

Regulatory Pathways for Animal Biotechnologies in Africa: Trends and Implications

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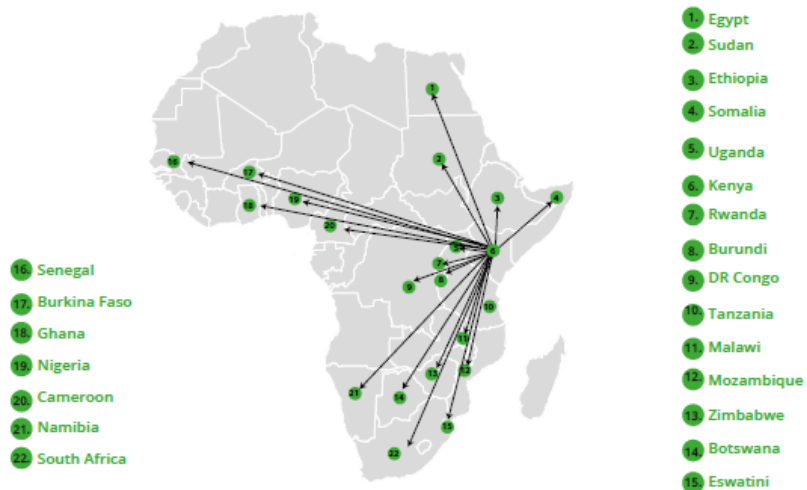
3 November 2025, ISBR Ghent, Belgium



ISAAA AfriCenter at a Glance

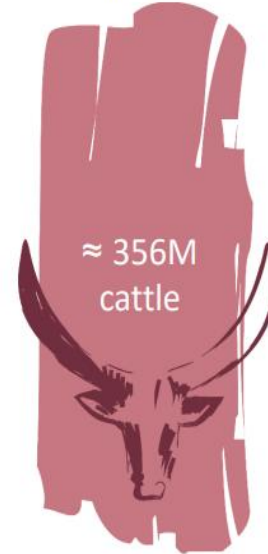


OUR REACH



Africa is Mega-Diverse in Animal Resources

Africa is a livestock-rich continent representing about one-third of the world's livestock population



31M camels



6.5 M horses



30M donkeys



885,000 mules

The livestock sector contributes 30 - 80% of agricultural GDP of individual SSA countries (Malabo Montpellier Panel 2020)

Source: Center for Tropical Livestock Genetics and Health

Genome Editing in Africa – An Early Takeoff

Promising interventions on:

- Disease outbreaks detection
- Neglected livestock disease burden
- Abiotic stresses – heat tolerance
- Productivity of indigenous breeds

