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Dear Reader,

Welcome to the last issue of OCHEA News in the second volume. In this issue, we do have a special focus on OH Demonstration site field attachments in 3 of the OCHEA Countries. These field attachments were conducted between July and September 2017. Insights on how the field attachments are conducted in the 3 countries, disciplines involved and the significance of these experiences of both faculty and students and the perspectives of other areas involved in the implementation of these field activities.

We bring you stories on One Health Workforce Country assessments in the different countries where these were conducted. Read about the interesting accounts of the processes undertaken and the outcomes.

Read about the many other activities including training in anti-microbial resistance, infectious disease management among others.

We also bring you information on the new deans and institutions that joined the network during this period.

Read on and enjoy.

Professor William Bazeyo,
Chief Executive Officer, OHCEA
SUPPORTIVE POLICY ENVIRONMENT

Uganda Experts Synthesize National Workforce Needs using the One Health System Analysis and Mapping Resource Toolkit

By Proscovia Nabatte, Makerere University PR Office

One Health Workforce together with One Health Central and Eastern Africa (OHCEA), Makerere University School of Public Health and College of Veterinary medicine, Animal Resources and Biosecurity organised a Multi-sectoral collaborative workshop to synthesize National Workforce needs using the One Health System Analysis and Resource Tool Kit (OH-Smart Tool).

The workshop that ran from 22nd -24th August 2017 at Imperial Beach Botanical Hotel in Entebbe brought together Researchers, academicians, and experts in analysing cross sectoral workforce needs for prevention, detection and response to infectious diseases from different Government and private sectors.

Sponsored by United States Agency for International Development, Emerging Pandemic Threats Program (USAID EPT2), through the One Health Workforce project, the workshop focused on familiarizing participants with the existing national workforce needs as well as initiating the usage of OH-SMART process to map existing multi-agency.

According to the Dean, Makerere University School of Public Health who is also the Principal Investigator, One Health Central and Eastern Africa, Professor William Bazeyo, the three days’ workshop also aimed at teaching participants how to utilize the existing workforce needs and OH-SMART identified operation to prioritize sector-specific, cross-sectoral and institutional workforce challenges.

Professor Bazeyo mentioned that the workshop also provided knowledge to participants on how to develop action plans geared towards improving multi-agency and cross-sectoral collaborations during prioritized zoonotic disease outbreaks at national level.

“We want to also use the knowledge gained from this workshop and incorporate it into a national health workforce needs report, provide recommendations for university supported and other capacity building efforts,” he added.

The Multi-sectoral collaborative workshop was officially opened by the Assistant Commissioner of National Disease Control at Ministry of Health Dr. Allan Muruta on behalf of the Commissioner, Dr. Patrick Tusiime.

In a speech read by Dr. Allan Muruta, the Commissioner of National Disease Control at Ministry of Health encouraged government agencies, international organisations, private sectors, and academicians to support capacity building activities that are directed to tackling emerging and re-emerging health challenges. To him, this will enable them meet the Global Health Security Agenda (GHSA) and International Health Regulations (2005) requirements of which Uganda is a signatory.

According to the Commissioner, there is a need for collective responsibility of making the multi-sectoral collaborative approach work in order to secure the wealth and health of the people both at national and global levels.

“We shall be able to support member Universities to understand and incorporate the One Health approach into their training, research and outreach programs. We also want to identify the technical and cross-sectoral health workforce training gaps and needs as defined by the relevant government ministries and sectors,” said Prof. Bazeyo.

Professor William Bazeyo speaking at the opening ceremony.
“As we strengthen our efforts to ensure global health security for the benefit of our people and global community, the outcome of this workshop should lay a firm foundation to plan for workforce development to which our universities and training institutions should contribute,” said the Commissioner.

He thanked Professor William Bazeyo and the Principal of College of Veterinary Medicine, Animal Resources and Biosecurity Prof. David Kabasa for the tremendous work they have done in shaping the project future wholesome workforce that has in return helped them strengthen the health systems at national and Sub-National levels.

In the same spirit the Commissioner also applauded the Nation One Health Platform for laying a foundation that has made multi-sectoral Collaborations between the line ministries a reality in Uganda.

We should all remember that human health is interconnecting with the health of animals and environment therefore the National One Health team has committed itself to coordinating all the efforts to drive the One Health Approach with the ultimate goal of achieving health for the people, animal and environment,” he said.

In a presentation he made on the topic; ‘wholesome workforce’, the Principal of College of Veterinary Medicine, Animal Resources and Biosecurity Prof. David Kabasa emphasized the need to balance the norms and needs if societies are to realize one health in community.

Prof. Kabasa urged participants to embrace the wholesome workforce approach and implement its fruitful results in the community through trainings and sensitization means. “Communities should be given capacity to manage and maintain a wholesome life starting from primary level in an organised manner,” he mentioned.

During the workshop, participants were taken through the use of the One Health Systems Mapping and Analysis Resource Toolkit (OH-SMART) by Dr. Hiedi Vesterinen and Dr. Katelyn Macy.

According to Dr. Hiedi Vesterinen One Health Systems Mapping and Analysis Resource Toolkit (OH-SMART) is an interactive process mapping tool co-developed by University of Minnesota (UMN) and the U.S. Department of Agriculture (USDA). It serves as a standardized method to analyze and facilitate improvements to the system of communication and coordination among and between disciplines and sectors as they address complex One Health issues.

“It is an interactive process that fosters working across organizational and disciplinary lines when preparing or responding to disease outbreaks or addressing other complex One Health challenges,” said Dr. Vesterinen.

The workshop was attended by key actors from different Government Ministries such as the Ministry of Health, Ministry of Agriculture Animal Industry and Fisheries (MAAIF), Ministry of Water and Environment (MWE), Ministry of Education and Sports (MES) and Uganda Wild life Authority (UWA). The international organisations that attended the workshop also included; US Centres for Disease Control and Prevention (CDC), World Health Organisation (WHO), Food and Agriculture Organisation (FAO), representatives from the private sector and academia.
Tanzania Experts Convene Strategy Development Workshop to address Workforce Gaps

Zoonotic diseases require a workforce that can efficiently and effectively coordinate and collaborate across human and animal health sectors for better prevention, detection and response. In order to articulate One Health workforce needs at a country level, Tanzania hired two consultants (one from human health sector and the second one from animal health sector) to synthesize existing workforce needs as articulated in national-level assessments, strategies and reports. Analysis was based on national and international standards, capacities and performance tools such as the Joint External Evaluation (JEE), the International Health Regulations (IHR) and the Performance of Veterinary Services (PVS) that provide essential information for understanding current workforce capacity. The workshop was therefore planned for the consultants to share the synthesis report that includes an overview of the current workforce capacity and gaps as well as One Health cross-sectoral core competency gaps with the members of the National One Health Platform. The OH-SMART tool was also used for workforce planning by analyzing field capacities at individual and institutional level, based on the identified national priority zoonotic diseases. Cross-sectoral workforce training gaps were identified for improving systems operations for preventing, detecting and responding to zoonotic disease threats. Therefore, participants identified training priorities based on the mapping results and made recommendations for implementation for each sector.

The workshop, held July 27th – 29th 2017 at Giraffe Ocean View Hotel in Dar es Salaam, drew 27 participants from the various relevant state and non-state sectors and actors.

Objectives of the workshop included:

a) To be familiar with existing national workforce needs (sector-specific, cross-sectoral and institutional).

b) To use the OH-SMART process to map existing multi-agency, cross-sectoral collaboration for prioritized zoonotic disease outbreaks. (Diseases will be mapped based on the outputs of the CDC Zoonotic Disease Prioritization Workshop held June 2017).

c) To utilize existing needs and OH-SMART-identified operation needs to prioritize sector-specific, cross-sectoral and institutional workforce challenges.

d) To develop action plans to improve multi-agency, cross-sectoral collaboration during prioritized zoonotic disease outbreaks at national level with an emphasis on workforce needs.

