OHCEA News

One Health News in the Region

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[Image of people and animals, likely related to agriculture or livestock]
Welcome to the second edition of OHCEA News! In this edition, we share with you news from all around the region; we bring to you the latest updates in One Health (OH) Workforce development.

Experiential learning is one of the tools being used by OHCEA member institutions to develop a workforce competent to manage next-generation OH challenges. Through demonstration site field attachments, institutions are exposing multi-disciplinary student groups to a cocktail of OH issues and challenges that provide practical learning opportunities. In this edition, Ethiopia and Kenya share their experiences using demo site field attachments.

Sustainability of One Health Workforce project efforts and outcomes is a major focus on OHCEA member institutions and the entire network. This is approached in different ways; through integration of new One Health concepts and ideals into existing programmes, courses and systems. In Tanzania, the two OHCEA institutions; MUHAS and SUA are working jointly to integrate a One Health component into an existing communicable diseases course for medical students at MUHAS. This way the course will enhance an already existing programme, making it richer in terms of training a one healthy medical professional.

The second sustainability approach being undertaken by the member institutions is writing of grants and mobilisation of additional resources for network strengthening.

The IDRC-supported Eco-health Project at OHCEA is providing a platform for Masters and PhD students to conduct research on various aspects of zoonotic diseases while at the same time creating spaces for the community to get educated on transmission, prevention and other dynamics of zoonotics. Read about the latest in this project.

As an effective way of developing a competent One Health workforce, students and other trainees are given opportunity and are exposed to outbreak investigation in their respective settings. Read about the nature and magnitude of outbreaks, students and trainees have been able to get involved in.

The course aims to introduce the basic principles of preventing, detecting, and responding to infectious disease outbreaks in the context of One Health. “The course intends to orient you into using a One Health approach to examine various important infectious diseases of humans, and those transmissible from animals to humans; and their relationships with the environment (physical & socio-economic). This will help you understand the fundamentals of infectious diseases ecology and their impact on humans, animals and the environment”, said Dr. Simon Tarimo, Course Coordinator.

It was expected that at the end of the course, students would have the ability to explain the relationship between humans, animals, and the environment in infectious disease transmission; understand the role of surveillance in infectious disease management and apply multi-disciplinary approaches to infectious disease investigation and response.

Students were taught methods of environmental management of communicable diseases to compliment human-animal-environment interface relationship.
University Medical Students gets exposed to the One Health Approach

To comprehend theory and practice, Waste Water Stabilization Ponds were used as demonstration site for field visits. The aim was to orient students on the practical application of One Health approach in communicable disease control. Students were exposed to the science behind the operation and process flow of WSPs functions, basic requirements for WSP site protection and management, possible routes of disease transmission through WSPs, considering human-animal-environmental interactions and roles of various stakeholders.

Students were introduced to various aspects of field-based One Health approach. They were also taken through the key components and process of developing proposals including all key components to be covered during proposal development.

In addition, students were introduced to the principles of developing research objectives, based on the SMART theory. They formulated the topics based on Rift Valley Fever. Three thematic areas came out from students’ discussions; which were Knowledge, risk factors and Socio cultural factors.

This was the first time that the two institutions (MUHAS & SUA) teamed up in conducting a course and field activity supervision. This has paved a way for continued collaborations in research and academic activities.

According to the post-training evaluation, the majority, 144 (92.3%) of the students thought that the “One Health” approach was relevant to their future. Majority of the students; 145 (92.9%), were of the opinion that the information provided during the training was very useful and 145 (92.9%)
Muhimbili University Medical Students

considered the information helped them to understand better the concept of One Health.

About 70% of the students felt that the filed visit was useful in increasing their understanding of One Health approach and 136 (87.2%) students considered the field attachment to Kilosa and Mikumi was excellent. A very high proportion of students, 149 (94.9%), thought the component of data collection provided with them the very experiential learning for their future work.
Supporting University Networks to Expand and Grow: OHCEA Tanzania in Resource Mobilisation capacity strengthening

July 25th – 27th 2016, OHCEA Tanzania organized a grant writing workshop for faculty in Dar es Salaam. The purpose of the workshop was to provide grant writing skills to key health professionals and practitioners who are faculty to MUHAS and SUA universities, and who are directly or indirectly involved with research on humans, animals (including wildlife) or both humans and animals as well as the environment in which they live and interact. The workshop aimed to equip the faculty with the concepts and practical skills on proposal writing to seek funding for research projects of their own. The workshop invited 20 faculty with about half of them coming from the human health side and the other half from the animal side. The workshop was funded by the USAID through the One Health Workforce project.

The workshop was opened to mid-level and senior faculty from Muhimbili University of Health and Allied Sciences (MUHAS) and Sokoine University of Agriculture (SUA) involved in One Health activities or are interested in developing research proposal in the area of One Health.

Professor Philemon Wambura, the OHCEA Board Chairman, informed the participants that OHCEA is currently doing away with trainings that do not have tangible outputs. He further elaborated that OHCEA will be supporting training as a process towards achieving specific products like fundable research proposals. With the current main OHCEA funding (USAID-OHW) coming to an end by 2020, Dr Wambura challenged participants from member institutions to devote their efforts to respond to this challenge.

