

Vaccinator inoculating a cow

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“... our hope is to understand better the health links between people, animals and the environment. This should lead to improved nutrition, less risk of new diseases emerging from animals, and more prosperity...”

**Professor**

**Matthew Baylis,**  
HORN Project PI

# Project Newsletter - May 2021

## About the HORN project

The One Health Regional Network for the Horn of Africa (HORN project), aims to strengthen capacity for One Health research in the Horn of Africa. Led by the [University of Liverpool](#) in the UK, HORN is working with universities and other institutions in Ethiopia, Kenya, Eritrea, & Somalia/Somaliland. The project commenced in October 2017. HORN is a GCRF: Grow project funded by the BBSRC; find out more about the Global Challenges Research Fund by clicking [here](#).

## Our Partners

The HORN Project gratefully acknowledges our Project Partners for their assistance in supporting the project's aims and objectives:



[Addis Ababa University, Ethiopia](#)



[Liverpool School of Tropical Medicine, United Kingdom](#)



[Amoud University, Somaliland](#)



[Mekelle University, Ethiopia](#)



Hamelmal Agricultural College,  
Eritrea



[Jimma University, Ethiopia](#)



[IGAD Sheikh Technical Veterinary School, Somaliland](#)



[Red Sea University, Somalia](#)



[International Livestock & Research Institute, Ethiopia & Kenya](#)



[University of Nairobi, Kenya](#)

## HORN events and training

### Past events and training sessions:

- [“Zero Hunger”](#) Sandpit, 8th-12th October, 2018, Ethiopia
- [Leadership Training](#), 19th-21st February, 2019, United Kingdom
- [Summer School](#), 11th-15th March, 2019, Kenya
- One Health in Health and Demographic Surveillance System (HDSS) sites, May & July 2019, Ethiopia



*Dr Alice Kiyong'a & ISTVS team members, BOVIGAM training – Feb 2021*

## HORN events and training cont.

### Past events and training sessions:

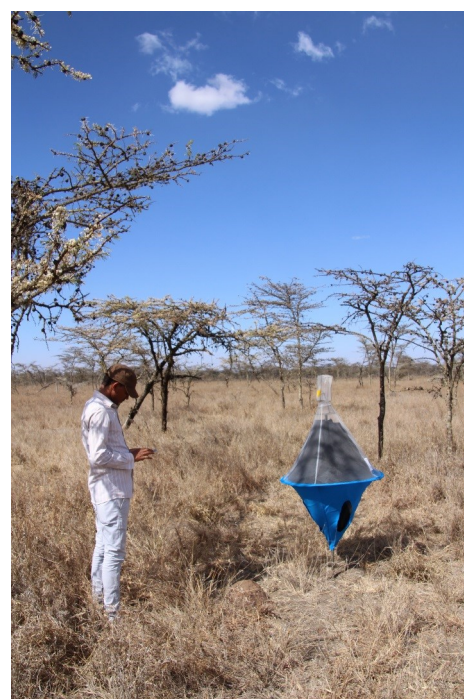
- Annual Scientific Meeting, 10th June, 2019, Ethiopia
- Mosquito Identification Workshop, 13th-15th June, 2019, Kenya
- [“Good Health & Well-Being” Sandpit](#), 29th September- 3rd October, 2019, Kenya
- [One Health Social Science Workshop](#), 18th– 20th November, 2019, Ethiopia
- [One Health Masterclass](#), 25th November– 6th December, 2019, Kenya
- [“COVID-19” Sandpit](#), 1st– 5th June, 2020, Online event
- Scientific & Proposal Writing training, 8th September– 3rd November, 2020, Online event
- [Leadership Training](#), 5th October– 20th November, 2020, Online event
- [WOHC Conference](#), 30th October– 3rd November, 2020, Online event
- Project Management/ Finance Management training, 9th December 2020 - 2nd February 2021
- HORN EAB meeting, 23rd– 24th February, 2021