Outputs from this workshop are to be incorporated into a national One Health workforce needs report.
Tanzania Experts Convene Strategy

providing recommendations for university-supported and other capacity building efforts.

There was good technical representation as indicated by the varied health professionals who attended from Port Health Authority; Animal health, epidemiology and surveillance, animal production and value chain; FAO-ECTAD; P&R; Community development, Gender and Administration (Emergency coordination Unit); Policy in animal health; Prime Minister’s office – (Disaster preparedness); MUHAS and SUA (Public Health and vet Medicine). The workshop successfully generated a number of important ideas from the experts. These will be combined with the consultants’ review to produce a final synthesis report and action plan document. Workshop participants learnt and appreciated OH-SMART as a tool for One Health systems mapping and analysis as well as workforce planning.

The improved synthesis and plan will be presented to high level decision makers from the various government sectors and universities during the validation meeting of the report. This meeting will bring on board Directors from the ministries (DVS, Chief Medical Officer or Director preventive medicine, Animal production, chief medical officer, Deputy Vice Chancellor and directors of IRD institutions, local government authorities, the implementers, TAMISEMI, Director- Sector Coordination, Office of the President, and representation from Ministry of Education; National Environmental Monitoring Commission. Resolutions from this proposed group meeting will be presented to Permanent Secretaries to initiate action.
Rwanda One Health Stakeholders conduct Workforce Needs Assessment Workshop to Identify Collaboration Gaps

The One Health Systems Mapping and Analysis Resource Toolkit (OH-SMART) workshop was held to review the workforce technical and cross-sectoral training gaps in Rwanda and introduce the OH-SMART tool. The workshop was opened by the Principal of the College of Medicine and Health Sciences, Dr. Leiticia who thanked the organizers of the workshop and commended OHCEA and One Health Workforce/UMN for introducing the OH-SMART to Rwanda.

The Workforce Needs Assessment consultant, Dr. Rogers Bayingana presented an analysis of the workforce needs; a synthesis of information obtained from various policy documents, reports and research within the animal, human and environment sectors. He pointed out several sector-specific, cross-sectoral, institutional and other gaps identified during the assessment. This provided a good starting point for the participants to contribute more insights and discuss implications of the identified gaps and needs.

With the assessment findings presented and the participants now clear on where the country stands in terms of workforce needs, facilitators from the University of Minnesota presented the OH-SMART.

The OH-SMART is a 6-step process to create detailed system maps used to identify gaps and opportunities, and strengthen system operations. For a practical approach to learning how the OH-SMART works, facilitators used the identified priority diseases for Rwanda. It was pointed out that OH-SMART allows cross-agency networks to create a shared understanding of the One Health system, and using an interactive mapping process, build consensus on best practices and standardized operating procedures for current and future cross-sectoral work and collaboration. The OH-SMART Process involves; identifying cross-sectoral networks, setting the stage through ‘key-stakeholder’ interviews, defining the system through process mapping, analyzing the system through multi-agency workshops, identifying opportunities to strengthen system operations and finally developing an implementation plan.

Several table-top and group activities were held to better explain the OH-SMART processes (for example cultural awareness and
Rwanda One Health Stakeholders

social styles exercises). In the end, participants were able to develop action plans for their specific group’s chosen priority disease.

As the workshop concluded, the following were some of the recommended next steps;

- OHCEA, in partnership with USAID Preparedness and Response and the Rwanda National One Health Steering Committee plan for a validation workshop.

- Report to be finalized after validation workshop by Dr. Rogers Bayingana; the consultant and shared with USAID OHW/OHCEA.

- The National One Health Steering Committee distributes widely the Workforce Planning report to all sectors to bring everybody on board.

- The process of drafting workforce planning outputs for scientific publications should commence.

- There were suggestions to have some of the action points in the Action Plan developed during the OH-SMART process taken on by EPT 2 partners during Year 4 implementation.

- The One Health Steering Committee and partners should use the developed Action Plan to reach out to potential funding agencies to support unfunded actions. For instance, WHO, FAO (especially AMR); CDC and FAO (on FELTP-V), etc.

- Participants proposed writing a multi-sectoral One Health grant.

The workshop was closed by the Vice Chair of the Rwanda One Health Steering Committee, Dr Tony Mudakikwa. In his remarks, he thanked workshop organizers and facilitators from University of Minnesota, OHCEA, University of Rwanda and the local facilitators for a job well-done. He also expressed his gratitude and congratulated workshop participants from various government institutions and partners for their active participation and teamwork spirit. He urged members to continue this team spirit even beyond the workshop.

He emphasized that though the OH SMART exercise was not an easy job, it was done in a professional way and it succeeded because both government and partner institution participants were satisfied with the workshop outcome. He promised that the Government of Rwanda, through the One Health Steering Committee will always be happy to work and provide its support for One Health initiatives.

He reminded participants that the workshop outcome will serve to both address the identified gaps within the institutions and also act as evidence to advocate for further funding from Government of Rwanda and partners. He concluded by promising that the OHSC will follow up on the activities already started and where needed involve senior government officials to ensure their completion.

There is an unmet demand in wildlife epidemiology and pathology in the West African region, and the EISMV lacks the skills to fulfill this demand. With the emergence of Ebola virus and the presence of endemic Avian Influenza in the West Africa region, there is an even more urgent need to strengthen the veterinary master’s degree program in Wildlife Epidemiology and Pathology. In Year 2 of the One Health Workforce Project, EISMV worked with wildlife experts to develop modules to meet this need.

In preparation for the opening of this program II: ‘Management and Health Surveillance of Wildlife’ during the academic year 2017-2018, faculty training in Methods of Pedagogical Design of Modules for the Teaching of Epidemiology and Pathology was conducted. The activity was supported by 5 experts; Dr. Christopher Whittier, Dr. Diafuka Saila-Ngita and Dr. Linda Jarvin; all of Tufts University, USA. Experts from within the network were; Prof. Emmanuel Batamuzi of Sokoine University of Agriculture, Tanzania and Prof. Gregoire Kasongo of University of Lubumbashi, DRC. Fourteen (14) faculty benefitted from the training.

The objectives of the training exercise were:

- Wildlife Master curriculum mapping
- Introducing faculty to backward course design method
- Discussing opportunities for collaboration in wildlife training across the OHCEA network
- Discussing the Masters in Wildlife program accreditation mechanisms

Workshop participants were able to improve on work previously
done by a team of experts. Competencies were identified and learning objectives clarified. The link between competencies and learning objectives was analyzed. Further work is needed by specific faculty that will be involved in the program, to develop content and teaching methods for each course or module.

Further discussions are needed to finalize the preparation of the wildlife program, particularly in order to determine the length of the program (12 months versus 18 months). Discussions revealed the existence of national and regional bodies in charge of program accreditation which should be approached. As the wildlife program is further reviewed by the University/Ministry of Higher Education, proper accreditation will be sought.

At the end of this workshop;
- Competencies were identified and aligned with learning objectives
- Learning objectives specified,
- Activities were proposed,
- Courses were broken down into lectures, field work, student's personal work, etc.
- Opportunities for collaboration were identified

Moving forward, the committee in charge of the Wildlife Masters Program was tasked to review previous work in light of the workshop outcomes and carry on the approval process at national and regional levels as well as develop working relationships with NGOs involved in wildlife. Faculty were also tasked with developing or refining course content.