Prof. Saul Tzipori from Tufts University told participants that completion in granting is stiff and one needs to prepare proposals that can compete. He gave hints on issues to consider when responding to calls for proposals to increase the chances of a proposal being funded.

By the end of the training, four proposal ideas were developed and sketched around the following areas;

1. Influence of human activities on the evolution and spread of Antimicrobial Resistance within and between humans, animals and environment compartments by Gaymary Bakari, Ezekiel Mangi, Faith Mabiki, Julius John and Huruma N. Tuntufye

2. Integrated hospital and community based strategies for controlling diarrhoeal diseases among pastoralist communities in Kilosa district, Tanzania by Heribert R. Kaijage, Mangi J. Ezekiel, Hussein Mwanga, Hezron Nonga, Huruma Tuntufye and Idda Mosha

3. Reduction of Mycobacterium Tuberculosis Transmission Through Promoting Awareness among Traditional Health Practitioners by Faith PM, Mourice NM, Idda M, Gaymary GB, Mdegela RH, Tuntufye H.

4. Prevalence, knowledge and risk perception of zoonotic diseases in Kilosa district by Marycelina Mubi, Anna Tengia-Kessy, Helena Ngowi, Idda Mosha

By Dr. Wambura delivering his remarks at the training.
Experiential Learning: One Health Demo-site Attachment

A multi-disciplinary field attachment is a powerful tool of exposing upcoming health professionals to the One Health concept and its application during their basic training. The experience broadens the participants’ definition of health, and hence the intervention strategy to address health issues, through the recognition of the intricate linkage between humans, animals and the environment. By training future professionals on how to work in multi-disciplinary teams, Kenya will have a new crop of holistic, highly effective and efficient health professionals who will be able to tackle grand health challenges.

The University of Nairobi and Moi University successfully completed their first One Health students’ field attachment under the One Health Workforce project. The three-week activity was undertaken in July and August 2016, the participants being students and faculty from Moi University and the University of Nairobi assisted by faculty from the University of Minnesota and Tufts University. This field attachment took place in Amboseli, Loitokitok Sub County in Kajiado County, an area characterized by high human-livestock-wildlife interaction and conflict with increased risk of zoonotic diseases transmission as well as environmental degradation.

The field attachment exposed the students to the application of the One Health concept using an experiential learning model. The 34 students who took part in the activity were drawn from five undergraduate courses; medicine, nursing, veterinary medicine, wildlife and environmental health. The activity began with a five days pre-placement training held at the University of Nairobi, Faculty of Veterinary Medicine. Some of the key topics covered during the orientation included introduction to the One Health concept, building one health teams, community entry and needs assessment among others. Five multi-disciplinary teams were formed during the pre-placement training and each team focused on an assigned Manyatta (a Maasai settlement).

Cognizant of the importance of involving various sectors and departments in this activity, field activities began with a stakeholders meeting, attended by sub county administration officers, medical and veterinary officers, public health officers and the Amboseli community members. Through this interactive meeting, the students and faculty had the opportunity to introduce the One Health concept to those in attendance and to familiarize stakeholders with the goal and objectives of the field training. The team also got a broad overview of the health status and the lifestyle of the local community.

The five teams worked closely with various professionals and community members of the respective villages to conduct a comprehensive needs assessment. Resource mapping exercises, key informant interviews, focused group discussions and participant observation were used to gather information. Students visited slaughter slabs, livestock and food markets, health facilities, Kenya Wildlife Services department, agroverts and the Amboseli National Park for more objective assessment of the community health needs.

Some of the needs identified were animal diseases such as brucellosis, coeurosis, foot and mouth disease, Contagious Caprine Pleura Pneumonia, contagious bovine pleura pneumonia, cysticercosis and lumpy skin disease. Human health
Experiential Learning: One Health Demo-site Attachment Enhances Kenya Students’ Learning

Groups discuss the problems identified in their allotted village

Student’s visit the animal market place

challenges included, respiratory tract disorders, eye infections, diarrheal diseases, Sexually Transmitted Infections, bed bug infestation, poor human waste disposal and injuries secondary to wildlife attacks. Destruction of wildlife habitats, soil erosion, deforestation and poor human waste disposal were some of the identified environmental challenges.

The one health teams rigorously engaged the community members in prioritizing the identified health needs. Coeneurosis was a common animal disease in all villages and most of the community members were eager to learn about its transmission, prevention and control measures. Bedbug infestation proved to be the greatest parasite-related health challenge with all the five villages listing it as a key problem and one village reporting that 100% of its households were infested. Poor human waste disposal manifested by open defecation related to cultural beliefs about toilet use and in some cases lack of toilets was established as a serious environmental health problem.

The most feasible short-term interventions that the students could carry out in two weeks were health education sessions focusing on the community-felt needs. Working in their multi-disciplinary teams, students came up with innovative ways of passing the key health messages to the community members. Skits, health talks using visual aids and demonstrations were used to pass on health information.

