AABNet

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Lifetime membership

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Annual professional membership

Provides yearly access to resources and networking.

ANNUAL STUDENT MEMBERSHIP

USD 10

Annual student membership

Offers resources and networking for students in related fields.

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66%

Households not able to afford healthy diets in Africa (World Food Program)

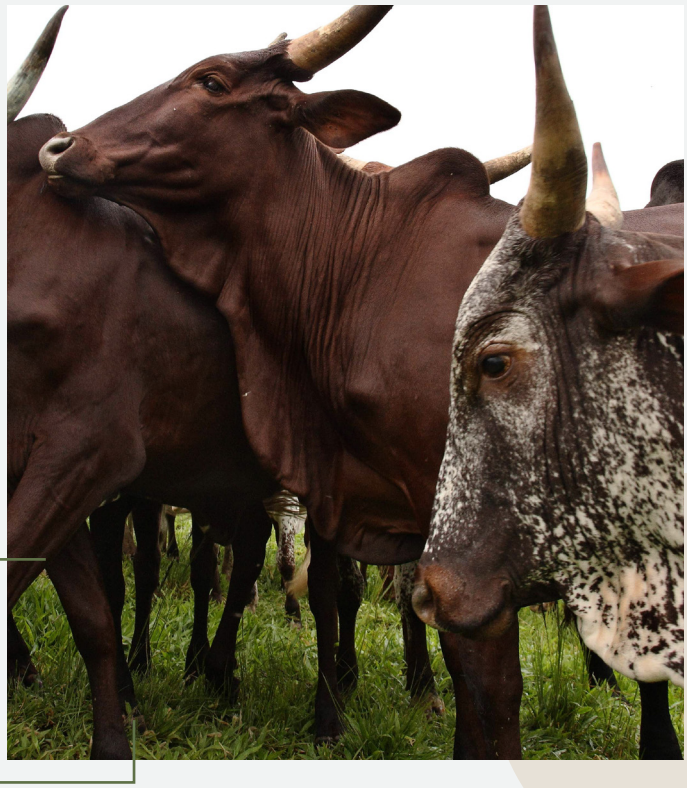
AABNet's role in Pioneering Livestock Genetic Improvement Across Africa Featured in Nature Genetics Scientific Journal

In Africa, agricultural transformation is mainly based on improving livestock productivity, which is crucial in achieving food security, climate resilience, and financial freedom. The African Animal Breeding Network (AABNet) is leading this agricultural revolution, a platform that aims to improve the genetic capabilities of livestock in Africa. AABNet connects breeders, policymakers, and researchers, tapping into Africa's rich genetic resources for a more sustainable livestock sector.

The platform brings together highly knowledgeable geneticists, animal breeders and professionals willing to provide information, training, advice and support across the continent.
Genetic improvement is still limited in Africa despite agriculture playing a key role in economies and lives in general.

The platform is positioned as a sustainable solution to breeding data gaps, inefficient human capacity with knowledge in breeding, livestock diseases, and ineffective breeding practices. It leverages available human resources among its members, facilitates partnerships and investments and develops infrastructure for innovative livestock genetic improvement in Africa.

Read more:
https://www.nature.com/articles/s41588-025-02079-4



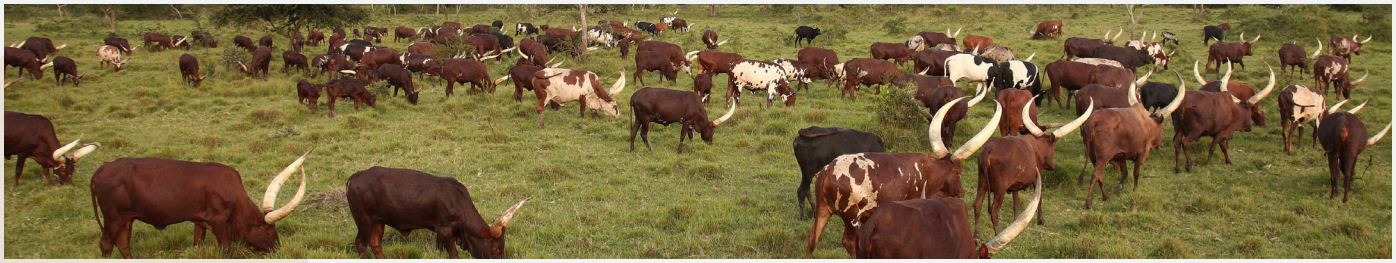
AABNet **connects** breeders, policymakers, and researchers, tapping into Africa's rich genetic resources for a more **sustainable** livestock sector.

