World Organisation for Animal Health

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WOAH Collaborative Centre Reports Activities 2025

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CENTRE INFORMATION

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***Name of the writer:**	Mrs CISSE Rahamatou MOUSTAPHA BOUKARY

TOR 1 AND 2: SERVICES PROVIDED

1. Activities as a centre of research, expertise, standardisation and dissemination of techniques within the remit of the mandate given by WOAH

Category	Title of activity	Scope
Vaccines (true)	Veterinary Vaccine Quality Control	In 2025, 491 batches of vaccines and other biological products were received by AU-PANVAC for quality control testing, representing a significant increase compared to 2024 and the preceding years. This included 391 vaccine batches with 50 types of vaccines among which PPR has the highest proportion (20%), followed by CBPP (11%), LSD (9%) and ND (7%). The Vaccines received at AU-PANVAC were from from 11 African countries (Benin, Cameroon, Egypt, Ethiopia, Kenya, Mali, Morocco, South Africa, Senegal, Tanzania) and 15 countries outside Africa (Argentina, China, Hungary, India, Iran, Israel, Jordan, France, NEPAL, Russia, Spain, Turkey, United Kingdom, Ukraine and USA).

TOR 3: HARMONISATION OF STANDARDS

2. Proposal or development of any procedure that will facilitate harmonisation of international regulations applicable to the main fucus area for which you were

designated

Proposal title	Scope/Content	Applicable Area
Regional Training Seminar for WOAH National Focal Points	AU-PANVAC participated as a resource institution in the Regional Training Seminar for WOAH National Focal Points for Veterinary Laboratories (Cycle III). AU-PANVAC delivered technical presentations on Biological Risk Management in Conflict Zones and Partner Initiatives on Emergency Management and Biological Threat Reduction. The trainings were organized by the World Organisation for Animal Health (WOAH) in targeted English-speaking countries from 08 to 10 July 2025 in Gaborone, Botswana, and in French-speaking countries from 29 to 31 July 2025 in Dakar, Senegal.	Laboratory Expertise Training and Education
African manual of standards for Good Manufacturing Practices (GMP) for animal vaccines and continental guideline for veterinary post vaccination monitoring in Africa	AU-PANVAC developed the African Union's Vaccino-Vigilance Guidelines, outlining the comprehensive framework to ensure veterinary vaccines used across Africa are safe, effective, and of high quality throughout their entire lifecycle from production to field administration. The guideline integrates robust monitoring, reporting, and response mechanisms to detect and manage adverse events, aligns with international standards, and supports global disease control efforts. The guideline also underscores the critical roles of regional and national stakeholders, manufacturers, practitioners, and community health workers, stressing that coordinated capacity building, harmonized policies, and strong collaboration are essential to mitigate risks from substandard and falsified vaccines across AU Member States. The draft guideline was discussed with National Regulatory Authorities, CVOs and vaccine manufacturers in Dar Es Saalam in July 2025.	Laboratory Expertise Veterinary Products
WOAH Ad hoc group (Falsification, ASF evaluation guideline, Autogenous vaccines)	AU-PANVAC has participated in various ad hoc groups. AU-PANVAC served as a rapporteur in the preparation of a reflection paper on current concepts, standards and use of autogenous vaccines.	Laboratory Expertise Training and Education
Good Manufacturing Practices (GMP)	AU-PANVAC in collaboration with partners developed a preliminary guideline for the Good Manufacturing Practice (GMP) audit and certification of veterinary vaccine manufacturers in Africa, aimed at establishing a harmonized continental reference aligned with international standards such as WOAH and VICH. The guideline responds to persistent challenges including regulatory disparities, limited capacity, and the absence of unified standards, with the overarching goal of improving the quality, safety, and efficacy of veterinary vaccines produced or imported into Africa. The draft guideline was discussed with National Regulatory Authorities, CVOs and vaccine manufacturers in Dar Es Saalam in July 2025.	Laboratory Expertise Veterinary Products
	To address challenges associated with cold-chain dependence in PPR-endemic regions, AU-PANVAC, with support from GIZ, conducted a study to evaluate vaccine stability under elevated temperature conditions simulating field use in hot climates. This activity was conducted as per the recommendation from the workshop organized by FAO/WOAH PPR-Secretariat with the support of the Global Alliance for Livestock Veterinary Medicines (GALVmed) In 2017 which recommended to establish a criteria for assessing thermotolerant vaccines independently to the technique used to improve PPR vaccine stability. Vaccine batches were collected from various manufacturers and evaluated for	