The Global Action Plan (GAP) to Combat Antimicrobial Resistance is the model from which all countries can develop and implement national action plans (NAP).

The resolution adopted by all Member States urges them to put in place a NAP which is consistent with GAP. Senegal has already drawn up a NAP which has been sent to different stakeholders for observations and suggestions.

The objective of the workshop was to train national Anti-Microbial Resistance (AMR) stakeholders on the process of preparation and implementation of the NAP, with a view to finalizing the existing draft, using methodological tools and approaches recommended by the Tripartite Alliance at the world level. The workshop targeted 29 in-service professionals from different sectors involved in AMR (human health, animal health, environmental health, food safety).

The objectives of the 5-day training were;
- Provide information to national actors in charge of antimicrobial resistance, guidelines, manuals, resources and tools to assist in the development, implementation, monitoring and evaluation of the National Action Plan (NAP)
- Facilitate multi-sectoral collaboration and create links between national stakeholder sectors (human health, animal health (veterinary), agriculture and livestock, environment and food safety, to ensure ownership of the national action plan by the different sectors.
- Discuss and agree on a common methodology to the national action plan, taking into account prevention and control of antimicrobial resistance as part of One Health, and consistent with the Global Plan of Action.
- Improve the national action plan currently being finalized.

The workshop helped foster multi-sectoral collaboration and links between national actors
from different sectors and disciplines to ensure ownership of the national action plan by the different sectors. It was belatedly realised that the presence and participation of the National Education and Information Service for Health and the Directorate of Laboratories is important for such an undertaking. The workshop enabled the participants learn how to:

- Identify stakeholders in the management and control of AMR and establish a multisectoral coordination group
- Conduct a situational analysis on AMR and a SWOT analysis
- Establish priorities within various strategic interventions / activities,
- Develop a strategic plan and an operational plan
- Undertake a budget development process
- Do Monitoring and Evaluation of NAPs

As a result of the training, a concrete roadmap to finalize the NAP was proposed to the administration. It includes administrative and organizational measures for the establishment of the governance and coordination structures as well as procedure to be followed for the finalization of the national plan. The workshop also proposed a strategy to improve the current Senegal NAP, with creation of four technical working groups (TWGs). These TWGs are temporary structures used as “armed wings” for the Multi-sectoral Coordination Group (MCG) and their main task will be to finalize the draft, each focusing on the field of its expertise. There was a suggestion to integrate participants trained in the workshop in these structures.

It was also agreed that another training workshop on AMR be organized for the benefit of public and private professionals.

Infectious Diseases Management Training for University of Rwanda Finalist Students and members of the Students One Health Innovations Club

The training was organized to equip final year students of the University of Rwanda in the management of infectious diseases; detection, response and control. The July 7-day training was held at the Nyagatare Campus. One hundred and forty six (146) students attended the training.

The official opening was presided over by Dr. James Gashumba, the Coordinator of the University of Rwanda-Nyagatare campus. Also in attendance were the Dean and Deputy Dean of the School of Animal Sciences and Veterinary Medicine (Dr. Martin Ntawubizi and Dr. Mwabonimana Francoise respectively), Deputy Dean School of Medicine and Health Sciences (Dr. Manasse Nzayirambaho) and staff from Huye, Nyagatare, Nyarugenge and Nyamishaba Campuses who facilitated the IDM Training.

The goal of the training was to equip final year students with knowledge on causes and transmission of infectious diseases in order to be prepared for prevention and control through a multidisciplinary approach as future One Health workforce.

Dean Dr. Martin Ntawubizi applauded the Students’ One Health Innovations Club at the University of Rwanda for their engagement in community outreach and the impact created.

The training was divided into 6 modules and the main training approach was role plays, imitating the life cycle of some chosen infectious diseases to ensure that those without a biological background are aware of how diseases are transmitted and how these can be tackled through multidisciplinary collaboration.

The students were taken through systems thinking module to develop their capacities to think in a broader system interaction in solving infectious diseases and to provide practical strategies useful for field investigations of disease outbreaks.
In the Leadership and Management module, participants were trained and given skills, knowledge and behaviors needed to ensure they can effectively prepare, plan and manage resources when there is an infectious diseases event, that they can resolve challenges during and after the threat and that they can efficiently evaluate and monitor a situation in order to achieve good health outcomes for people, animals and the environment through a One Health approach.

The Foundation Module introduced to participants the basic principles of preventing, detecting, and responding to infectious disease outbreaks in the context of One Health. It examined various important infectious diseases of humans and animals to help students understand the fundamentals of infectious disease ecology and their impact on humans, animals and the environment.

In Risk Communication, participants were introduced to the requisite skills and abilities in communications, team building, and change management for effective risk communication and key messaging, executive summation, documentation and influence without causing public panic.

The Society and Gender module exposed participants to how the diverse social norms, values, gender roles and practices among individuals (male, female or youth) and community on the whole can affect and influence infectious disease management.

Participants were visited by staff from Rwanda Biomedical Center (RBC) Epidemic Surveillance and Response Division; Dr. Leonard Hakizimana and Jose Nyamusore. Their presentations focused on what an outbreak management implies and how Rwanda conducts surveillance regarding infectious disease outbreaks.

For the practical aspects, participants were taken through the procedure of donning and putting off a PPE (below).
One Health Demonstration Site Field Learning Attachment Expose Students to Real Life One Health Situations and Enhance their Learning Experiences: Voices from Uganda, Ethiopia and Rwanda

The One Health Workforce project is a 5-year USAID-funded initiative implemented by networks of universities in Africa (OHCEA) and South East Asia (SEAOHUN). In OHCEA (14 universities collectively bringing together 21 public health and veterinary medicine schools) are engaged in the implementation of this project. One of the key approaches is training multi-disciplinary teams that can readily work to address challenges like H1N1 Influenza. A flagship approach to realise this is the creation of One Health Demonstration Sites for field attachments, where students from relevant disciplines learn together and design interventions together in a practical approach. One Health Demonstration Sites are carefully identified and selected by multi-disciplinary technical teams using predetermined criteria. The sites provide a combination of factors that present One Health challenges. The year 2017, a total of 280 (in 5 of the 8 countries) students and faculty were engaged in One Health Demonstration Site Field Attachments in the African region providing numerous and varied training and learning opportunities and contexts. The One Health Demonstration Site re-arranges understanding and mentality around common concepts like community. It is no longer simply about people and community. One Health setting is about people, animals and the eco-system. It is a practical convergence of knowledge domains, expertise, discipline and sectors. One Health Demonstration Site Field Attachments are meant to among other things, how practically multiple disciplines and teams can learn and work together to address wicked problems. Experiences can then feed into policy; both learning and training policy as well as implementation policy.

In this newsletter, we share with you highlights of student attachments in One Health Demonstration Sites in Ethiopia (Jimma University and Mekelle University), Uganda (Makerere University and Mekelle University) and Rwanda (University of Rwanda).

Jimma University holds first One Health Demonstration Site Field Attachment

The OH Field Attachment for Jimma University was implemented in July 2017. A team of 40 students from the Health Institute & Veterinary Medicine and Agriculture College were deployed at Gilgel Gibe Field Research Center (GGFRC) which is located around Gilgel Gibe Dam. The Gilgel Gibe Field Research Center, established in 2005 comprises four woredas (Sekoru, Tiro Afeta, Omo Nada and Kersa). Of these woredas, only 10 kebele (two urban & eight rural) around the dam
were selected as field research center. Kebele is the lowest administrative unit in Ethiopia. Prior to the field deployment, the students underwent a two-day theoretical training to prepare them for the practical work. The students received orientation in one health concepts, techniques of community diagnosis, problem prioritization and priority action-setting.

