



# AU-PANVAC Laboratories



## Standardization and quality control of biological products

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English speaking Africa workshop on vaccination and alternatives to Antimicrobials 28-30 October 2025, Entebbe, Uganda

# Overview of the Presentation

- ☐ AU-PANVAC's Mission & Mandates
- ☐ International Recognitions
- ☐ Quality Control Tests of Veterinary Vaccines
- ☐ Trends in the Origin of Vaccines Tested
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  - Continental Vaccine Seeds Repository
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- ☐ Harmonisation of Vaccine Registration Standards
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# AU-PANVAC's Mission & Mandates

## MANDATES

- 1 **INDEPENDENT QUALITY CONTROL** of vet. vaccines.
- 2 Development and Production of **DIAGNOSTICS**
- 3 **TRANSFER OF VACCINE PRODUCTION TECHNOLOGIES**
- 4 **STANDARDIZATION** of production and **HARMONIZATION** of the quality control techniques in Africa
- 5 **CAPACITY BUILDING** (Training and technical support) to veterinary laboratories.



# AU-PANVAC SPECIAL MANDATES

- 1 ■ **Maintaining Africa free from Rinderpest:** *“Sequestration of RP material from African laboratories and maintaining an emergency vaccine stock ”*
- 2 ■ **New Mandate:** auditing and certification of vaccine manufacturing facilities in collaboration with National Regulatory Authorities in Africa.



# International Recognitions



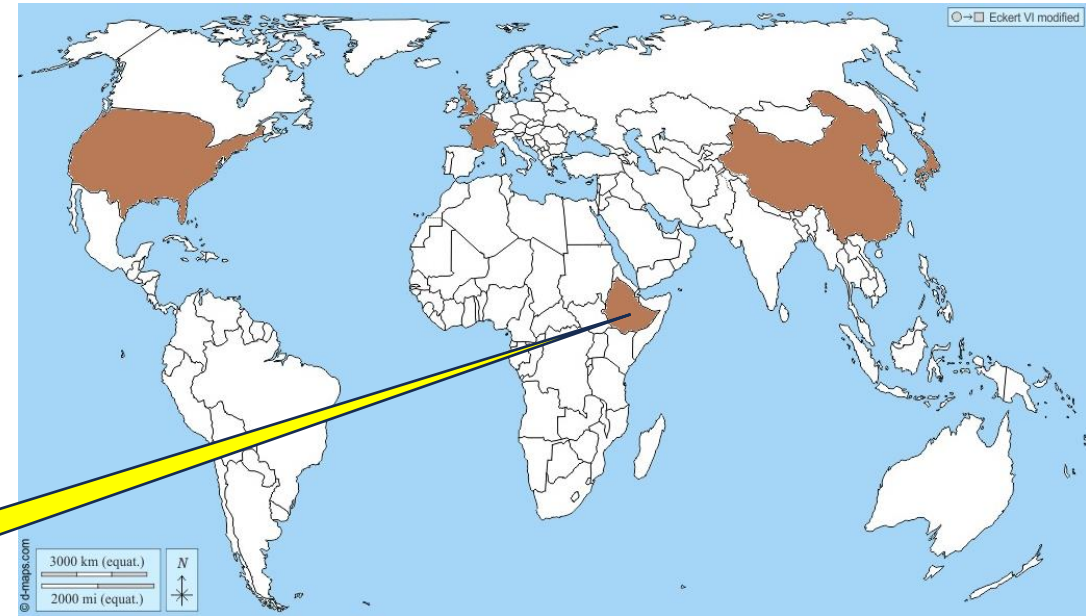
- **Collaborating Center For Quality Control of Veterinary Vaccine** (WOAH Gen. Assembly Resolution 32, Paris, May 2013)



- **Reference Centre for Technical Assistance in Quality Control of Veterinary Vaccine** (11th May, FAO Rome, 2015)



- **Rinderpest Holding Facility (RHF) for Africa** (among five other RHF's: US, UK, France, China & Japan)



