



## KEY CASE STUDY

# COMMUNITY BASED BREEDING PROGRAMMES

## FOOD SECURITY

AbacusBio consultants have been working to expand the existing community-based breeding programme (CBBP) for small ruminants in Africa. The CBBP project aims to improve the livelihoods of smallholder sheep and goat farmers by implementing sustainable breeding schemes. One of the biggest challenges for the small ruminant industries in Ethiopia and Tanzania is low productivity primarily due to high lamb and kid mortality, low growth rates, and long lambing and kidding intervals.

The CBBP's have so far resulted in the effective delivery of improved livestock, seeking improvements in production systems, policies, and institutional arrangements, maximising the long-term effectiveness of genetic interventions. The effective implementation of genetic improvement programmes however depends on technology infrastructure to collect, store, and process performance data and pedigree information. "This relies on a user-friendly system that deals with information flowing from farmers to the CBBP technical team, which reports back to the farmers," stated AbacusBio consultant Mark Teviotdale.

The CBBP's were initiated from a partnership between the International Center for Agricultural Research in the Dry Areas (ICARDA) and the Brazilian Agricultural Research Corporation (EMBRAPA).

The collaboration with AbacusBio was established through the use of Dtree and supported by the New Zealand Ministry of Foreign Affairs and Trade (MFAT). Dtree is a cloud-based data capture system developed by AbacusBio.

The platform targets performance data recording, analysis, and reporting in livestock production systems for commercial, government, and aid projects, where infrastructure for agricultural industries limits data collection and genetic evaluation.

"The virtual environment consolidates, refines, and out-scales the implementation of effective CBBPs in Ethiopia and Tanzania". It also involved the release of the tool for existing participants and the development of a mobile application that facilitated interaction between farmers and the CBBP team.

Mark and fellow colleague Bruno Santos recently visited Ethiopia and Tanzania to provide technical workshops, training, and deployment of the Dtree platform. One of the main reasons for the trip was to scope requirements for developing the mobile application. During this period, a series of community site visits also provided insight into the functionality of Dtree and helped inform critical analysis of its implementation and future chances of success.

→ CBBPs are a farmer-participatory approach, having common interest to conserve and improve their genetic resources under low-input production system

→ Africa's population will nearly double by 2050 and quadruple by 2100, making it harder to feed communities and generate wealth

→ In sub-Saharan Africa, 1 out of 4 people lack adequate food for a healthy and active life.

→ Nearly two-thirds of the region's people live in rural areas, relying on small-scale agriculture for livelihood.

