

# Journeying towards a sustainable dairy breeding program in Tanzania

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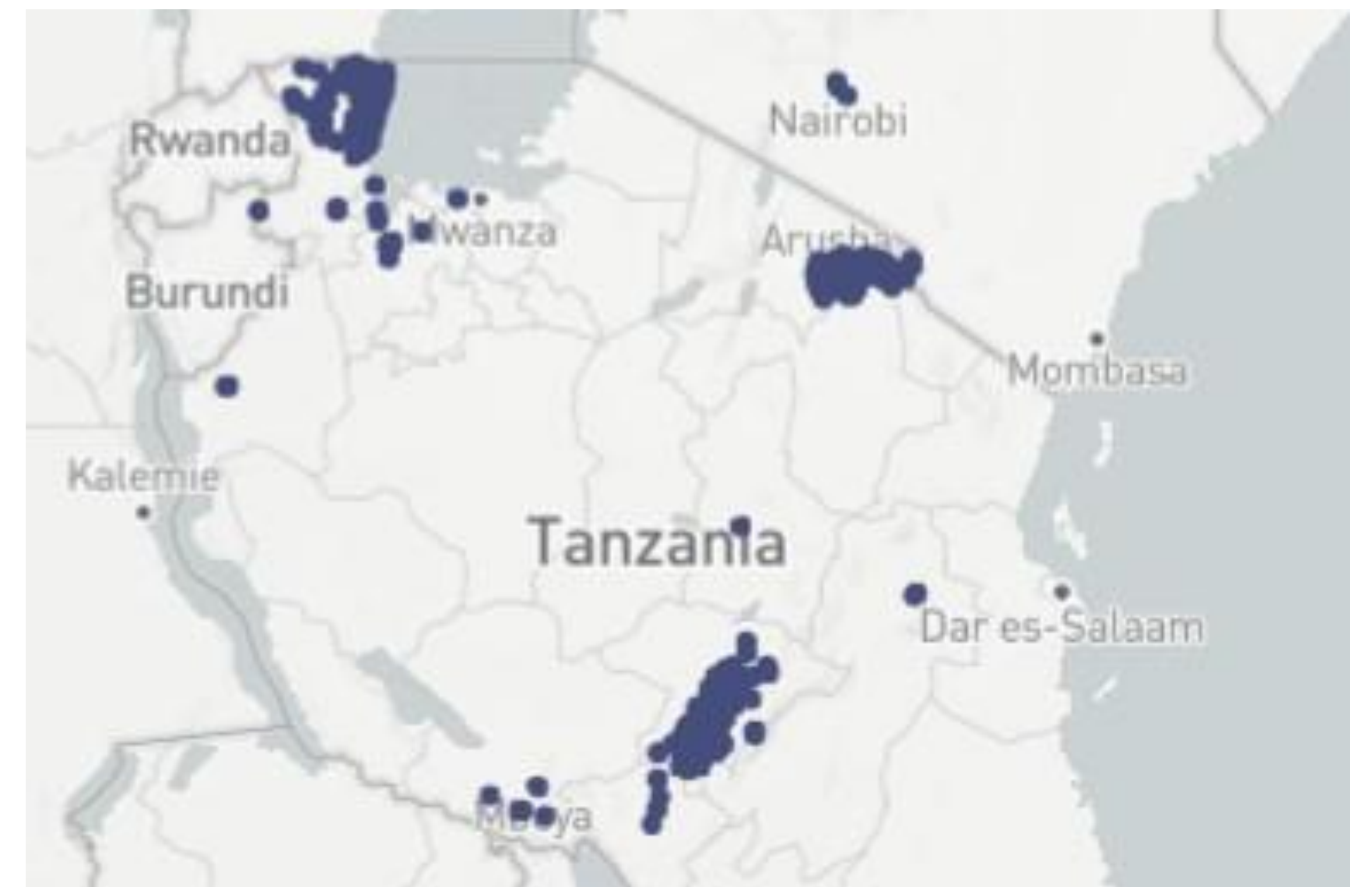
## Goal

Breeding programs that deliver improved genetics that are adaptable to the local environments and smallholder management systems are possible and sustainable when supported by: **digital tools for data capture, integration of genomic analyses, enhanced capacity of national partners and participation of private and public sector actors.**

## Background

- Smallholder dairy contributes the largest proportion of milk in Tanzania.
- Farmers do not have access to productive and adapted seedstock that best suit their production systems
- Access to information to enable farmers extract optimum benefits from their livestock enterprises is limited
- There is no systematic and sustainable selection and breeding program for dairy cattle
- Artificial insemination is used to deliver exotic genetics but is not accessible to all neither is it supported by empirical data and feedback systems.
- A nationally harmonized animal identification system is in place but is not widely implemented.