The teams disseminated the findings of the community needs assessment and the interventions they had carried out to stakeholders.

Key achievements from the field attachment include:

- Exposure of students to the One Health concept early in their career, which is vital in ensuring that health professionals gain a holistic view of health challenges and are well equipped to develop effective problem-solving strategies.
- Appreciation of the roles other disciplines play in health promotion and the need...
Students visit the manyattas in five villages identified

and benefits of working in multi-disciplinary teams.
• Dissemination of the One Health concept to the in-service professionals who interacted with the students and faculty during the field attachment.

• Application of the One Health approach in community needs assessment, needs prioritization and intervention design and implementation

Kenya Students undergo Field-based Post-graduation Certification for Veterinary and other related disciplines

Training of several key professionals in “One Health” (OH) has been largely segmented and has led to the production of professionals who are only good at approaching problems with a narrow focus. However, OH requires multi-sectoral and multidisciplinary collaborative approaches that utilize systems-thinking approach.

To address this challenge OHCEA-Kenya conducted field based training within selected community learning/demo-sites where students are exposed to multi-disciplinary One Health interventions.

The field-based training aimed, among others, at:
• Inculcating systems thinking in the approach to One Health challenges among graduating students
• Equipping graduating students with knowledge

and skills in field-based and community-based research with special reference to field epidemiological research on infectious diseases

• Equipping students with skills required to design and use data collection templates using the dog ecology data collection template as a training tool.

• Equipping students with practical skills in conducting research in different community settings, including skills in research ethics and conducting interviews.

• Giving the students hands-on field data collection (including mobile data-based tools), analysis, presentation and report writing

Prior to placement, students were taken through a five-day training to equip them with knowledge and skills applicable during infectious disease surveillance and response. After the training the students were placed in One Health learning centres including county/local disease surveillance centres, regional and National investigative laboratories for eight weeks, where they were involved in practical disease surveillance, disease research and infectious disease response. The diseases focused on included Anthrax, Brucellosis, Cysticercosis and Rabies.

In total thirty three (33) students participated in outbreak investigation and control in 20 counties that had been identified. They collected and analysed data, and disseminated findings at a three day workshop which brought
Kenya Students undergo Field-based Post-graduation Certification

Students present their reports to the panelists

Students and facilitators pose for a group photo after the dissemination event

Together all the 33 students sponsored by the One Health Workforce project and 32 other students sponsored by FELTP.

Several benefits were observed from the training, including:

- Improvement in the level of understanding and skills in field-based and community-based research as shown by pre and post-test performance results that showed a 23% improvement (From 68%-91%)

- Twelve trainers in the veterinary and public health fields networked and carried out joint training in line with One Health good practice. The activity trainers involved in the activity included university faculty, post-doc students and government personnel in the Ministry of Health and Ministry of Agriculture, Livestock and Fisheries Development.

- Cumulatively, over 100 students have been trained so far, including 60 who were trained in 2015.

Students present their reports to the panelists
David Okello, a fellow on the One Health Institute had opportunity to participate in a measles outbreak investigation in Kamwenge district in July 2016. The fellow worked in a multi-disciplinary team that constituted 5 Masters of Public Health Officers from Makerere University School of Public Health and one officer from the Ministry of Health (MoH) Uganda. The team worked through planning and feedback meetings with the DHO and the EPI Focal Person.

Among other activities, the team reviewed records to obtain the history of the outbreak including past measles outbreaks that had happened in the district. This was also followed by updating the line list of suspected cases at the district.

The team visited health centres in the district where the cases were reported. According to the District Health Officer, the six health facilities visited in Kibale East Health Sub-district were reported to be more hit by the outbreak. During the visit, the team reviewed the Out Patients Department (OPD) registers to validate the suspected cases reported. This was aimed at assessing the accuracy of data reported from the health centre to the district and also to update the line list which was not updated at the district. In total, the team developed an updated line list of 59 suspected cases.

The team meeting the district surveillance focal person

MPH-Officer interviewing a caregiver in local language

The team working with the health workers, VHTs among others to mobilize the communities.

Through this activity, the fellow learnt to work with multidisciplinary teams, making of daily summaries to update the Centre (communication), coordination within the team, task sharing, leadership, community mobilization among others.

There were a few challenges, including not being able to trace all the suspected cases in the community due to incomplete information recorded in the OPD register especially information on the next of kin which was not filled in most registers. It was also challenging that in some cases, health workers recorded only one name of the child such as Jonah, James, or Mbabazi. This made the tracing of suspected cases by VHTs problematic.

The team noted that the community was not treating measles as a serious disease (perceived seriousness of measles disease was low compared to other
One Health Institute Fellow takes part on Measles Outbreak Investigation

One Health Institute Fellow takes part on Measles Outbreak Investigation

The line list was not updated at the district. This made
the team spend most of their time updating the line list
am affecting time for other activities.

diseases such as Ebola). This was because the
cases could be kept in the community and treated
locally by giving the child fish stew among other
remedies.