Criteria for assessing PPR Thermotolerant vaccine	incubation at 40 °C and 45 °C, and assessed for residual moisture, virus titre retention, titre loss kinetics, and immunogenicity in goats. Based on experimental data generated at AU-PANVAC, objective and measurable criteria for assessing thermotolerance of PPR vaccines were established. The proposed criteria from the study require the evaluation of thermotolerant PPR vaccine titre after 5 days' incubation at 40 °C: (1) the vaccine should maintain the minimum titre of 102.5 TCID50/mL for vaccine dose, and (2) the titre loss must not exceed 1 log10. The data from the study on the Criteria for assessing the thermotolerance of PPR have been presented during various PPR-GREN and PPR vaccines manufacturers meetings. These data were recently published in the peer review journal [Viruses 2025, 17(9), 1151; https://doi.org/10.3390/v17091151]. In September 2025, AU-PANVAC presented these data to the meeting of the WOAH Biological Standards Commission held in Paris, 8–12 September 2025 The PPR Network members proposed that the Terrestrial Manual should incorporate criteria for assessing the acceptability of thermotolerant vaccine batches in Section C.2.2.4 or C.2.3.3 on batch release. In the other hand, it was recommended that a detailed step-by-step SOP for testing thermotolerant PPR vaccines should be prepared and maintained through available through platforms such as the WOAH PPR Reference Laboratory Network website." The SOP could be revised depending on the new developments. The WOAH Biological Commission was requested to review and provide recommendations on the criteria and the Standard Operating Procedure (SOP) for testing thermotolerant PPR vaccines. The Commission agreed on the incorporation of the criteria for assessing thermotolerant of PPR vaccines in the Manual of Diagnostic Tests and Vaccines for Terrestrial Animals, Chapter 3.8.8 (Section C.2.2.4 or C.2.3.3 on batch release).	Laboratory Expertise Veterinary Products
Harmonization of standards for vaccine registration and registration of vaccine manufacturing facilities in Africa.	The workshop on "Socialization of the African Union harmonized guideline for the registration of PPR vaccine in Africa" was organized in in Dar Es Salaam, Tanzania, from 16 to 18 June 2025 under the EU-PPR Project in collaboration with WOAH, and with the support of IBAR and GALVMed. Directors or Representatives from National Veterinary Vaccine Producing Laboratories (Botswana, Cameroon, Chad, Eritrea, Ethiopia, Kenya, Madagascar, Mali, Morocco, Niger, Nigeria, Senegal, South Africa, Tanzania, Zambia and Zimbabwe), African Private Manufacturers (Hester – Tanzania, MCI-Morrocco, Dunevax Biotech-Namibia, Biologix-SA, and MEVAC Egypt) and oversea vaccine manufacturers (DOLLVET-Turkey, VETAL-Turkey and JOVAC-Jordan, Klybeck Life Science KSA), National Regulatory Authorities (Ethiopia, Ghana, Gambia, Kenya, Morrocco, Nigeria, Tanzania, Tunisia, South Africa and Uganda), Regional Economic Communities (ECOWAS, WAEMU, UMA, IGAD, EAC, ECAAS, SADC), Africa Medecine Agency (AMA), African Continental Free Trade Area (AfCFTA), FAO and GALVmed attended the meeting. The workshop provided an opportunity to National Regulatory Authorities (NRAs) and vaccine manufacturers to exchange and become familiar with the harmonized guidelines for the registration of PPR vaccine. The meeting has been an opportunity to updates on the establishment of a regulatory network for veterinary products in Africa, discuss on the draft documents of the guidelines on Good Manufacturing Practice (GMP) for audit and certification of vaccine manufacturers and Vaccinovigilance developed by AU-PANVAC. The guideline on GMP for audit and certification of veterinary vaccine	Laboratory Expertise Veterinary Products