## Project sites in Tanzania

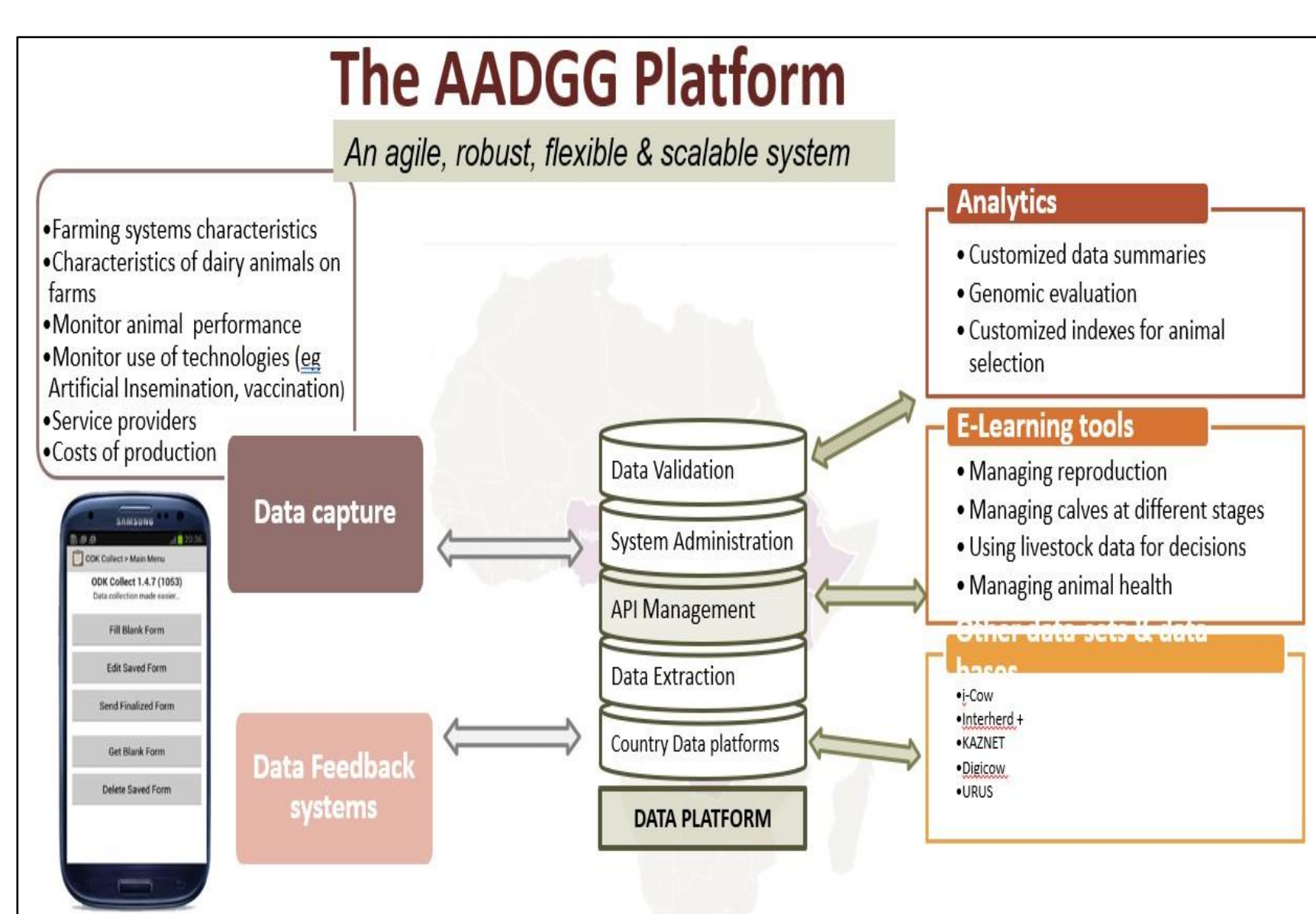


## Innovative application of technologies

- ❖ National Dairy Performance Recording Centers with a robust and agile database for herd and cow performance data collection
- ❖ Harmonized animal identification and registration
- ❖ Use of on and offline digital data capture tools
- ❖ Pipelines for continuous genetic evaluations to identify superior purebred and crossbred bulls developed
- ❖ Certification systems for dairy seedstock established
- ❖ Digital farmer extension and feedback system for animal management and decision making
- ❖ Dairy herd profitability simulator tool developed and tested.
- ❖ Private-public partnerships options to sustainably resource recording, genetic evaluation and digital extension