### Upcoming events & training

- Masterclass, 2021
- Leadership Training, 2021
- Grant & Scientific Writing Workshop, 2021
- EAB & Annual Scientific Meeting, 2021



*Laboratory training at the HORN Masterclass, ILRI laboratories, Kenya, 2019*



*Deploying traps for tsetse flies, Summer School, Mpala Research Centre, Kenya, 2019*



Donkeys crossing the Ewaso Ng'iro River, Kenya, 2017

## Recent news - May 2021

### Updates on Current Research

- The team researching the impact of COVID-19 on dietary diversity and health outcomes in Kenya officially launched their study and began data collection in December 2020. Read more about this on our [website](#).
- The Disease Prioritisation team, funded from our second Sandpit event, officially launched their study and began data collection in March this year. Click [here](#) for more information.
- The team studying how Pastoral Societies in Somaliland have responded to COVID-19 provided an in-depth report on their progress to date, which includes details of their preliminary findings. You can read more [here](#).
- The research being undertaken by the Bovine TB team is the first of its kind to be conducted in Somaliland. Based at ISTVS, the team and the school lacked the skills and expertise to carry out such research. So the research could begin, the HORN project purchased equipment, and provided training. Visit our [website](#) to find out more.

### Capacity Development

Based on the research capacity assessment of AAU - undertaken by the Centre for Capacity Research at LSTM - the HORN project purchased [microscopes](#) and a [teleconferencing system](#) as part of its capacity building activity. We're happy to confirm all items are now installed and being utilised by AAU.

### Recent Publications - 2021

Impact of climatic, demographic and disease control factors on the transmission dynamics of COVID-19 in large cities worldwide  
<https://doi.org/10.1016/j.onehlt.2021.100221> (Lisa Cavalerie & Matthew Baylis)

Patterns of use, gathering, processing and administration of herbal and alternative medicines among people and livestock in Kenya: a study of local knowledge for One Health  
<https://doi.org/10.29392/001c.22245> (Olivia Howland)

Visible and invisible risks: Exploring washing and hygiene practices with women living on low income in Kenya  
<https://doi.org/10.1080/17441692.2021.1887314> (Olivia Howland)

Cross-sectoral zoonotic disease surveillance in western Kenya: identifying drivers & barriers within a resource constrained setting  
<https://www.frontiersin.org/articles/10.3389/fvets.2021.658454/abstract> (Jonathan Rushton, Salome Bukachi, Olivia Howland, Eric Fevre)

### Farewell to...

**Dr Ophélie Lebrasseur**, zooarchaeologist and post-doctoral research associate, who joined the project in the summer of 2018. Based in Ethiopia, she worked on two projects; one focussed on cattle bones and the other on parchment. In both cases she was successful in detecting ancient DNA from cattle – a first for Ethiopian artefacts. Ophélie will be sorely missed by the HORN team in Ethiopia, but we wish her all the best for her future endeavours in Argentina, where she will continue her work on ancient DNA to explore chicken genetics as part of her prestigious Marie Curie fellowship.

**Dr Marie McIntyre** joined the HORN project in 2018 to lead the development of the One Health Training Curriculum. Marie has successfully organised the creation of the HORN online eLearning modules, the organisation and running of the Masterclass in 2019, and lead on the 'Survey of One Health research capacity in the Horn of Africa' study. Marie has now joined the Global Burden of Animal Diseases (GBADs) programme as a Senior Analyst. We wish her all the best for the future.





