Animal Health Research in Uganda: Historical Evolution, Community Engagement, and Policy Impact

Prof. John David Kabasa

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Chronological, case-study timeline tracing how animal-health research (and the way it was conducted) shaped communities and national policy in Uganda.

(i) incident/case, (ii) what research/fieldwork was done and how it was conducted, (iii) effects on communities, (iv) effects on Uganda's institutions/policy.

Pre-1900 | Ethnoveterinary practice across kingdoms and Chiefdoms (Buganda, Bunyoro, Ankole, etc)

- **Conduct:** Community-led “research” by observation and trial—herders and healers catalogued plant remedies, husbandry tactics (quarantine-by-custom, seasonal movement).
- **Community effects:** Practical, low-cost care; social trust in local experts; resilience to endemic problems.
- **National effects:** A durable knowledge base later tapped by formal programs (foundation for participatory epidemiology and CAHW models).

1890s | Rinderpest epizootic sweeps East Africa

- **Conduct:** Ad-hoc colonial field trials (serum/bile methods), movement controls; limited engagement with local pastoralists.
- **Community effects:** Catastrophic livestock loss → famine, displacement, social breakdown among pastoral groups.
- **National effects:** Justified creation of structured veterinary services and later labs; seeded a century-long rinderpest control agenda.

1901–1907 | Lake Victoria sleeping sickness catastrophe

- **Conduct:** Intensive biomedical and entomological research by international commissions in Busoga/Entebbe (parasite ID, tsetse vector work, arsenicals), with coercive public-health measures (forced evacuations).
- **Community effects:** Lives saved by better case recognition, but major social disruption; mistrust from heavy-handed tactics.
- **National effects:** Established Uganda as a hub for tropical disease science; underpinned future trypanosomiasis programs and vector research capacity.

1902–1914 | Early colonial veterinary service in Uganda

- **Conduct:** Epidemic-focused field operations (quarantine, slaughter, dipping trials); limited primary care to African herds.
- **Community effects:** Protection of settler and strategic herds; many smallholders underserved; reliance on EVK persists.
- **National effects:** Legal frameworks for disease control; template for later district vet administration.

