

# **One Health Zoonotic Disease Module field work attachment Report CEHA 2017**

## **1.0 Introduction and Background**

Under the umbrella of the ECO-Health research group, CEHA hosted a group of medical doctors from London School of Tropical Medicine and hygiene from 28th Oct to 3rd Nov, 2017 for One Health Zoonotic diseases course module in Hoima district with focus on health centers, abattoirs, public health perspectives and wildlife and human health interfaces. The attachment was meant to expose them on hands on experiences on how veterinarians handle zoonotic diseases and how the Vets collaboratively work with health/medical personnel's in this landscape where areas of focus were the Hoima Regional Referral Hospital, Health centre III & IV in the sub-counties of Buseruka and Kigorobyia respectively and the slaughter house in the Hoima Municipality. This attachment was coincided with the ongoing CEHA research projects in the landscape therefore it was an experience of hands on to the medical doctors since they participated in this project. The medical team worked with the group collecting data on abattoirs in town for Leptospirosis project in both animals and human but also had an exposure experience with the team working in communities on tick-borne pathogens that was collecting ticks and blood on animals. At the end of the day there was documentation and collation of the medical and veterinarian's efforts of working together which One Health focuses on.

## **2.0 Justification of the field attachment**

CEHA was purposely registered to operate as charitable organization to initiate and implement conservation and research program at wildlife-human-livestock interface to promote co-existence, health and conservation of ecosystems throughout Africa with One Health Concept Approach. CEHA has research as one of its strongest pillars organized under Eco Health Research Group (EHRG) composed of local and international researchers /institutions spearheading Ecosystem Health research innovations in the Albertine Rift Ecosystem. CEHA also supports capacity building in research through international student interns and fellows for short term period with its capacity of working with international and local institutions, CEHA has been working with Hoima District Local Government to establish a One Health Demonstration Site in the Albertine rift to work as a research niche for interns from all over disciplines both local and international. Therefore with this, having an opportunity to host Tropical Medicine doctors was a fulfillment of such a goal, but also this would help to share experiences on disease prevention, diagnostic practices and preventive medication and treatment of the tropical diseases, this would create information for informing the technical wing of the district to formulate disease surveillance and mitigation strategies in the community. Also it was very vital in capacity building for the medical doctors to have hands on experiences on how the veterinarians practice their profession thus a necessity of this attachment to portray the practical One Health in implementation.

## **3.0 Course Description goal, themes overview and objectives**

The overall goal of the course to Provide field practical experience of animal health workers working with human health counterparts in handling zoonotic diseases in complex interfaces in Hoima, Mid-Western-Uganda.

## **Course description and Overview:**

This course focused on describing and understanding community and ecosystem changes influencing zoonotic disease transmission at human and animal interface. In addition explore the current challenges of diagnostic and investigation of zoonotic diseases in rural low income setting. Hoima is part of the Albertine Ecosystem that is rich in biodiversity but also a potential hotspot for emerging and re-emerging zoonotic diseases. In most parts of Hoima, like most parts of Uganda, livestock keeping is part and partial of household livelihoods with animals providing socio- and financial security in addition to animal source protein. Zoonotic diseases is not well appreciated in such settings and only later to impact on their health seriously. Currently brucellosis and leptospirosis presents big challenges to such communities and has raised a lot of public health concerns and yet no clear answers have been provided to these communities.

In this module there was an opportunity to think about the range of pathogens in animals and think about how we can set up surveillance systems to detect these diseases with the aim of protecting domesticated animals to improve their health and health of humans. There was opportunities to visit communities to gain insight into the physical relationship between animals and humans. They were provided with opportunities to participate in our on-going zoonotic disease studies in abattoir settings and at household level in communities. They appreciated occupational hazards associated in working in abattoir environments and also collected samples for processing and examination in the laboratory. The practical experience was to be integrated with theoretical component that involved field/site visits of humans (Hospital/Health Centres), Animals (abattoir and animal husbandry) and Wildlife (ecosystem health interface for experiential learning and exposure to the zoonotic diseases practically and how they are addressed. This was to be followed by a wrap up PowerPoint presentation on the experience and outcomes of the attachment