The Genetic Structure and Diversity of Smallholder Dairy Cattle in Rwanda

Most livestock production systems in low—and middle-income countries rely on crossbred cattle derived from exotic and indigenous genetics to harness the local adaptation traits of Indigenous breeds and the high milk yield potential of exotic dairy breeds. Most smallholder dairy systems in Africa are characterised by using poorly defined multi-generation genotypes of exotic and local breeds and managing fewer than ten dairy cows.

Despite the overall low productivity compared to intensive systems, these smallholder farms are responsible for up to about 85% of the total milk produced within the region. In particular, Rwanda benefits from national and non-governmental initiatives to promote farmer income and dairy productivity among smallholder households. Rwanda's dairy sector largely depends on smallholder farmers using crossbred cattle, including local and exotic breeds.

A recent study by Oluyinka Opoola et al. evaluated the genetic makeup of 2,229 crossbred animals in Rwanda's dairy-producing regions. The results revealed a highly mixed cattle population with well-established, novel and lesser-known genes under selection.



The breed composition in Rwanda was Holstein-Friesian (42%), Jersey Island (18%), non-Island Jersey (12%) and other/indigenous breeds [Ankole, N'dama, Gir, etc.] (28%). Crossbreeding patterns were similar across provinces, with slight regional variations due to climate and feed availability. The study also revealed a high average heterozygosity, which indicates good genetic diversity and low inbreeding levels, suggesting a healthy genetic structure.

This observed diversity offers the opportunity to decipher the presence and/or lack of genetic variations to inform short- and long-term breed improvement programmes for adaptation traits, disease resistance, heat tolerance, productivity and profitability of smallholder dairy systems in Rwanda.

A recent study by Oluyinka Opoola et al. evaluated the genetic makeup of 2,229 crossbred animals in Rwanda's dairy-producing regions.

While the study provides insights into the sustainable application of genomics for livestock adaptability to climate change and the availability of animal-based sourced foods, it also emphasises the need to monitor and maintain the diversity of locally adapted Indigenous cattle breeds in Rwanda, East Africa, and the tropics to prevent biodiversity losses.

This study was funded by Jersey Overseas Aid. Among the researchers of the study are Mizeck G. G. Chagunda, Raphael Mrode, and Appolinaire Djikeng, members of the African Animal Breeding Network (AABNet) - a pan-African initiative established to enhance livestock genetic improvement across the continent. Through its core pillars of (1) multi-country genetic evaluation, (2) professional development, (3) advocacy, awareness, and business development, and (4) collaboration, networking, and partnerships, AABNet seeks to drive the development and dissemination of improved livestock genetics and broader genetic improvement solutions in Africa.

The study is documented on Springer Nature's BioMed Central (BMC) Genomic Data open access publisher and can be accessed here:

https://bmcgenomdata.biomedcentral.com/articles/10.1186/s12863-025-01323-4.

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AABNet Open-access Publication on "African Livestock Genetic Resources and Sustainable Breeding Strategies" Featured in Springer Journal

Africa's indigenous livestock are particularly hardy and well-adapted to local production contexts, having evolved adaptations to the continent's diverse climatic conditions and environmental pressures.

Despite the wealth of desirable genetic traits, some of Africa's iconic and lesser-known livestock are disappearing at an alarming rate. Moreover, despite increasing recognition of what this diversity portends, little has been done to understand and optimally harness the full potential of these genetic resources.

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The African Animal Breeding Network (AABNet)'s forthcoming open-access publication on Springer Nature's Sustainable Development Goals (SDG) Series, "African Livestock Genetic Resources and Sustainable Breeding Strategies: Unlocking a Treasure Trove and Guide for Improved Productivity," is scheduled for release in 2025.

The book traces the special productive and adaptive attributes of African livestock breeds, past breed improvement efforts, capacity building, and strategies to utilise available genetic resources in modern technologies effectively.