Uganda Virus Research Institute

Yellow fever laboratory in Entebbe, Uganda, est.1936

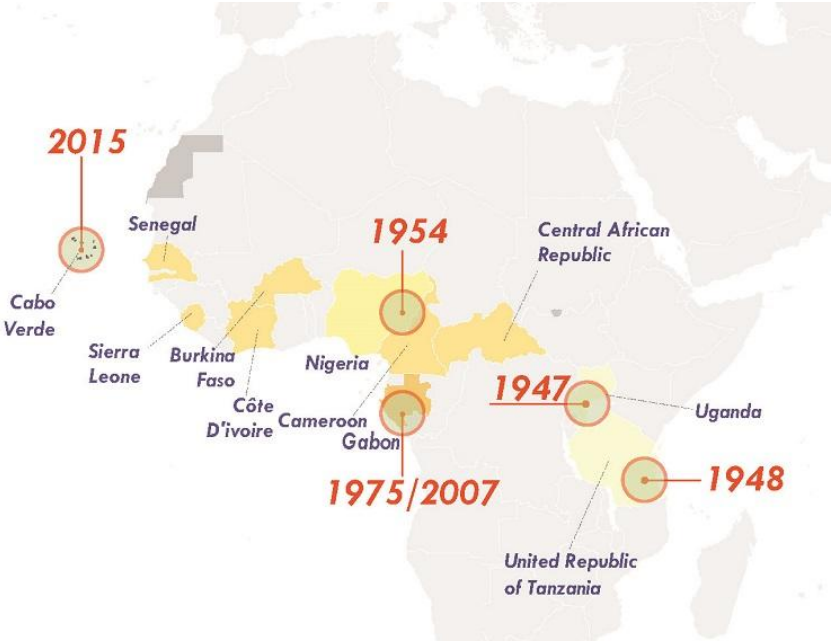
UVRI at present

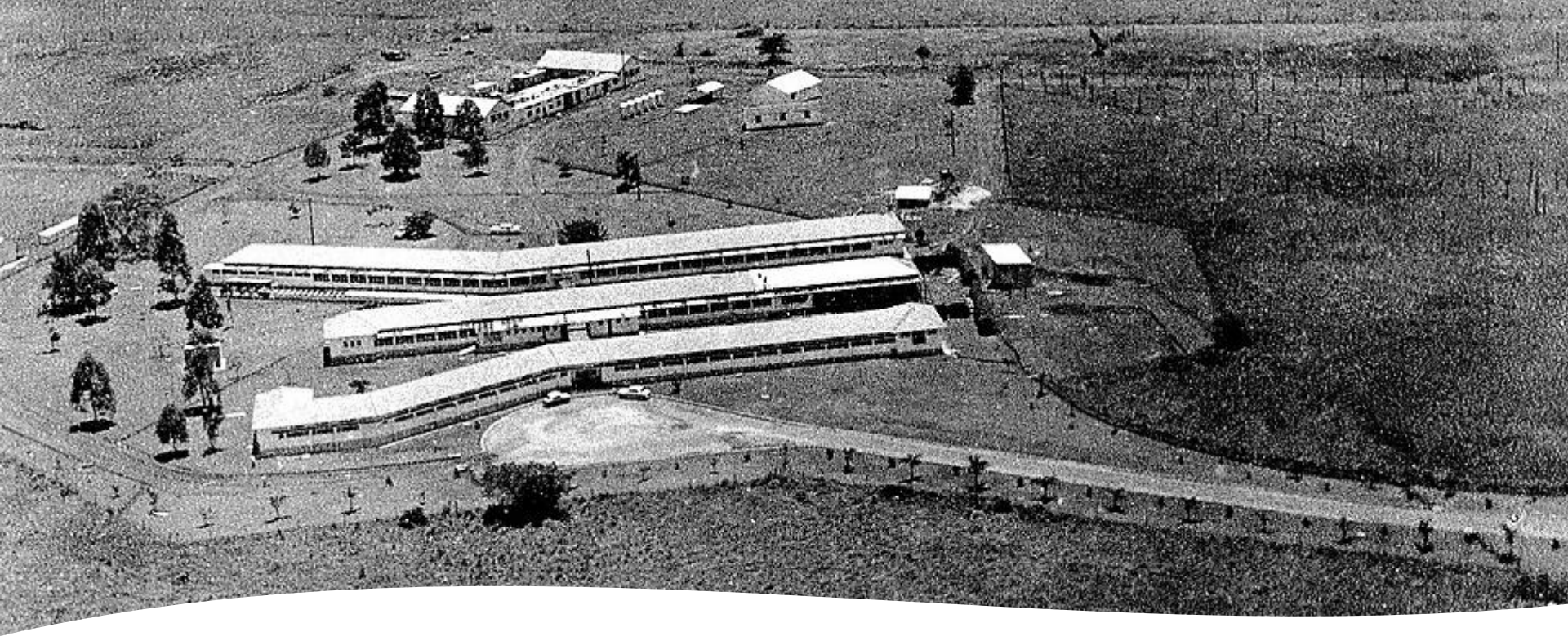
1936–1950 | Rockefeller Yellow Fever Institute → EAVRI (Entebbe)

- **Conduct:** Structured lab-based virology (sentinel animals, mosquito collections, primate sampling); discovery science.
- **Community effects:** Early warning for arboviruses; intermittent access concerns (wildlife capture, lab animals) but rising public-health dividends.
- **National effects:** Birth of Uganda's virology leadership; long-term platform for zoonosis surveillance.

1947–1959 | Discovery of Zika, West Nile, O'nyong-nyong, others

- **Conduct:** Systematic forest station work (Zika Forest), disciplined field–lab pipelines.
- **Community effects:** Not immediate at village level, but later informed risk communication on mosquito-borne fevers.
- **National effects:** International scientific stature; continuity funding for viral ecology research.





