SILAB For Africa a LIMS for African Country and Animal Identification Registration Traceability system

Ercole Del Negro
About us

• Istituto Zooprofilattico Sperimentale is a **public health Institution**, founded in 1941, belonging to the National Public Health Service

• The Institute is a **technical-scientific body** of the Ministry of Health and Regions

• About **500 people** are currently working at the Institute (veterinarians, biologists, chemists, statisticians, mathematicians, engineers, computer scientists, technicians, clerks, administrative staff)
We are here
Mission

- To protect human health, satisfying the need of the Italian Health System and of citizens, for public health, expressed in food safety, breeding health, animal welfare, prevention of zoonosis, support to food productions.
Fields of activities

- Animal Health and welfare
- Health and environment
- Information systems and animal identification & registration
- Food safety
- Epidemiological surveillance
- Training
Microbiological and chemical laboratory tests for the diagnosis of *animal diseases*, including zoonoses, for microbiological and chemical *safety of animal foodstuff, food of animal origin* for human consumption and *safeguard* of sea and terrestrial ecosystem;
Main Tasks

- epidemiological surveillance on animal health, animal production and food safety;
- production of vaccines, reagents and immunological products for animal diseases prevention and diagnosis;
Main Tasks

support, assistance and sanitary information to breeders for the control and eradication of infectious diseases and the development and improvement of animal productions;
Main Tasks

- **training** of professional and technical operators in animal health, public health and animal production;
- **international co-operation**;
- **management of data** processing and monitoring systems.
Main Tasks

• accreditation and certification of laboratories and veterinary public health services, including information systems for the management of laboratories data, emergencies and prophylaxis campaigns;

• environmental control to protect human, fish and other wild animals;

• animal welfare

• IT solutions
Since 1995 the Institute is accredited according to EN 17025

Since 2004, Training Services of the Institute are acknowledged to be conform to ISO 9001:2008 norm
OIE acknowledgements

• OIE Collaborating Centre for Animal Welfare, Epidemiology, Food Safety and Veterinary Training

• OIE Reference Laboratory for
  - Bluetongue
  - Contagious Bovine Pleuro-Pneumonia
  - Brucellosis
  - West Nile Disease
FAO acknowledgement
National Reference Centers

• National Reference Center for:
  - Exotic animal diseases
  - Epidemiology and risk analysis
  - Brucellosis

• National Reference Laboratory for:
  - Listeriosis
  - Campylobacteriosis
  - PCB and dioxins

• National Center for Animal Identification and recording and IT solutions
Research

- **Surveillance methods** in veterinary public health, in particular zoonoses, antimicrobial resistance and risk analysis in production and consumption of food of animal origin;

- **New methods** for the diagnosis of animal diseases and food of animal origin analysis;
- **Study of etiology and pathogenesis** of infectious and communicable diseases of animals;

- **Production of experimental vaccines**, new generation immune-stimulants and diagnostic kits;

- **Accreditation and certification of laboratories** and veterinary public health services.
- New methods for environmental control to protect human, animals and fish;

- Animal welfare;

- IT solutions
International cooperation
All started in Namibia

Started in 1996

In 2005 the activities were officially recognized by the Namibian MAWF & the Italian MH
Attention has been focused on diseases of common interest such as CBPP, African Horse Sickness, Equine Encephalosis, Rift Valley Fever, Lumpy Skin Disease, Dourine, Heartwater and others Tick Borne Diseases.
Activities and/or projects:

- **CBPP;** Zambia, Angola, Botswana, Tanzania and Namibia + **Mauritania and ILRI-Kenya**
- **Food Safety;** Angola, South Africa and Namibia
- **Identification and registration system;** Angola, Zambia + **Eritrea**
- **SILAB;** Zambia, Botswana, Namibia, Tanzania and Zimbabwe.
Activities and/or projects:

- **Ticks identification**: Botswana, Zambia, Angola and Namibia
- **Dourine**: Botswana and Namibia
- **RVF in Wild animals**: Namibia
- **Brucellosis**: Zimbabwe + *Eritrea*
- **Animal Welfare**: South Africa and Namibia
Activities and/or projects:

National Animal Disease Diagnostics and Epidemiology Centre in the future as partner?
SILAB in African Countries

LIMS
FAO support

SILABFA installed:
- Namibia
- Botswana
- Zambia
- Zimbabwe
- Tanzania

SILABFA requested:
- Ethiopia (AU-PANVAC)
- Uganda,
- Tunisia
A LIMS system is an important element of the chain of the traceability system. The chain is completed if the laboratory and the veterinary field work are well connected.
The inter-linkage and inter-operability:
• improve the quality of the entire cycle and the quality of data
• allow to insert data only once in one system and make data automatically available to other systems
• enables rapid and fluid data transfer
• more accurate timely interventions, information entries and retrieval of data in animal health and food safety
SILAB and AIRT

Interoperability in Africa:

• 2014 SILAB – LITS in Botswana (next BAITS)
  Over 200,000 livestock (bovine) keepers information is now available to SILAB from the LITS database and over 3,000,000 bovines are identified and traced in SILAB

• 2015 SILAB – NamLITS in Namibia
  140,000 Herds, 20,000 Establishments, 110,000 Keeper (next animal ID)

• SILAB – TANLITS next
SILAB in ZAMBIA

- 2012 SILAB in CVRI
2015 MoU between The Ministry of Health of the Republic of Italy and Ministry of Agriculture and Livestock of the Republic of Zambia was signed focusing mainly on the development of a Cattle Identification and Registration System in Zambia. The AIRT System in Zambia will contribute to the following objectives:

• Improvement of public and animal health;
• Increased capacity of control of animal diseases, particularly zoonosis;
• Strengthening the capacity of marketing of meat;
• Increased sustainable livestock production.
AIRT in ZAMBIA

• The pilot project a limited area (17,000 cattle)

• The main objective of the pilot project is to propose an AIRT implementation strategy based on the Zambian situation. It will last about 12 months.
At the end of the pilot project valuable information will be available on:

- AIRT Organization;
- Cattle production systems;
- AIRT law;
- Data Communication & Infrastructures needs for a correct data management;
- Procedures and training material for field activities;
- Technical specification for AIRT materials (database, HW, ear-tags, etc.);
- Awareness campaign needs.
SILAB and AIRT in ZAMBIA

Interoperability will be ensured via Web Services
The “Zoonoses Prevention: Integrated Project on Public Health” started in Angola, Huila Region on July, 2014 improving public health through the reduction of zoonosis and food-borne disease. Three main activities are encompassed:

- animal identification and registration;
- improving of meat hygiene and slaughter facilities;
- training and laboratories update.
February 2015 Pilot project on AIRT started in Huila Region covering 30,000 heads (cattle):

1. Census of commercial farms and traditional breeders (electronic register made including geographic coordinates)
2. Sensitization and information campaign
3. Assessment of Veterinary Services, the infrastructures, IT equipments, documentation, etc
4. Proposal for ID code
The way ahead

- ear tags supply from the IZSAM;
- paper forms (movement permit, slaughter register, etc.) revised and adjusted to include individual animal identification;
- ear tagging, including training on ear tag application, data recording and traceability implementation;
- electronic database fully implemented
IF YOU WANT TO GO FAST, GO ALONE.
IF YOU WANT TO GO FAR, GO TOGETHER.
- AFRICAN PROVERB
Thank you!

e.delnegro@izs.it

SILAB For Africa a LIMS for African Country and Animal Identification Registration Traceability system

African Symposium on “Animal identification and recording (AIR) systems for traceability and livestock development in sub-Saharan Africa”
14-16 April 2015, Pretoria (South Africa)