



African Union 


AFRICAN UNION
INTERAFRICAN BUREAU
FOR ANIMAL RESOURCES

ANIMAL GENETICS RESOURCES

29th January 2024
AU-IBAR

Africa's rich Animal Genetic Resource

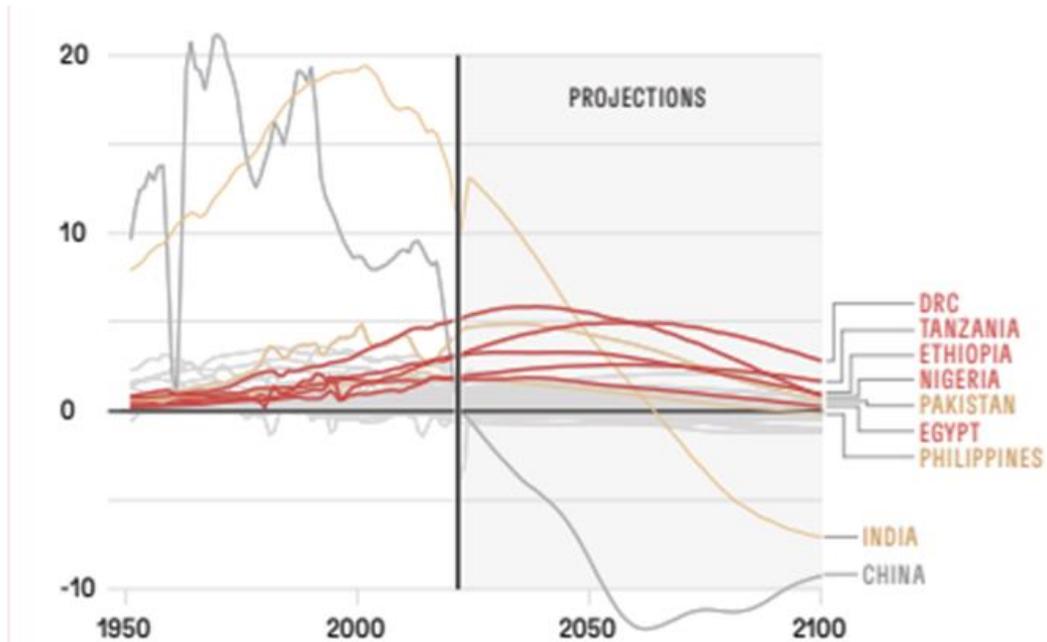
- One-third of the world's livestock population
- Different species, breeds – Total of 2,250
- Vast range of adaptations – drought tolerance, disease resistance

Holds promise to;

- Alleviate poverty ~350 million people - In pastoralist communities, livestock incomes contribute to 37-85% of the total income
- Contribute to food and nutritional security-13% of the world's calorie intake