**AU-PANVAC**  
ETHIOPIA.





AU-PANVAC

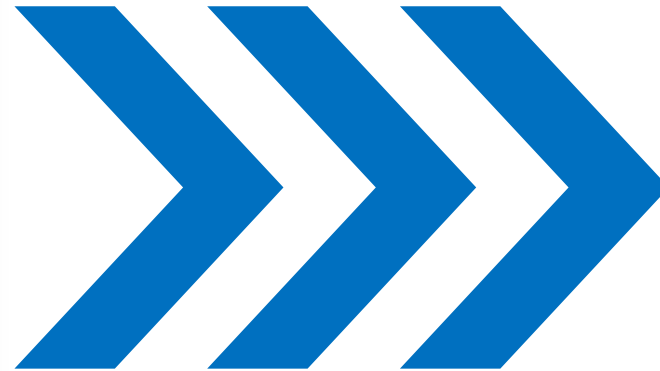
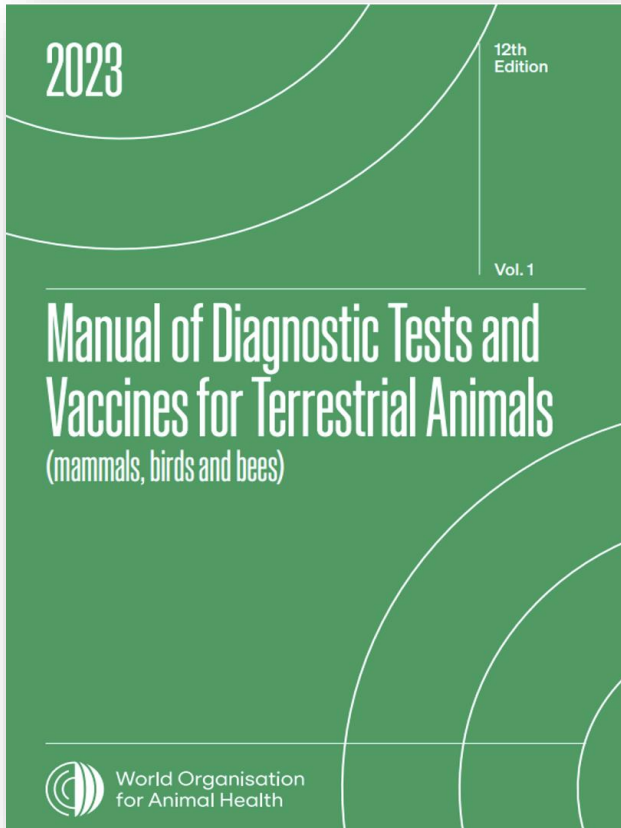
# Quality Control Tests of Veterinary Vaccines