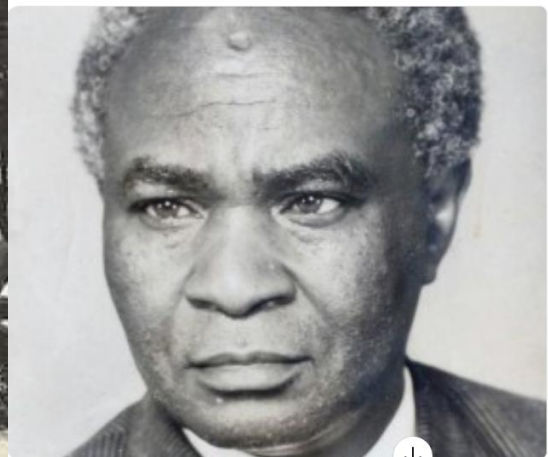
1950s | East African Trypanosomiasis Research Organization (Tororo)

- **Conduct:** Multicountry vector and parasite studies; habitat management experiments; early chemo-prophylaxis trials.
- **Community effects:** Mixed—vector control reduced human/animal disease where implemented; concerns over wildlife culling in some eras.
- **National effects:** Regional science diplomacy; trained Ugandan cadres in parasitology and field ops.

1960s | “Golden decade” of public veterinary service

- **Conduct:** Mass vaccination (rinderpest, CBPP), compulsory tick control, state-funded extension; Makerere Vet Faculty consolidated.
- **Community effects:** Large productivity and animal-health gains; deeper trust in government vets; reduced endemic losses.
- **National effects:** Strong district vet infrastructure; norms of free/affordable public services.

Dr John Kabwimukya Babiiha



1971–1979 | Institutional collapse under Amin

- **Conduct:** Research and service budgets crater; surveillance, dipping, vaccine programs falter; brain drain.
- **Community effects:** Rebound of tick-borne disease, FMD; rising out-of-pocket costs; fallback to indigenous remedies.
- **National effects:** Loss of capacity; long recovery tail for labs and field services.

1980s | Post-conflict resurgence of TADs (e.g., rinderpest pockets)

- **Conduct:** Stop-start campaigns; donor-backed operations; fragmented field data.
- **Community effects:** Shock cycles (quarantines, market closures); uneven service coverage between regions.
- **National effects:** Recognition that stable financing and data systems are as vital as vaccines.

Late 1980s–1990s | Structural adjustment & privatization

- **Conduct:** Shift of clinical care/drugs to private sector; downsizing of state para-vets; NGO pilots of **CAHWs**.
- **Community effects:** Service void in remote areas initially → CAHWs become lifeline for vaccinations, first aid, reporting.
- **National effects:** Birth of hybrid delivery model (public oversight + private/NGO last-mile); pressure to formalize CAHW policy.

1990s | Participatory epidemiology takes root

- **Conduct:** Herders co-identify priority diseases; mapping by local syndromic terms; community-led surveillance trials.
- **Community effects:** Higher reporting, better fit of interventions to realities; empowerment of pastoral voices.
- **National effects:** PE methods institutionalized in projects; evidence reshapes vaccination and tsetse control targeting.

1990s–2001 | PARC/eradication push for rinderpest

- **Conduct:** Risk-based vaccination, sero-surveys, “search and contain” using community informants/CAHWs.
- **Community effects:** Final relief from a historic cattle killer; restored herd growth and milk security.
- **National effects:** 2001 last case (regionally); 2011 global eradication validates integrated community–lab model.

1998–2008 | UVRI pivots to hemorrhagic fevers & HIV partnerships

- **Conduct:** Field ecology (bat/cave studies), BSL upgrades, joint UVRI–CDC/WHO networks; rapid diagnostics.
- **Community effects:** Faster outbreak response (Ebola/Marburg); risk-communication in hotspot communities (funeral, bushmeat practices).
- **National effects:** Standing VHF surveillance; Uganda recognized as OH leader.

Early 2000s | “Stamp Out Sleeping Sickness” (SOSS) in cattle–human interface

- **Conduct:** Translational One Health: mass cattle treatment with trypanocides + vector control to cut human cases.
- **Community effects:** Fewer human rhodesiense cases; improved cattle condition; strong buy-in where benefits visible.
- **National effects:** Proof-of-concept for animal-focused interventions to achieve human health targets.

2008–2021 | Pig value-chain research and ASF management

- **Conduct:** ILRI/Makerere on husbandry, biosecurity, and markets; socio-economic and disease studies inform training and practice.
- **Community effects:** Incomes improve for smallholders; better awareness of ASF risks; gradual uptake of biosecure habits.
- **National effects:** Sector growth; evidence base for pig policies and extension curricula.

