R A P P O R T D E M I S S I O N / M I S S I O N R E P O R T

Nom du rédacteur / Name :
Dr. Mohamed Alhosani, Dr. Samuel Wakhusama

Date et lieu du déplacement / Dates of the trip :
6-7 July 2021 (Virtual)

Titre de la mission / Title of the mission:

(Africa-Middle East) Inter-Regional Webinar Rift Valley Fever: Scientific Advances in Surveillance, Risk Mitigation and Control

---

Objective de la mission /Aim of the meeting:

1. To assure the continuous efforts and roles of OIE in global leadership of combating TADs under **"One Health**" approach, through science-based standards settings and implementation, and supports development and adoption of regional and country level sound strategies and action plans to control animal diseases.
2. To strengthen, preparedness, and response to RVF outbreaks, and to contribute to countries' capacities building and support inter-regional joint efforts for RVF prevention and control.
3. To discuss recent scientific technical developments in aspects of risk assessment and management and control of RVF, by shedding sufficient light on recently published scientific advances to provide inter-regional participants with knowledge on latest developments in surveillance, diagnosis, vaccines, transmission, and prevention of RVF as an important zoonotic(TAD), due to RVF characteristics challenges in exhibiting different patterns of transmission, and also the reality of extensive movements of animals across and between both regions.
4. To enable stakeholders in both regions, particularly the countries most afflicted by RVF (totaling 43 members), to sharing the same level of scientific information, and foster mutual cooperation in light enormous difficulties such as the of lack of efficient animal identification and traceability systems climatic changes and persistent recurrent outbreaks.
5. Offering support to OIE mandate in improving the world situation of animal health and welfare by strengthening RFV control and eradication based on performance adequacy and sustainability of animal health systems. Explaining other relevant associated issues namely aspects for attainment of RVF self-declaration of free status.

Mots clefs / Keywords

OIE, FAO, GF-TADs, RVF (Rift Valley Fever), epidemiological situation, surveillance, inter-epidemic periods, Early warning systems, Decision Support Tool, One Health, livestock traceability, risk-based control measures vaccination, vector transmission. Africa CDC, (ILRI), ZAPI, (CIRAD), INSERM, Pretoria University, Wageningen University.

Participants du Siège / Participants from the OIE Headquarters

1. Paolo Tizzani — Epidemiologist, World Animal health Information System, OIE
2. Aurelio Cabezas — Disease Status Officer- OIE**.**

Participants des RR/RSR ou experts OIE / Participants from the RR/SRR or OIE experts

1. Karim Tounkara — OIE / Representative, Africa.
2. Ghazi Yehia — OIE Middle East Representative.
3. Mohamed Al-Hosani — OIE Sub-Regional Representative in Abu Dhabi
4. Samuel Wakhusama — OIE Sub-Regional Representative -East Africa
5. Chadia Wannous, Regional One Health Officer for Africa, OIE Sub-Regional Representation for Eastern Africa
6. Patrick Bastiaensen, Programme officer, OIE Sub-Regional Representation for Eastern Africa
7. Thomas Dulu, Programme officer, OIE Sub-Regional Representation for Eastern Africa
8. Tariq Taha, Technical Assistant, OIE Sub-Regional Representation for the Gulf States
9. Mehdi Brinsi, Administrative Assistant, OIE Sub-Regional Representation for the Gulf States
10. Jeroen Kortekaas, Virologist/Project Leader, Wageningen University, Netherlands (OIE Expert)
11. Catherine Cetre – Sossah, Virologist, CIRAD, Réunion Island (France) (OIE Expert)

Contexte / Background:

Rift Valley fever virus (RVFV) circulates throughout Africa and the Arabian Peninsula poses an immense animal and public health concern. It is an acute arthropod-borne viral disease, poses seriously impacting both Human and animal livelihood and wellbeing and considered as one of the important transboundary animal diseases (TADs). In addition to its zoonotic potentials as an aetiology of fatal haemorrhagic fever in man, the disease causes sizable economic losses as a severe ailment in several domestic animals' species, such as buffalo, camels, cattle, goats, and sheep. The disease also precipitates damaging trade disruptions, accompanied with sizable and devastating socioeconomic impacts afflicting the endemic areas such as the Horn of Africa. Therefore, it is important to strengthen regional and interregional OIE in and FAO cooperation to collaborate through their respective sub-regional offices to maximize joint efforts to curb the devastating impacts of this serious disease. It is imperative to discuss innovations and technical developments as fundamental enablers of decision making in prevention, risk management and control of RVF, and to adopt integrated approaches that better enhance animal and public health and wellbeing and promote inter-regional economic prosperity through countries ownership of robust countermeasures. Furthermore, stakeholder in order to get the most out of coordination and collaboration efforts of this broad alliance of international organization, academia and governments need to mutually agree on exceptionally important RVF preventive issues that deserve to be prioritized in the future meeting, conferences, and fora.