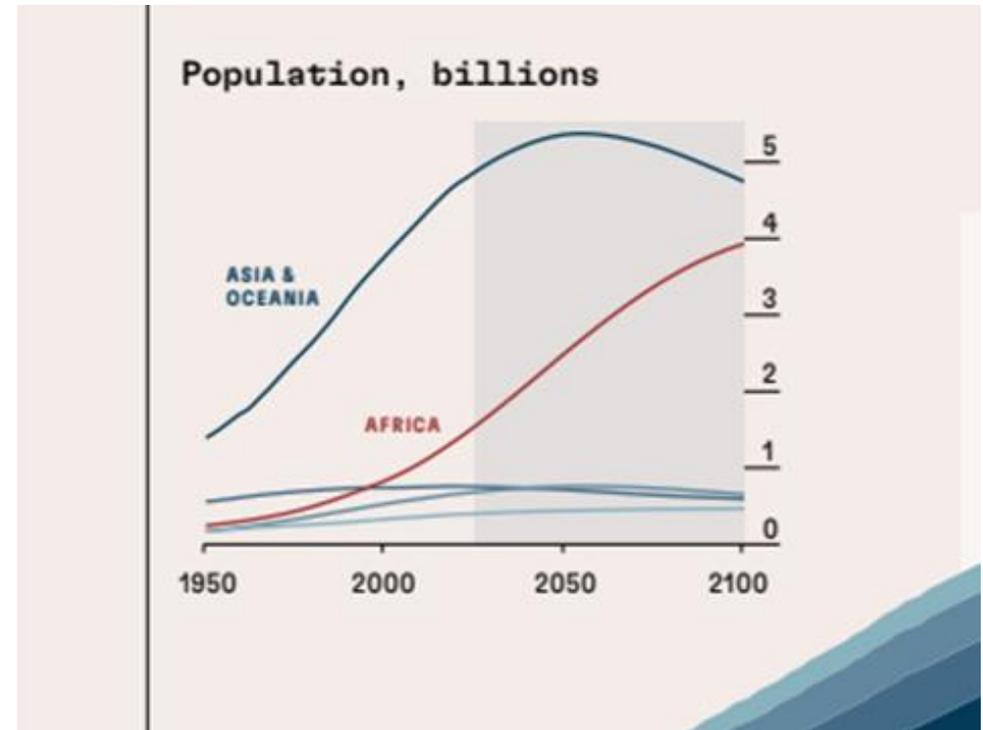


- According to a United Nations report 2022 - By 2050 Africa's human population will be at 2.5 billion
- 25% of the human population will be in Africa
- Five out of the eight countries projected to account for over half of the global human population will be in Africa



SOURCES: United Nations, World Population Prospects (2022); and Our World in Data.

- **By 2100 – Projected that 2 out of 5 people will be Africa**
- **Population expansion – more pressure for animal products**

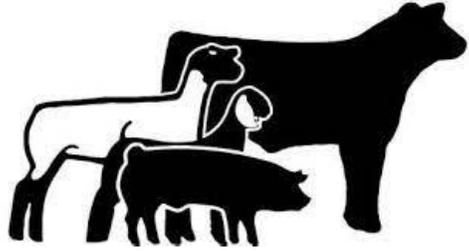


The realization of its **POTENTIAL** remains stifled

- **Low productivity**
- Weak service delivery
- Weak sectorial governance
- Poor access to markets
- Poor management of natural resources



TOWARDS A SUSTAINABLE AND TRANSFORMATIVE LIVESTOCK SECTOR



01 | IMPROVE PRODUCTION AND RESILIENCE

02 | CAPACITY BUILDING

03 | ENABLING ENVIRONMENT

04 | KNOWLEDGE AND INFORMATION



Improve productivity, resilience and efficiency



**exotic origin seed,
ill-suited to local
production
systems and
climatic conditions**

**Animal
identification and
performance
recording systems
are weak**

**Locally evaluated
and certified
livestock seed
remain
unavailable to
African farmers**

**Establish elite
breeding stock,**

**Promote their
multiplication and
wider access by
small-holder
farmers and
pastoralists**

ESTABLISHED FIRST REGIONAL MOBILE ASSISTED REPRODUCTIVE CENTRE OF EXCELLENCE

Purpose

- To promote use reproductive technologies in multiplication of quality dairy cattle genetics and associated services by small holder dairy farmers and pastoralist
- To promote dissemination of quality genetics for enhancement of local breeding programs
- To enhance technical skills and infrastructure capacities of Assisted reproductive technologies across Eastern Africa especially by small holder dairy farmers and pastoralist communities



FIRST REGIONAL MOBILE ASSISTED REPRODUCTIVE CENTRE OF EXCELLENCE

Purpose

There is an urgent need to improve **productivity, resilience and efficiency**

- ❑ Most dependent on **exotic origin seed**, ill-suited to local production systems and climatic conditions
- ❑ **Locally evaluated and certified livestock seed remain unavailable** to African farmers, yet a new indicator in the CAADP BR was introduced to assess and promote such seed
- ❑ **Animal identification and performance recording systems are weak**, limit evidence-based selection programs in Africa



Launch of the mobile ART COE



LIST OF EQUIPMENT

- Refrigerator
- 3-Litre Semen Tank
- 20-Litre Semen Tank
- 47-50 Litre Semen Tank
- Artificial Vagina
- Electro ejaculator
- Photometer
- CIDR Applicator
- Embryo Transfer Gun
- Embryo Filters
- Y-junction tubing for embryo collection
- Embryo collection catheters
- Embryo transfer Sheaths
- Embryo sleeves
- Embryo holding dish
- Artificial Insemination Gun
- Artificial Insemination sheaths
- Olympus Stereo Microscope
- Portable Ultrasound