Specifically, the students came from School of Veterinary Medicine, School of Medical Laboratory, School of Pharmacy, Department of Natural Resource Management, Department of Nursing, Department of Animal Science, Department of Agricultural Economics, Department of Postharvest Management, Department of Midwifery, Department of Medical Laboratory, Department of Environmental Health and Department of Pharmacy.

During the theory training, group work and discussions helped students think through the different scenarios; building their analytical skills. This is one of the key skills required in planning responses for complex One Health challenges. They were also addressed by the Director Community Based Education (CBE) at JUCAVM who took them through the current Community Based program at Jimma University and how One Health Demonstration Site Field Attachment fits in. Demonstrating the wickedness of One Health challenges during the theory training, Dr. Dechassa used bird flu as an example. “Birds/chicken are reservoirs of the virus. If it stays in birds, it is difficult to affect humans. However, it is capable of crossing over to pigs and this is where the aetiology/ecology changes. In pigs, transmission to humans is very easy”, he elaborated. The implication here is that prevention and response calls for very strong, proactive collaboration of disciplines and sectors. Failure to work together to understand transmission dynamics and other disease dynamics leads to infectious disease threats persisting or re-emerging.

The study area: Deneba, Enkure & Bore Kebeles are approximately 85 km from Jimma University. This area has intense interactions among humans, animals and the environment.

The overall objective of the field attachment was to assess human, animal & environmental health status & interface at Deneba, Enkure & Bore communities around Gilgel Gibe Dam & provide intervention measures using the One Health approach.

Field Attachment Approach

Students were organized in four teams making sure that the different disciplines were balanced to the least possible level. Eight faculty were carefully selected and worked as facilitators. They were from School of Veterinary Medicine & Faculty of Public Health comprising different disciplines; Environmental Health, Epidemiology and Health Service.

Working together over 3-4 days identified several human, animal and environmental issues and challenges on which they based their interventions. These included; human, animal & environmental perceived and observed health problems, prevention & treatment practices, dead animal disposal mechanisms and practices, major constraints of animal health & production, deplorable housing and living conditions, poor access to supply of clean and safe drinking water & proper waste disposal mechanisms.
Data was collected from household heads and professionals of the respective human, animal & environmental health sectors (district administrative office, district health office, health centers, health posts & animal clinics. After comprehensive and final data analysis, problems were prioritized & intervention plans developed. Interventions mainly targeted adults, youth and the sector professionals. Target groups were accessed through designated gatekeepers, local government officials, meetings & market activities.

The One Health Demonstration Site Field Attachment enhanced the students’ knowledge, skills & attitudes related to the One Health approach and multi-disciplinary collaboration. They were also able to appreciate the One Health challenges they learnt in the theory training and how they manifest in the community. The process of interacting with community members and professionals serving these communities, students were able to appreciate the massive knowledge gaps and challenges, the communities face. This finding informed the bulk of interventions the students designed, which focused on awareness creation and provision of information. Awareness creation targeted more than one thousand residents of Inkure & Bore kebeles and hotel owners in Sokoru and Deneba towns. The subject of awareness was personal hygiene, food hygiene & environmental sanitations.

**How the OH Demonstration Site Attachment enhanced the students’ learning experience**

While some of the students are friends and interact in their daily routine social life at university, this was the first time they were learning together. There were a few challenges as some of them shared experiences of a few of their colleagues not wanting to contribute to team efforts.

“In the beginning there was lack of collaboration between students from different disciplines which was also reflected on ground among sectors”, Haileyesus Terefe; Veterinary Medicine.

Several students kept using ‘I’ whenever they would be reporting progress of their groups during the daily briefings. Overall, it was enriching for the students to learn from each other as well as the faculty facilitators from other disciplines and institutions. In presenting their daily reports, one of the groups noted that they realised that they didn’t have adequate numbers of veterinary students to go around which was an indication of appreciation of each other’s role. In yet another group they were able to identify and diagnose a skin rash as reaction to a drug and not a disease condition, because of the presence of a pharmacy student in their group.

At the intervention strategy development stage, one students remarked that; “We are happy that we are from different disciplines and can support each other on these strategies”.

“This is a great chance for me, so having this knowledge of holistic problem identification enhances my skills. The knowledge we have gained especially on zoonotic diseases is useful especially when we do home visits. It is valuable in...”
Students talking to community members in a busy animal and other commodities’ market

Students doing diagnosis”, Leslie Mekonnen, Nursing. “I had the theoretical knowledge. The field attachment has allowed me to apply this to practical situations. I shared knowledge with other disciplines; public health and environmental health to address the problems that we identified. We identified human and environmental health problems that I could not address/manage, so I called upon my colleagues. This field attachment gave me a glimpse of the problems in the community which I didn’t know before”, Heneko Genetu, Veterinary Medicine. “The field attachment has given me skills in dealing with communities. I didn’t know the problems; I learnt that there were a lot of problems with waste disposal, a lot of zoonotic diseases; rabies, malaria. I discovered that many people sleep with the animals. People need to be helped”, Mary Jada, Environmental Health. “I gained valuable knowledge from other disciplines which enabled exchange of knowledge. As a Vet professional (just recently graduated), I was originally primarily concerned with only animal health issues with little regard to environmental and human health issues. This interaction enabled me realise the gap between veterinary medicine and other disciplines relevant to my practice. The skills and experience I had picked from other disciplines during the field attachment have shown me collaboration is the wayforward”; Haileyesus Terefe, Veterinary Medicine.

Some of the issues that brought together and harmonized the students’ learning were;

1) the consumption of raw meat and fish by the communities visited. Students observed that while health workers may sit in health centres and receive patients with certain infections, they may not be able to tell the source and cause of infection unless they go through this kind of training.

2) The connection between environmental and personal hygiene. In their groups, students realised that a poorly managed environment contributes to poor personal hygiene leading to issues like trachoma, diarrheal diseases and skin conditions.

This is the first time the One Health Demonstration Site Field Learning Attachment University had some observations to make:

“This is the first time we are attaching our students to the field in multiple disciplines. In that regard, it is completely innovative. The collaboration provides high level of learning, never before experienced by the students. It is a new type of exercise, a new level of experience and for us this is really innovative. There is value added. This is a new level of appreciation of the expertise, knowledge, skills and contribution of each discipline towards addressing the common agenda of solving the challenges of animal, human health and the ecosystem. This was demonstrated to us when the students were presenting their group work. One group reported they could not do much at one point due to having fewer numbers of vet medicine students in their group” :- Professor Kifle Woldemichael – Jimma University School of Public Health

“The training has empowered the students to work together in multi-disciplinary teams, to the extent that they started realizing without adequate numbers of certain disciplines in their groups, they face some challenges, especially when conducting community diagnosis. During this exercise we realised that faculty have experience working with communities but the engagement was superficial. Their experience to coach and facilitate the students, to go deep in rural areas (where deeper issues exist) is one of the limitations we have observed. The students showed more commitment and interest in engaging the communities and collecting data”: Dr. Dechassa Tegegne – Jimma University Faculty of Veterinary Medicine. Indeed some areas in Gilgel Gibe were difficult to navigate; almost impassable roads, but not a single complaint was heard from the students. Instead they appreciated the approach of going where the wicked problems are.
One Health Demonstration Site Field Learning Attachment

Mekelle University One Health Demonstration Site Field Attachment in Ashenge

The One Health Demonstration Site Field Attachment was conducted with the objective of identifying the one health challenges at the interface of humans-animals and environment using a multidisciplinary approach and conducting the intervention for the most important priority diseases of the community. The objectives, goals, purpose, community engagement, stakeholder analysis and Syllabus of the Field attachment, and infectious diseases wicked problems training.