**Vaccine QC Tests** conducted following the  
*Tests and Vaccines for Terrestrial Animals*"



World Organisation  
for Animal Health  
Founded as OIE

*"Manual of Diagnostic*



**1-Identity**



**2-Purity/Sterility**



**3-Safety/Innocuity**



**4-Potency/Efficacy**



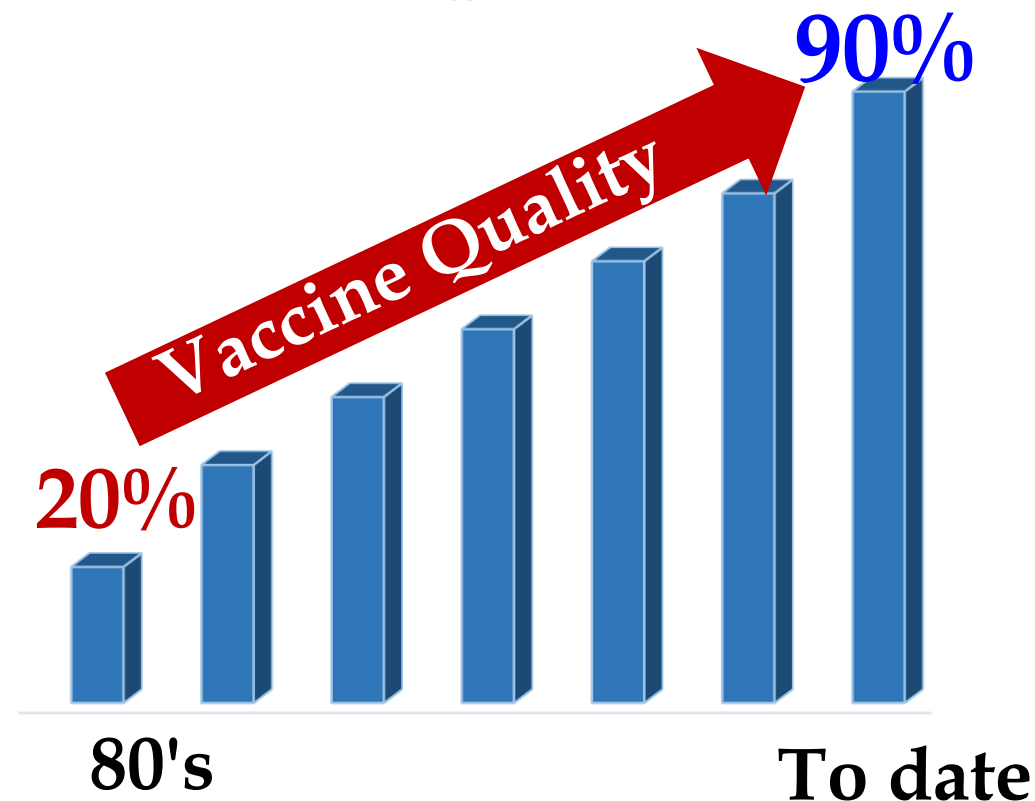
**5-Stability**

# Quality Control Tests of Veterinary Vaccines

- ❑ 300 - 400 vaccine batches (**3.5 Billion doses**) annually certified by AU-PANVAC for more than 50 types of Vaccines



- ❑ Vaccine Quality Produced in Africa improved



## Quality control test performance 2023-24

### In 2023 received 364 biologicals:

- 272 batches of vaccines,
- 79 diluents,
- 8 different vaccine seeds,
- 2 kits
- 2 cells

