The big picture and Our joint commitment
The SDGs: the next 15 years

A place for livestock!
A partnership for livestock development (innovation and impact)

CTLGH operations (Edinburgh, Nairobi)

Discover
Develop
Deliver

Tools, Resources and Solutions
(to improve livestock in tropical small holder systems)
Centre for Tropical Livestock Genetics and Health – CTLGH

Current operations:
Development of genomic tools to improve the productivity, efficiency, resilience, and health of tropical livestock owned by smallholder farmers
2015 - 2022

Strategic goal:
CTLGH: The leading livestock R&D Centre poised to tackle tropical livestock development challenges ("omics"-based solutions).

- £10M foundational investment (BMGF)
- £4M supplement funding (DFID)
- GCRF data and resources
- GCRF impact accelerator account
Key CTLGH/ILRI partnerships
Harnessing genetic variability among indigenous and exotic breeds of cattle (as well as their crosses) to develop genetic and genomic tools that will be used to improve productivity under harsh tropical conditions and to mitigate the impact of cattle on climate change.

Harnessing genetic variability in tropical productivity and adaptation among various breeds of Chickens.

Development and application of precision breeding (through novel reproductive and germplasm technologies) to achieve step changes in livestock genetic improvement.

Understanding the genetic and molecular mechanisms underlying tolerance of certain cattle and poultry breeds to tropical diseases and pests.

A shared global data and biological sample resource to support continued research and development on tropical livestock genetics and health.
Dual purpose

Feed conversion efficient

Adaptable Likeable

Options By context

immune competency

Diversity

The team
Nick Spark, Georgios Banos, Dessie Tadelle, Olivier Hanotte, Jacqueline Smith, Almas Gheyas and others...
Objectives

1. Biobank indigenous African fowl (in an Africa biobank)
2. Develop and share tools for gene editing chicken and dairy cattle
3. Produce a gene edited livestock with increase productivity, environmental/disease resilience
Construction of disease resilient animals

“A knowledge base upon which to establish the selection or construction of disease resilient animals and effective disease interventions adapted to African farming systems”

Tolerance to *Theileria parva* infection
Ongoing activities and available resources

- Hundreds of genomes have now been processed: African cattle, African buffalo, African chickens, African sheep and goats, chicken microbiomes, African warthogs
- Assessing population diversity
- Genome assemblies being carried (N’dama, Indian Water Buffalo, African warthogs)

CyVerse Africa

Research capacity and data infrastructure to power the advancement of open practices in African bioscience

Co-Leaders: Mick Watson (RI), Steve Kemp (ILRI)
CTLGH: Emerging opportunities

- Research collaborations – leveraging current investments and ongoing projects
- Resource mobilization – UK, Europe, Africa, US, Australia
- Capacity building – research skills gaps (South & North)
- CTLGH 10-years strategy – Under development
www.ctlgh.org

CTLGH: Improving tropical livestock productivity and resilience

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