2010s | CAHWs mainstreamed in pastoral belts

- **Conduct:** Standardized training/supervision pilots; digital reporting (SMS/app) to district vets; vax campaigns via CAHWs.
- **Community effects:** Reliable last-mile services; higher poultry ND and small-ruminant PPR coverage; trust loop strengthened.
- **National effects:** Momentum toward national CAHW frameworks; integration into surveillance databases.

2016–2018 | National One Health Platform & Strategic Plan

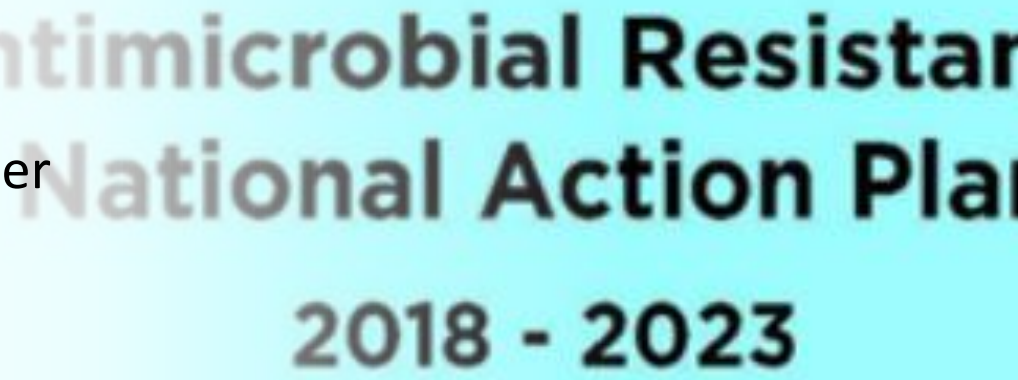
- **Conduct:** Formal multi-ministry governance; joint zoonoses prioritization; simulation exercises.
- **Community effects:** More coherent messaging during outbreaks; coordinated animal/human field teams.
- **National effects:** Institutional template for cross-sector funding, response, and research agendas.

2017–2019 | Queen Elizabeth NP anthrax & wildlife–community interface

- **Conduct:** Joint wildlife/vet/public health investigations; livestock ring vaccination; targeted community education on carcass safety.
- **Community effects:** Safer practices in fishing/agro-pastoral villages; reduced spillover risk.
- **National effects:** SOPs for wildlife carcasses; park–community health collaborations.

2015–2020 | National AMR baseline and stewardship in livestock

- **Conduct:** Residue tests (milk, meat), resistance profiling, retailer audits; extension on prudent antimicrobial use.
- **Community effects:** Rising awareness among farmers/retailers; gradual behavior change away from over-the-counter misuse.
- **National effects:** AMR action plan incorporates animal-health pillars; tighter NDA enforcement.

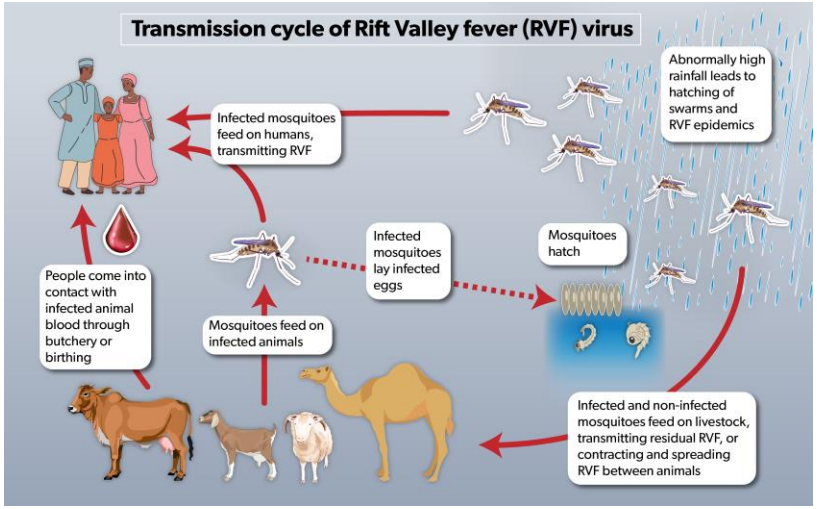


2016–2022 | Acaricide resistance & tick-vaccine trials

- **Conduct:** Field assays show multi-resistance; public labs/CoVAB coordinate rotation guidance; pilot tick vaccine evaluations.
- **Community effects:** Crisis in affected districts (losses, costs) → improved practices where rotation and advice adopted.
- **National effects:** Policy on acaricide quality surveillance; investment in local solutions (vaccines, IPM).