Masterclass event, Kenya, 2019

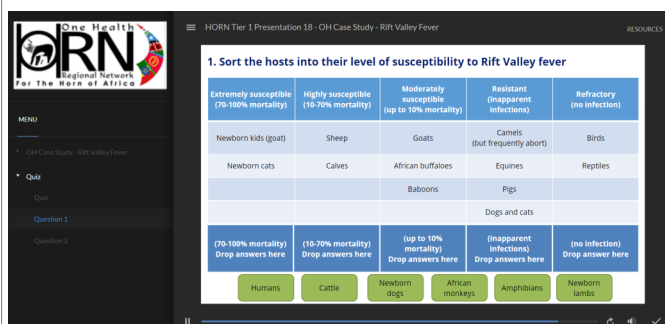
## New-look HORN eLearning Modules

The HORN One Health eLearning materials were made open-access in March 2019. Although the uptake and use of the online material has been fantastic over the past two years, we have decided to revamp and reinvigorate it – the narrated YouTube videos have been replaced with interactive modules that include a short quiz to test users understanding of the material - and we believe users will find these much more accessible, easy to use, and much more fun!

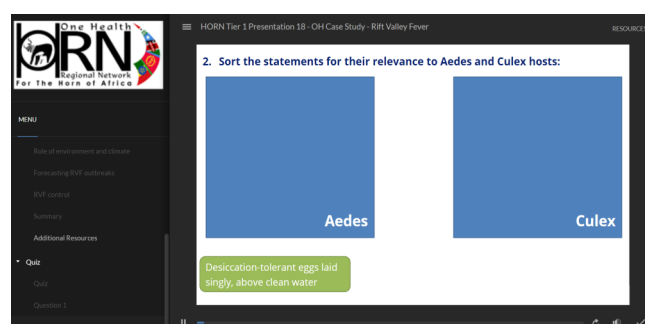
HORN's eLearning was produced and delivered by leading international experts and cover two Tiers: Tier 1 includes introductions to One Health essentials from different academic disciplines, and One Health case studies including perspectives on HORN countries and exemplar disease-related issues within the Horn of Africa region. Tier 2 covers generic and transferable skills, such as career and generic skills, and essential research skills.

**Dr Marie McIntyre**, who lead the development of the HORN curriculum, said: "This teaching aims to provide a rounded basis for international researchers to understand how to develop research using a One Health ethos. In Tier 1, we provide knowledge on what OH is and how to implement it, but also where it fits within traditional academic disciplines, and how it is of relevance to the countries in which the HORN project works. In Tier 2, we give researchers the structure and tools to start their research careers, and tools to obtain and implement research grants and maximise impacts from the outputs they create".

To access the new-look material free of charge, please register for HORN Project membership by clicking [here](#). Further information on the HORN Project training curriculum is also available [here](#).



New-look eLearning module: Quiz question 1



New-look eLearning module: Quiz question 2

## HORN Funding Update

One of the biggest challenges facing HORN in the past six months has been uncertainty about its funding and timeline as a result of the UK government's announcement in November 2020 that it was planning to make significant cuts to the UK budget for overseas aid. These cuts have been applied widely, including to the research council, UKRI, that funds aid-related research.

In March, UKRI announced that it needed to apply dramatic cuts to ongoing projects over the next 12 months. It was not possible for HORN to escape this situation and we agreed to a large cut to our final payment from UKRI; but fortunately, this cut is about 9% of the total project budget and we have sufficient funds to keep HORN running to its original end date of the end of this year.

The final outcome for HORN is that we have sufficient funds to complete most of what we set out to achieve, but we need to push hard to get work completed by the end of the 2021.



Blood sample collection, Summer School, Mpala Nature Reserve, Kenya, 2019

## In focus - COVID-19 Research

In this newsletter we look at two of our COVID-19 research projects already underway.

### In Detail: Research on SARS-COV-2 and Mass-Masking Behaviour in a Kenyan Community

A multidisciplinary team from Kenya have brought together skills and experience in Public health epidemiology, Anthropology, Molecular biology and Field epidemiology, to undertake a study that would holistically inform efforts to improve population health outcomes from the COVID-19 pandemic in the region.



An image creating awareness on mask wearing as a preventive measure for COVID-19

The study titled '[Analysis of SARS-COV-2 virus in exhaled breath and mass-masking behavior in a Kenyan Community](#)' combines a biological and anthropological approach to analyse presence of SARS-CoV-2 virus in masks, and determines the potential utility of face masks as a diagnostic tool for non-invasive surveillance of COVID-19, exploring the knowledge and attitudes that influence mass masking behaviours and practices.

