Sustainable livestock goes digital

Animal health and welfare

Food and nutrition security

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