

One Health and Vector-Borne Diseases Webinar Series (Webinar #1)

One Health Research Consortium

Project Title:

One health approach to control and understanding the dynamics of fascioliasis and schistosomiasis in the context of climate change in Rwanda and Tanzania



Kilimanjaro Clinical Research Institute (KCRI) Institutional Profile



AbdulHamid Lukambagire, Lead PI
PhD One Health (Diagnostics)



Theonest Ndyetabura, Co-I
PhD Molecular Biology



Ephrasia Hugbo, Co-I
MSc, Epidem & Biostats



Victor Mosha, Co-I
MSc, Medical Microbiology

- A leading Public Health and One Health Research Institution in Tanzania – Academic center for evidence based health interventions embedded in super-specialized hospital (KCMC) and Medical University (KCMUCo)
- A critical mass of qualified staff, well equipped & GCLP accredited research laboratory
- KCRI conducts several types of research on several health & disease topics, clinical trials; node for multiple international and collaborative research consortia operating in Tanzania & EA

Tanzania Plant Health & Pesticides Authority (TPHPA) Profile



Yakob Nagagi, PI
PhD Entomology & Parasitology

Tanzania Plant Health and Pesticides Authority (TPHPA) was established by merging the former Tropical Pesticides Research Institute (TPRI) and the Plant Health Services Section to one Authority for regulation of Plant Health and Pesticide oversight.

Mandated to coordinate resource utilization, enhance efficiency and effectiveness in service delivery

Key department involved in the study: Livestock and human diseases vector control with subsections (i) Malacology section, (ii) Ticks section, (iii) Mosquito section and (iv) Tsetse fly section

The Research centre for tropical pesticides since 1945, mainly for vector control, pesticides efficacy tests, surveillance for resistance monitoring



Lucille Lyaruu, Co-I
MSc Entomology & Parasitology

University of Rwanda Profile



Martin Ntawubizi, PI
PhD, Bio-Med Science



Jean Bosco Ntivuguruzwa, Co-I
PhD Vet Tropical Diseases



Pie Ntampaka, Co-I
MSc in Vet Pathology, Microbiology &
Parasitology

School of Veterinary Medicine within the College of Agriculture, Animal Science & Vet Med
Management of wildlife & aquatic resources, primary health & welfare for a various animals,
Monitoring food safety & the prevention of zoonoses.

Grant & research management units; Veterinary services provision to eastern Rwanda region
Over 10 international research collaborative projects ; DTRA, APHA....

Study Summary



Project Title: One health approach to control & understanding the dynamics of fascioliasis & schistosomiasis in the context of climate change in Rwanda & Tanzania

- Snail-borne trematodiasis neglected food & water borne zoonotic diseases in Tz & Rw
 - Schistosomiasis and fascioliasis leading causes of illness & death
- Intermediate fresh-water snail host critical for life cycles; potential control approach
- Approach leverages on OH consortium strengths in PH, Env't & Vet research
- Study aim: To develop & implement One Health strategies for the control of fresh-water snail populations as a means to disrupt the transmission cycles of fascioliasis & schistosomiasis from livestock to humans.

Methods



1. Participatory community awareness and capacity building workshops in target communities:

Training of healthcare and veterinary diagnosticians on snail-borne trematodiasis
Qualitative studies to assess KAP and perspectives on SBTs, climate change

2. Point prevalence estimation of fascioliasis and schistosomiasis in high-risk communities

Matched livestock and human population surveys to assess transmission
Estimation of snail-vector population densities in high risk areas; cercarial shedding & variation with seasonal changes in climate

3. Policy and stakeholder engagement

Co-develop OH strategies for control of fresh-water snails; integration of local stakeholders
Advocate for SVDs policy development (prevention and control) in high-risk communities

Transfer of knowledge & skills between Rwanda & Tanzania

Expected outcomes (12 months + long-term)

Deliverables (per objective)	Timelines
Protocol development and ethics approval	Mar 2023
Train ~ 30 clinicians and laboratory technicians, as well as 10 veterinary officers on identification and management of snail-borne trematodiasis in humans and livestock in Tanzania and Rwanda; capacity strengthening of local healthcare systems to diagnose (and manage) snail-borne trematodiasis	April 2023
Estimate point prevalences of human and animal fascioliasis and schistosomiasis among high-risk populations in Rwanda and Tanzania; identification of hotspots of transmission	July 2023
Identification of snail vectors species in study areas and baseline association with meteorological data during different seasons of the study period	Sept 2023
Co-development of evidence-based One Health approaches for the control of snail vectors of fascioliasis and schistosomiasis with stakeholders and policy makers in Rwanda and Tanzania; establish and maintain sustainable networks between facilities and with local policy stakeholders	Nov 2023