Championing One Health through networking: The
Caribbean One Health Network Visits OHCEA Uganda

By Peninah Nsamba, Makerere University

Networking (meeting people, introducing oneself, making friends, exchanging ideas etc) is a powerful
way of building relationships, partnerships and businesses. That is what happened on July 22nd 2016
when Dr Chris Anthony Leslie Oura (B.Vet Med, MSc, PhD, MRCVS) from School of Veterinary Medicine,
University of West Indies visited College of Veterinary Medicine, Animal Resources and Biosecurity.

Chris had lived and worked in Uganda previously and he even has family relatives here. During his last
stay in Uganda he worked with Dr Wampande on a study on *Theileria spp* that was conducted with Prof
G.W. Lubega, a parasitologist who pioneered the molecular section at COVAB.

Therefore during one of his many
visits to a place he now calls home, Chris decided to follow up the One
Health after previously encountering
information about OHCEA on the
website. Dr Wampande was his
contact node and because of his
familiarity in COVAB, he paid an
informal visit to the country office.

After the initial personal introductions
I got to find out that Chris was a
virologist who had worked with foot-
and-mouth disease (FMD) virus
at Purbright (the World Reference
FMDV Laboratory) during the 2001
outbreak in the UK. I had studied
the sub-Saharan FMD virus isolates
for my PhD. and soon with the ice
broke, we were chatting about other
scientists in the FMD virus circles
like old friends... “the power of
networking”

Regarding One Health (the gist of

Left to Right: Dr Anne Kazibwe
coordinating curriculum review of
Masters courses in COVAB, Dr Chris
Oura One Health One Caribbean, One
Love, Dr Edward Wampande, Manager
Central Diagnostic Laboratory COVAB
and Peninah Nsamba OHCEA Focal
Person at COVAB

Chris’s visit), we found similarities
between the Caribbean One Health
Network and OHCEA network. They
both involved many countries and
universities collaborating together,
sharing resources like expertise,
grooming leaders and champions.
Both networks are introducing
“One Health” into the curriculum
at the university. However the
Caribbean, is ahead of OHCEA with
regards to teaching One Health -
They have introductory lectures in
“One Health” in Year 1 (common
to all students of all disciplines
couraging interaction between
different degree courses). ‘One
Health’ concept is emphasized

in course delivery. There is
curriculum mapping to identify
the ‘One Health’ components of
the courses. ‘One Health’ related
issues are included into PBL –
courage students to identify
the involvement of different
disciplines in the problem.
All tutors at the University of
West Indies are encouraged
to emphasize ‘One Health’ on
clinical rotations during the
final year. This is because they
have managed to establish
‘One Health’ into Policy in the
Caribbean (the first of its kind
globally) and they now have a
regional ‘One Health’ Strategic
plan.

Both OHCEA and the Caribbean
OH network have a OH
community engagement module;
however, Chris commended the
OHCEA - Uganda model that
involved the social scientists.
According to this renown
parasitologist and virologist the
economic and social impact
of many emerging pandemic
threats are usually neglected
until the pathogens that usually
start manifesting in the animal
world start causing clinical
signs or economic devastation
in the human world. By this
time the cost of containing the
outbreak has risen. It may be
prudent to obtain the social
input, like impact of disease on
communities and perhaps more
prudent policies and decisions
will be made by the governments
and funding bodies. Social
scientists may be at the center
of the social and policy inputs
during disease outbreaks and
control.

The Carribean Leadership series

Championing One Health

By Proscovia Nabatte, Makerere University Public Relations Office

Over 30 academic staff at Makerere University were trained in improving the standards of their teaching environment and maintain an up-to-date curriculum with the aim of creating a transformative path for their students. This was during a one-week Instructional Design Training (20th -24th June 2016) with Dr. Gregory Sales, a Professor of Instructional Design and Technology at the University of Minnesota.

Organized by One Health Central and East Africa (OHCEA) Uganda Country Office under the sponsorship of USAID through the One Health Workforce (OHW) project, the Instructional Design Training aimed at engineering instructional experiences that can make the acquisition of knowledge and skills more efficient, effective, and appealing among students.

Convening at Protea Hotel-Kampala, participants were introduced to new techniques of teaching, developing learning materials, different training models and theories as well as using up to date learning and teaching software. They were also guided on how to determine the state and needs of the learner, defining the end goal of instruction as well as creating some “intervention” to assist in the transition of knowledge and skills between students and lecturers.

According to Dr. Gregory Sales, instructional design should always be one of the key tools in the teaching curriculum because it helps instructors to pass through a well-informed pedagogical process, test the theories of learning and actively engage in student-only, teacher-led or community-based settings.

“There are many instructional design models but many are based on the ADDIE model with the five phases: analysis, design, development, implementation, and evaluation. As a field, instructional design is historically and traditionally rooted in cognitive and behavioral psychology, though recently constructivism has influenced thinking in the field,” he said.