Impact

- Increased dairy milk production to 15 litres per day
- Improved livelihoods by pastoralists communities
- Improved dairy genetic gains – quality genetic stock available
- Empowered women and youth in the dairy value chain
- Strengthened regional Sahiwal breeder association



COMPLEMENTARY ROLES



- To catalyze a multiplier effect of dairy mobile hubs that will promote use reproductive technologies
- To enhance the knowledge base of national extension services at all levels

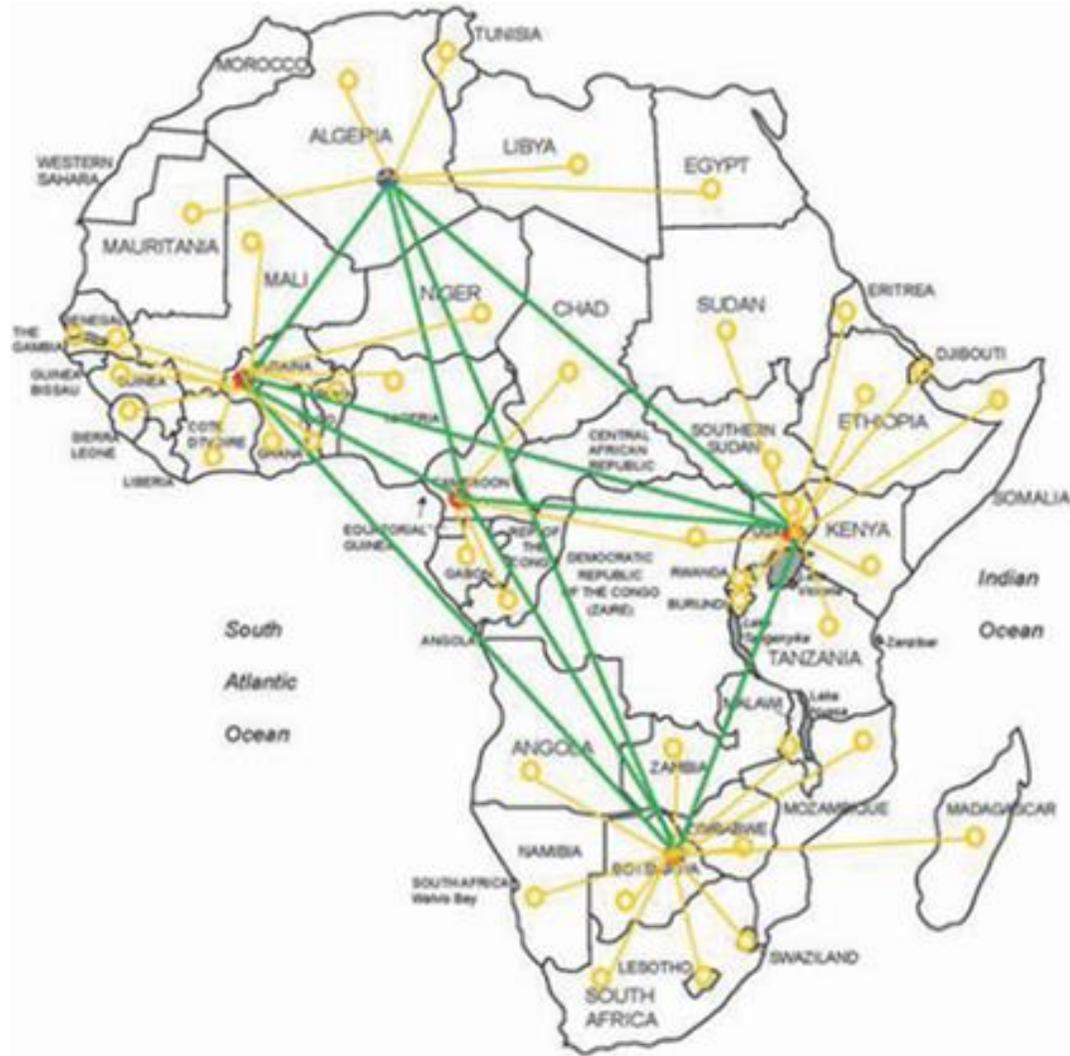


ACTION AREAS

- Support in the establishment of an MOU between the two organizations for continuity and sustainability
- Strengthen Animal seed public and private Extension and industry systems targeting smallholder farmers and pastoralists
- Strengthen targeted breeding and selection programs - donkeys