## **Sub-Themes of the course**

1. Review the range of animal pathogens capable of causing infections in humans.
2. Consider exposure to zoonotic infections among people with occupational exposure in Hoima and among people in rural villages
3. Learning about the important contribution that veterinary professionals make to identifying zoonotic transmission
4. Become aware of the impact of veterinary medicine on human health through improved healthy, wellbeing and productivity of animals which add to food security

## **Course Objectives:**

By the end of the course, the student should be able to:

- 1) Understand the basic concepts of zoonoses and diseases common to animals and humans in the region

- 2) Experience Practical components of disease investigation and management in health and veterinary settings in rural communities
- 3) Understand One health approaches to zoonotic disease research and investigation
- 4) Understand anthropogenic drivers of zoonotic diseases in Hoima in relation to biodiversity and resource use.

#### **4.0 Mode of mobilization for field work**

CEHA has a special understanding of working with the local government and other stakeholders, with such complex attachment, there was need to expose the students to different disciplines in the communities at different levels and this needed proper mobilization for the field work activities to all the stake holders that will be involved. This component was supported in kind by CEHA and was thoroughly done by the CEHA field operations coordinator to have a smooth execution of the programs timetable. A three days mobilization trip was made to the landscape, to set up appointments, schedule the activities on daily basis of the attachment and invitational and introduction letters also delivered to the District management organ and then to the community where the students will work from. As per the budgetary planning, this was not included however it deemed CEHA to effectively do it to have a successful field work and indeed it yielded during the implementation because the program was integrated in the routine program of the stakeholder's i.e. hospitals, Health centers and also meetings were scheduled. This component gave the integral daily review of the program and planning for the next day's program as stipulated in the timetable.

#### **4.0 Précis of the field attachment in Hoima District**

The field work was implemented on a daily timetable from 28<sup>th</sup> Oct-3<sup>rd</sup> Nov 2017 with each day having a different learning experience on medical and veterinarian perceptive, this would help to collate the two disciplines on how they co-exist and work together to implement the complex metaphor of One Health as health workers in communities with complex diseases cycles, below is a narrative of the field attachment on a day by day experience;

##### **Day 1: Overview of One week activities & Introduction of the field team**

This day was generally concerned with Meeting of the key focal persons & CEHA Research team of the two projects & Familiarization of the team to the District and the municipality. The morning session started with CEHA team and Medical students having an overview of the week's program and giving academic assignments to students to look out during the program and later to make lessons learnt presentations as a wrap up meeting of the attachment, in the afternoon the core team was joined by the research focal persons from the referral Hospital, Health centres, Local government and local partners. Networking was emphasized since there was going to be continual interaction at implementation during field work;

**Fig1: Shows day one meeting at Kolping Hotel conference hall**



**Fig2: Shows the group after the afternoon interactive meeting with focal persons and partners at Kolping Hotel**



**Day 2: Part 1: Morning Session; Animal and human sampling in Municipal Abattoirs**

The team was introduced to a hands on practical experience of human and animal sampling for the on-going Leptospirosis and tick-borne zoonotic research study in the

abattoirs of Uganda and in this case it was in Hoima municipal council. All the students participated in drawing blood from human subjects, collecting tissues from animals and administering questionnaires at the abattoir. It was exciting and fascinating experience observing the slaughtering of the cattle, goats and sheep. On this day a total of 27 cows were slaughtered, 14 goats and 1 sheep as well. A number of issues were raised and these were concerned with the animal rights, safety precautions while handling meat, hygiene and health of the cows (looked to be sickly) the team was allowed to interact with the slaughter workers to probe on the challenges they are facing while executing this work. Conceptualizing the One health model, there was lot to be desire from the public health, environmental, veterinarian perspective that would have an impact to the last consumer; below are illustrations of the day;

**Fig 3: show the students and CEHA staff participating in the ongoing research project at the abattoir in Hoima Municipality**



**Part2: Introduction to the community and understanding the community trends.**

As it's the culture with CEHA's way of operation in this landscape, it has always worked and respected the chain of command, therefore getting the blessings of the district administrative unit is vital to roll out to the community. The Visit to the district was meant to understand the operational structure, decision making line and flow of information, management and implementation of One Health Model as a demo site. Through an interactive meeting, Presentations of District Veterinarian sector, health, Public health issues, community diagnosis capacity and observing the Human animal interaction and disease surveillance in the district were presented here to students to get a big picture of the whole district. This would help to guide the students in probing and understanding the community dynamics while on the field attachment field work.