2018–2022 | RVF participatory risk studies and climate-linked alerts

- **Conduct:** PE surveys with pastoralists; integration of rainfall/NDVI into alerting; joint animal–human action cards.
- **Community effects:** Earlier self-protection (calving practices, milk handling, mosquito avoidance); targeted livestock vaccination where feasible.
- **National effects:** Prototype early-warning products; district contingency planning tied to climate signals.

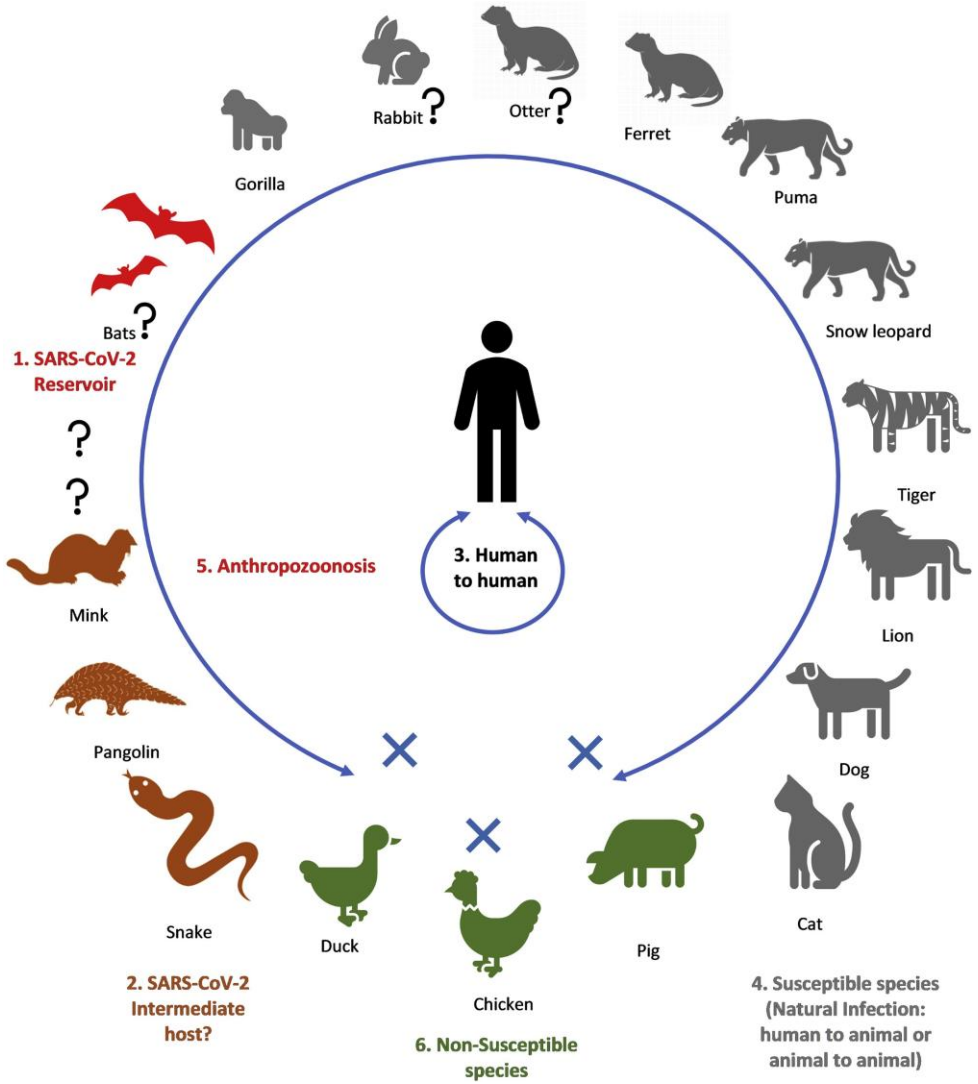


2019–2022 | Institutional animal-research ethics formalized (UNCST/IACUCs)

- **Conduct:** National guidelines; Makerere/CoVAB IACUC accreditation; routine protocol review and 3Rs enforcement.
- **Community effects:** Greater confidence in research ethics; clearer grievance channels when wildlife/lab work touches communities.
- **National effects:** Modern compliance regime; enables higher-standard trials and international collaborations.