ANIMAL RESOURCES SEED CENTRES OF EXCELLENCE



- **SOUTHERN AFRICA REGION - Botswana** at the Department of Agricultural Research (DAR), in Gaborone
- **WESTERN AFRICA REGION - Burkina Faso** at the Centre International de recherche-développement sur l'élevage en zone subhumide- (CIRDES), in Bobo-Dioulasso
- **CENTRAL AFRICA REGION - Cameroon** at the University of Dschang, in Dschang
- **NORTHERN AFRICA REGION - Tunisia** at the Banque Nationale de Genes (BNG) in Tunis
- **EASTERN AFRICA REGION - Uganda** at the National Animal Genetic Resources Centre and Data base-NAGRC, in Entebbe

Training of trainers



WHERE AND HOW



ACTION AREAS

- **MOU for the African Union Centres of Animal Seed Resources are available and require final signatures from Governments.**
- **Harmonization of activities between the regional centre and KAGRC**
- **Support training and capacity building at grassroot level – A.I extension officers**
- **Support Conservation programs**



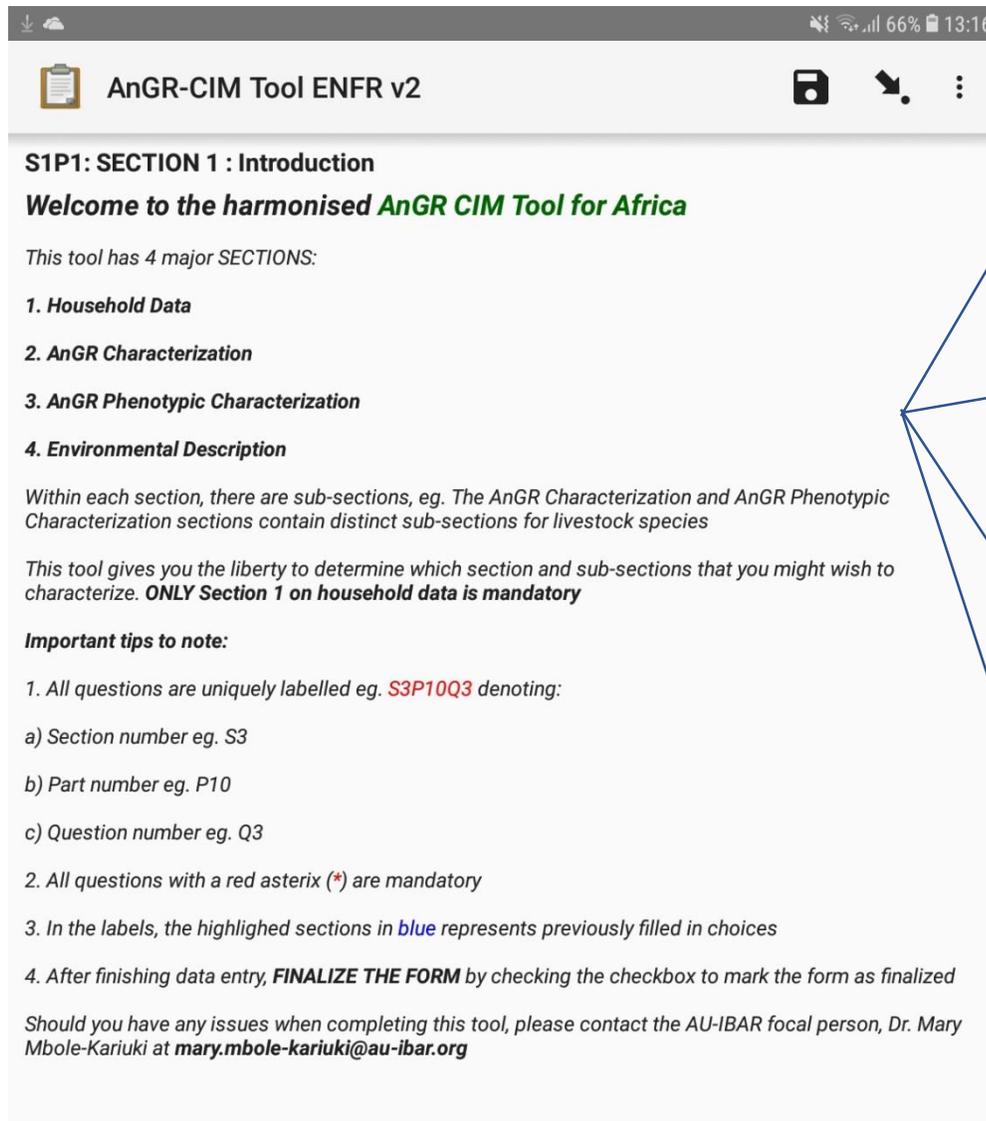
Characterization, Inventory and Monitoring



