



Programmes” the Africa Regional Nutrition Strategy 2015-2025 of the African Union, recommendation number 7 indicates “Facilitate production diversification, and increase production of nutrient-dense crops and small-scale livestock.” This is very crucial for the much needed

balanced diets. As such even the AU accepts that livestock is a big part of overcoming the malnutrition burden.

Apart from the potential contribution to human nutrition, livestock are an important asset in Sub-Saharan Africa (SSA), and have been shown to contribute significantly to rural development through the provision of food, cash, manure and general

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livelihoods in the rural and peri-urban households. Africa has the largest population of livestock in the world. There are even countries in Africa that have a lot

Building resilience in human nutrition through human capital development in animal breeding on the African continent

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Livestock play an enormous role in human nutrition. This role is even more pronounced given the fact that some of the micro nutrients and vitamins that are very essential for functions such as human cognitive development, nervous system development, and robust immunity and haematopoiesis are predominantly available from animal-based food. Examples of such nutrients are Riboflavin, Vitamin B12, Calcium, Zinc, Iron, and Vitamin A. Deficiencies of these nutrients in the human body have several severe consequences. According to the Africa Regional Nutrition Strategy (ARNS) 2015-2025, “The continued high level of malnutrition in Africa is a matter of serious concern that goes far beyond the already well recognized public health impact”. Citing the FAO’s “Key Recommendations for Improving Nutrition through Agriculture

more livestock per capita than is found anywhere in the world. However, different scientific studies have demonstrated that with most livestock species in Africa, there is a large gap between potential yield and actual yield. This yield gap has persisted for a long time, making Africa a net importer of livestock products. This situation has led to farmers not extracting optimal profits from their endeavours, and society not obtaining the required nutrition from the available livestock.

Despite these shortfalls, livestock development in Africa remains one of the key drivers for socio-economic transformation and resilience in farming communities. Further, livestock development is important for the continent to meet sustainable development goals, and to address other global challenges of our time. Apart from the low productivity, it is well documented that suboptimal efficiency in agriculture production has resulted in biodiversity loss, water pollution and environmental impact. Part of this negative impact can be directly attributed to inefficiencies in the value chain for livestock production. Just like most developing regions, SSA is faced with the challenge to rapidly increase agricultural productivity to help feed its growing human population without depleting the natural resource base. Efficient production systems have a vital role to play in enhancing livestock's contribution to sustainable livelihoods in an optimal manner.

In most livestock producing regions of the world, animal breeding for increased productivity has been demonstrated to improve growth rate, milk yield and egg production and hence providing quality food for humans. Most of this success has taken place in the past 50 and 60 years. Despite having a large population of livestock, most countries in Sub-Saharan Africa have not registered such success. Genetic improvement of livestock through animal breeding depends on access to genetic variation and effective methods for exploiting this variation. Lack of critical mass of human capital has been one of the most impeding factors which has led to lack of exploiting the said variation. As such we so have very little well-defined animal genetic improvement in Africa. Systematic breeding programmes, clearly designed development mating systems, consistent animal recording initiatives, robust genetic evaluation and animal selection enterprises, professional development and advocacy interventions are conspicuously lacking. Recent studies in dairy cattle have also shown that there would be more genetic

gains with a Pan-African genetic improvement programme than with individual country efforts. More would be achieved with multi-faceted approaches while focusing on a common goal. This is where sound human capacity in animal breeding is not only required but is also a prerequisite for building resilience in human nutrition through animal production on the African continent.

The African Animal Breeding Network (AABNet) is a pan-African initiative that was established in the year 2020 to create an opportunity to work closely together in driving the "Innovations to support productive, efficient and resilient livestock systems in Africa". With the vision to drive the development and dissemination of improved livestock genetics and broader genetic improvement solutions in Africa, AABNet is set to create a suitable interface for strong and long-term engagement between academia, industry, farmer-organisations, public sector and other development agents. AABNet will focus on capacity development and knowledge transfer for animal breeding, and creating innovations to support livestock genetic improvement in Africa. The delivery of the AABNet's strategic objectives is anticipated to be achieved through:

1. Multi-country genetic evaluation to support decisions and inform genetic merits of livestock germplasms
2. Professional development linked to talent and technology incubation
3. Advocacy and awareness, business development linked to livestock genetic improvement
4. Innovative partnerships to support equitable collaborations between academia, public sector and governments, private sector and livestock farmers' organisations.

Operationally, the AABNet will create sustainable interfaces for strong and long-term engagement between academic, industry, farmer-organisations (including breed associations), public sector, and philanthropic and development agencies to drive the development and dissemination of livestock improved genetics and broader genetic improvement solutions in Africa. AABNet is registered with the Registrar of Societies in Kenya under section 11(2) of the Societies Act and has a full constitution. Currently, AABNet is housed and hosted by Egerton University in Kenya under a hosting agreement.

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