*Rich diversity offers potential solutions

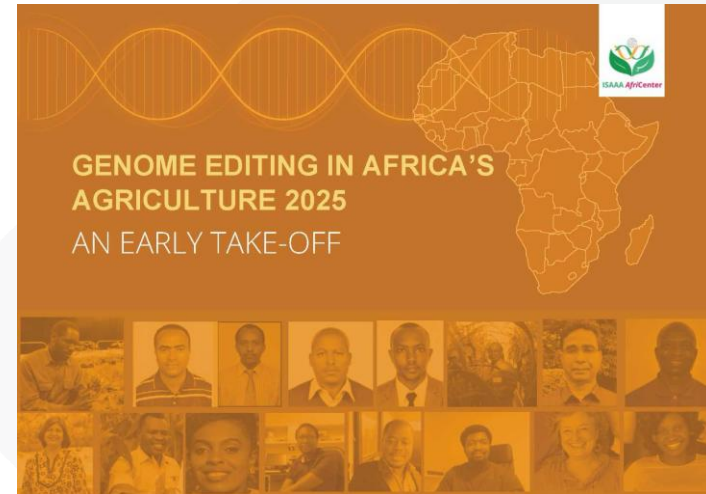


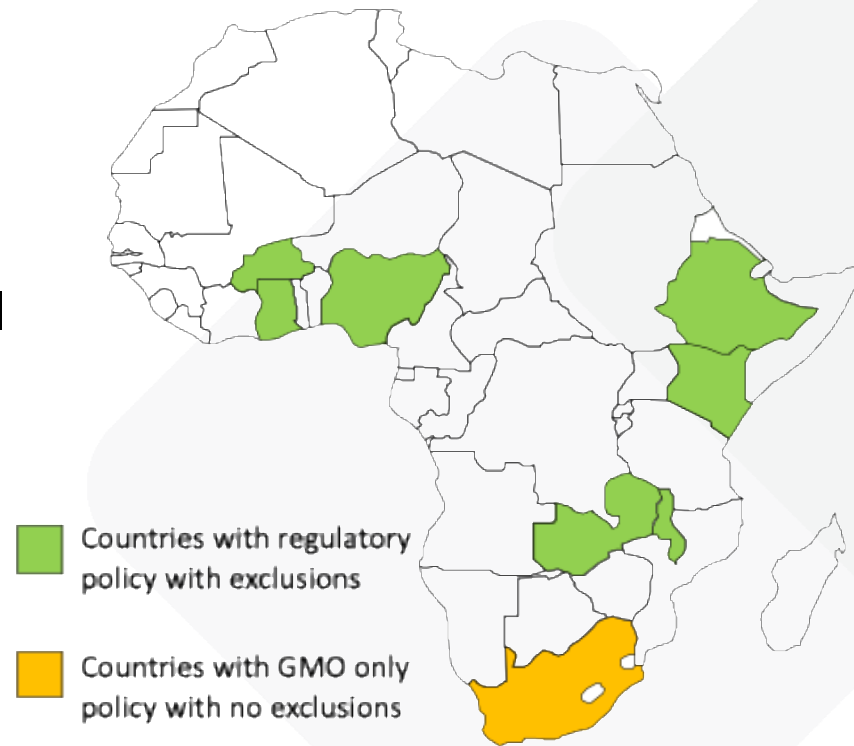
Photo credit: IFPRI

Translating products to market: Clear, Risk-proportionate Regulatory Pathways

A promising trajectory for application
of GnEd in animal agriculture:

7 Countries – so far

- **Excludes** GnEd animals without novel traits from GM regulatory oversight
- Products treated as **equivalent** to conventionally bred
- **Implication:** Streamlined R&D, potential acceleration to market where risk profile is conventional-like



Map: Diane Wray-Cahen, Ph.D.

Africa Regulatory Landscape for Genome Editing Applications

Two Regulatory Models:

- **Product-based:** oversight triggered by novelty of trait and plausible risk
- **Process-based:** oversight triggered by use of specific techniques (e.g., rDNA)

Africa shows increasing convergence toward **product-based treatment for certain edits.*

Policy Framework for Applications of GE in African Agriculture

- **The Framework:** Provides a strategic **blueprint** for 55 AU member states on GE in agriculture:
 - Policy formation
 - Regulatory mechanisms
 - Investment alignment
- **Expected Harmonization Payoffs:** Reduce duplication costs, predictable regulatory oversight, facilitate intra-regional **trade**



Pathway for Regulatory Decisions - Progress

Decision points:

- 1) Was the edit intended to introduce a **novel trait** with new risk hypotheses?
- 2) Is the resulting genotype **indistinguishable** from **conventional** outcomes?

Outcomes:

- No novel trait/no new hazards → **non-GM pathway** (general food/feed/animal health laws).
- Novel trait/new hazards → **biosafety assessment** (GM oversight)



*Africa's 1st determination for GEd
Animal by Kenya National
Biosafety Authority
Trait: Heat tolerance*

Practical Implications: Adoption and Trade



- **For innovators:** Shorter timelines, clearer evidence expectations, **regulatory certainty**
- **For regulators:** Optimized resource allocation; focus on dossiers with **credible risk hypotheses**
- **For markets:** Regional coherence underpins **market access** and consumer confidence if paired with transparency

Communication: Tackling Misinformation and Disinformation

- **Challenge:** Persistent false narratives undermining public **trust** and uptake.
- **Response:** Coordinated, evidence-based **communication**; proactive stakeholder **engagement**; **One Health approach framing**
- **Models that Work:** Breaking silos – Innovations for Animal-human-crop-environment improvement facing similar backlash calls for **co-creating solutions and building community of practice**



ABBC 2025 LUSAKA DECLARATION AND CALL TO ACTION

Africa Biennial Biosciences Communication Symposium
(ABBC 2025) - 6th Edition

August 26 - 28, 2025

Lusaka, Zambia

*The War on Science: How Can We Overcome the Burden of
Misinformation and Disinformation?*



Take Home: Conclusions and Policy Options

- **Signals:** Africa is converging on **product-based, risk-proportionate** oversight for GnEd animals
- **Next steps:** Pilot regional **cooperation with trait of wide regional interest for regulatory determination**; invest in regulatory **capacity** and **communication**
- **Call to action:** Align **policy, communication, and investment** to strengthen resilience, productive, and sustainable livestock sector

ISAAA AfriCenter 5 Strategic Pillars

**Spur informed
policy and choice
through robust
knowledge sharing**



**Enhance bio-
innovation
ecosystems**



**Build critical
science
communication
& diplomacy
skills**



**Provide policy &
regulatory clarity
for informed
investment
decisions**



**Convene multi-
stakeholder platforms
to break silos,
synergize efforts (e.g.
IWRAAAB, ABBC..)**



“

*Knowledge is like a baobab tree; no one
can encompass it with their hands*

THANK YOU

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