The process at Mekelle University started with a one-day orientation workshop for the 30 students. At the end of the orientation workshop, students were exposed to practical demonstration on data collection methods and community engagement.

Field Attachment Approach

The students spent 5 days in the field engaging the community while gathering data at the interface of humans-animals- the environment.

A pre-designed questionnaire was given to the students from veterinary Medicine, public health, midwifery, nursing, pharmacy and environmental health. Students managed to interview and collect data from 330 households; in the process identifying and prioritising major health challenges.

The major health challenges were Anthrax, rabies, leishmaniasis, schistosomiasis, fasciolosis, lack of latrines/poorly constructed latrines, acute watery-diarrheal diseases and lack of solid and liquid disposal sites, and poor environmental sanitation at each household. Basing on the data collected and analysed, students designed intervention plans which they presented to the communities and discussed for appropriateness.

With the knowledge gaps exhibited for many of the challenges identified, the most urgent and feasible interventions were public education and health promotion. Students therefore provided health education on prevention and control of the identified infectious diseases; including demonstrations on how to construct solid and liquid disposal pits. In addition to the face-to-face community education, students also prepared short role plays (drama) to educate the community members.
Community members given materials of relevant information to read

Students in addition provided services at the veterinary clinic to several community members who had brought their animals, engaged the District Health Office and Veterinary Service Office on identified problems that required medium to long-term solutions. Keyriya is a 31-year old resident of Ashenge and is pregnant again; carrying her 8th pregnancy. Last year she was exposed to the field attachment and was privileged to learn a number of things, including construction of animal houses. However, after constructing the animal houses, she lost several of her chickens, an occurrence the students told her was due to the chicken house being in close proximity to the sheep house. In addition to advice on how to construct the houses better, this year Keyriya was engaged on matters of family planning and birth control. The students helped her appreciate broader issues related to high fertility rate like its impact on environmental conversation, food security and nutrition, improved household income and better health and social outcomes. “Now is the time to do One Health, especially in low income East African countries where knowledge levels are low. We have taught communities on hygiene, how to dispose of garbage. I talked to pregnant mothers about the importance of good hygiene, family planning and good nutrition”, said Getu Moges – Midwifery student.

Service provision at the veterinary clinic

Students in Ashenge

on the importance of human-animal-environment disease prevention and control measures. These proved very effective and engaging approaches judging by the large numbers of community members attending and the interaction it generated.
The Dilemma of the Lake and the Liver

Lake Ashenge serves both animals (mainly cows) and humans with water and fish resources. However, the cows get an infection from consuming the water, which sits in the cows’ liver. Pregnant women are encouraged to eat liver for iron. In Ashenge and other parts of Ethiopia raw meat consumption, including liver, is widely practiced. Because of the risk of contracting diseases from raw meat consumption, pregnant women are particularly strongly discouraged from eating the raw liver. Instead they are encouraged and are given alternative sources of iron, including iron tablets. This has become a major area of confusion for the locals. They believe the iron tablets are not safe during pregnancy, they would rather consume the raw liver.

Sector collaboration

In Ashenge, the veterinary clinic and the health centre are opposite each other across the road. During their stay in the area, students observed that there is no collaboration between the two sectors despite the two service units being just a few metres apart from each other. However, the Woreda Health Center Director and Veterinary Clinic Coordinator expressed appreciation and interest in the application of the One Health approach to tackle infectious diseases. Community leaders expressed positive feelings about the field attachment and appreciated the work done by the students.

“The key things for the health centre are; increasing latrine coverage and control of communicable diseases. We advise communities on how to control and prevent communicable diseases at home. In the past, we have not been communicating with those (the animal clinic), but now we will communicate; we will communicate and compare resources and action plans. How can we work as veterinary and health professionals? The interaction should be continued. I have found it useful; students come up with useful information that will help me and my staff”, said the Hashenge Health Centre Director.

The data collected by students indicated serious gaps in knowledge about key health challenges including basic hygiene practices like regularly washing body and clothing using pit latrines for human waste disposal, among other issues. The students therefore paid more emphasis to education while designing appropriate interventions. The education campaigns focused on separate sleeping quarters for animals and humans, constructing and using pit latrines, keeping houses clean, bathing and desisting from eating raw meat. There was also opportunistic engagement using existing materials developed and shared by UNICEF and other agencies. Community members mentioned that although some of the issue the students raised had been raised before separately by several development agencies, this is the first time they are being brought up as One Health issues. They said this approach had greater impact on their understanding of the need to address the issues. Students also revealed that the One Health approach impacted and enhanced their learning experience. Below are some of their narrations of their experiences:

“I got very interesting information from the field. The people we visited were very poor in all aspects; I don’t know how they live like that. It was surprising for me. We asked them questions and they gave us information that we didn’t know before; we discovered that they live (sleep) together with the animals; we gave them advice on this issue. I met one woman; a TB patient who was taking erythromycin for pain management, but this is an antibiotic. And she was taking Amoxicillin; 500gms 4 times a day which is overdose. So, there are several issues related to drug resistance which need to be explored”:- Teklebrhan Aregawi - 4th year student of Pharmacy

“During the field attachment I have got many experiences because we have been working many disciplines. During the attachment, I have been learning from other disciplines, e.g. how to solve environmental problems because there were students from environmental health. They were helping us how to observe the environment and solve environmental problems. Next year, I may be conducting research around this area”:- Firew Bekele - Veterinary Medicine student

“Hashenge brings out all three aspects of One Health; animal health, wildlife and the environment. In vet sector we are only trying to solve animal problems, but working in co-operation this way makes me understand the complex problems better. I think I will be a better vet. We have worked as one profession; from the time we came together at Mekelle campus on Saturday, we became one profession. We are all working from different perspectives but for the benefit of humankind. Now there is no difference among us. We communicated with each other, we asked (consulted) each other and we were reaching solutions. Really it was amazing”.

Abera Girma - Veterinary Medicine student

“Due to very poor hygiene, we have given awareness. Most of the communities had no latrines, even where they had, handwashing was not there, waste disposal system was poor. We demonstrated construction of latrines to communities. We have shared our experiences with the health centre management as an intervention. Animals and humans live together in the same house; we educated them on sleeping separately. When you work with the community, you see the reality. You can understand the problems better and fix them easily”:- Haftom Haile Maryam student of Public Health.

This multidisciplinary field training also had profound experiences for the faculty who supervised and guided the students.
“I have observed that the students have been working together; from medicine, veterinary medicine, midwifery and nursing, have been working together to find human health, environmental and animal health problems. They have been able to understand how the animals, humans and environment interact and they have identified common problems the community encounters. They have also worked together to identify interventions and solutions. So, I feel students have learnt how to work with communities. It was a discovery phase for the students”. - Abraha Tesfay - Faculty College of Veterinary Medicine

“It is an important activity because it engages students with communities, bringing together students from different disciplines. It enables students appreciate the multidisciplinary approach; they try to identify animal health, human health and environmental problems. Then they plan interventions where every participant contributes. Even some facilitators were going through a learning curve in this field attachment”: - Nigus Abebe - Faculty College of Veterinary Medicine

Students showed enthusiasm and dedication to the field attachments; not just collecting data but also learning together as different disciplines. For some, this was the first time interfacing with such abject poverty, miserable living conditions and serious knowledge gaps.