	manufacturers in Africa, aimed at establishing a harmonized continental reference aligned with international standards such as WOAH and VICH. The guideline responds to persistent challenges including regulatory disparities, limited capacity, and the absence of unified standards, with the overarching goal of improving the quality, safety, and efficacy of veterinary vaccines produced or imported into Africa. The Vaccinovigilance Guideline, outlining the comprehensive framework to ensure veterinary vaccines used across Africa are safe, effective, and of high quality throughout their entire lifecycle from production to field administration. The guideline integrates robust monitoring, reporting, and response mechanisms to detect and manage adverse events, aligns with international standards, and supports global disease control efforts. The guideline also underscores the critical roles of regional and national stakeholders, manufacturers, practitioners, and community health workers, stressing that coordinated capacity building, harmonized policies, and strong collaboration are essential to mitigate risks from substandard and falsified vaccines across AU Member States.	

3. In exercising your activities, have you identified any regulatory research needs* relevant for WOAH?

Yes

Research need 1

Please type the Research need: Development and validation of standards for aquatic animal vaccines quality control

Relevance for WOAH Disease Control, Capacity Building, Standard Setting,

Relevance for the Code or Manual

Field Vaccines,

Animal Category Aquatic,

Disease:

Kind of disease (Zoonosis, Transboundary diseases)

If any, please specify relevance for Codes or Manual, chapter and title

(e.g. Terrestrial Manual Chapter 2.3.5 - Minimum requirements for aseptic production in vaccine manufacture)

Answer:

Notes:

Answer:

4. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres (CC), Reference Laboratories (RL), or organisations designated for the same specialty, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose
Pirbrigth Institute	United kingdom	Europa	FMD vaccine quality control (Proficiency testing for VNT and Identity by molecular biology technics)
			AU-PANVAC sent vaccines

Animal Production and Health Laboratory of the Joint FAO/IAEA Centre	Austria	Europa	and vaccine seeds to the Joint FAO/IAEA Animal Production and Health Laboratory (APHL) in Vienna, Austria, for deep sequencing analysis. The objective was to confirm the genetic identity of the seeds, assess genomic integrity, detect potential bacterial or viral contaminants, and evaluate viral subpopulation dynamics within the vaccine stocks AU PANVAC jointly with IAEA conducted a regional training for 24 African countries in CBPP and PPR vaccines quality control.
Scienciano	Belgium	Europa	The collaboration aims to: train AU-PANVAC personnel in advanced diagnostic techniques for vaccine quality control, particularly for Lumpy Skin Disease Virus (LSDV) vaccines; Perform in vitro quality control testing for capripox virus vaccines and master seeds currently housed at AU-PANVAC and facilitate scientific collaboration between AU-PANVAC and Sciensano to strengthen vaccine quality assurance and standardization across the region.
MEVAC	Egypt	África	Collaboration in vaccine quality control
Sandia Laboratories	USA	América	Biorisk management capacity building

TOR 4 AND 5: NETWORKING AND COLLABORATION

5. Did your Collaborating Centre maintain a network with other WOAH Collaborating Centres, Reference laboratories, or organisations in other disciplines, to coordinate scientific and technical studies?