During the training, Dr. Sales mentioned that the Instructional design model consists of fourteen tools that are needed to inform learning “These among others include; identifying the needs, developing goals, conducting analysis, identifying entry behaviors, writing objectives, developing assessment, writing content, producing media asset, producing the course, conducting formative evaluation, revising the course, implementing the course, conducting summative evaluation and maintaining evaluation retirement,” he said.

To him, the model is very important to instructors because it effectively changes the mode of teaching from teaching-centered-classroom to students-learning-centered classroom; hence creating...
motivation among students. He therefore urged instructors to always consider motivation in their instruction guideline very crucial if they want their students to perform to their expectations. Using the ARCS Model of Motivation, Gregory said that motivation is very critical to students since it facilitates long term learning.

“ARCS stand for Attention, Relevance, Confidence, and satisfaction. If students don’t pay attention, there is no hope of learning. Secondly, there should be relevance in what you are teaching; you should also impart confidence among students so that they can understand their likelihood for success. Learning must be rewarding or satisfying in some way, whether it is from a sense of achievement, praise from a higher-up, or mere entertainment,” he stated.

The training was climaxed with the certificate awarding ceremony officiated by the Head, Grants and Resource Mobilization at OHCEA Regional Secretariat, Ms. Agnes Yawe Nalugooti. While handing over the certificates to the participants, Ms. Yawe extended sincere gratitude to OHCEA Management and their partners from University of Minnesota for their outstanding support that has enhanced One Health Project Developments.

“One Health has more resource materials available for utilization. We therefore believe that if we have the competent facilities, we can do better and be able to transform our students. We pledge to make a follow-up after this training so as to ensure that the knowledge and skills attained do not end here,” she said.

She thanked the organizing committee for all the efforts to make the training workshop a success. “Your hard work can never be undermined. You made everything possible to see that the workshop achieve its goals and objectives,” she said.

The OHCEA Focal Person at the School of Public Health, Dr. Esther Buregyeya acknowledged the tremendous work done by Dr. Gregory Sales when she said, “you have taken us through a very engaging, interesting and educational experience. We have learnt a lot. Learning how to use lodestar, PowerPoint and voice thread will help instructors to have a digital, standard and quality way of teaching.”

“I also take this opportunity to thank the participants for their wonderful contribution in this training. It is good that you recognized that you need this skill. There are so many people out there who really need the skill but they don’t know that it was worthy learning. I therefore encourage you to spread the gospel to others. I am looking for your enthusiastic step ahead in capacity building,” Dr. Buregyeya applauded participants.

Speaking to some of the participants, they said that the Instructional Design Training is a cross cutting field that is so vital to every instructor regardless of his or her academic discipline. According to Resty Mwogeza- E learning consultant at Uganda Management Institute (UMI), the training enabled her to embrace the new paradigm shift of developing instructional materials that emphasize aligning learning outcomes with assessment and content.

To Dr. Norbert Mukasa from Department of Mechanical Engineering- Makerere University, the training provided him with knowledge on how he can align his teaching objectives with the course content and be able to disseminate information accurately and confidently. “The course has engineered a wonderful experience in me and I am happy that I am going to pass on the same experience to others,” he said.

In her closing remarks, the team leader of the Instructional Design Training, Ms. Joanne Kisaka encouraged participants to always take learning opportunities seriously whenever they occur so as to gain more knowledge and experience.

“Let us make sure that the students that come out of our hands are better experienced for the world to benefit. Skills and knowledge can be applied in any field. As One Health, we are so much interested in seeing this further,” said Ms. Kisaka.
The One Health Students Club of the University of Kinshasa (UNIKIN), School of Veterinary Medicine is a multidisciplinary, scientific and cultural group. The club organized a Rabies vaccination campaign in the Kindele Health Zone of Mont-Ngafula District. The Kindele area has many dogs; many of them never vaccinated before and the few that have ever been vaccinated take long to be revaccinated. Often, they are stray dogs (they roam everywhere looking for something to eat without control). They began to bite the people and three victims reportedly died, which may indicate the presence of rabies in this community.

In order to achieve the objective, 500 doses of anti-rabies vaccine were received from the relevant government offices. OHCEA office at the University of Kinshasa took care of the logistics of organising the campaign that involved sensitisation and vaccination.

Authorization to conduct the vaccination campaign was obtained at two levels; district and Provincial Veterinary Department of Kinshasa. Initial contact of all the 9 local chiefs of the area was made to guide the identification of dog owners. In total, 482 dogs were vaccinated in five different sites. Vaccination certificates were issues to the dog owners whose dogs were vaccinated.

