The challenge

- The gap – research and technology
- The reason - lack of adequate training and capacity building opportunities and lack of facilities in which high-end research can be conducted.
Background

- **ILRI** - Interest to support agricultural research in the region through facilitation of access to modern research infrastructure by scientists in Africa (2002)

- **AU/NEPAD** - Africa Biosciences Initiative (ABI): Creation of four regional networks

  - **SANBio** (Southern African Network for Biosciences) for southern African countries
  - **NABNet** (North African Biosciences Network) for Northern African countries
  - **WABNet** (West African Biosciences Network) consisting of ECOWAS countries
  - **BecA** (Biosciences eastern and central Africa) for countries in eastern and central Africa
A center for excellence in biosciences

Harnessing biosciences for regional impact

General Lab

Training Lab

Animal health research Labs

Genetics, genomics and Bioinformatics platform

Crop research Labs

Green house

Molecular diagnostics suite (PCR, LAMP)

General molecular biology

Transgenics and tissue culture
BecA’s “Raison d'être”

Biosciences

Partnerships

Farmers/end users
Technologies and services

Technology platforms

1. Genomics platform
2. Bioinformatics platform
3. Nutritional analysis platform
4. Diagnostics platform
5. Molecular breeding

Research related services

*Menu*

- DNA Sequencing
- Genotyping
- Oligonucleotide service
- Greenhouse, screen house, and plant growth chambers

*Users*

- Other CGIAR centers and programs (GCP, ...)
- African NARS
- Europe, North America, Middle East
Genomics platform

Capillary sequencing

- **ABI 3130-xl**
- **ABI 3730-xl**
- **ABI 3500-xl**

Next generation sequencing

- **454 GS pyrosequencer**
- **Illumina MiSeq**

Current Applications

1. Cassava re-sequencing
2. Viral genomics
3. Metagenomics
4. Disease surveillance
5. Diagnostics
6. Genotyping
Building research capacity in Africa

Four streams:

1. Research Fellowships
2. Training workshops
3. Institutional capacity building
4. Creating linkages between researchers, and creating awareness of the BecA-ILRI Hub
Examples of capacity building in cassava

Areas of research covered:
• Molecular characterization of Viruses
• Genetic Improvement landraces for virus resistance
• Analysing the role of vectors in spread of virus
• Development diagnostic tools
• Cassava processing

Countries represented:
• Burundi
• DRC
• Kenya
• Nigeria
• Uganda
Training at BecA = Linked in and networked
Thank you

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Mobilizing biosciences for Africa’s development
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