Utilising an exploratory research design, the anthropological approach triangulates interviews and qualitative surveys to gain insights into human behaviours and perspectives towards use of face masks. Given that the population sampling procedures to obtain nasal swabs and/or respiratory secretions for COVID-19 diagnosis are relatively invasive, limiting mass testing practicability, the biological study component will analyse the presence of SARS-CoV-2 virus on masks.

Informed by data representing the low socio-economic strata in Kenya, the preliminary analysis shows two themes: *Knowledge, attitudes and perceptions involved in human response to the COVID-19 pandemic*, and *Knowledge, attitudes and perceptions influence the behaviour and practices of mass mask wearing in individuals across different socio-economic strata*. Read more about the teams progress [here](#).



Data collector undertaking, and audio-recording, an in-depth interview

### Milestones Reached: Research on COVID-19 impact in Somalia's Displaced Communities

The HORN COVID-19 response project led by [Farah Isse Mumin](#) - titled '[COVID19 and its Prevention in Internally Displaced Person \(IDP\) Camps in Somalia/Somaliland: Impact On Livelihoods, Mental Health and Wellbeing](#)' - aims to investigate how internally displaced people in Somalia are affected economically and mentally, and understand the knowledge and practicality of regular handwashing in these informal settings.



An IDP camp in Somaliland

Between the 7<sup>th</sup> November 2020 and 16<sup>th</sup> of March 2021, trained Somali researchers conducted data collection in 15 randomly selected IDP camps. They interacted with hundreds of breadwinners living in the settlements to understand their coping strategies, and throughout the process they maintained social distancing and distributed face masks and hand sanitizers to minimize risk of disease transmission during interviews.

As the data collection was completed, the world remembered the one year anniversary of the WHO declaring COVID19 as a pandemic. It was also one year since Somalia reported its first locally transmitted COVID19 case.



A researcher distributing hand sanitizer and facemasks in Mustaqbal camp, Mogadishu

As urgent data is needed to respond to COVID-19 resurge in Somalia, Farah Isse Mumin (PI) and [Siobhan Mor](#) are finalising a quick report on major findings to share with the stakeholders, such as humanitarian agencies and the national and regional COVID19 task forces.



Cattle, Summer School, Mpala Research Centre, Kenya, 2019

## HORN research

The Project funds research that primarily focuses on disease and disease control; agricultural systems, livelihoods and economics; and health in a changing world. To achieve this, we fund Sandpit Fellows who were successfully awarded funding through one of our Sandpit events; through our own Post-Doctoral Research Associates; and in response to the global pandemic, we have solicited our partner institutes to undertake Covid-19 research in their respective countries.

### Sandpit fellow research by country

#### Ethiopia

- [Assessing the Impact of Non-pharmaceutical Interventions \(NPIs\) on the dynamics of Covid-19 in the Horn of Africa: A mathematical modelling study in the case of Ethiopia, Kenya and Djibouti](#)
- [Assessment of the effects of meteorological factors, land-use and human activities on the prevalence of animal and human fascioliasis in Ethiopia](#)
- [Childhood diarrhoea in Butajira Health and Demographic Surveillance System: risks, bacterial agents and antimicrobial resistance profile in human-animal-water interface](#)
- [Covid-19 and its indirect impact on essential and routine healthcare services in Ethiopia](#)
- [Eco-epidemiology of vector and vector-borne diseases in the Horn of Africa: Its implication for vector borne disease control](#)
- [OHWASH \(One health water sanitation and hygiene\): Integrated surveillance of human and animal faeces management and its determinants in HDSS sites of 3 regions of Ethiopia](#)
- [The effect of Covid-19 and response measures on health, economic and social wellbeing of communities in HDSS sites](#)

