# Dtreo
data-driven decisions in
sheep and goat industries

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The challenge
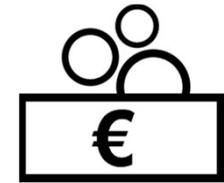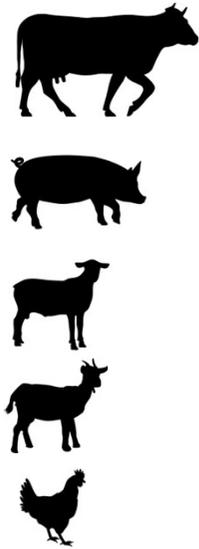
Limitations in sheep and goat operations

General
Small scale breeding initiatives
Low individual animal value
Hard to distribute the development and operating costs of a bespoke data platform

Developing Countries
Lack of infrastructure
Fragmented production systems
Absence of basic tools for data capture
Limited farmer support for advisory services and genetic improvement programs

Developed Countries
Absence of standardized record-keeping systems
Low accuracy of data recording
Unprofitable sheep and goat production and the perceived low efficiency of genetic selection programs

The good record-keeping system
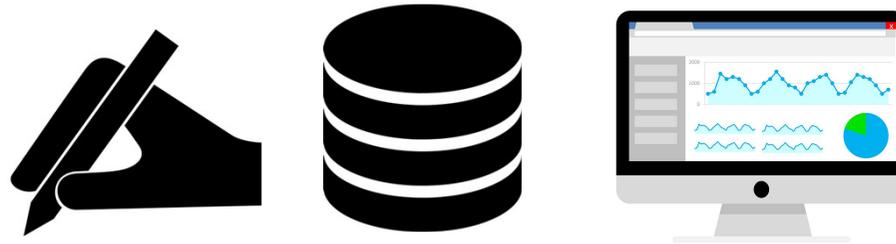
- Suited to the conditions in which it is used and the expected use of the data

- Flexible – fulfils the needs of farmers in different production systems

- Enables farmers and the wider supply chain to make informed data-driven decisions