Harmonized AnGR-CIM tool for Africa

Vr 2

(English-French)



AnGR-CIM Tool ENFR v2

S1P1: SECTION 1 : Introduction

Welcome to the harmonised AnGR CIM Tool for Africa

This tool has 4 major SECTIONS:

1. Household Data
2. AnGR Characterization
3. AnGR Phenotypic Characterization
4. Environmental Description

Within each section, there are sub-sections, eg. The AnGR Characterization and AnGR Phenotypic Characterization sections contain distinct sub-sections for livestock species

This tool gives you the liberty to determine which section and sub-sections that you might wish to characterize. **ONLY Section 1 on household data is mandatory**

Important tips to note:

1. All questions are uniquely labelled eg. **S3P10Q3** denoting:
 - a) Section number eg. S3
 - b) Part number eg. P10
 - c) Question number eg. Q3
2. All questions with a red asterix (*) are mandatory
3. In the labels, the highlighted sections in blue represents previously filled in choices
4. After finishing data entry, **FINALIZE THE FORM** by checking the checkbox to mark the form as finalized

Should you have any issues when completing this tool, please contact the AU-IBAR focal person, Dr. Mary Mbole-Kariuki at mary.mbole-kariuki@au-ibar.org

Section 1
Household data (socio-economic and household descriptions)

Section 2
AnGR Characterization
(production and reproduction, adaptive traits, indigenous knowledge)

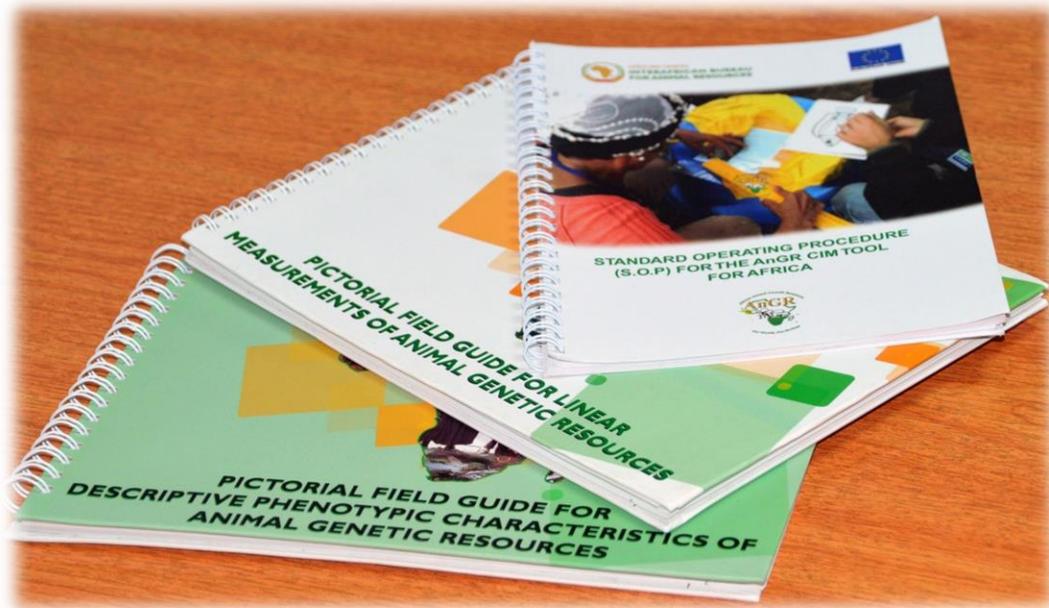
Section 3:
AnGR phenotypic characterization
(morphometric, descriptive, biological samples)