Yes

Name of WOAH CC/RL/other organisation(s)	Location	Region of networking Centre	Purpose

IZS Teramo sequencing	Italy	Europe	Vaccine seed sequencing
IAEA	Austria	Europe	Genomic Analysis of RVF and LSD Vaccine Seeds from AU-PANVAC
Sciencano	Belgium	Europe	Vaccine seed sequencing

TOR 6: EXPERT CONSULTANTS

6. Did your Collaborating Centre place expert consultants at the disposal of WOAH?

Yes

Name of expert	Kind of consultancy	Subject
Dr Charles BODJO	ad hoc Group on ASF Vaccines: Field Evaluation and Post-Vaccination Monitoring Expert Group Meeting on Substandard and Falsified Veterinary Products	Guidelines for ASF Vaccines: Field Evaluation and Post-Vaccination Monitoring. Development of Guideline on Substandard and Falsified Veterinary Products
Hassen Belay	Biorisk management expertise	Regional Training Seminar for WOAH National Focal Points (Anglophone countries from 08 to 10 July 2025 in Gaborone, Botswana)
CISSE Rahamatou MOUSTAPHA BOUKARY	Biorisk management expertise	Regional Training Seminar for WOAH National Focal Points (Francophone countries from 29 to 31 July 2025 in Dakar, Senegal

TOR 7: SCIENTIFIC AND TECHNICAL TRAINING

7. Did your Collaborating Centre provide advice/services to requests from Members in your main focus area?

Yes

AU-PANVAC provided hands-on training in vaccine production and quality control to personnel from African Union Member States. Two participants from the Botswana Vaccine Institute (BVI), Botswana, received training on Newcastle Disease (ND) and Lumpy Skin Disease (LSD) vaccine production and quality control from 25 August to 19 September 2025.
In addition, one participant from the Central Veterinary Laboratory (CVL), Mozambique, was trained in Infectious Bursal Disease (IBD) and Newcastle Disease (ND) vaccine production and quality control from 06 to 31 October 2025.
Furthermore, AU-PANVAC, in collaboration with the International Atomic Energy Agency (IAEA), conducted a regional training on Contagious Bovine Pleuropneumonia (CBPP) and Peste des Petits Ruminants (PPR) quality control for 32 laboratory personnel in Cameroon.
AU-PANVAC has provided training on quality management system (QMS) to 52 staff members of National Veterinary Research Institute (NVRI), Nigeria in Vom.
AU-PANVAC conducted a certified training on the shipment of infectious substances for 29 participants from Francophone AUMS countries. The training took place from 09 to 11 December 2025 in Abidjan, Côte d'Ivoire.
AU-PANVAC carried out an assessment of the Vaccine Production Unit of the Directorate of Animal Sciences, Agricultural Research Institute of Mozambique (IIAM), in Maputo, Mozambique, from 19 to 22 May 2025.
AU-PANVAC provided technical assistance in the design of a vaccine production laboratory for Burkina Faso in February 2025.
AU-PANVAC participated as a resource institution in the Regional Training Seminar for WOAH National Focal Points for Veterinary Laboratories (Cycle III). AU-PANVAC delivered technical presentations on Biological Risk Management in Conflict Zones and Partner Initiatives on Emergency Management and Biological Threat Reduction.

8. Did your Collaborating Centre provide scientific and technical training, within the remit of the mandate given by WOAH, to personnel from WOAH Members?

Yes

a) Technical visit : 1

b) Seminars : 4

c) Hands-on training courses: 3

d) Internships (>1 month) : 0

Type of technical training provided (a, b, c or d)	Content	Country of origin of the expert(s) provided with training	No. participants from the corresponding country
B	Training on quality management system	Nigeria	52
C	Training on ND and LSD vaccine production and QC	Botswana	2
C	Training on IBD and ND vaccine production and QC	Mozambique	1
B	Certified training on transport of infectious substances	14 Francophone African countries: Benin, Burundi, Cameroon, Cote d'Ivoire, Gambia, Guinee, Mali, Niger, Mauritania, RDC, Senegal, Tchad, Togo	27
B	The 13th Pan-African Meeting Of Directors Of Veterinary Vaccine Manufacturing Facilities	Francophone and anglophone African countries and other countries such as Iran, Saudi Arabia, Turkey, Jordan, Nepal	102
B	Workshop on the "Socialization of the African Union Harmonized Guideline for Registration of PPR vaccine in Africa"	Francophone and anglophone African countries and other countries such as Iran, Saudi Arabia, Turkey, Jordan, Nepal	95
C	regional training on Contagious Bovine Pleuropneumonia (CBPP) and Peste des Petits Ruminants (PPR) quality control for 32 laboratory personnel in Cameroon	Francophone and anglophone African countries	37
B	Regional Training Seminar for WOAH National Focal Points for Veterinary Laboratories (Cycle III). AU-PANVAC delivered technical presentations on Biological Risk Management in Conflict Zones and Partner Initiatives on Emergency Management and Biological Threat Reduction.	Francophone and anglophone African countries	48
A	Assessment of Vaccine Production Unit of the Directorate of Animal Sciences, Agricultural Research Institute of Mozambique (IIAM), in Maputo, Mozambique, from 19 to 22 May 2025.	Mozambique	10

