livelihoods, safety, health and welfare is paramount. For instance, if the market is dirty, flies will emerge, contaminate some of the food items sold in the market. When such contaminated products like beef, vegetables and raw fruits are consumed, this leads to diseases

like diarrhea, among other infections. During the July-August 2021 AFROHUN Uganda field attachment, our students namely, John Mulo Mugwanya and Lillian Tuhaise selected Nakulabye food market located in Lubaga Division, Kampala district as the One Health approach center of focus. The duo focused on the One Health challenges that would compromise the safety of

food in the market.

With reported challenges of poor sanitation and hygiene, water logging, indiscriminate littering and accumulation of garbage, which was only collected once a week, the duo with other market stakeholders specified that the situation was greatly responsible for illnesses affecting many people in Kampala and Nakulabye as a



The students during a meeting with Nakulabye Market leaders as they discuss how to engage the rest of the market stakeholders

community. The issue of sanitation is a significant determinant of good health outcomes in a community. It is important to note that a clean environment safeguards us from several deadly diseases such as cholera, dysentery, diarrhea and typhoid. Poor sanitation mainly stems from the level of knowledge, attitudes and practices of the people.

Lack of information being the biggest cause of poor sanitation; by giving people the right information and products to promote healthy sanitation practices, the quality of life for millions of people can be vastly improved. To achieve this, the One Health Institute under AFROHUN at Makerere University sends out students to communities for their learning and service to community. Poor sanitation has emerged as one of the most common and daily burden in the communities. Students work with community members to help provide knowledge that could literally change the lives of people. This is done through the field attachments that the One Health Institute uses as one of the training approaches.

“When waste is littered in the market, it attracts flies. These flies end up on peoples’ food carrying with them disease causing germs. When the people eat this food, they are exposed to various diseases like diarrhea, dysentery and cholera. The water that logs in the market most especially during the rainy season may lead to the breeding of mosquitoes which bite people, exposing them to malaria. This water sometimes stinks which creates an uncondusive environment for the vendors and customers,” **Tuhaise** said.

When the needs assessment was conducted in the food market, the data obtained indicated that the hygiene was in a terrible state, demonstrated by the many recurrent outbreaks of cholera in the market.

“From the findings of the needs

assessment, it was affirmed that the vendors seem detached from the hygiene cause and all the responsibility of such oversight is left to rest on the shoulders of the city leadership. It was also noted that the market is challenged by substandard preparations of food; using polythene bags, discarded sacks and consumption of stale leftover food.” **Mugwanya** mentioned.

In addition, other respondents substantiated that the water used in the market is unsafe because it is drawn from a well in Kikoni (a slum settlement) where cows drink from, leaving dirt and dung in it. The same well is being used to wash motorcycles, hence a very calamitous factor to the people who use such water to cook food and prepare other consumables in the market.

In their intervention, Mugwanya and Tuhaise conducted a One Health Sensitization campaign on sanitation in Nakulabye market. Health risks are often exacerbated by poor sanitation and hygiene practices and many preventable health problems and diseases can be avoided with a little education and the right environment and products such as clean water, soap and water filters. The community was educated and guided on the application of sanitation rules which were drafted on manila placards and pinned in different corners of the market by the One Health students.

The students also initiated and facilitated the use of social media to promote sanitation in the market. They created Nakulabye Market Sanitation Facebook page and WhatsApp group as well as training the publicity personnel on how to use these platforms. In the same spirit, the duo composed a short poem dubbed ‘One Health’ which read:

“One Health; together, we are healthy. In health, we are one.

Animal health, Human health, Environmental health, is the one life. Sanitation is health, but Sanitation is lacking. Let’s fight together to be healthy.”

The Chairperson of Nakulabye Market Traders, Mr. Richard Nsubuga commended the One Health students for their efforts to improve the sanitation of the market. He thanked Makerere University and AFROHUN for helping communities through the One Health students’ field attachments.

“Our people needed sensitization on sanitation and hygiene and the possible dangers of poor sanitation. This is what the students have done. Since they came here, a lot has changed. The vendors have come to realize that it’s everybody’s initiative to prevent the spread of diseases, through proper sanitation. They have taught us well, and we shall use the acquired knowledge to sustain community cleanliness.” **Mr. Nsubuga** remarked.