Section 4:
Environmental description
Day temperature, Solar intensity, precipitation, Humidity, soil type etc,



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THREE FIELD MANUALS



ONE AUDIO VISUAL GUIDE



Training of Trainers



“One-stop shop” <https://aagris.au-aris.org/>

Combination of a data collection and web portal systems

AAGRIS has FIVE main modules

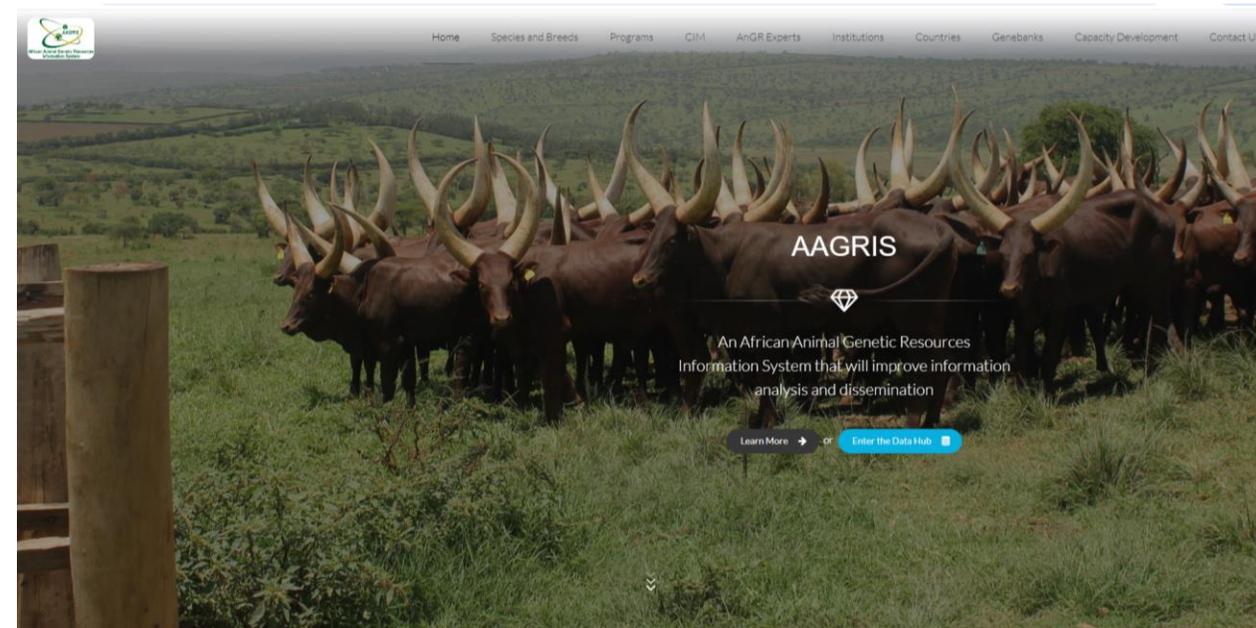
- Species and breeds
- Inventory, monitoring and surveillance
- Conservation and breed improvement programmes
- Capacity development
- AnGR Institutions

Features

- Data collection hub
- Data visualization module



African Animal Genetic Resources Information System



ACTION AREAS

- **Domestication and increased utilization of the harmonized digital Animal Genetic Resources Characterization, Inventory and monitoring tool**
- **Promote interoperability with the Animal production data base at government level with AAGRIS to catalyse data sharing on animal production.**
- **Support with data analytics through participating in the proposed data consortium hub**

Enabling Environment

**Institutional
capacity weak**

**Regulation,
legislations and
policies weak**



- **Collaboration**
- **Enforcement**
- **Adoption**



**KENYA DAIRY INDUSTRY TRANSFORMATION STRATEGY
&
INVESTMENT PLAN
2022-2032**



TRANSFORMED DAIRY INDUSTRY FOR SHARED PROSPERITY

FOUR PRONGED STRATEGY

Efficient and adaptable dairy animals developed through a well-structured and supported animal breeding and herd upgrading programmes - millennium dairy cow - produce at least 6,000 Kg of milk per lactation