**Fig 4: Shows the district familiarization meeting at Kasingo district headquarters**



**Day3: Community Visit to Community Health Centre IV structure Kigorobya Sub-County**

This track model was meant for appreciating community Health capacity to diagnose, track communicable diseases and febrile illness, patient handling, laboratory capacity and challenges encountered and also animal-human interaction related diseases. There was a fam trip to participate in the samples collections in animal's under the ongoing zoonotic diseases study of the tick borne diseases. At the health centre it was put clearly that they had capacity to handle some diseases and for serious cases to always refer them to the referral hospital. They also had a laboratory for simple and complicated tests. At this centre there were also high numbers of febrile illness and most of them whenever they are referred, it turns to be brucellosis, therefore there was a relationship issues concerning human-animal interaction back home that were affecting the occurrences of these diseases. Implementation of One Health could tentatively help to prevent such diseases at house hold level. There other challenge was that the doctor –patient ratio was alarming meaning sometimes delicate issues are not attended to since its first come first serve. On the animal side it was realized that humans share shelter with animals, and in some families, they take raw cattle products which is a driver to passing on diseases like TB, brucellosis, Leptospirosis and Tick pathogens;

***Fig5: Shows the Health centre interaction and the field sample collection of the tick borne diseases***





**Day4: Working and Supporting Regional Referral Hospital Daily Operations**

This day was dedicated by the CEHA for the students to fully have a hands on experience and participate in the Hospital daily operations (Outpatient department, Laboratory, Causality department, Pediatric Department and Males Ward). This started at the entry focal point where a meeting with the hospital directors was convened and a presentation was made to the team on disease occurrences in the districts collated with their drivers. More so, the history and the geographical coverage of the regional hospital was given. It was of best interest that this hospital administration help the team to get allocated to the different departments to fully participate on the daily work load of the health workers. All the teams were divided into pairs and taken to the different departments. It was also on this note that the team got chance to raise questions to clarify on the issues that have come up during the course of the week, issue of diagnosis capacity, disease surveillance, handling referral cases, there was also an issue of febrile illness and capacity to diagnose brucellosis, information was shared and relevance of One health approaches was also put forward in this case and how vital it is in counter preventing reemerging diseases. This activity lasted for a whole day and later an experience documentation session was conducted to clearly get a wrap up picture from the participants, the most important point that cut across was that most of the departments lacked financial capacity to independently manage certain diseases.

**Fig 5: Shows the Hospital meeting and the presentation by the Hospital admin and group photo after the meeting**



### **Day5: Understanding wild life, domestic animal, and Human interaction as well as aquatic life interface in relation to zoonotic diseases**

This day was focusing on the theme; disease dynamics at wildlife, human and aquatic interface, the unique part of this landscape of study, was that its located in the wildlife reserve, it has a health centre and a fishing village, but also importantly is that all these share one water resource. This was to help the students understand how three ecosystem components interact and the risks that arise when the source is contaminated, on record, it was put forward that this region has a very high migration rate, cholera out breaks and high rates of febrile illnesses. According to the presentation made by the local focal leader, there was hesitation in attaining treatment and also visiting the health centres, also outreaches were carried out but people have failed to change to the better health. There was also high wildlife and domestic interactions that could be a potential threat for disease outbreak especially from wildlife then can finally be passed on to the humans based on the observation that domestic animals were so much in contact with the domestic utensils and the hygiene was also very poor.