One of the vendors at Nakulabye Market, Mr. Emmanuel Kasolo disclosed that the coming of the students to their market had a great impact to the community and helped the market leaders to amplify their concerns on sanitation and good hygiene. He said, *“When people hear voices from other people they are not used to, they tend to listen more. When they hear these voices coming from their children whom they send to school, it is easier to take heed. This community outreach has made us come closer to the University.”*

The students were grateful to AFROHUN for the skills and experience they attained from the One Health field attachment. The students reported that they attained communication, community mobilization and problem-solving skills. They also learned to budget using limited resources.

AFROHUN students partner with residents to save Bujagaali Swamp in Nansana Municipality – Wakiso district

By - Makerere University PR Office

Due to urbanization, poverty and rising population growth, Uganda faces the challenge of increasing slums.

Most parts of the country in the central region and its suburbs are faced with the mushrooming of slums due to urbanization and rising population growth. One such area is Nansana municipality- one of the fastest growing settlements located in Wakiso district, near Kampala Capital City. Nansana is densely populated with residents facing general sanitation problems due to poor disposal of waste/sewage which originates from domestic, commercial and industrial sources.

Working closely with community leaders and Nansana residents, the AFROHUN students namely Butagaye Jidah (Bachelor of Community Psychology), Muhimpundu Flora Amani (Bachelor of Statistics) and Keije Phiona (Bachelor of Animal Production) observed that sewerage/waste water management was more challenging.

“During the Focus Group Discussion with the community, we noted that although poor solid waste management was a challenge, sewerage disposal/wastewater management was more challenging. We also observed that the waste

water ends up in Bujagaali Swamp, carrying phosphates and nitrates that contaminate and degrade the swamp.”

The community is located in Nansana Parish, Nabweru Sub-county, Nansana Municipality, Wakiso district.

According to Jidah Butagaye, sewerage was mostly from residential areas without soak pits and drainage systems. This sewerage ended up being poured in the road or left to flow into other people’s compounds as well as the Bujagaali Swamp.

She said, *“Solid waste such as polythene bags dumped in the drainage channels result into further environment degradations. The water logging in trenches greatly affects people. This sewerage ends up into Bujagaali Swamp with a lot of garbage, hence contamination. We found it necessary to protect this swamp due to its relevance to the community. We then launched a project that we named ‘Save Bujagaali Swamp, Nansana.’”*

As a One Health challenge, it was noted that people dump garbage in non-gazetted areas including drainage channels, which eventually get blocked and prevent the smooth flow of water, hence causing stagnant or flooding water. This water becomes

a breeding ground for mosquitos and flies that spread diseases to humans. When animals feed on this waste, they often get sick and are always treated with antibiotics. When humans feed on these animals, it may cause a problem of antimicrobial resistance due to their frequent use in animals and sub-acute doses in humans.

As a means of intervention, the trio embarked on sensitizing and creating awareness about the importance of proper waste water management, urging people to put up sanitary facilities such as latrines and soak pits. They also focused on improving community participation and cooperation for efficiently implementing sewerage facilities and acquaint the residents with the benefits and values of environmental protection.

“Through sensitization, the community has been empowered with skills and knowledge, especially for the environment and production department that will keep carrying out these roles at the end of the project. This will lead to improved health of humans, animals and the environment,” **Flora Amani** said.

Ms. Winifred Kansime, the team supervisor stressed the need for proper disposal of waste as a measure to protect the Bujagaali swamp.

Working with community leaders, the students visited and interacted with 40 households to come up with a collectively informed decision to identify the community problems. Working with the community stakeholders, they were able to sensitize people on the dangers of poor waste management and sanitation, as well as establishment of sustainability programs which would remain even when the students left the community.

“After these students have left this community, the environment health representative will help to encourage the community members to protect drainage channels. They should dig and have soak pits, such that waste water from households is contained there instead of ending up in the drainage channels, because the channels at the end of the day feed into Bujagaali Swamp.” **Ms. Kansime** remarked.

The L.C.I Vice Chairperson, Mr. Lamec Mulambuzi, who welcomed the students during their community entry, reported that the Local Council had often tried to take steps to fight the problem of poor sewerage management, but the people didn’t seem to understand the dangers that may arise from the stagnant water. He vowed to carry on the community

mobilization using megaphones to engage the people in community sanitation. He disclosed that they had appointed a new member on the Local Council to handle environment related issues but lacked defined roles.