TOR 8: SCIENTIFIC MEETINGS

9. Did your Collaborating Centre organise or participate in the organisation of scientific meetings related to your main focus area on behalf of WOAH?

Yes

National/International	Title of event	Co-organiser	Date	Location	No. Participants
Internationally	Workshop on the "Socialization of the African Union Harmonized Guideline for Registration of PPR vaccine in Africa"	GALVMED, WOAH, FAO, AU IBAR	2025-06-18	Dar Es Salam, Tanzania	95
Internationally	The 13th Pan-African Meeting Of Directors Of Veterinary Vaccine Manufacturing Facilities	GALVMED, WOAH, FAO, AU IBAR	2025-06-19	Dar Es Salam, Tanzania	102
Internationally	Regional Training Seminar for WOAH National Focal Points for Veterinary Laboratories (Cycle III). English speaking countries	WOAH	2025-07-07	Gaborone, Botswana	23
Internationally	Séminaire Régional De Formation Des Points Focaux Nationaux OMSA Pour Les Laboratoires Vétérinaires (Cycle III) Langue Française	WOAH	2025-07-29	Dakar, Senegal	23

TOR 9: DATA AND INFORMATION DISSEMINATION

10. Publication and dissemination of any information within the remit of the mandate given by WOAH that may be useful to Members of WOAH

a) Articles published in peer-reviewed journals:

2

1. "Peste des Petits Ruminants Vaccine: Criteria for Assessing Its Thermotolerance," Viruses 2025, 17, 1151 https://doi.org/10.3390/v17091151

2. "An antigen panel to assess the regional relevance of foot and mouth disease vaccines" Vaccines | (2025) 10:106 https://doi.org/10.1038/s41541-025-01128-7

b) International conferences:

14

1. World AQUACULTURE SAFARI 2025, 24 to 27 June, Kampala, Uganda: AU PANVAC attended the 1st Steering Committee Meeting of Regional Aquatic Animal Health Network and the Conference Sessions on "Aquatic Animal health and Welfare 2".

2. 1st Workshop On Vaccines and Substandard and Falsified Veterinary Products for WOAH Focal Points for Veterinary Products and Regulators of Veterinary Medicinal Products In English-Speaking Africa. Kigali Rwanda 04 to 06 March 2025

3. 92nd Annual General Session of The World Assembly Of Delegates1 Of the World Organisation for Animal Health (WOAH),Paris, France 24-29 May 2025 .

4. 4th Meeting of the FAO-WOAH Rinderpest Holding Facility (RHF) Network, FAO HQ In Rome, Italy 22-24 April 2025

5. 7th Technical Expert Group Meeting on Substandard And Falsified Veterinary Products Paris, France 15-17 July 2025

6. The Ad Hoc Group on ASF Vaccines: Field Evaluation and Post-Vaccination Monitoring at the World Organization for Animal Health (WOAH) Headquarters Paris, France 22-24 July 2025

7. The Regional Stakeholders' Meeting on PPR Eradication in West Africa, Abidjan Cote d'Ivoire 12-15 August 2025

8. The International Veterinary Vaccinology Landscape Meeting, United Kingdom 03-04 September 2026

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9. The 4th Peste Des Petits Ruminants (PPR) Regional Roadmap Meeting for the Southern African Development Community (SADC) Maputo, Mozambique 7-9 October 2025