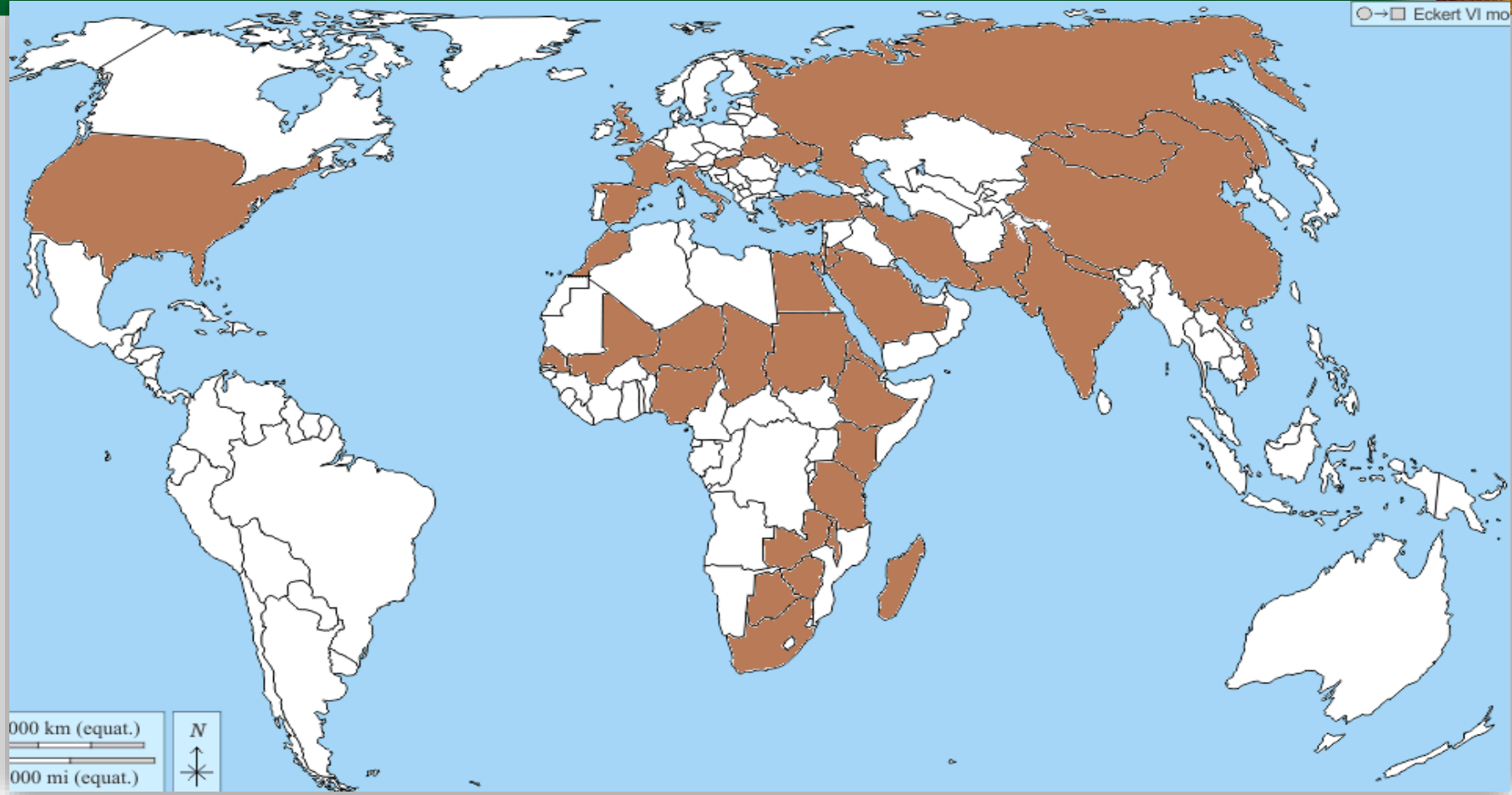
### In 2024 received 405 biologicals

- 337 vaccine batches,
- 35 diluents,
- 24 vaccine seeds,
- 3 cell lines,
- 3 kits,
- 2 sera,
- 1 GMEM