Develop and assign skilled and knowledgeable dairy workforce

Fit for purpose regulations, policies and support service

Well regulated, structured and organized market

Kenya dairy transformative strategy

- The strategy will require KES 93 billion over the next ten years for its implementation through 18 flagships including **modernized dairy enterprises, feed and fodder, skilled actors, research and innovation**
- **Investment plan** – focus was on **cow, goat and camel milk production** – captures support to the pastoralist communities and small holders – case study in Transmara



Animal Production Professionals and Technicians Bill- Kenya

- **Highly skilled human resource ASSEST for efficient services**
- **AN ACT of Parliament to provide for the**
 - **Training, registration and licensing of animal production professionals and technicians;**
 - **Regulation of the standards and practice of the animal production profession**



ENACTED by the Parliament of Kenya, as follows—

PART I —PRELIMINARY

Short title and commencement.

1. This Act may be cited as the Animal Production Professionals and Technicians Act, 2022 and shall come into operation on such date as the Cabinet Secretary may, by notice in the Gazette, appoint which date shall not be later than ninety days from the date of publication.

Interpretation.

2. In this Act, unless the context otherwise requires —

“animal production” means the science and art of applied technology, innovations and management practices to the keeping of farm animals for subsistence, commercial and social cultural purposes;

“animal production professional” means a person having the qualifications of an animal production professional as set out in the Third Schedule;

“animal production technician” means a person having the qualifications of an animal production technician as set out in the Third Schedule;

“animal production service” includes—

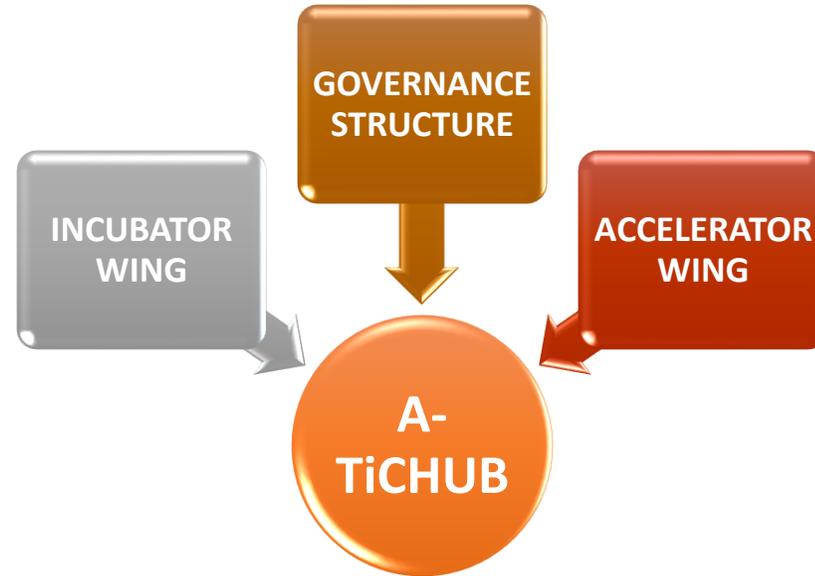
- (a) capacity development in animal production related disciplines;
- (b) undertaking animal production research and development;
- (c) offering services in animal feeding and nutrition;
- (d) genetic improvement and conservation of animal genetic resources;
- (e) improvement and conservation of rangeland resources for purposes of animal production;
- (f) development of farm structures, tools and equipment, for purposes of improving animal productivity;
- (g) offering animal production advisory services;
- (h) analytical and quality assurance of inputs and products for animal

Establishment of breeder associations

- Regional Sahiwal breeders association – Uganda, Tanzania and Kenya
- Dorper sheep breeders association –DSBK
- Red Maasai breeders association – RMBA
- Breed Standards developed
- A database of registered flock established - Kenya stud book
- Animal Husbandry books developed and disseminated
- Associations constitutions developed and validated
- Breed Catalogue



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Regional Technology and Innovation Incubation hubs in Africa (A-TiChubs) A-TiCHubs

ACTION AREAS

- **Support in the enactment of the Animal Production Professionals and technicians Bill**
- **Finalization and adoption of the Kenya Dairy transformation Strategy and investment plan**
- **Adoption and domestication of the National Strategic Action Plan for Animal Genetic Resources**
- **Revamp the breeders associations and societies**
- **Identification of a host institution for the regional A-TICHUB- Eastern Africa**