10. Training Workshop on FMD Epidemiology, Diagnostics and Surveillance or Strengthening FMD Control in Eastern Africa, Mombassa, Kenya 21-23 October 2025

11. The 2025 Global Conference on Biological Threat Reduction, Geneva, Switzerland, 28-30 October 2025

12. Consultative Joint Meeting (AU-IBAR, AU-PANVAC & Galvmed) On Establishing the Pan-Africa Veterinary Products Regulatory Authorities Network (PAVPRAN), Nairobi, Kenya 17-19 November 2025

13. The 8th Meeting of The Peste des Petits Ruminants Global Research and Expertise Network (PPR-GREN), Qingdao, People's Republic of China, 25-27 November 2025 July 2025

14.The 26th Conference of WOAH Regional Commission for Africa, Addis Ababa, Ethiopia, 4-7 February 2025

c) National conferences:
1
Joint Workshop of the AU One Health Zoonotic Disease Prevention and Control Strategy and Continental Climate Change and Health Trategic Framework, AfCDC HQ, Addis Ababa, Ethiopia 7-10 July 2025

d) Other (Provide website address or link to appropriate information):
0
n/a

11. What have you done in the past year to advance your area of focus, e.g. updated technology?
I. AU-PANVAC undertook and coordinated advanced characterization of vaccine seeds to support vaccine manufacturers, national regulatory authorities, and continental harmonization initiatives across Africa and beyond:

1. Genomic characterization of the Rift Valley fever (RVF): Deep sequencing of the AU-PANVAC RVF Smithburn vaccine seed (PANVAC_RVF01_1197) and two commercial vaccine samples (PANVAC_RVF02_109 and PANVAC_RVF03_010) showed that all three belonged to the Smithburn lineage, with the AU-PANVAC seed showing 99.9% genomic homology to the reference Smithburn strain. Importantly, the sequencing results confirmed the absence of any bacterial or viral contaminants and revealed no evidence of genetic heterogeneity or subpopulations. This demonstrates that the RVF vaccine seed stored at AU-PANVAC is genetically stable, pure, and suitable as a master seed virus for vaccine production across Africa. These findings are particularly important given the zoonotic nature of RVF and the need to ensure that vaccines used in animals are safe and cannot revert to pathogenic forms that might pose risks to both animal and human health.

2. Genomic characterization Lumpy skin disease virus, Camelpox virus and Vaccinia virus

3. PPR and Capripox Vaccine seed sequencing started

II. Staff capacity building in Molecular Techniques for LSD Characterisation (3 participants) at Sciensano, Brussels, Belgium

III. Capacity Building of Laboratory Staff In "Viral and Bacterial Vaccines Quality Control" by a scientific visit at JOVAC, Amman Jordan (Two participants)

IV. AU PANVAC provided assistance to the Ethiopian National Veterinary Institute (NVI) in the production and quality control of the new stock of Rinderpest vaccine batches for the refurbishement of the continental Vaccine Bank stock. NVI was selected by WOAH through an international tender to produce and temporarily supply the Rinderpest vaccine for emergency stockpiling at the AU-PANVAC. AU PANVAC provided the vaccine seed and participated in the production and the quality control of the produced batches. About 1.3 millions doses of Rinderpest vaccine were produced and quality controlled.

IV. The construction of the state-of-the-art of new African Union Pan-African Veterinary Vaccine Centre (AU-PANVAC) New Laboratory Facility Complex commenced in Mars 2025, in Bishoftu, Ethiopia. This facility is fully funded by the United State Defense Threat Reduction Agency (US-DTRA) with a budget of $56 million and reaffirming a significant milestone in partnership between the AU and the Government of US in promoting and safeguarding livestock health, consequently boosting agricultural productivity and food security in Africa. The construction is expected to be completed within three years and will significantly enhance AU-PANVAC's capacity to achieve its mission and mandates for quality control of veterinary vaccines, production of diagnostics for diseases surveillance, providing training in vaccine production and biosecurity.

12. Additional comments regarding your report:
n/a