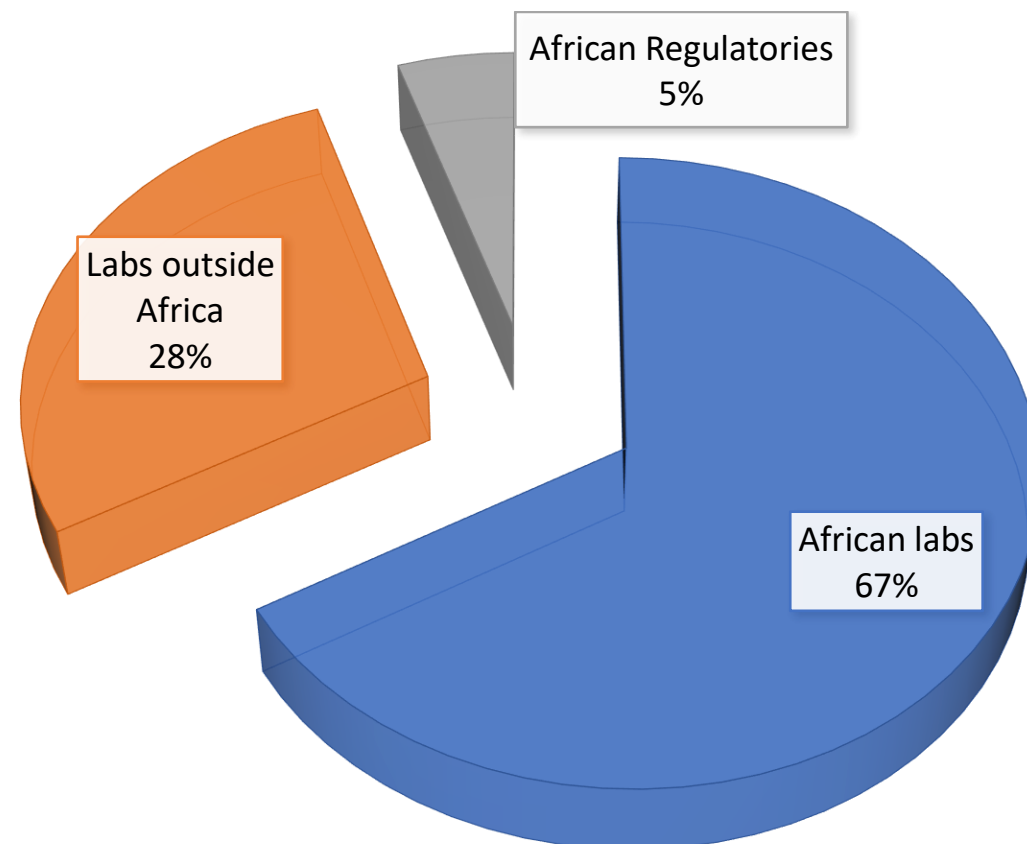
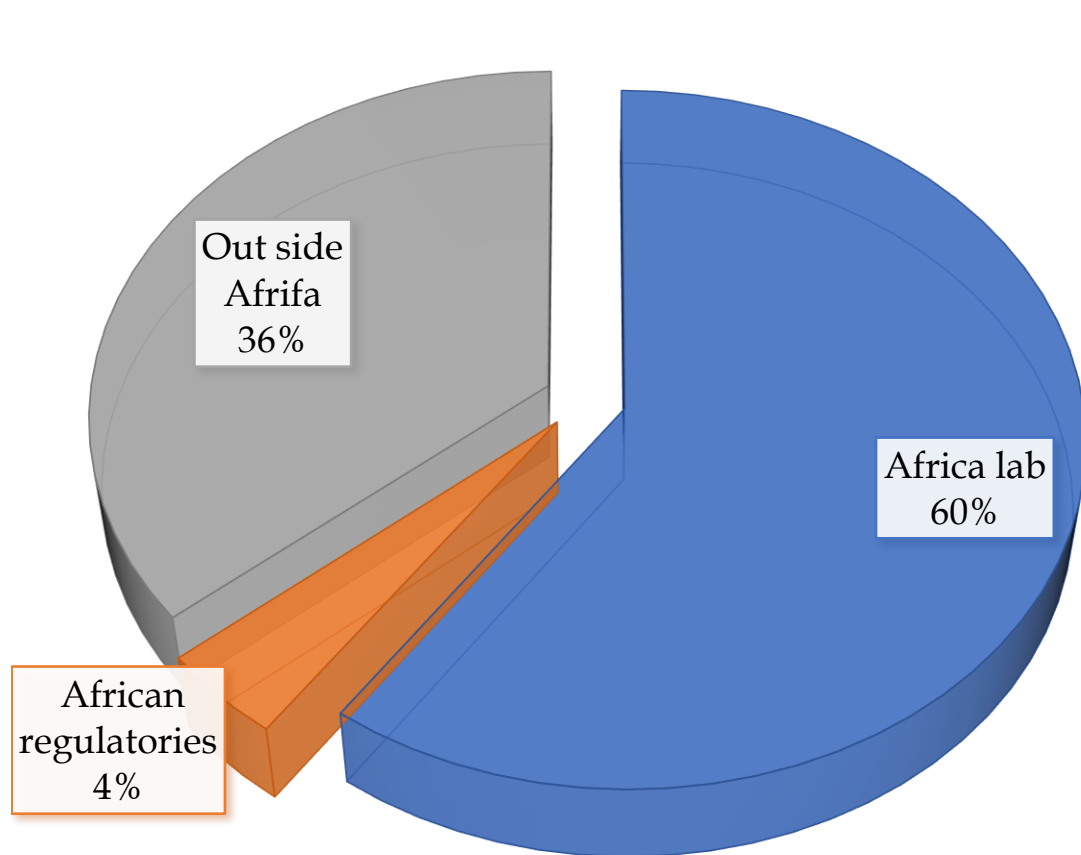
# Trends in the Origin of Vaccines Tested



Receiving vaccines from all over the world (except South America & Australia)

- African Manufacturers (**25 labs**) & Nat. Regulatory bodies
- Over sea Manufacturers (**24 labs**)