### **Health Centre Ill system experience at Sebagoro Health Centre and presentation**

This trip also involved visiting the health centre and at the health centre, this was meant to provide information on the bigger picture of the occurrences, the capacity of the centre to handle such diseases. However the In-charge of the Health facility, mentioned that they lacked equipment and the technical workers to do this, most of the complicated cases are always referred to the Regional hospital. The other important issue was under funding of the facility, this reduces their capacity to cover the catchment area which had a total of 17528 persons, even the staffing is very small that make it difficult to handle the influx of patients per day. Then there were also very many outbreaks especially in wet season, and with these cases, they usually seek manpower from the district, all in all the hygiene, life styles and ignorance of people had contributed to the high occurrences.

### **Wildlife reserve community conservation presentation**

Further, the trip also has the team interact with the wildlife section, a meeting was organized to meet the Warden conservation, during this meeting, it was very clear that local communities have continuously encroached the reserve and this was not good conservation practice because of the increased disease transmission but also poaching wildlife, much has always been put to enforcement but people have stayed hesitant abide. A lot of community sensitization has been done to cumb this, in the long term this could cause re-emerging and emerging tropical diseases.

**Figure6: Shows the presentation by the Conservation Officer at the Wildlife Quarter guard.**



**Fig 7: Shows the Settlement patterns, Wildlife interaction, meeting at the health centre and the meeting at the wildlife reserve post**



## **Day5 Part 2: Wrap get together for wrap up for one health international celebrations**

This attachment was a climaxed with get together of One Health Celebration eve, that was going to celebrated the next day, this party was a an experience snap shot sharing for the students, district technical personal and the CEHA team, Four presentations were made

1. **Ryan Evan; Tutor and coordinator of the medical students**, he thanked all the people that directly work with them to have the course become a success, and was very thankful to CEHA for the collaboration they have with the local leadership and promised to continuously lobby for the course to continue in this landscape.
2. **Prof Lawrence Mugisha: Team Leader and Director of CEHA**, Thanked the team has worked vigorously to achieve it, He highlighted and gave updates on the on-going projects, the achievements of the field attachment and the upcoming projects. The also challenged the team that there are very many issues at community level that are raging behind that need immediate attention to be addressed. He also notes that One Health is being modified to be applicable to all people, guidelines are being developed to have this common medicine practiced in all spheres. He also mentioned that there are very many research opportunities in this area, he volunteered to always to help to design projects for individuals that use a one health approach. He also thanked Hoima District Local Government for its efforts to establish a one health demo site that is in practice coordinated by Dr. Charles Kajura a vet by profession.
3. **Dr. Charles Kajura: District Production & Marketing Officer and One Health Coordinator**, He thanked CEHA for the scientific work it has done in the district that built capacity among others and not like other NGOs, it fully involves the Local community and the technical personnel at the district disposal to work directly on these projects. As a coordinator of One Health, he also thanked London school of Tropical Medicine & Hygiene for bringing this course to Hoima, it has exposed many scholars for future research opportunities to explore and mention the district will always help in the ground mobilization of such projects. Since a framework of collaboratively working with all disciplines in the district, it very easy to counter match certain outbreaks that have always hampered the district.
4. **Mr. Hannington: Chief Administrative Officer/ Guest of Honor of One Health Eve Celebrations**, He was a designated Guest of Honor for the One health celebration that climaxed the field attachment course. In his speech, he was joyful for the opportunity of being part of the one Health celebrations, He noted that this approached if a cost effective analysis is made should be the most cheap approach and realistic. He thanked the players who participated in the course and the on-going project and urged the Team leader to always update the Technical team on the result by providing progress reports and final reports to help the Local government to analyze the efforts and how to integrate them in the district planning, and sectorial resources allocations. This can also help to develop district polices and by-laws that address certain crises that may arise. As a district central leadership, they will always accord support where necessary and promised to always open the door whenever such opportunities have come up. In particular he thanked CEHA for such febrile illness studies both previous,

on-going and upcoming. He also invited the Team leader at intervals to present such work to the technical and the political wing of the district.

Conclusively, this robust field work, successfully achieved its goals though some activities were given little time, but in the end the intended information was got. Throughout the field it was observed that the issues of zoonotic diseases were alarming in the landscape and needed a collective approach of all disciplines to prevent, treat and to have common medicine, without putting this into consideration, it would be very complex to handle re-emerging and emerging diseases in this fragile ecosystem.