Dtreo, cloud-based data-recording platform

Dtreo

Cloud Database

Browser Interface

Bespoke Informative Reporting

Validated

Mobile App offline

Validated

Form Entry

File
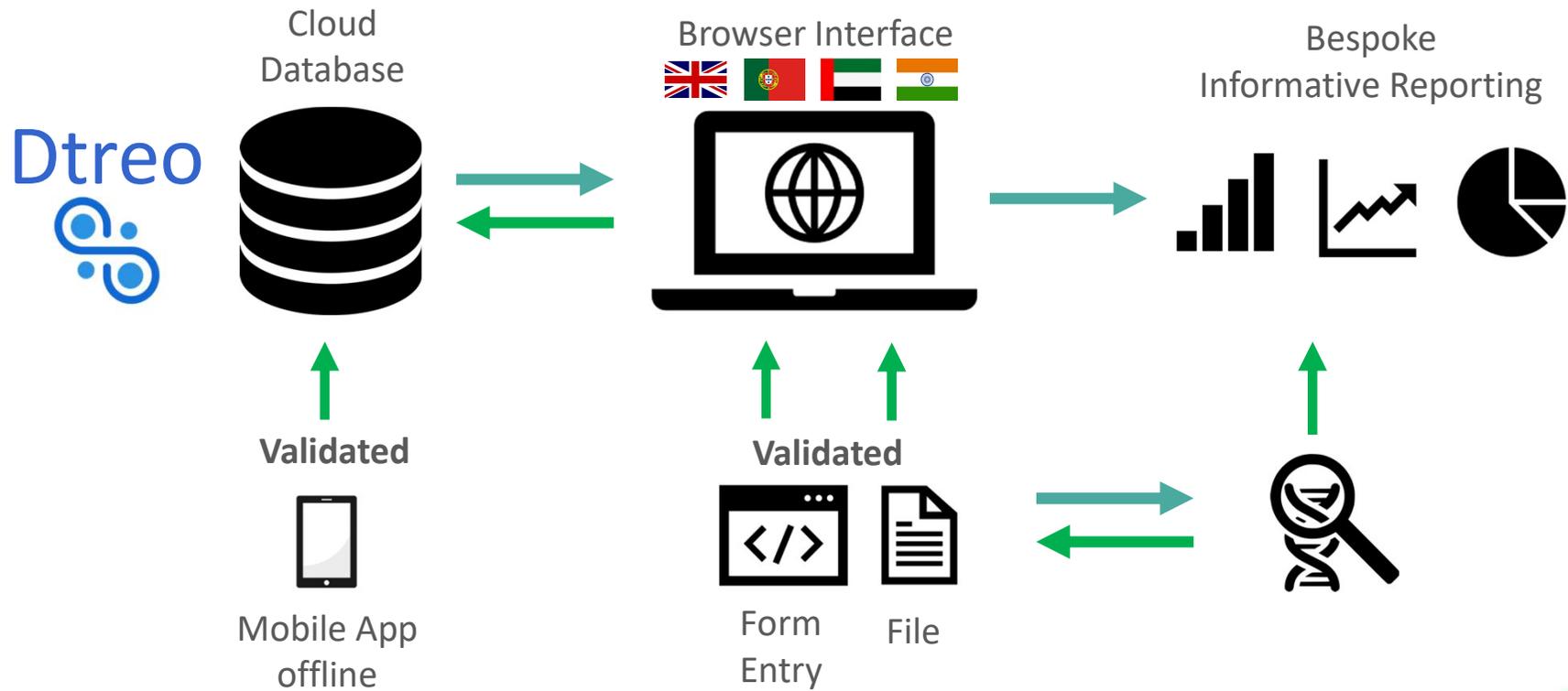
Dtreo, flexible data structure

Core Entity

Grouping Entities

Events/Records
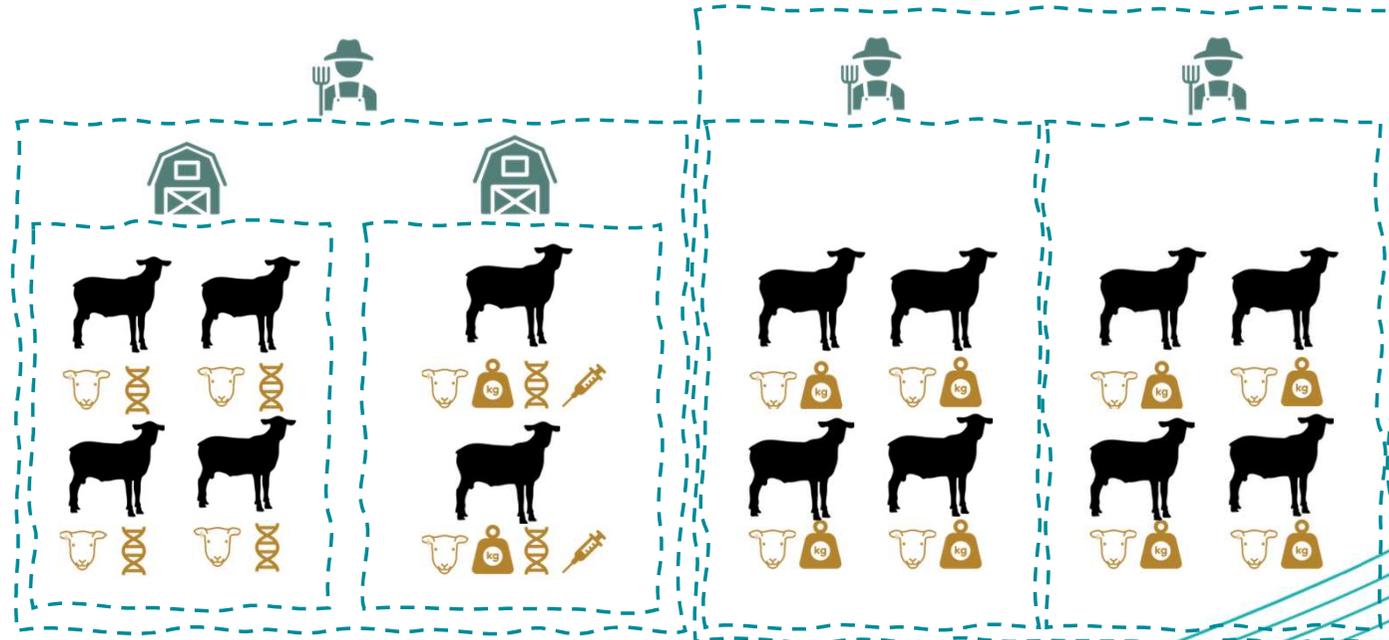
Case Studies

Community-based breeding programs (CBBP)