The Province of Kinshasa authorities requested that the vaccination covers the entire city; an idea that was welcomed by the OHCEA-DRC team. Community engagement was intensified with media, public figures and community leaders. The final vaccination reached 500 doses.
UNIKIN Students Campaign to rid the Kindele area of Rabies

leaders requested similar intervention in other areas of the Mont-N’gafulu district. A total of 50 One Health Club members took part in the exercise; from the disciplines of biological sciences, pharmacy, veterinary medicine, Agriculture, and veterinary assistant trainees. In addition to students, the team also had 9 local chiefs of the Kindele site (for mobilization of dog owners and ownership of the exercise), 9 representatives of the Ministry of Agriculture under the supervision of the personal assistant to the Minister, 3 members of the coordination unit (focal person, administrator and an in-charge of monitoring of ESP activities), making a total of 75 persons. Students gained experience in practical aspects of sensitization and vaccination. There are plans to continue the vaccination campaign in the remaining sites in the very near future.

Rabies Vaccination Campaign by Students of Lubumbashi in Tabacongo Area

The population of Tabacongo area majorly lives under the poverty line. In this community, the daily individual consumption is less than 2 US dollars. This means that the community is largely unable to deal with the major health challenges in their midst including prevention of diseases. Rabies is one of the most challenging health problems in the area with very few people having knowledge on its effect on human health and the importance of vaccinating dogs to control it. Rabies is an important zoonotic disease in the one health approach. Because of this fact, the One Health Students’ Club of University of Lubumbashi organized a community awareness about pets and the risk of dog bites or cat scratches. This activity was coupled with vaccination of dogs and cats against rabies.

The objectives of the activity were ; (1) educate the community on the dangers of rabies so that they can protect themselves, (2) improve the serological status of pets by vaccinating them against rabies, (3) equip future health professionals with skills in One Health management, leadership, communication and culture and beliefs, (4) contribute to reduction in deaths due to rabies.

The University of Lubumbashi community provides a multidisciplinary and multisectoral team. Students and future health professionals from the Faculties of Medicine, Veterinary Medicine, Pharmacy, the School of Public Health of Lubumbashi University and the Lubumbashi Institute of Higher Medical Techniques were all engaged in this activity.

Raising awareness was conducted mainly through a skit by a famous actor in Lubumbashi, which drew much interest from the local population. Because of the local culture of eating dog meat by humans, many dog owner did not present their dogs for vaccination, believing that vaccinated dogs would not be good for human consumption. Instead, some people took the dogs for slaughter to make some money.

Vaccination was done after the sensitization and included 168 pets of which 153 were dogs and 15 cats. The vaccinated animals were also treated with a miticide and the vermifuge. Vaccination cards were signed by the veterinary doctor, urban agricultural Inspector and were handed over to the owners of the animals and pets.
The three-year Eco-Health project at OHCEA is supported by the Canadian International Development Research Centre (IDRC). In its initial stages, Masters and PhD students supported by the project conducted short studies based on issues collected from the pastoral communities of Kasese district. These communities live around the Queen Elizabeth National Park.

The studies revealed that the communities studied had gaps in knowledge of symptoms and signs of most of the key diseases. This gap in knowledge makes prevention as well as seeking care, a challenge.

Dissemination meetings were held to share findings from the studies with the different communities mid-August 2016. The meetings also served as education opportunities for the project teams, focusing on specific areas where the studies indicated particularly low knowledge levels.

"Interaction between domestic and wild/park animals in this community makes it a target for knowledge enhancement", said Dr. Catherine Kansiime, Project Field Manager.

Some of the factors that put the Queen Elizabeth National Park communities at risk of zoonoses include drinking raw milk, eating under-cooked meat, the thinking that it is only park animals that carry diseases and not separating sick animals from the rest of the herd.

During the discussions that followed the presentations by the project staff, key areas of further education and support to the communities came out clearly. Some of these are highlighted in the following section;

While vaccines exist for some of the diseases that were targeted like brucellosis, the pastoralists are unable to access vaccines due to ‘high costs’, and the absence of a ‘co-operative’ through which they would pool resources and purchase the vaccines as a group. It was also apparent that most of the pastoralists do not consider vaccination of their animals a priority.

While rabies vaccines are available at only UGX 3,000, many of the community members have never bothered to have their animals (dogs and cats) vaccinated. Compared to treatment at UGX 60,000 per dose (full treatment is 3 doses) in the case of a dog/cat bite, this shows a lack of appreciation for prevention of diseases in the communities.

Almost all the pastoralists lack protective gear while doing their
Eco-Health Project educates pastoralist communities on dynamics of Zoonotic Diseases

work, especially when they are delivering animals or in the case of cows with TB that are coughing. This exposes them to many diseases and infections from their animals.

The possibility and logistics of constructing and operating an isolation centre (paddock) close to the office of the Veterinary Officer should be explored so that sick animals are isolated and treated from there and only handed back to their owners once they are free of disease.

When many of the community members report to health facilities with malaria-like symptoms, they are treated for malaria without any tests done. It is believed that many could actually be suffering from brucellosis.

At Nyakatonzi Primary School, the Chairman LCIII, Mr. Bukenya remarked that it is important practice for the project team to share findings from the work conducted with the communities because it improves decision making. “Once we know our problems, we can then plan to manage them”, he said.

The Kasese Veterinary Officer, Dr. Joseph Masinde urged the communities to keep themselves updated on information about zoonotic diseases, especially the deeper social and economic implications of these diseases. He urged the community members to work with the political, technical and civic leaders to create mechanisms of having rabies vaccines provided at lower levels of service delivery.

