

Food and
nutrition security



Animal health and
welfare



**Sustainable livestock
goes digital**



Livelihoods and
economic growth



Climate and
natural resource use



Challenge

- Low productivity and profitability of dairy cattle and herds in smallholder farming systems
- Diverse environments, diverse genotypes
- No phenotypic-performance information to drive selection
- Random use of uncertified bulls in herds
- No systematic genetic improvement in place

Solution

- Generate phenotypic information from herds/livestock production systems using ICT tools to support timely management decisions
- SNP assays to determine breed composition to enable matching genotypes to farmer needs
- Use phenotypic and genomic information (GEBVs) generated to accurately identify & certify superior and suitable bulls and heifers



Results

- Sustained profitability and increase in income and improved livelihoods for hundred of thousands of dairy smallholders
- Improved food, nutrition security and health of the poor households in Sub Sahara Africa
- Improved/sustained environmental health
- >10,000 animals sampled / >5,000 genotyped

Going to scale

- >70,000 small holder herds/household supported by the ICT & Analytics platform in Ethiopia and Tanzania; Similar reach expected in Kenya and Uganda as the next steps
- >6 Million educational messages sent to farmers
- 1st set of EBV selected AI bulls to be rolled out in March to reach millions of farmers

Challenge

- Two billion hungry or malnourished people in the world
- Sufficient good quality livestock derived food esp. for infants up to 1000 days
- The production and even distribution of the required livestock derived food sustainably and reduction of food loss / food waste

Solution

- Artificial intelligence for sustainable intensification of small and medium mixed crop livestock systems
- Artificial intelligence for livestock production enterprises in deficit areas
- Blockchains to efficiently use available animal based food, avoid food waste



Results

- For example 66'000 dairy co-operatives in India (Operation Flood)
- Dairy Development's Impact on Poverty Reduction is substantial
- Modern technologies yes, however, conducive policies are key for sustainable results

Going to scale

- Multi-stakeholder processes, sharing of experiences, efficient communication
- New technologies (marker based selection, blockchain technologies, big data)
- Market access, market information and science based consumer information are essential

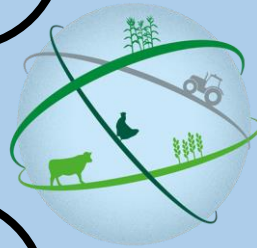
Challenge

High impact of animal health on livestock sustainability and safe trade:

- Diseases know no borders
- Climate change impacts disease epidemiology
- 75% of emerging diseases have animal origin
- Animal health participates to animal welfare

Digital Solutions

- Launch of the **new OIE-WAHIS** in 2019
>12000 subscribers, 206 reporting countries
- **Global database on use of antimicrobials**
155 reporting countries in 2018
- **International Standards' continuous improvement**
through countries' consultation
- **In the future:** Standards' Observatory, Performance Veterinary Services database



Results

- Reliable and trusted official **information** on the circulation of more than 120 diseases
- High level **predictability** analyses
- Reliable and sustainable **tools** to monitor, control and treat diseases
- Common & shared international **sanitary rules**
- Resilient and efficient **Veterinary Services**

Going to scale

- Accessibility & training for digital solutions
- Good national implementation of international Standards
- Continuous regional and international cross sectorial collaboration
- Adequate investment in animal health