2020–2021 | COVID-19 wildlife and farm surveillance add-on

- **Conduct:** Opportunistic sampling in bats/pangolins; advisory to farms/pets; risk communication to curb fear and misinformation.
- **Community effects:** Reduced stigma against wildlife; practical hygiene steps on farms and markets.
- **National effects:** Demonstrated agility of OH platform; built metagenomics and biosafety capabilities.



2015–ongoing | Dog-mediated rabies control intensifies

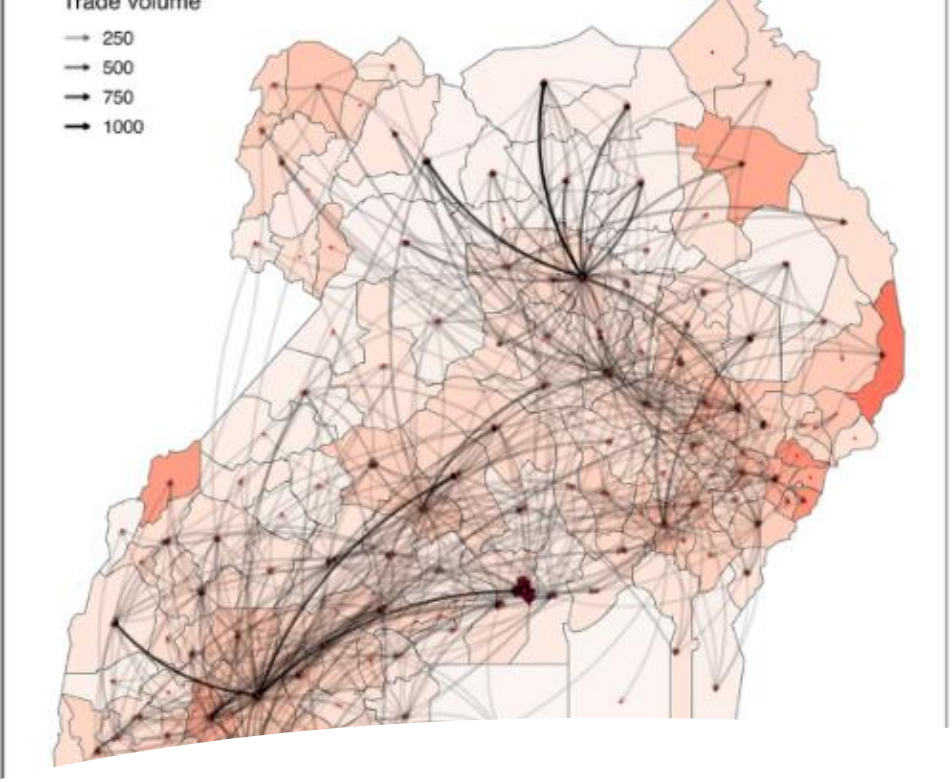
- **Conduct:** Annual mass dog vaccination (often with vet students/CSOs); bite-case management training; school programs.
- **Community effects:** Fewer human rabies deaths in participating districts; safer communities; responsible pet ownership culture.
- **National effects:** Pathway toward national elimination; budgeted, repeatable campaign model.