#### Kenya

- [Analysis of respiratory virus and bacteria shedding in exhaled breath and mass masking behaviour in a Kenyan community](#)
- [Associations between milk quality, animal husbandry and childhood morbidity in pastoral systems, Kenya](#)
- [Covid-19 pandemic and the impact of mitigation measures on dietary diversity and health outcomes in Uasin Gishu county, Kenya](#)
- [Developing a community-led zoonotic disease prioritisation framework in Oloitoktok sub-county, Kajiado county, Kenya](#)
- [Exploring the epidemiology and transmission dynamics of Rift Valley Fever in the Horn of Africa](#)
- [Relationships between livestock and vegetable production and consumption practices on health and nutritional outcomes in children under five years in Laikipia, Kenya](#)
- [The perceived effects of epilepsy: Impact on people with epilepsy and their families, stigma and gaps in management](#)





Camel caravan, Eritrea, 2018

## HORN research continued

### Sandpit fellow research by country

#### Somalia/Somaliland

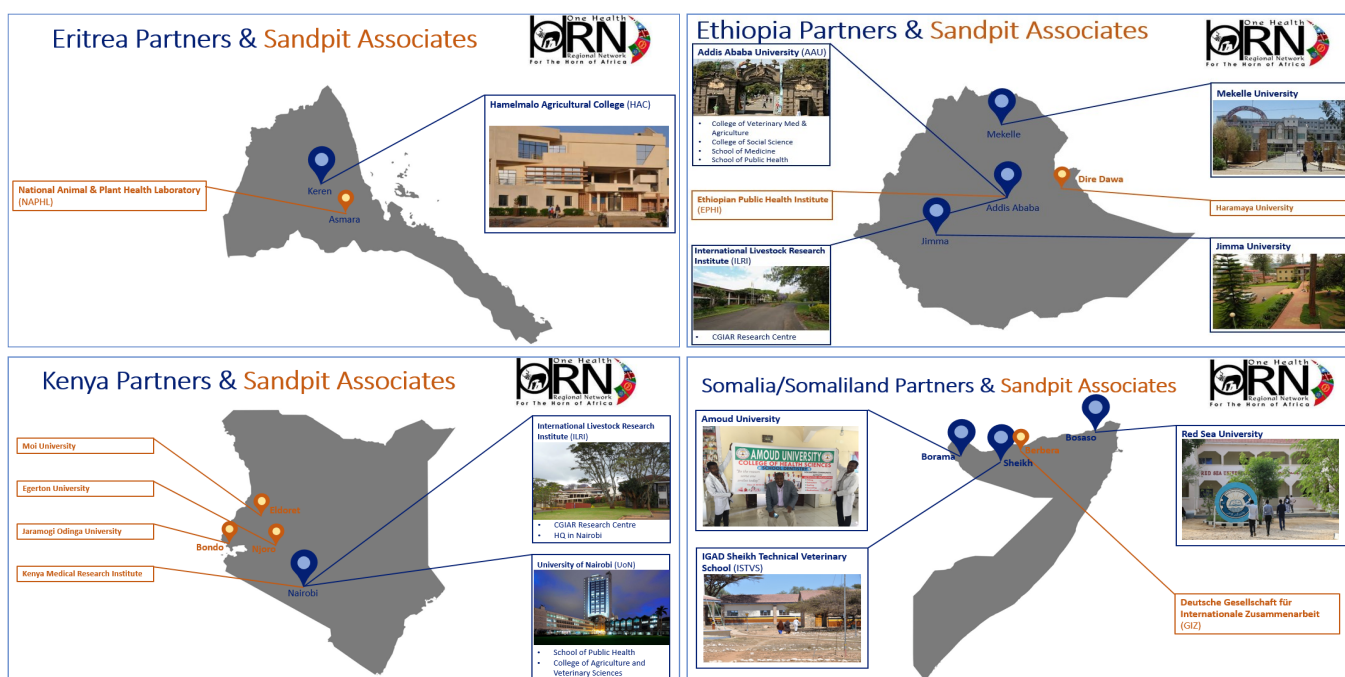
- Investigating prevalence and risk factors of bovine tuberculosis in cattle and agro-pastoral community in Awdal region, Somaliland
- Responding to Covid-19: The case of Somali-land pastoral societies