One Health Demonstration Site Field Attachment at Akagera National Park, Rwanda

Rwanda, through its Human Resources for Health (HRH), is producing a considerable number of health care providers (nurses, clinical officers, physicians, laboratory technologists, environmental health officers, human nutritionists and dietitians, etc.). They are often the only health professionals in rural communities and the first observers of and responders to emerging infections, especially nurses. Veterinarians are responsible for the health
of both livestock and wildlife, including the animals in daily contact with community members (i.e., hunting/guard dogs). A multidisciplinary learning partnership will help build the collaboration among existing, and future, public health workforce members. This collaboration is needed to address complex health problems and develop creative health promotion strategies and programs that outreach to communities with consideration of humans, animals and environments.

To date, a multidisciplinary One Health clinical field experience exists at infancy level, and it is now offering opportunities, skills and potential for advancing a One Health approach in not only education among students and faculty but also in the practice of these future health professionals (and the existing health professionals in the Akagera National Park in which the One Health students will complete their field experience).

A multidisciplinary team of 50 students from different disciplines and from 5 campuses of University of Rwanda took part in the OH Demonstration Site Field Attachment. These disciplines included General Medicine, Wildlife and Aquatic Resources Management, Zoology, General Nursing, Biotechnology, Clinical Medicine, Environmental Health, Animal production, Nutrition and Dietetics and Veterinary Medicine. Thereafter students were taken to Akagera National Park in Kayonza District for the One Health field experiential learning. During the orientation, students were exposed to the One health concept, community entry and assessment, data collection and analysis, intervention design, among others.

The goal of the field attachment was to instill the culture of multi-disciplinary collaboration in the future one health workforce using the Akagera National Park as the demonstration site. The objective of the exercise was to explore health challenges at the interface of wildlife, livestock, humans, and the environment in and around Akagera National Park. The identified challenges and proposed interventions will be shared with the public at a mini-conference where stakeholders and leaders from this community will be invited to attend.

The Students went through orientation for 3 days at UR-Nyagatare Campus prior the field attachment at Akagera National Park.

**Field attachment approach**

The students were grouped into 5 groups of 10 taking into account balanced representation from the different disciplines. Faculty facilitators were from the University of Rwanda College of Agriculture, Animal Sciences and Veterinary Medicine (CAVM) and College of Medicine and Health Sciences (CMHS), University of Minnesota and Tufts University of USA.

During the first day of the field attachment, students and faculty were taken through the park to expose them to the nexus of human, environment and animal interaction. The students assessed the vegetation, the different animal species available and how they interact with the general environment. The students were advised to take note of the health risks or health challenges that could be associated with the interaction between wildlife (Akagera National Park) and communities around the park. Students were exposed to the National Park and its surroundings to identify risks of diseases transmission among communities around the park and from the interface between communities and the park. Students observed conflict between wildlife and communities around the park to the extent that some members of the community were getting injured by the wild animals. Poaching was taking place but at a lower level since the park was fenced with electric wires and park rangers were also deployed. Animals escape from the park posing a potential risk of zoonoses. The students visited Kageyo livestock farmers (majority former refugees from neighbouring countries) that live in close proximity to the park. The community lives in conditions with observable lack of basic facilities including clean water sources, pit latrines, among others. A visit to one of the farmers revealed a herdsman who was sharing sleeping space with goats. There is a very high potential of disease transmission from these goats to the herdsman. In the same area students carried out a postmortem on a dead goat and the diagnosis indicated a problem of tick-borne diseases. Blood and Milk samples were collected for microscopic examination.

The students helped the farmer to...
detect cows that were suffering from mastitis. Mastitis cows are capable of transmitting zoonotic diseases to the people especially where milk is consumed raw like in this community.

The Eastern province of Rwanda is one with the highest population of cattle in Rwanda. Because of this, several milk collection centers were established in sectors of the districts that make up the Eastern Province. Milk is a source of infection to the farmers, including zoonoses. Among the milk collection centers in this province is Mukarange which only collects milk and cools it down to 8 °C to reduce bacterial proliferation. Although the Inyage factory collects some of the milk for further processing and selling into the market, some consumers buy milk for their children/families in small quantities. Students looked at the entire milk value chain from the farm to the table identifying sources of contamination and providing possible solutions using the Hazard Analysis and Critical Control Point (HACCP).

At Rwinkwavu Wolfram Mining and Processing Plant, there was evidence of environmental degradation and air pollution. Dams accumulate water after excavation were identified by students as potential sources of mosquito breeding that increases the prevalence of malaria in the community. Most importantly, mines have been regarded as sources of Ebola because they harbor bats, implicated in Ebola transmission. Rwinkwavu District Hospital is the biggest hospital in this area and initially it was set up for purposes of managing cases of diseases occurring in the mines. The students had an opportunity to meet with the Rwinkwavu District Hospital Director and engaged him about their findings in the field.

**Uganda One Health Institute Field Attachment in Kasese District**

The 2017 One Health Institute Field Attachment was carried out with a goal of training a cohort of One Health champions knowledgeable and skilled at detecting and managing a variety of health challenges within communities through use and application of a certain set of skills, attributes and professional backgrounds. The OHIF Field Attachment was conducted in Kasese district in Western Uganda, bordering the Democratic Republic of Congo. The attachment started with the selection of a total of 31 students from different fields and disciplines of study. Two sites; (Mpondwe-Rubiriha and Kasese Municipality were selected according to an agreed upon criteria. Between April and July 2017, the students were taken through theoretical training in the principles behind One Health Workforce. The training conducted on weekends, included a total of six modules namely:

(i) Leadership in Infectious Disease Management,
(ii) Gender and Associated Risk Management,
(iii) Outbreak Investigation and Emergency Response,
(iv) Bio-Risk Management,
(v) Antimicrobial Resistance and
(vi) Health Policy and Analysis.

**Approach to Field Attachment**

The theoretical part of the training culminated into separation of the students into two multidisciplinary groups that were deployed in the two sites, mentioned before. While in the sites the students were under supervision and guidance of at least two faculty and field based personnel throughout the entire period.
Students carried out various health related activities within communities aimed at detecting challenges and formulation of practical solutions to the same, executing such interventions and evaluation of the outcome. Some of the interventions included community health awareness and education campaigns, alternative fuel initiative, vaccination and school health campaigns.

Field activities involved site visits, visits to offices engaged in health care provision like health centers and veterinary offices. Community education and awareness campaigns and home visits were also conducted. Through daily debriefs and group discussions, under the guidance of faculty and field supervisors, the students were able to put their minds and disciplines together to come up with optimal solutions to the identified challenges. This reflective sharing also enhanced their multidisciplinary learning.

Health challenges experienced in the communities included poor sanitation and hygiene at the abattoir and Mpondwe market, high prevalence of bilharzia and Hepatitis B at Kayanzi landing site and Nyakatonzi sub-county respectively and high AMR incidences as recorded in Bwera hospital laboratory.

Students of Bwera School of Nursing and midwifery were presented with a play on Anti-microbial resistance (AMR) and later sensitised them about AMR. Collaboration was formed between the student and Community Based Organisation, in the sensitization, screening and vaccination of Hepatitis B on world Hepatitis B day in Nyakatoni sub-county.

In Kasese Municipality-Hima Town Council, the most prevalent diseases found included malaria, worm infestation, diarrheal diseases and HIV/AIDS. A variety of domestic animals are reared, and the diseases affecting them include Trypanosomosis, black water fever, tick borne infestations, bird flu among others. The team, working together with the community designed and implemented the following interventions in Hima: redesigning of the soak away pit at the slaughter slab to segregate solid and liquid waste; fencing off the newly dug solid waste disposal; briquette making demonstration and training (at Mowlem market) to encourage recycling of unusable charcoal into more productive forms to improve livelihood; and improvement of waste disposal at the health center III by emptying the old incinerator.