“Before the coming of the students’ team, there was a newly appointed member of the council in charge of

the environment, but her role was not yet clear. So their coming helped us come up with a well-defined role for this position. The role of ensuring that households have soak pits will be directed to this person,” Mr. Mulambuzi explained.

Mr. Mulambuzi appreciated Makerere University and AFROHUN for sending students to serve in the

communities. He said that when students come to the communities, they are empowered to put theory from school into practice.

Ms. Kansime acknowledged and thanked Makerere University and AFROHUN for the One Health students’ field attachment initiative.

AFROHUN student champions waste recycling to manage poor waste disposal

By Makerere University PR Office

Poor waste disposal has remained a global threat to public health. In Uganda, Ms. Rachael Vivian Akena’s engagement with community leaders and residents of Bruno Zone in Kkonge village, Makindye Division, Kampala district re-affirms the dangers of poor waste management. Ms. Akena from Uganda Christian University underscores the need to embrace waste recycling.



Ms. Akena taking community members through the hazards of indiscriminate waste disposal

“The dumped waste contained a significant volume of used condoms. This presented a threat to public health as children kept on picking the dumped used condoms and blowing them thinking they are balloons. The children would put water in the condoms and then drink it, which is a health hazard.”

The poor waste disposal in the community also attracted stray dogs, who in the search for food, scatter the waste in people’s compounds and drainage channels.

Faced with such health challenges, Akena’s field attachment focused on sensitizing the community about waste management methods and practices for a better environment. *“Sensitizing the community members was our best strategy. Proper disposal of waste plays a great role in the prevention of the spread of diseases. Waste recycling provides the best solution,”* she remarked. Interacting with the community leaders, Akena pointed out that some waste could be transformed into useful products. *“People in the community have to be informed about how to recycle some waste into useful products and should be taught how to separate the garbage of different kinds. People in the community who have plantations can use*

composing waste as manure in their gardens, and some waste, like polythene bags can be burnt, while plastics can be recycled to reduce on the poor disposal of garbage. The remaining garbage can be collected in sacks and taken to garbage-collecting trucks. This reduces the burden of disposing off garbage,” Akena advised.

For sustainability of this One Health approach, Akena identified and educated a section of the youth to be the community sanitation champions who would alert the local authority in case of rubbish accumulation.

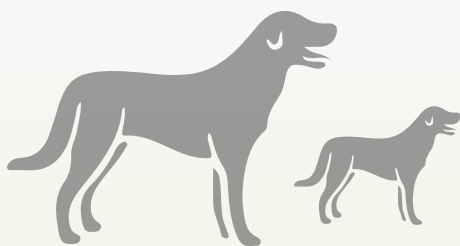
Ms. Sarah Nakyanzi, a member of the Village Health Team (VTH) and the environment committee at the local council, mentioned the challenge of people constructing pit latrines on top of the trenches and releasing the waste into the trenches when it rains, which leads to infections.

“We are glad that this student has raised her voice against poor waste disposal. This will help to change the attitudes and behaviors of some community members. We hope to maintain this good cause in our community, and we shall keep on with this initiative of sensitizing the community and engaging them in

the general cleaning even when the student has gone.” Sarah Nakyanzi remarked.

Presented with an opportunity to serve the community with Racheal Akena during her field attachment, Hope Annet Namaganda, a student of Lira University and a youth leader at Kkonge Village observed that if they were to impact the community, they had to involve the people and share knowledge on proper disposal of garbage and conservation of the environment. She said, *“The program will empower and motivate the people to see the relevance of proper waste disposal and sanitation at large and make this a daily routine in order to improve their health.”*

For the skills and experience attained during the community attachment, Racheal Akena commended the One Health Institute at Makerere University under AFROHUN for providing her with an opportunity to acquire, sharpen and implement various skills including planning, communication and management skills as well as building her confidence to approach local leaders with the proposed project, to approaching individuals in the community. She thanked Mr. Nicholas Mugabi for the great supervision he provided to her.



The poor waste disposal in the community also attracted stray dogs, who in the search for food, scatter the waste in people’s compounds and drainage channels.



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