#### Multi-Country

#### Eritrea, Ethiopia, Kenya, & Somalia/Somaliland

- Risk mapping and assessment of knowledge, attitude and practices of anthrax among high risk groups in the Horn of Africa

## HORN partner & sandpit associates by location



## HORN research continued



Statistical Modelling at the HORN Masterclass, ILRI, Kenya, 2019

### Postdoctoral research by country

#### Ethiopia

- [Biocodicology of Ethiopian manuscripts](#)
- [Examining local perspectives on the influence of climate change on the health of pastoralists and their livestock in Hamer, Ethiopia](#)
- [Genetic diversity of ancient and contemporary Ethiopian goat breeds](#) *Shumeye Teklebrhan; ILRI, Ethiopia*
- [Impacts on animal and human health from food insecurity due to climate change in Ethiopia](#)
- [Livestock and maternal and child health: a One Health pilot study in Butajira](#)
- [A systematic review of rabies in Ethiopia](#)
- [Study of population diversity of toxoplasma gondii in human and livestock](#)
- [The nexus between human, environment and livestock Interfaces: Investigating the experiences of resettled pastoralists in Ethiopia](#)
- [Tracking genetic diversity and zoonoses in ancient livestock and their implication for bio-cultural evolution and health](#)
- [Zoonoses research in the Horn of Africa: a scoping review](#)

#### Kenya

- [An investigation of important zoonotic risks \(foodborne diseases\) in the ruminants value chain and their implication to pastoral livelihoods in Kajiado Country, Kenya](#)
- [Designing interventions to control cysticercosis](#)
- [Everyday Clean: Understanding one health hygiene practices in Kenya](#)
- [Indigenous healing in contemporary Kenya](#)
- [One Health surveillance and molecular epidemiology of Rift Valley Fever](#)

#### UK

- [Survey of One Health research capacity in the Horn of Africa](#)





Cattle market, Somaliland, 2019

## HORN research continued

### Partner Covid-19 research by country

#### Kenya

- [Factors associated with uptake of and adherence to recommended public health measures against Covid-19 in Siaya and Kajiado counties, Kenya](#)

#### Somalia/Somaliland

- [An assessment of the impact of Covid-19 on the pastoralists livelihoods, community welfare and response to the pandemic in Somaliland](#)
- [Covid-19 and its prevention in Internally Displaced Person \(IDP\) camps In Somalia/Somaliland: Impact on livelihoods, Mental Health and Wellbeing](#)
- [Knowledge and perceptions of Covid-19 among health care workers in Somaliland: Cross-sectional study](#)

#### Institute Abbreviations

Addis Ababa University, Ethiopia <b>(AAU)</b>	Amoud University, Somaliland <b>(AU)</b>	Egerton University Kenya <b>(EU)</b>	Ethiopian Public Health Institute Ethiopia <b>(EPHI)</b>	Deutsche Gesellschaft für Internationale Zusammenarbeit, Somaliland <b>(GIZ)</b>	Haramaya University, Ethiopia <b>(HU)</b>
International Livestock Research Institute, Ethiopia & Kenya <b>(ILRI)</b>	IGAD Sheikh Technical Veterinary School, Somaliland <b>(ISTVS)</b>	Jaramogi Odinga University, Kenya <b>(JOU)</b>	Jimma University, Ethiopia <b>(JU)</b>	Kenya Medical Research <b>(KEMRI)</b>	Mekelle University, Ethiopia <b>(MeU)</b>
Ministry of Health, Kenya <b>(MoH)</b>	Moi University, Kenya <b>(MoU)</b>	National Animal and Plant Health Laboratory, Eritrea <b>(NAPHL)</b>	Red Sea University, Somalia <b>(RSU)</b>	University of Nairobi, Kenya <b>(UoN)</b>	