### **5.0 Documentations of lessons Learnt during Field attachment**

After the fieldwork, and on a daily basis, the team always came together to share experiences and lesson learnt from the course of the days' activities. Also from the implementation point, CEHA learnt a number of lessons that it will need to work on for future courses. Below is the descriptive documentation of the lessons learnt during the course of the weeks' field attachment?

#### **i) Student perspective**

From the student's perspective, during this course, students (Medical Doctors) realized that the issues of handling zoonotic disease were complex and were affected by labour intensity, diagnosis capacity, equipment availability and financial support and they had this to share;

- ❖ There was no capacity to carry out complicated tests at health centres and regional hospital because of the complexity of the tests and labour intensity, thus some of the patients can't get proper treatment since the diseases are not completely identified.
- ❖ Febrile syndrome at all levels needed follow strategies such that the health workers get to the bottom of the cause and how to treat and prevent diseases.
- ❖ There is a challenge of localizing illnesses yet they are complicated and with significance impact on the health of the community
- ❖ The health system as stipulated in the convention is lacking finance to facilitate health outreaches, disease surveillance and procurement of specialized equipment for diagnosis of complex diseases.
- ❖ For the policy formulators, its high time to kick start the Health insurance system to the communities, this has effectively worked in Ghana where 85% are insured on government schemes(subsidized) packages to enable people to access specialized treatment and consultations.
- ❖ Working condition of medical workers demoralizes, therefore lack motivation for performance that affects the whole health system.
- ❖ There is need to have health outreaches of different genders separately to harmonize health issues that are gender based driven.
- ❖ There is need to prioritize on important issues on health such that human resources are properly allocated to areas, individuals prone to high occurrence rates.
- ❖ There was a good fill that everyone can go to a tertiary hospital for a complicated situation and get free treatment because it is supported by the government.
- ❖ There is no equipment and staff to do micro-biology of the samples and this has made it difficult to make culture analysis of diseases.

- ❖ At the health centre level, there are no medical doctors, therefore making it difficult to manage and treat simple diseases at these levels thus making referral cases high yet they can be controlled at this level.

These lessons were to be shared to the district focal officials for decision making and help properly treat, manage and prevent diseases in this district.

## ii) **Implementation perceptive**

As CEHA, it was a great pleasure to have coordinated this course and look forward to continue hosting it. From the implementation point of view, the following have been learned;

- ❖ There is need for proper mobilization for this attachment, this should be coupled with a mobilization facilitation which was not catered for during the inception of this course. Once it's allocated for, this helps to properly coordinate the field activities and have response to our contact focal persons in the field in time and have a great scale of activities in a short time.
- ❖ The time allocated to the course was very little, because much of the field work was done in a rush, conceptualizing issues was limited and hard.
- ❖ Since it was the first course there was need to have two sessions, day session and evening, this would have a daily evaluation of the day's activities.
- ❖ Due to limited time there was no time for the student to make presentations on their personal evaluation and experiences throughout the field attachment.
- ❖ In future there is need to have a placement to the different areas of focus such that at end of the day students can have time to work closely with the different partners in areas of operation like health centres and hospital.
- ❖ There is need to increase the budget to help facilitate ground mobilization, local focal personnel and CEHA administration, because the previous budget was very tight and strained to fund most of the activities thus it had to use its funds.

CEHA reputation to work with the local administration and structure will always be the best cost effective platform to carry out this course in this landscape.

## **6.0 Challenges**

The fact being the course successfully registered tremendous achievements, time was limited and encountered the following challenges

1. There were a lot of expectations especially the community since they were informed students were medical doctors, there thought would be their saviors in disease identification.
2. Limited time to meet the desired goals, the fieldwork was very short and some other important areas of focus were not reached out and could not give time students to internalize the daily activities.
3. The time table was very tight and could provide time for students for evening sessions
4. Resources were inadequate to facilitate the most of the ground of the field work.

Despite of the challenge, a lot need to be desire and this course has a very good future its complexity.