Ethiopia
Programs initiated by partnership between ICARDA, ILRI, and EMBRAPA, further supported by MFAT

- Project aim: Support communities by improving sheep and goat performance and addressing market demand through the implementation of sustainable breeding schemes.

Project Mesha

India (Bihar)
Project funded by Bill & Melinda Gates Foundation and Agha Kan Foundation

- Project aim: Improve the quality of life of women by improving the productivity of their goats

Sheep Dairy Operation

New Zealand
Project initiated as a commercial partnership

- Project aim: Build a breeding platform that integrates data collection on-farm, genetic evaluations, and selection indexes

CBBP, Ethiopia

- Dtreo has allowed the collection, storage, and reporting of uniform data for selection decisions.

- 100,000 animals, 125,500+ live weight records, and 23,000+ milk records.

- Data collection is ongoing in 24 CBBP sites across Ethiopia.

- Positive impact on animal performance, market participation, and income/livelihoods.

- Implementing CBBPs in other pastoral communities is underway.
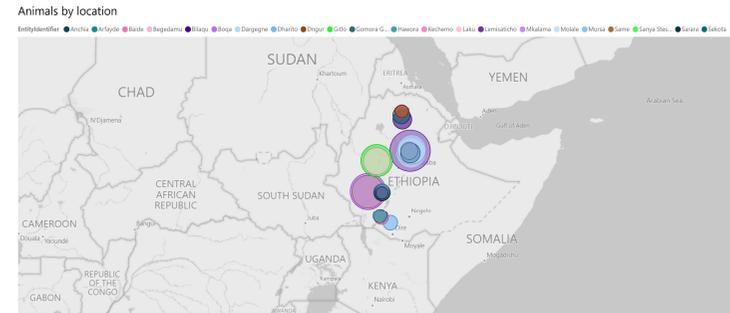

CBBP Analytics Dashboard
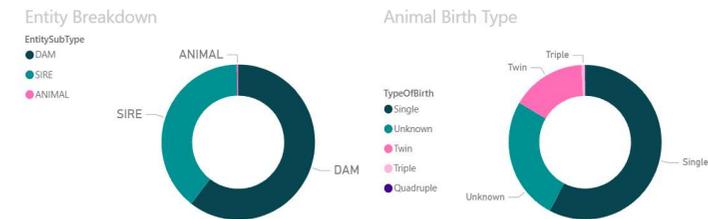
EntityIdentifier	Village	Tag	Date Weighed	Weight	Weight Type
Anchia/21700623/2018	Anchia	21700623	13/04/2018	2.50	Birth weight
Anchia/21700623/2018	Anchia	21700623	12/07/2018	11.00	3 months weight
Anchia/21700624/2018	Anchia	21700624	13/04/2018	2.00	Birth weight
Anchia/21700624/2018	Anchia	21700624	12/07/2018	10.50	3 months weight
Anchia/21700625/2018	Anchia	21700625	16/04/2018	3.00	Birth weight
Anchia/21700625/2018	Anchia	21700625	15/07/2018	14.00	3 months weight
Anchia/21700625/2018	Anchia	21700625	13/10/2018	21.00	6 months weight
Anchia/21700626/2018	Anchia	21700626	20/04/2018	3.00	Birth weight
Anchia/21700626/2018	Anchia	21700626	19/07/2018	16.00	3 months weight
Anchia/21700626/2018	Anchia	21700626	17/10/2018	23.00	6 months weight
Anchia/21700627/2018	Anchia	21700627	20/04/2018	2.50	Birth weight
Anchia/21700627/2018	Anchia	21700627	19/07/2018	15.00	3 months weight
Anchia/21700627/2018	Anchia	21700627	17/10/2018	20.00	6 months weight
Anchia/21700628/2018	Anchia	21700628	21/04/2018	3.00	Birth weight
Anchia/21700628/2018	Anchia	21700628	20/07/2018	20.00	3 months weight
Anchia/21700628/2018	Anchia	21700628	18/10/2018	27.00	6 months weight
Anchia/21700629/2018	Anchia	21700629	21/04/2018	3.00	Birth weight
Anchia/21700629/2018	Anchia	21700629	20/07/2018	17.00	3 months weight
Anchia/21700629/2018	Anchia	21700629	18/10/2018	26.00	6 months weight