Almost all students 29(93.5%) 'strongly agreed' that the field attachment enabled them to acquire competences and skills in understanding better the One Health concept, whereas 2(6.5%) of them 'agreed' that it has enabled them acquire competences and skills in understanding better the One Health concept. Below are some of the personal experiences that a few of the students shared:

“I gained a lot of experience working with people from various disciplines. As a wildlife officer, I have come to know that really alone I cannot handle the challenges that communities have. They are complex, they require many people with different...”
knowledge to come together. For example, during assessment of challenges of one of the communities, we found that there were wildlife conflicts which were a bit complex and needed some thinking together; Uganda Wildlife Authority is already there but the issue needed another perspective. With social scientists on our team, we were able to dig deeper to understand the drivers of people entering the forest. We worked with the community to think through the problem and come up with solutions”. - James Wandera – Wildlife Health and Management

“One of the biggest challenges we identified is helping the sectors in Kasese district communicate better. They have the relevant personnel but they do not communicate that much. For example, the problem of brucellosis; it is reported by both the vets and the medics but these two sectors have not met to discuss the issues. So our group thought we can develop a platform they can use without travelling to meet. I am thinking of CMF (Community Medical File) which is still a concept of a software with ability to take in the case file, diagnosis, where it falls and space for discussion. It can also work as an early warning system so that the community is not caught unawares when there is an outbreak. My group members are excited about the idea and we look forward to developing it. The software is going to have the ability to aggregate data so that the professionals can use it for appropriate decision-making”. - Natuhwera Mercy - Bsc. Business Statistics

“Coming from the Health Sciences/medical field, I thought I know it all but under the One Health Institute I have been challenged. I have been challenged in that they bring in students we used to look at as ‘academic dwarfs’ but now One Health has brought us together. It has put us at another level. I have learnt interpersonal skills, communication skills. In medicine, I used to think that work is all about receiving patients in a facility but I have learnt the benefits of working close to the community”. - Nabadda Rebecca - Bachelors in Nursing Science

“During our first week in Bwera, we did a baseline assessment about AMR in Bwera General Hospital and Bwera School of Nursing and Midwifery. We found out that people are doing practices that lead to AMR but they have inadequate information about AMR. We decided to sensitisate the Bwera Hospital community on AMR; what it is, the practices that lead to AMR, the dangers of AMR and ways they can best prevent AMR. We requested them to disseminate this information further”. - Martin Bikorwo Muhangi - Bachelor of Medicine and Bachelor of Surgery

who advised me to talk to the Dean School of Public Health at University of Minnesota about MPH for someone in statistics”.

I gained experience working with the different disciplines. I have learnt that health is not a domain of only doctors. I was humbled once I got to know what social scientists do; before I used to have a negative attitude about social scientists, I didn’t know they had a role in health. Now I think I can work with anyone from any field in the management of health challenges. I see myself doing a Masters in Public Health (MPH). I was encouraged by Carolyn from University of Minnesota.
Kenya in Multidisciplinary Field-based post-graduation Certification Training

One Health (OH) requires multisectoral and multidisciplinary collaborative approaches that utilize systems thinking approach. Despite this, the training of several key professionals in One Health has been largely segmented and has led to the production of professionals who are only good at approaching problems in a narrow way. To solve this problem, OHCEA- Kenya conducted field based training within selected counties where students are exposed to multidisciplinary One Health interventions. Prior to placement graduating students are taken through a five day training to equip them with knowledge and skills required applicable during infectious disease outbreak and OH research. After the training the students are then placed in OH learning centers including county/local disease surveillance centers, regional and National investigative laboratories for two weeks, where they were involved in two key areas; animal ecology survey and investigation of OH challenges around abattoirs. The students were placed in the following One Health research centres; Machakos, Kericho, Mombasa, Narok, Karatina, Nandi, Siaya, Kajiado.

The students also participated in other One Health intervention initiatives including community extension services. The students presented the field reports at a seminar on the 20th July 2017.

The training was designed to equip about 60 graduating students taking veterinary and related disciplines with knowledge and skills required to successfully carry out OH field based training and research. The training also served to equip students with appropriate interpersonal skills, behavior and etiquette in community as well as exposure to data collection tool.

The activity objectives were;

- Inculcating systems thinking in the approach to One Health challenges among graduating students
- Equipping graduating students with knowledge and skills on field-based and community based research with special reference to infectious disease outbreak response
- Giving practical exposure to students on various data collection tools including mobile based data collection tools for research.
- Equipping students with skills required to design and use data collection templates using the animal ecology and abattoir survey data collection template as a training tool.
- Equipping students with practical skills to allow them conduct research in different community set up including skills on conducting personal interviews, research ethics and etiquette.
- Giving the students hands-on field data collection, analysis, presentation and report writing.

Seven trainers in veterinary health and gender networked and carried out joint training in line with OH good practice.

Trainers involved in the activity included university faculty, post-doc students and government personnel in the Ministry of Agriculture, Livestock and Fisheries Development.

After this training, the students are expected to participate in One Health field practice, infectious disease outbreak response and other One Health intervention initiatives including community extension services. Publication of the research findings from the animal ecology and abattoir surveys is also being planned.

After the two-week field-based training, nine (9) reports were then presented to faculty and other students at a student-led seminar. The seminar presentations covered;

- Household knowledge and perceptions on zoonotic diseases
- Household parasite burdens
- One health challenges in county abattoirs

This student-led seminar was held as a joint activity, bringing on board

Manono Onsare, one of the graduating students interviewing a respondent in Kakamega County on issues of one health concern in his household/area during the infectious disease outbreak response training.
the students that were involved in the One Health Demonstration site training.

An evaluation done after the training indicated that there was an improvement for 58 students in the level of understanding and skills on field and community based research as shown by pre and post-test performance results that improved by 19% (From 74%-93%).

Cumulatively over the period 2014-2017; 176 students have been trained so far.

Dennis Kimutai, one of the participating students making a presentation on his field infectious disease outbreak response during the student-led One Health conference.

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**Kenya takes the World Rabies Day Celebrations to Kiambu County**

One Health addresses complex challenges to promote the health of all species and the environment by integrating relevant sciences at systems level. Its application to zoonotic diseases is recommended, although few coherent frameworks exist that combine approaches from multiple disciplines.

Rabies is a serious zoonotic disease that is responsible for an estimated 55,000 human deaths, tens of millions exposures and substantial animal losses annually. Most of the cases are reported in children less than 15 years of age due to the close association with their pets. A multidisciplinary approach has been recommended in order to effectively control rabies and this is especially important in developing countries such as Kenya.

It is on this basis that the Student One Health Innovations Club (SOHIC) of the University of Nairobi and Moi University, with the support of Kiambu County Government, the Brooke Foundation and the Kenya Society for the Protection and Care of Animals partnered on a joint world rabies day celebration on the 30th of September 2017. This activity was in line with the recently launched national rabies eradication strategy.

The SOHIC team comprised students from multiple disciplines that included Veterinary Medicine, Human Medicine, Nursing and Public Health. Other participants included Public Health Officers, SOHIC members vaccinating dogs and collecting pet details from dog owners during the world rabies day celebrations.
Kenya takes the World Rabies Day Celebrations to Kiambu County

County Government officials, Community and their leaders. The activity took place at Limuru Sub-county with the aim of vaccinating dog/cats/donkeys against rabies, deworming dogs/cats/donkeys, dog/cat population control through castrations and public awareness on rabies disease.

About Six hundred and thirty (630) dogs, Fifty four (54) cats and thirty two (32) donkeys (were vaccinated against Rabies disease. Duly signed vaccination cards were provided to the animal owners. The animal owners were advised on the need for regular deworming.

About two hundred and thirty (230) adults and four hundred and fifteen (415) children were reached through public awareness engagement. This was made possible through one-on-one interaction.