## Products

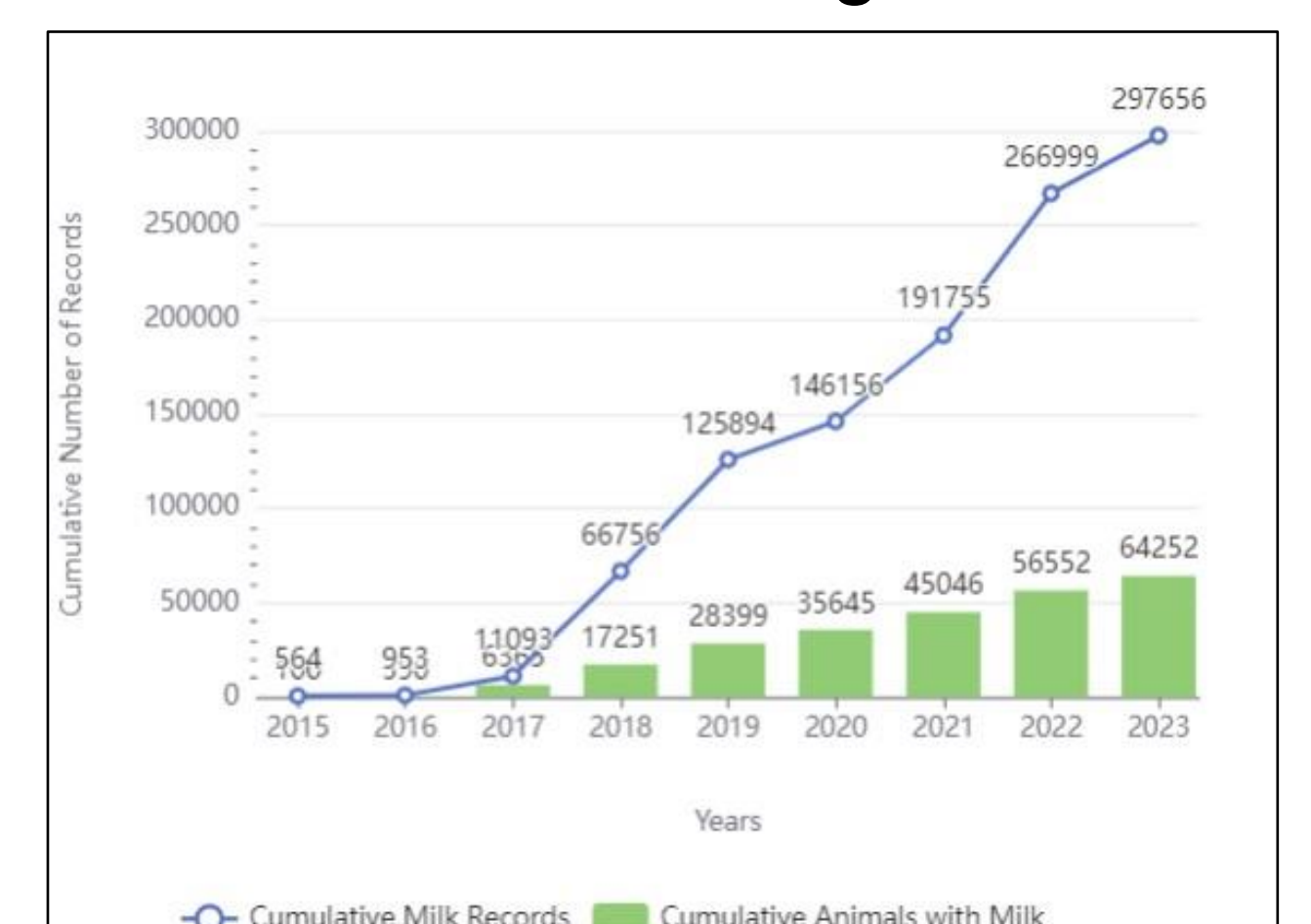
### Database and data platform



### Africa Asia Dairy Genetic Gains Project (AADGG) DATA PLATFORM:

- Performance data on dairy cattle under various farming systems of Tanzania.
- Controlled Access to the data platform by users
- Summaries from data available in different formats for monitoring
- Registered farmers can access and use their data directly or through service providers

### Milk and animals registered



### Sire selection

- Top ranked bulls and bull dams selected using estimated genomic breeding value
- Bulls used by national Artificial Insemination center for semen production
- Semen from top ranked bulls used for AI and calves born
- Bulls catalogue produced



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