Cogs of Transformation for Kenya Livestock sector

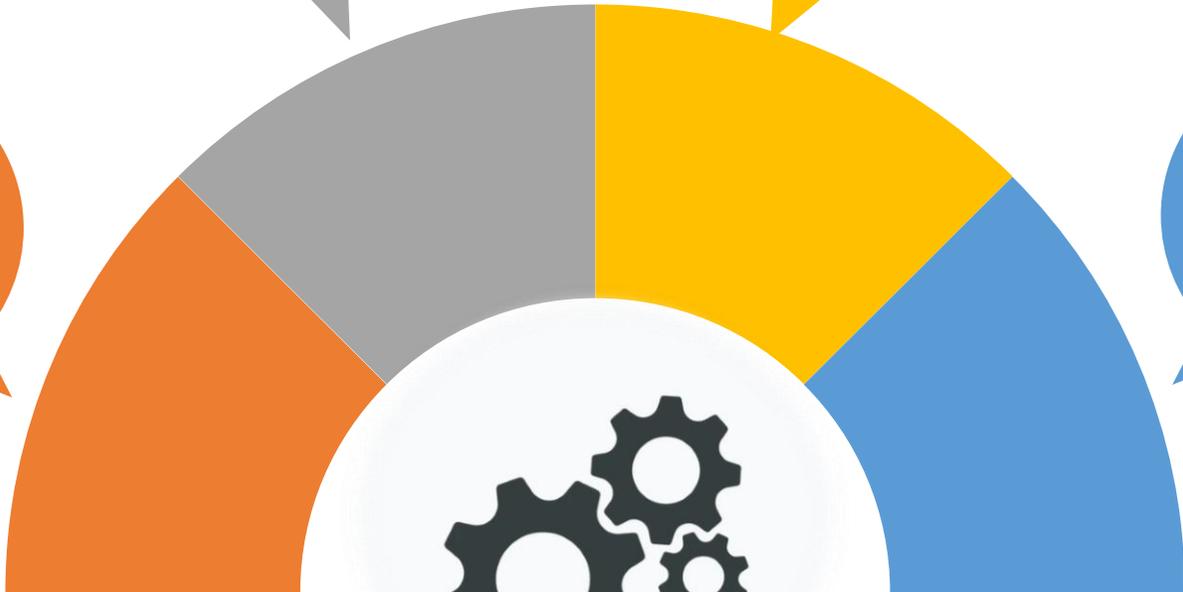
**PUBLIC,
PRIVATE, PRODUCER
PARTNERSHIPS**

**INSTITUTIONAL
STRENGTHENING**
- extension
systems

CAPACITY BUILDING
- Innovative
solutions
hydroponics, insect
farming, green
technologies
,regenerative prca

**SMALL HOLDER
FARMERS, YOUTH AND
WOMEN, PASTORALIST
COMMUNITIES**

**ANIMAL
GENETICS -**
climate smart
breeds, animal
biotechnology



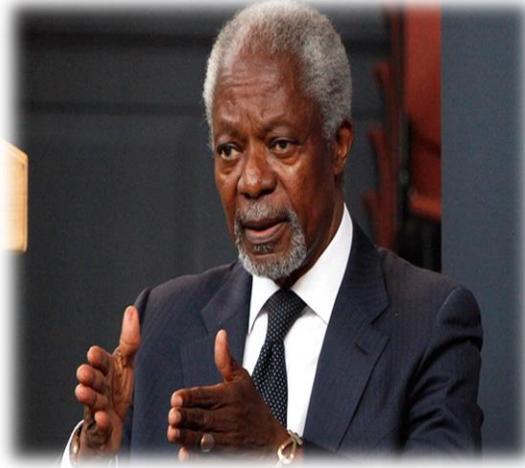
**ENFORCEMENT
OF
REGULATIONS,
LEGISLATIONS
AND POLICIES**



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We have enough resources to feed not just ourselves but other regions too...

We must seize this opportunity NOW



The Late Kofi Annan – Former Secretary-General of the United Nations



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**THANK YOU
ASANTE SANA**

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