# Proportion of vaccines senders in 2023-24



In 2023, 60% and in 2024, 67% of the vaccines received were from AUMS labs

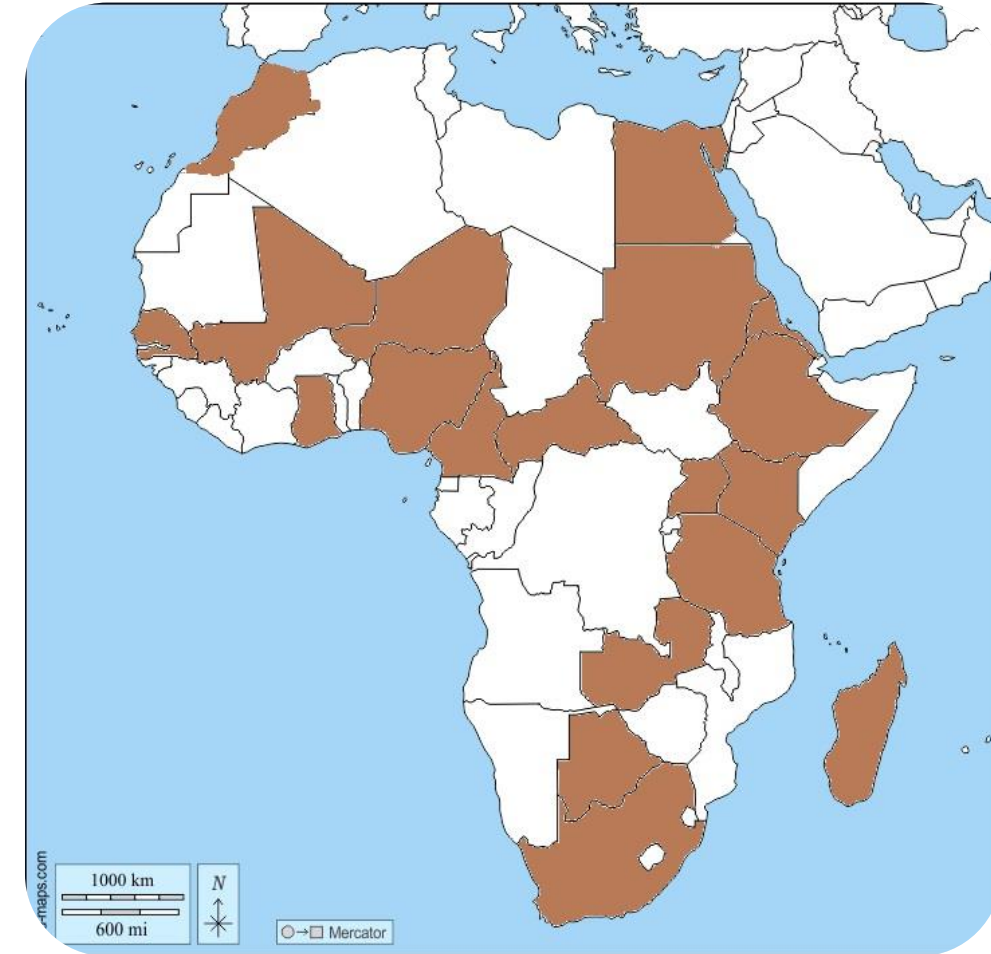


# Technical Support in Vaccine Production



25 Vaccine Manufacturers from 18 AUMS are assisted in vaccine production

- **North -Africa:** Egypt (**VSRVI, MEVAC**) & Morocco (**MCI & BIOPHARMA**),
- **West Africa:** Senegal (**ISRA**), Mali (**LCV**), Niger (**LABOCEL**), Ghana (**CVL, Accra**) & Nigeria (**NVRI**)
- **Central Africa:** Cameroun (**LANAVET**), Chad (**IREC**)
- **East Africa:** Ethiopia (**NVI**) & Kenya (**KEVEVAPI, INNOVA**), Uganda, Tanzania (**TVLA, HESTER Africa**)
- **Southern Africa:** Botswana (**BVI**), South Africa (**OBP, MSD**), Madagascar (**IMVAVET**), Malawi (**CTTBD**), Zambia (**CVRI**), Zimbabwe (**CVL**)



# Technical Support in Vaccine Production

- ❑ Harmonising protocol & Support vaccine production with the **Continental Vaccine Seed Repository** held at AU-PANVAC
- ❑ Training over of **1000 LABORATORY STAFF** in vaccine production & quality control
- ❑ Introduction of **New Technology** (Thermostable Technology-THERMOVAX & XEROVAC) for production of **more 13 Vet. Vaccines**.