The open-access book, which aligns with SDG 2 (Zero Hunger) and SDG 15 (Life on Land), is a rich resource chronicling Africa's abundant livestock genetic resources. It focuses on enhancing food security and conserving biodiversity in Sub-Saharan Africa.

The book traces the special productive and adaptive attributes of African livestock breeds, past breed improvement efforts, capacity building, and strategies to utilise available genetic resources in modern technologies effectively. The authors cover major farm animal groups, dromedaries, rabbits, and grasscutters.

It offers insights into harnessing Africa's unique genetic resources for improved productivity and resilience.

By combining scientific basis and practical instructions, this work is a valuable manual for a diverse readership, including students, researchers, livestock farmers, livestock and non-governmental organisations, policy makers and business professionals who want to understand the uniqueness of African livestock genetic resources, production systems and strategies for sustainable improvement for the African environment.

It offers insights into harnessing Africa's unique genetic resources for improved productivity and resilience. As an open-access publication, it will be freely accessible to readers worldwide.

Editors: Eveline M. Ibeagha-Awemu, Sunday O. Peters, Appolinaire Djikeng, and John Edward O. Rege.

Get a hardcover or eBook copy here:
https://link.springer.com/book/9783031920752

How AABNet Is Transforming Livestock Systems Through Genetic Innovation in Africa

AABNet Side Event held during CGIAR Science Week at the United Nations Headquarters in Nairobi.

Africa's livestock sector is growing but still faces challenges, cutting across climate change, diseases, and technical capacity. AABNet addresses these challenges by creating a platform for collaboration, researssch, and knowledge sharing.

The network, hosted by CoELIB, also champions youth agripreneurship, policy advocacy, and professional training to improve the technical capacities of stakeholders across value chains. communication media and advocacy.

During the CGIAR Science Week (7th to 12th April 2025) in Nairobi, Kenya, Prof. Alexander Kahi, Director CoELIB, presented on AABNet's role in advocacy, awareness, and business development across the African livestock sector.

Awareness efforts cut across three interlinking areas of (1) awareness, i.e., increasing understanding, knowledge, or consciousness about particular livestock-related issues, topics, or

> "The time is ripe to move from success stories to system-wide transformation. AABNet is not just a platform but a movement aimed at unlocking Africa's livestock potential through science, innovation, and inclusive business strategies." Prof Kahi, Director CoELIB.

AABNet exhibition at the inaugural CGIAR Science Week.

Science Week in session. Image courtesy of CGIAR.

situations through effective information-sharing; (2) advocacy, i.e., designing and implementing strategic messaging to inform, educate, and influence decision-making processes; and (3) behaviour change communication (BCC), i.e., influencing adoption and social behaviors by addressing knowledge, attitudes, and practices.

Science Week in session. Image courtesy of CGIAR.

Business development cuts across (1) innovating, i.e., nurturing innovative ideas and turning them into profitable ventures, (2) incubating, i.e., nurturing business start-ups by helping them survive and grow during the early development stages and (3) investing, i.e., linking enterprises to high profile investors for scale-up.

Businesses incubated by CoELIB, including Malkia Incu-brooder, Agrisolve Data World, and MolaPlus show how advocacy, awareness and business development can bring change across the livestock sector.

The centre's CoELIB Incubar, African Dairy Academy, CoELIB TV and CoELIB Radio, and CoELIB Workforce development programmes have helped tackle farming and food challenges in Africa through communication, media, and advocacy to enhance livestock productivity, food security, sustainability, and socio-economic well-being.

Businesses incubated by CoELIB, including Malkia Incu-brooder, Agrisolve Data World, and MolaPlus show how advocacy, awareness and business development can bring change across the livestock sector.

With over 25,000 farmers supported and the capacity of more than 50,000 youth built across 49 African countries, CoELIB's model can be used as a scalable blueprint for livestock transformation.

Looking forward, AABNet seeks to strengthen multi-stakeholder networks, encourage farmer-led livestock business ventures, and enhance the region's capacity to innovate in the face of global challenges.

"The time is ripe to move from success stories to system-wide transformation. AABNet is not just a platform but a movement aimed at unlocking Africa's livestock potential through science, innovation, and inclusive business strategies." Prof Kahi, Director CoELIB.

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Want to share our vision of advancing livestock genetic improvement across Africa?

Get in touch today!

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