

ABSTRACT

Current projections indicate that 25% of human population of 9.5b in 2050 will be in Africa. Sub-Saharan Africa (SSA) with about 21% of the world grazing land for ruminant production currently accounts for only 8% of world ruminant output. If this poor trend in agricultural productivity continues, the surge in demand, climate change and dwindling natural resources required for food production, will leave Africa in a highly vulnerable food insecurity position by 2050. Poor performance of the African livestock sector is attributable to breed deficiencies, low production capacity, inefficient production systems and limited investment especially in long-term livestock genetic improvement. Advances in information communication technologies, data capture, modelling, and genomics provide opportunities to make livestock production and breeding in Africa efficient and sustainable. The African Animal Breeding Network (AABNet) is a new professional platform established to mobilise expertise and resources and to coordinate stakeholders in deploying new tools to effectively address these challenges. It will support capacity development, transformation of production systems, design and implementation of genetic improvement programs. AABNet acknowledges that routine collection of data is foundational to livestock improvement and recognises the role that ICAR has played in this respect around the world championing animal identification and recording. While poor infrastructure and production systems characterized by small and fragmented herds have made recording systems and practices almost impossible in Africa in the past, advances in digital technology have opened new opportunities for the future. The feasibility of phone-based and ICT-driven recording schemes and feedback systems have been demonstrated in the African Dairy Genetic Gains (ADGG), African Chicken Genetic Gains (ACGG) and small ruminants Community Based Breeding (CBB) programs in five African countries while handheld devices are also routinely used in agricultural production and marketing in many parts of Africa. This paper highlights some of their results, emerging opportunities and potential for upscaling especially in combination with the application of genomic selection to facilitate genetic improvement to revolutionize livestock production in Africa. It also presents and discusses the four operational pillars of AABNet proposed to bring about sustained livestock improvement and production in Africa: (i) professional development, talent and technology incubation (under the flagship program African Animal Breeding Academy-AABA); (ii) multi-country genetic evaluation; (iii) advocacy and creation of awareness, especially the business case for livestock genetic improvement; and (iv) collaboration and networking.