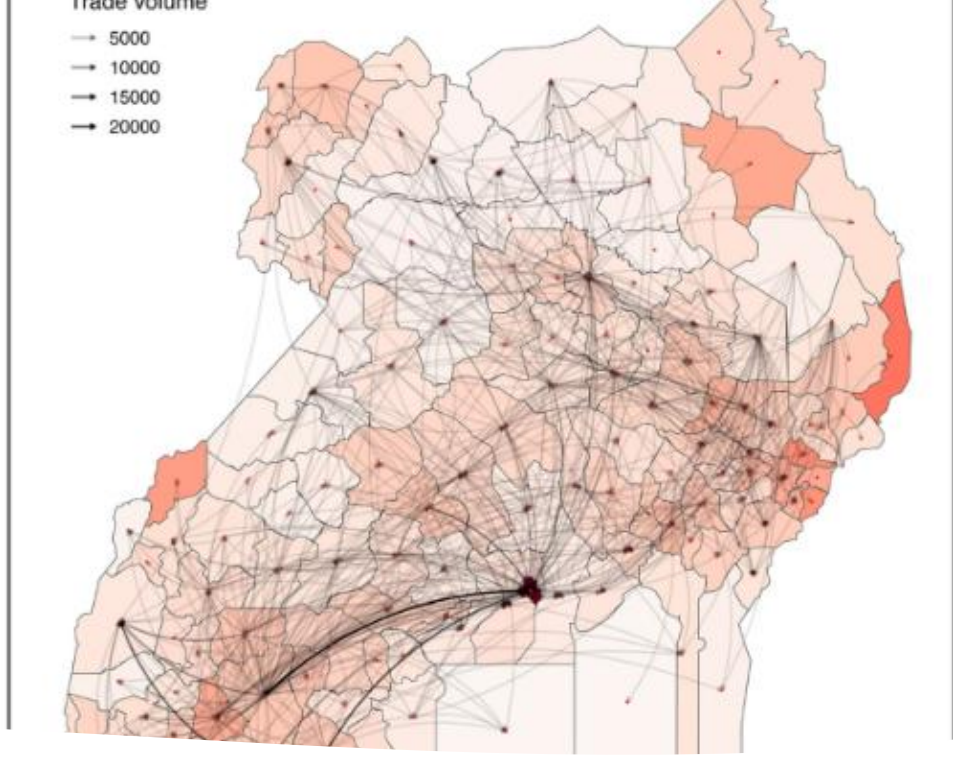
2015–ongoing | Dairy quality & mastitis research into practice

- **Conduct:** Field trials of hygiene, teat-dipping, rapid tests; graded pricing pilots at collection centers.
- **Community effects:** Better farmgate prices for quality milk; reduced antibiotic misuse; consumer safety gains.
- **National effects:** Evidence for national milk standards enforcement; integration into dairy extension.

2016–ongoing | Wildlife–livestock buffers & disease belts

- **Conduct:** Co-designed buffer schemes (fencing/water points), vaccination belts at park edges; joint carcass reporting drills.
- **Community effects:** Reduced conflict and cross-species disease events; more predictable grazing access.
- **National effects:** Park–district MOUs; replicable templates for other protected areas.





2017–ongoing | Digital disease reporting and dashboards

- **Conduct:** Pilots with CAHW/farmer apps → district vet dashboards; abattoir syndromic feeds.
- **Community effects:** Faster feedback loops; visibility of action builds trust in reporting.
- **National effects:** Steps toward integrated national animal-health information system.

2021–present | ISO-aligned veterinary labs and QA culture

- **Conduct:** Reference/regional labs implement EQA, ISO 17025 roadmaps; proficiency panels; drug-quality spot checks.
- **Community effects:** Quicker, more reliable results for farmers; fewer false treatments.
- **National effects:** Trade credibility; evidence-based policy strengthened.

2023–present | Climate-smart livestock & insurance pilots

- **Conduct:** Breed trials (heat/tick tolerance), fodder banks, parametric livestock insurance linked to satellite indices.
- **Community effects:** Improved drought resilience; shock absorption for pastoral households.
- **National effects:** Mainstreaming climate risk into animal-health policy and budgets.

What this timeline shows

- **Conduct matters:** Heavy-handed colonial tactics saved lives but bred mistrust; participatory, ethics-anchored approaches in recent decades improved uptake and equity.
- **Communities as co-researchers:** Where herders, CAHWs, and market actors shaped questions and data, outcomes stuck—and scaled.
- **Institutions learn by doing:** Each incident left a governance imprint (labs, laws, OH platforms, IACUCs, digital systems) that raised Uganda's readiness for the next shock.

What this timeline shows

- Respectful engagement
- Consent that is informed, ongoing, situated
- Risk–benefit fairness
- Stigma and unintended harms
- Data sovereignty & feedback
- Benefit-sharing & acknowledgement
- Animal welfare
- Cultural safety & historical memory
- Equitable access to resulting interventions

What this timeline shows

- Conflicts of interest & commercial pressure
- Environmental ethics at the interfaces
- Emergency ethics (outbreaks, fast calls) — Be fast *and* fair.
- Make co-production default
- Institutionalize feedback & benefits
- Lock in ethics capacity

THANK YOU

Acta Non Verba. Deeds Not Words