## 7.0 Recommendation from the implementation perceptive

Following the week's long coordination of this attachment, the following needed to be taken into account.

- a) Next time there is need to have two days lectures and students given assignments and the three days placement to the areas of focus, at the end of the course all the students make presentations based on the assignments and share experiences, this will help to cover different challenging issues at once and cover a bigger geographical scope.
- b) We need to advocate to increase the time for the attachment for at least 10days, to properly tackle all the themes of One Health zoonotic diseases modules at different levels.
- c) There is need to increase the budget to help facilitate ground mobilization, local focal personnel and CEHA administration, because the previous budget was very tight and strained to fund most of the activities thus it had to use its funds.
- d) There is need for proper mobilization for this attachment, this should be coupled with a mobilization facilitation which was not catered for during the inception of this course. Once it's allocated for, this will help to properly coordinate the field activities and have response to our contact focal persons in the field in time and have a great scale of activities in a short time.
- e) There is also need to give students more time in training areas like the health centers and hospitals, communities to get enough information but should also be tasked to package and present this information to other team members.

## 8.0 Conclusion

CEHA through its Eco-Health research group has closely worked with Hoima district Local government, to establish a One Health demonstration site, which ideally has been a success, therefore the One Health Zoonotic disease course is a support to look at this delicate landscape in a scientific approach. This course marks the beginning of a continued collaboration of the London school of tropical medicine and hygiene with CEHA and Hoima district, and it on record that the recommendation from this course will always help in decision making in the medical and veterinary sectorial financial allocation. All in all the course being the first of its kind, much need to be harmonized to greatly have it holistically implemented. With the reputation and the ground partners CEHA has, it will always provide it staff time to achieve its expected goals and greatly recommend to increase the number of days to 10 days for the course and have site placement of students in the focal areas.

### **Appendix 1: List of the Technical Personnel that got involved directly and facilitated the Field attachment.**

<b>Name</b>	<b>Designation</b>	<b>Area of Operation</b>
<b>Technical Focal Personnel at District level ,Community, Health Centre &amp; Regional Referral Hospital</b>		
Mr. Peter Rwomushana	Senior Lab Tech	Hoima Referral Hosp
Kasium Hamid	Lab Director	Hoima Referral Hosp
Kwezi Elizabeth	Deputy Lab Director	Hoima Referral Hosp

Wamala Robert	Senior Clinical officer	Kigoroby Health Centre IV
Karweni Julius	Animal Extension Officer	Kigoroby Sub-county
Kyalingonza Moses	Vet Extension officer	Kiziranfumbi Sub-county
Dr. Ntume Barnabas	District Vet Officer	Hoima Local Government
Dr. Ndorwa Partick	Senior Vet Doctor	Hoima Local Government
Dr. Kajura Charles	District Production & Marketing Officer	Hoima Local Government
Dr. Kwekirizira Nichlous	District Health Surveillance Dept.	Hoima Local Government
Mr. Huntington Kiiza	Chief Administrative Officer	Hoima Local Government
Magezi Sam	District Statistician	Hoima Local Government
Dr. Michael Kyazeey	Referral Public Health Surveillance	Hoima Referral Hosp
Dr. George Katogoro	Municipal Vet Officer	Hoima Municipality
Enid Abitegeka	In-Charge	Sebgoro Health Centre III
Mwanga Christopher	Fisheries Office	Sebagoro Landing site
Ocen Alfred	Warden	Kabwooya Wildlife Reserve
Edipa Tom Ocumu	Deputy Director	Hoima Referral Hosp
<b>CEHA Research Project Team</b>		
Dr. Alabo Grace	Public Health Specialist	Lepto & Tick Borne Study
Juko Doreen	Sociologist	Lepto & Tick borne Study
Martin	Lab Technician	Lepto & Tick Borne Study
Ssentala Isaac	Field Assistant	Lepto & Tick Borne Study
<b>CEHA Administrators</b>		
Prof. Lawrence Mugisha	Director/Team Leader	Ceha/ Field Attachment
Jovan Baryamujura	Field Operations Coordinator	Ceha/ Field Attachment