



New service to bring genetic data to African livestock breeding

BY YOHANES JEMANEH

ADDIS ABABA - African farmers who now breed animals by appearance or traditional means could soon rely on genetic data instead, following the launch in Addis Ababa of a continent-wide livestock evaluation service.

The African Genetic Evaluation Services (AGENES) was launched yesterday at the International Livestock Research Institute (ILRI) campus. It is designed specifically for African livestock systems and aims to help countries across the continent make better-informed breeding decisions and accelerate livestock improvement.

Centre for Tropical Livestock Genetics and Health (CTLGH) Director Prof. Mizeck Chagunda said many African farmers still rely on physical appearance or traditional means, overlooking the genetic quality that determines an animal's real value. By identifying top-performing animals through AGENES, farmers can produce superior offspring that deliver significantly higher yields of milk, meat and eggs. That productivity, he said, translates directly into higher farm profits, stronger regional food security, reduced poverty and increased national agricultural revenue.

AGENES was developed through a partnership between CTLGH and a team at Scotland's Rural College



Partnership delivers genetic evaluation service for African livestock breeders

(SRUC). It offers a multi-species genetic evaluation pipeline that converts livestock data into estimated breeding values, helping to identify animals with desirable genetic traits for breeding. Chagunda explained that it is a digital software package that processes performance data from individual animals to reveal their true genetic breeding potential, allowing livestock managers to make informed selection decisions.

Pointing to the gap between Africa's livestock population and its earnings, he noted that the continent holds roughly 20 percent of the world's cattle but generates only 5 percent of global income from them. He stressed that the shortfall stems from unrealized performance rather than external financial drain. The continent's large animal population produces far below its potential, making genetic selection an essential tool for economic growth.

Chagunda also underlined that indigenous animal populations must be protected in all countries, as indiscriminate breeding often leads to

the loss of valuable native genetic material. The program aligns its software with the legal frameworks and conservation goals of each participating country.

Rather than trying to reach millions of individual smallholders directly, the initiative works through existing national structures, such as government ministries and local breed societies. Representatives of these organizations act as intermediaries, passing data and breeding recommendations on to farmers.

The project began with eight countries including Ethiopia, Kenya, Tanzania, Malawi, Zimbabwe, Botswana and Nigeria. The team aims to expand across the continent to maximize impact. According to Chagunda, CTLGH establishes baseline performance statistics when it enters a country and evaluates progress over five-year cycles to track long-term gains in yield and economic security.

Representing the African Union Inter-African Bureau for Animal Resources (AU-IBAR), Livestock and Cli-

mate Change Expert Showman Gwotibaya outlined a strategy centered on Regional Economic Communities (RECs) such as SADC and COMESA. By coordinating with these regional blocs, AU-IBAR can engage individual member states and encourage broader adoption across Africa.

He described AGENES as a critical tool for improving breeding practices, particularly in addressing the low productivity that characterizes many low-input production systems on the continent. Higher yields, he said, are expected to create ripple effects: better local livelihoods, higher farmer incomes and improved community nutrition.

As the primary continental body for livestock development, AU-IBAR provides the institutional facilities and coordination frameworks needed to support programs like AGENES across African nations, he added.

He stressed that data collection is the single most important factor in the program's success, and urged farmers, academic and re-

search institutions, breeders and national governments to collaborate in gathering and sharing livestock data. Comprehensive data is necessary for AGENES to accurately characterize and evaluate native African breeds.

Presenting a paper at the event, SRUC Geneticist and Bioinformatician Getinet Mekuriaw said that national animal identification and automated analysis, if implemented in Ethiopia and across Africa, could transform the continent's livestock sector.

He pointed to a stark economic reality: African nations spend huge sums every year importing foreign livestock breeds and dairy products, an amount he compared to the cost of major infrastructure projects such as the Abbay Dam, even though the continent has large native cattle populations. He attributed this to the historical lack of organized registration systems and long-term data tracking.

By bringing advanced genomic tools to Africa, AGENES aims to empower local communities and build

a unified biological data system across African nations, Getinet said. Ultimately, he envisioned the platform giving African countries equal negotiating power and a stronger voice at international decision-making tables on global livestock genetics.

Tsigereda Fikadu, Advisor to the State Minister for Livestock and Fishery Development at Ethiopia's Ministry of Agriculture, said the launch comes at an important moment for Africa.

"If we are to build livestock systems that can feed our growing populations, create jobs and incomes, withstand climate and environmental pressures, and contribute to sustainable agricultural transformation, we must invest not only in animal health and management, but also in the genetic potential of our livestock populations," she said.

Tsigereda urged participating countries, researchers, breeding organizations and development partners to make full use of AGENES by integrating it into national breeding programs, strengthening data collection and recording, building local technical capacity, and ensuring that the benefits of genetic improvement reach farmers across Africa.

"Let us work together to move from potential to performance, from data to evidence, and from evidence to better breeding decisions," she stressed.