# Continental Vaccine Seeds Repository

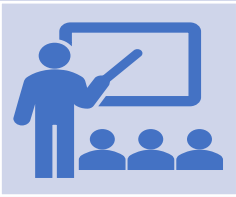
To support production of veterinary vaccines for **13 Priority Animal Diseases**.

| S/N | Type of Vaccine Seed | Strain Name                                                            | Vaccine Strain Origin       |
|-----|----------------------|------------------------------------------------------------------------|-----------------------------|
| 1   | PPR                  | Nigeria 75/1                                                           | Nigeria                     |
| 2   | ND                   | <ul style="list-style-type: none"><li>• Lasota</li><li>• I-2</li></ul> | US, Australia               |
| 3   | Sheep pox            | SP 30                                                                  | Kenya                       |
| 4   | RVF                  | Smith burn                                                             | Uganda                      |
| 5   | SGP                  | 0180, 15LK, IEBL                                                       | Kenya/New York, Plum Island |
| 6   | LSD                  | Neethling                                                              | South Africa                |
| 7   | CBPP                 | T1/SR & T1/44                                                          | Tanzania                    |
| 8   | CCPP                 | F38                                                                    | Kenya                       |
| 9   | HS A                 | Pasteurella multocida type A                                           | Ethiopia                    |
| 10  | HS B                 | Pasteurella multocida type A                                           | Ethiopia                    |
| 11  | Anthrax              | Bacillus anthracis                                                     | Ethiopia                    |
| 12  | Black Leg            | Clostridium chauvoei                                                   | Ethiopia                    |
| 13  | Camel Pox            | VD 45                                                                  | Niger                       |



# Trainings & Capacity Building of Scientists

- ❑ Training about **20 Lab Technicians from AUMS annually**
- ❑ Pan African University (PAU) students on Production and Quality Control of Vet. Vaccines



8-10 students from the PAU for Life and Earth Sciences (PAULESI) in Ibadan, Nigeria are received annually



Master Research work at AU-PANVAC for 8 to 10 Months



**AU-PANVAC participates for PPR QC ILT annually on PPR control (in 2023 with 7 labs & in 2024 with 8 labs)**

- Totally 19 samples were properly labeled and sent
- The samples were tested for potency (titration), PPR identity, and sterility(freedom from bacterial/fungi, freedom from mycoplasma and BVDv)
- The ILT result was communicated to respective labs



# Harmonisation of Vaccine Registration Standards

- ❑ African Union "Harmonized Guideline for Registration of PPR vaccine in Africa" developed with the support of NRAs and Manufacturers
- ❑ Support the “Establishment of a Network of African Regulatory Authorities” for exchange information and for capacity building
- ❑ AU-PANVAC in collaboration with NRAs and RECs to initiate the “Development of a Harmonised Guideline for Audit and Certification of vaccine manufacturers”.



Nairobi, Kenya: *Dec 2019*



Abuja, Nigeria: *July 2023*



Dar Es Salaam, Tanzania, *July 2025*



# Conclusions

- ❑ AU-PANVAC, **as a central pillar for animal health in Africa**, plays a crucial role in assuring the quality of veterinary vaccines through independent and rigorous quality control testing.
- ❑ AU-PANVAC also actively strengthen the continent's vaccine manufacturing laboratories through capacity building:
  - **supplying essential vaccine seeds and cells,**
  - **providing technical support to manufacturers,**
- ❑ In collaborating with National Regulatory Authorities and various stakeholders AU-PANVAC is actively working on harmonization of regulatory standards.





One Continent, One Market, One Standard for Registration of  
Vaccines & manufacturers

*Thank you*

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