Project Mesha, India

- User interface released in Hindi

- Validated data used in an overall index score for buck kids (100 days weight + dam's traits).

- + 26.8% average daily gain of selected bucks' progeny.

- Results motivated villages (4 in 2018, 16 in 2021) to be tied to the program and demand for selected bucks increased.

Sheep dairy, New Zealand

- Dtreo used as breeding platform for data collection on-farm, genetic evaluations, and selection indexes.

- Delivery of genetic evaluations with high level of engagement from commercial suppliers.

- Dtreo is now set up with the goal of improving commercial suppliers' phenotypic culling decisions, and novel traits data recording.
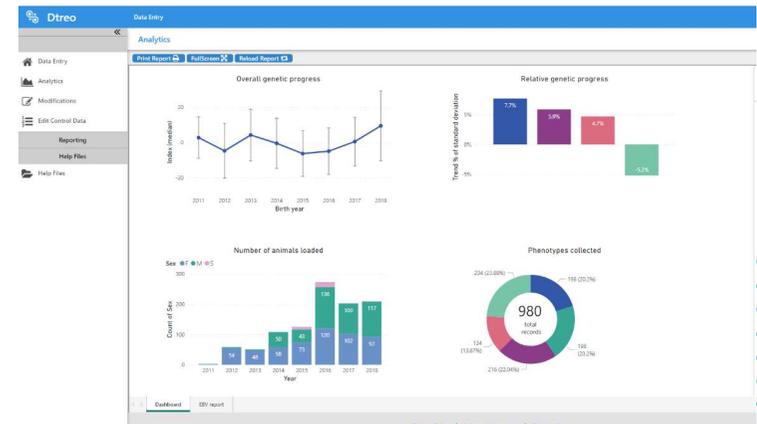
Take home messages

- Management decisions at farm level, implementation of genetic improvement strategies and market access are affected by **availability of quality data**

- Farmers are supported in the decision-making process by the availability of **informative and straightforward reports**, obtained by analysing validated data

- Combining data recording, analysis, and reporting in one flexible digital platform has **increased livestock productivity** in different situations

Thank you

Please, feel free to contact
info@abacusbio.co.uk or info@abacusbio.co.nz
if you are interested in Dtreo.
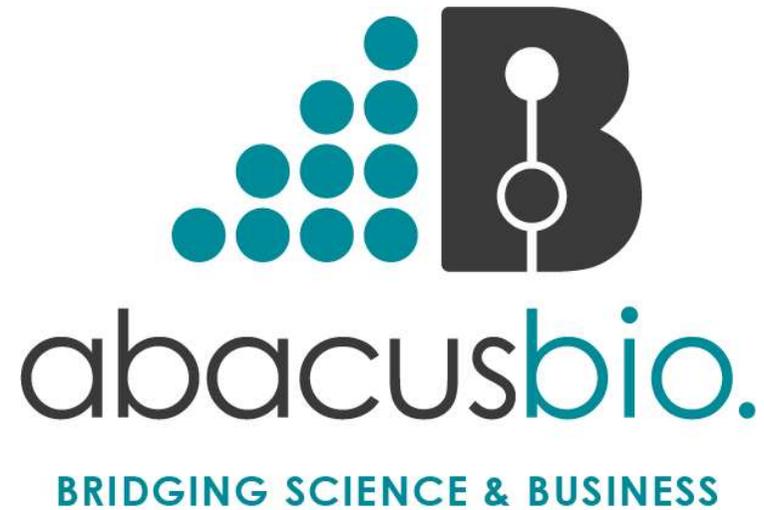
Empowering our clients with science and business intelligence to grow resources and food for a more sustainable world