Digital platforms supporting African Dairy Genetic Gains (ADGG)

(February 2020)
Using Technologies to effect change

Genotype adaptation to local agro-ecology
- Targeting of appropriate genotypes to the optimum agro-ecology
- Use of young bulls with a focus on production & adaptation
- Local feed/fodder resource use efficiency

Digital platforms for on-farm performance tracking
Decision-support and Farmer-to-Farmer performance benchmarking
Smart use records & genomics tools for selection and better AI service delivery

Accelerate on-farm genetic gains

Development of synthetic breeds
- “Africa needs to create dairy breeds that are best suited to local & emerging ecological conditions

Economically Relevant Traits
- Milk Yield/density
- Adaptability Indices
- Reproductive Performance
- Heat tolerance
- Survival rates
- Lactation persistency
- Mastitis incidences

Genotype adaptation to local agro-ecology
Detailed data DB
(cleaned)

Other primary data
(e.g., service providers)

ODK

Data Processing
Data in JSON moved to MySQL DB

Automatic conversion
Submissions converted as JSON files

Manual correction
JSON files are corrected

Error
Log

Analytics modules
Scripting analytics

Analyzed data
(results per script)

Data visualization
(METABASE, etc.)

Feedback

Farmer

Samples

Other scientists

Field staff

Consultation

Processing not OK

Processing OK

Data cleaning
Corrections made in the database

External Access
ADGG Data collection process

DATA COLLECTORS
- AI Technicians
- Enumerators
- Site Coordinators

FARMERS

ANIMALS
- Animal Details (Cows and Bulls)
- Animal Monitoring
  - Performance
  - Body condition score
  - Health
  - Management
- Calf Registration
  - Parents
  - Birth details
  - Physical and Health status
- Calf Monitoring
  - Growth
  - Health
  - Management
- Animal Exits (Movement off Farm)

FARM DETAILS

ANIMAL SERVICE
- Artificial Insemination
- Pregnancy Diagnosis
- Synchronization

OTHER EVENTS
- Hair Sampling
- Training

Registration

Monitoring

Feedback
Tools for data capture
ADGG: Partnership with private sector actors

More than 9.5 Million farmer education messages shared with farmers on the ADGG/iCow platforms
ADGG: Leveraging Extension for Genetic Gains

- Using community facilitators farmers are clustered into DIGs of 20-30 farmers owning 30-40 indigenous cows and heifers
- Farmers are linked to AISP/Al business centers and veterinarians
- Project facilitate engagements between AISPs, vets and farmer groups to agree on appropriate pricing for FTAI

**AI Business Centre Innovation**

- Custer of AI service providers form a business club
- AI supplies distributor provides LN storage tank on lease or long-term payment to the club
- Regularly re-stock LN and semen supplies
- Use data platform to monitor stock dynamics and plans for replenishment
ADGG: Leveraging Extension for Genetic Gains
Dairy Farmers & Farmer organizations

National/regional Institutions/govts.