Dr. Masinde also cautioned the communities against eating meat of animals that die from unknown causes, unless it has been declared fit for human consumption by Veterinary officers.

In Katwe Kabatoro, community members requested local authorities to put down stray dogs that roam one of the areas, a number of them suspected to be rabid. It was however noted that although all local leaders were invited to be a part of the event, hardly any had turned up, an issue community members noted as a sign of weak leadership.
An ever increasing human population demands more livestock for food and animal products, along with more land and water to support both livestock and human populations. In areas where land and water are limited, the pressure and competition for those resources from human, livestock and wildlife populations highlights a complex global challenge.

This interface, interaction and interconnectedness between populations is theorized to be one of the main drivers increasing risk of emerging diseases through contributing to emergence, amplification and globalization of infectious agents. This is the reason why Rwanda is considered by World Health Organization as a hotspot for emerging and re-emerging infectious diseases and outbreaks.

Based on this fact, One Health Central and Eastern Africa (OHCEA) strives to create a critical mass of cadres who are able to effectively respond to these outbreaks. Akagera National Park is not new to pressures and challenges. The park follows the Eastern border of Rwanda with Tanzania, and is surrounded by a military camp, and some of the most fertile pasture and cattle grazing land in the country.

One Health Central and Eastern Africa (OHCEA) Rwanda under the One Health Workforce project, conducted a one-week Infectious Diseases Management (IDM) training for final year students in June, 2016 at the University of Rwanda, Nyagatare Campus. The training focused on One Health Approaches to infectious Diseases Management.

The goals of the training were; 1) explain the relationship between humans, Animals and Environment in infectious disease transmission; 2) apply multidisciplinary approaches to infectious disease investigation and response and 3) foster a multi-sectoral collaboration among the future one health workforce.

The course was designed to deliver on the following competences;

- Identify and analyze risk factors during an infectious disease outbreak
- Design an infectious disease management plan
- Evaluate the effectiveness of One Health actions in infectious disease management
- Design a new, or evaluate existing disease surveillance and monitoring system

To address the above competencies, students were exposed to five modules that included risk communication, management and leadership, social, culture and gender, systems thinking, as well as foundation modules. Faculty from the University of Rwanda College of Agriculture, Animal Science and Veterinary Medicine and College of Medicine and Health Sciences facilitated the training.

Ms. Peace Kakibibi, one of the students who participated in the training highlighted the role of multidisciplinary collaboration in the management of health threats. “As a medical student, I never thought that a Medical Doctor at some point may need a veterinarian or an Environmentalist.”
Practical Training in Infectious Disease Management

The OHCEA Rwanda (CAASVM) Focal Person, Dr. Robert Kibuuka pointed out that the training will be a continuous event targeting students finalizing their courses in various departments so that they are trained to become One Health Champions as they enter the labour market.

This training brought together 150 final year students from all University of Rwanda Campuses (Nyagatare, Nyarugenge, Nyamishaba and Huye). The programs targeted included veterinary medicine, human Medicine, Wildlife and Aquatic Resources Management, Zoology, General Nursing, Biotechnology, Clinical Medicine, Environmental Health and Epidemiology, Nutrition and Dietetics.

The modules were delivered in form of basic theoretical background followed by group work for a given task. The students were divided into multidisciplinary groups and each group was mentored by two faculty i.e. one senior and one junior. Most of the learning was student-centered. Role plays were a key feature in the training where different diseases were assigned to different groups and requested to demonstrate their dynamics, from transmission, clinical signs and prevention and control. These diseases included Rabies, Schistosomiasis, Ebola, Brucellosis, Tuberculosis, Rift Valley Fever and Malaria, among others.

Role plays offered the students opportunity to understand the problem. They also appreciated the importance of working in multidisciplinary teams.

While opening the training, the Dean School of Animal Sciences and Veterinary Medicine Dr. Martin Ntawubizi encouraged students to take the course seriously for the benefit of the country and for their own benefit.

The Coordinator of the University of Rwanda-Nyagatare Campus, Dr. James Gashumba was happy that such a training was taking place; he therefore urged the students to take it seriously. He pointed out that emerging infectious diseases are on the rise and there is a critical need to train people who will be able to respond to outbreaks. He also noted that on average, every two years there is at least one new/re-emerging disease that comes up.

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and appreciated the role played by each in case of an outbreak. Leadership and team building skills were exhibited.

A field trip to the Nyagatare rice scheme was organized. Students in their multidisciplinary teams were able to identify some of the public health challenges that needed to be addressed. These included herbicide and pesticide pollution in water, Schistosomiasis, land degradation, malaria to the surrounding communities, among others.