About two hundred and thirty (230) adults and four hundred and fifteen (415) children were educated on first aid for animal bites and animal handling. Step by step first aid to animal bites was emphasized and demonstrated during the session. Good animal handling and welfare management were emphasized for a healthy community.

About forty nine (49) male dogs were castrated during the activity. This was a big step towards a progressive management of dog population.

“We intend to continue engaging the county government especially the Department of Medical & Public Health and Department of Veterinary Service on the monitoring of incidence of rabies disease, both in humans and animals. We plan to continue vaccination of dogs/cats/donkeys so as to cover the entire County and reach out to all communities”, said one of the faculty.

SOHIC students’ club members preparing to castrate a tomcat under the supervision of Dr. Mululu (First right)-the Limuru sub county veterinary officer
Senegal Case Competitions on Infectious Diseases
Threats and Antimicrobial Resistance through Students One Health Innovations Clubs

The case competitions attracted 30 students of Student One Health Innovative Club (SOHIC) under the supervision of faculty from EISMV, ISED and ISE. The main objective of the activity was to strengthen student knowledge on Rift Valley Fever epidemiology and consequences due to its outbreak in the region of Saint Louis. It was also an opportunity to build student capacity to sensitize and raise awareness of the local community living with the threat of this zoonotic disease.

The objectives of the activity were:

- a) Enhance student knowledge in zoonotic disease.
- b) Increase student knowledge skills on the field
- c) Improve the integrated approach of One Health in the students daily activities
- d) Raise the local population’s awareness about Rift Valley Fever

Students were organized in groups each comprising a student from each of the participating disciplines (Human Health, Animal Health, Environmental Health). A total of ten (10) groups were formed. To facilitate the interviews with the community members, the initial groups were grouped into 3 subgroups of ten students. Each subgroup, under the supervision of a supervisor of the specialty, received a topic:

Subgroup 1: “Animal health” - was in charge of engaging the local residents on RVF in animals.

Subgroup 2: “Human health” - was responsible for discussing the symptomatology of the disease in humans, transmission modes and means of prevention.

- Subgroup 3: “Environment” - talked to the residents about the way the environment was managed in order to protect themselves against the vectors of the RVF.

Support in implementing the activity was received from Mr. Diop, Health Educator at the Dagana Health Center and Mr. Barro, in charge of the Dagana Department of Livestock Services.

As a result of the activity, population awareness of the Rift Valley Fever disease was raised and enhanced. The integrated approach to fight Rift Valley Fever was appreciated by the local population and the local technical staff who participated. The activity also contributed to the development of interdisciplinary collaboration between students of EISMV, ISED and ISE.

As a result of this activity, students who participated got training to engage in the competition on Rift Valley Fever.

After this exercise, a competition (oral presentation) was organized on 20th May to assess the students’ knowledge on the One Health integrated approach on the Rift Valley Fever.

Student were interviewed on their views and opinions of how the exercise was conducted. Their suggestions included; inclusion of other control measures that could have been carried out such as vaccinating herds against Rift Valley Fever disease, distribution of impregnated mosquito nets, distribution of medicines, among other activities.

Following this Goumel excursion, case competitions were organized on June 17th at EISMV. This was the first edition and was named “One Health Champion” under the supervision of a jury composed of eminent faculty from Veterinary Medicine, Environmental Health and Public Health schools.

The objectives of the case competition were:

- a) Enhance the students’ knowledge of Rift Valley Fever
- b) Increase SOHIC members’ capacity to work together
- c) Improve the integrated approach of One Health in the students to address infectious diseases

The competition took place in two phases:

Phase 1 was the launch of the competition and involved aspects on general culture, sciences, research and discovery.

Phase 2 involved students who completed the study tour in the Saint Louis area and sensitized the population on Rift Valley Fever (RVF). 30 students were divided into 5 groups of 6, each comprising students in Medicine, Veterinary Medicine and in Environmental Sciences. Each group made a power point presentation on a topic based on a practical case. They proposed strategies to address RVF using the One Health approach. At the end of the various presentations, the groups were engaged in a question and answer session with the members of the jury.

At the end of the jury’s deliberations, Group II emerged winners with 82.25 points out of 100. The winning group members were:

- Mame Awa NDOYE, FMPO
- Mamadou DIALLO, FMPO
- El Hadj Mansour NDAO, ISE
- Serigne Saliou NDOUR, ISE
- Aristide COMPAORE, EISMV
- Hamidou ZANGRE, EISMV

The group received a trophy and each group member got a laptop bag, a pack of photocoping paper, a notebook and a flash disc.

The participation of partners FAO, USAID, PREDICT, COUS was well appreciated.
NEW DEANS ON BOARD IN SEVERAL OHCEA MEMBER INSTITUTIONS

Dean- Faculty of Veterinary Medicine University of Nairobi

Professor Ndichu Maingi is a Professor of Veterinary Parasitology at the University of Nairobi. He holds a PhD degree in Veterinary Parasitology from the University of Nairobi, an MSc degree in Parasitology from McGill University, Canada and a BVM from the University of Nairobi. His areas of specialization are anthelmintic resistance and integrated management interventions for helminths in grazing livestock. He also has research interests in molecular identification and diagnosis of parasitic infections and diagnosis and control of Taenia solium cysticercosis.

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Dean - Moi University School of Public Health

Prof. Mabel Nangami is a professor at Moi University School of Public Health. She earned her PhD in Sociology from the University of North Carolina, USA. Professor Nangami has expertise in health economics, systems management, strategic planning, monitoring and evaluation and curriculum review.

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Dean - Faculty of Public Health Jimma University

Dr. Muluemebet Abera is an Associate Professor of Reproductive Health, at the Department of Population and Family Health, Jimma University. Since 2006 she has been teaching reproductive health courses for graduate students at Jimma University. Currently she is the Dean of Faculty of Public Health. From August 2006 to September 2012 she served as Head of the Department of Population and Family Health at Jimma University. Muluemebet is Co-Investigator on several research projects at Jimma University. Before joining Jimma University, Muluemebet served as Maternal and Child Health Programs Coordinator at Assela Hospital for 7 years and a Clinical Instructor at Assela School of Nursing for three years. She has over 20 years of experience in teaching, research and management and has more than 10 peer reviewed publications in the area of reproductive health.

Head- School of Veterinary Medicine, Jimma University, College of Agriculture and Veterinary Medicine (JUCAVM)

Tadele Tolosa is a Professor of Microbiology and Dairy Herd Health Management at Jimma University, College of Agriculture and Veterinary Medicine (JUCAVM). He obtained his DVM in 1989 and Master of Tropical Veterinary Medicine in 2004 at Addis Ababa University, College of Veterinary Medicine and Agriculture, Bishoftu and his PhD in Veterinary Science from Ghent University, Belgium in 2016. Prof. Tadele is currently Head of School of Veterinary Medicine and on top of this he is conducting interdisciplinary research that aims to create better understanding of the nature of animal and public health. He has been awarded research funds from a variety of sources, including, Belgium University, Ethiopian Science and Technology Commission, Ethiopian Agricultural Research Institute, US Centers for Disease Control and Prevention (CDC) and Jimma University. Prof.Tadele Tolosa has immense experience in bacteriology especially infectious and zoonotic diseases.

NEW MEMBER INSTITUTIONS IN OHCEA

During this period, three new applications to join OHCEA were approved by the network top leadership. We welcome all these to the OHCEA family. Details are below;

Uganda – Faculty of Medicine - Mbarara University of Science and Technology
Senegal – Institute of Environmental Sciences – Universite Cheikh Anta Diop de Dakar
Rwanda – University of Global Health Equity