Guest speakers at the training included Dr. Jose Nyamusore and Dr. Isidore Gafarasi the Division Manager, Surveillance in Rwanda Biomedical Centre (RBC) and the Director of Veterinary Services in Rwanda Agricultural board (RAB) respectively.
The Principal, College of Agriculture, Animal Sciences and Veterinary Medicine, Dr. Laetitia Nyinawamwiza represented the Vice Chancellor at the closing ceremony. She acknowledged the role the academicians play in developing the future One Health workforce with the knowledge, skills, aptitude and attitude to respond to future disease outbreaks such as Ebola, Marburg and Zika, among others. Illustrating the impact outbreaks can have on systems, she reminded her audience of the recent devastating outbreak of Ebola in West Africa where thousands of people lost their lives and health systems were left in tatters. She pledged total support to One Health initiatives at University of Rwanda.

At the end of the training, it was recommended that:

- All UR teaching staff embrace and integrate OH concepts in their courses,
- All staff recognize and support UR-One Health Student Club in all campuses and support the establishment of the club in UR campuses where it is not established
- UR speeds up the establishment of the One Health Center of Excellence to foster multidisciplinary research and short course training for both students and in-service professionals.
ETHIOPIA HOLDS THE FIRST ONE HEALTH STUDENTS’ FIELD ATTACHMENT

By Dr. Berihun Afera

Jimma and Mekelle universities in Ethiopia, with support from One Health Central and Eastern Africa (OHCEA) through the One Health Workforce (OHW) project carried out the first One Health students’ field attachment that took place in Ashenge district, Southern Tigray from July 21st to 27th, 2016. The attachment involved 40 students and 17 faculty members from veterinary, public health, nursing and midwifery. Partners from University of Minnesota and Tufts University participated and facilitated in the attachment including customization workshop and training of students. The main aim of the attachment was not only to expose students to the complex nature of health challenges at the human, animal and environment interface but also to create capacity in young health professions of working in multidisciplinary teams well aware of challenges and strength of such teams. The purpose of such attachments is to contribute to creating a One Health workforce that will be necessary in sustaining the One Health initiative. To achieve the objectives of the attachment, the team formed four multidisciplinary working groups namely; Degol, Abay, Bee and Bridge groups, names decided based on One Health concept. Using the local structures (leaders and technical staff both health and veterinary officers), teams extensively engaged communities and other vulnerable groups like the fishing community to identify and prioritize health challenges of people, environment and animals, plan and propose intervention measures to address some of the challenges using the One Health approach.

Health challenges identified included:
- Challenges at the human, animal and environment interface;
- Close interaction between animals (wild and domestic) and humans;
- Contaminated water sources shared between animals (wild and domestic) and humans;
- Uninspected slaughter of animals;
- Consumption by humans of dead animals’ meat or left-overs from animals like hyena;
- Unidentified human diseases in the list of top ten diseases for the district;
- Dispersal of solid waste into Lake Ashenge;
- Use of pesticides and fertilizers that are washed into the lake causing poisoning and consequently fish deaths;
- Eating of uncleaned raw vegetables;
- Lack of community awareness about the dangers of lake pollution;
- Lack of awareness about health challenges associated with close interaction with wild and domestic animals;
- Lack of vaccinations in animals;
- Low vaccination coverage for children below the age of five.

The planning process started with identification of challenges because of the limited time at community. The most immediate interventions were health information dissemination using various methods including role plays, demonstrations and animal treatment.

Students had an opportunity to work with each in groups to prepare reports on One Health implications of their finding to demonstrate their understanding of One Health concept.

The attachment is a useful tool for building capacity of young health professions to work across disciplines and such activities should therefore be encouraged so as to contribute the much needed One Health workforce.
Mekelle University through the One Health Workforce (OHW) project conducted various community outreach and One Health advocacy activities between June 23rd and June 30th. The activities were conducted at Kisanet Elementary School, Quiha Weldenigus High School and in Samre; one of the district of Tigray region.

Mr. Nigus, one of the faculty delivering the training on prevention and control of parasitic zoonotic diseases focusing on Toxoplasmosis and Schistosomiasis

Dr. Etsay Kebede; one of the faculty delivering a talk on zoonotic disease prevention and control methods at Quiha Weldunigus High school

Left; a group photo with high school students and, right; students and faculty who participated in the outreach

One Health Students’ Club members and faculty distributing brochure to high school students and preparing for the community outreach

Mr. Nigus, one of the faculty delivering the training on prevention and control of parasitic zoonotic diseases focusing on Toxoplasmosis and Schistosomiasis

Left; One Health Students’ Club member delivering the training on rabies prevention and control and right; group photo of participants at Samre
Twenty seven (27) faculty at Jimma University College of Health Sciences & also from School of Veterinary Medicine received training in Participatory Epidemiology (PE). The training, conducted 12th -13th June 2016, was delivered by Professor Jeff Mariner from University of Tufts.

The training was conducted at Jimma University College of Agriculture and Veterinary medicine. The first day of the training focused on key concepts of participatory epidemiology, while the rest of the sessions were participatory.

Though the training was conducted within a tight timeframe for participants to fully appreciate the application of PE, participants noted that the way the training was delivered enabled them to get more interest in participatory epidemiology concepts and committed to explore the subject more on their own in future.