Résumé / Summary:

Day 1/ **6.7.2021**	
Speaker	Summery
Mohamed Al-Hosani, Samuel Wakhusama, Dino Francescutti	**Dr. Alhosani** welcomed the attendees speakers, participants, and guests from different specialties for their keenness to share their knowledge and experience to enable better understanding of basic aspects of RVF combating and control as one of the important zoonoses and TADs. Additional similar welcoming notes delivered by the webinar co-organizers Samuel **Wakhusama the OIESRR for East Africa** and **Dino Francescutti** FAO coordinator of Subregional representation for GCC and Yemen.
Ibrahim Qadim	Provided an overview of the historical appearances of the disease in African 1931. He pointed out genetic relatedness between the virus caused the (2000) The first outbreak of the disease outside Africa in Yemen and the southwestern part of the KSA. In addition, he highlighted some other important epidemiological aspects included: the role played by uncontrolled boarded movements of livestock. Strengthening veterinary services and facilitation of information and data exchange and along with adoption of the one health approach. He also stressed upon importance of epidemiological studies to identify risk factor and unifying efforts of the ME countries to implement a strategy within the framework of GF-TAD to enhance the prevention and control.
Paolo Tizzani	Provided an overview of the RVF situation in Africa Region. He focused on the improvement in data collection and trend reflected by reports from different countries brought about by new OIE -WAHIS as a modern and dynamic platform to report the animal health situation. The number of reporting countries reached 32, nine of them have reported the disease presence in 2020 / 2021. Epidemiological situation 2005-2021 regrading distribution indicates usability of data in a variety of analyses and enabling constant communication between OIE and members, strengthen collaboration and better networking with other stakeholders. He discussed also Reporting of outbreak and surveillance activities, official vaccination. OIE active search and RVF and EIOS system for epidemic intelligence revealed 858 RVF news detected and verified during 2020.
Peter Thompson	Presented an overview of RVF surveillance during epidemic and inter-epidemic periods at human, animal, and vector interfaces. Highlights were provided regarding the Importance of epidemiological surveillance context in relation to endemic and new epidemic **areas**, interepidemic vs. epidemic **periods** along with the importance of selecting of appropriate methods that well suit the local context. Surveillance objectives, whether in endemic, epidemic, and new areas, or on basis of epidemic or interepidemic periods must be clearly identified in order to arrive at the targeted outcomes. RVF surveillance methods must be adapted to local context and with adequate sensitivity. Strengthen capacity of veterinary services and laboratories, development of systems for multidisciplinary surveillance and rapid dissemination of information to stakeholders, and Integration of surveillance and research **are basic requirements for optimum utilization of surveillance activities.**

Claudia Pittiglio & Karl Morteo	Presented a show covering **FAO early warning system and development of RVF decision support tool**. It is a web-based decision support tools to build a one health early warning capacity. The tool is regarded as a real-time forecasting and risk mapping aid to guide informed actions based on early warning anticipatory actions, diseases detection, responses, tackling emergence at source to optimize prevention and control. The tool designed to anticipate and mitigate risks of priority zoonotic and emerging animal diseases at wildlife -livestock-human interface to reduce the risk of outbreaks epidemics, pandemics. The dynamic patterns and moving targets are major challenges face the system, necessitate building the solutions on innovation, technology, and experts knowledge and skills. This web-based for early warning, monitoring, and forecasting tool integrates near real-time RVF risk maps with geospatial data to enable informed response to RVF at country level. The implementation of this innovative work is being piloted in Kenya, Uganda, Tanzania, and the system is scalable in the future to other countries and diseases. Karl Morteo gave live demonstration of the DST.
Catherine Cetre Sossah	Wealth of information was discussed on advances in diagnostic tests, according to the recent laboratory experiences and accumulated knowledge, to maximize the efficacy of field and lab-based diagnosis. Diagnosis is a fundamental element enables correct and accurate identification of the disease causative agent and pave the road for effective control and prevention. Methodologies for optimum Sample collection Virus identification, antibody detection, isolation microscopy histopathology were highlighted along with Molecular methods (RT-PCR, LAMP) and sequencing where targeted amplification of genetic material followed by NGS facilitate assessment of genetic diversity among present strains and tracing the outbreaks origins. Sound safety precautionary measures must be strictly followed to secure working environment, the most pronounced is biosafety level 3 for isolation of the virus in cell culture and performing neutralization tests and also RNA extraction from field strains.
Chadia Wannous	One Health prime objective as multisectoral approach is the achievement of better public health outcomes to curb the ever-mounting challenges in food safety and security, environmental health, pollution, and economy which constantly accompanied with drivers of disease emergence mainly related to unregulated trade in wild animals and explosive growth of global air travel. Tripartite (FAO, OIE and WHO) strong collaboration based on shared principles is one of the committed responses and significant support to member countries in this regard, recently enhanced by UNEP joining the alliance to strengthen the environmental dimensions of One Health approaches. OIE therefore, strongly committed to put the “One Health” concept into practice at the political and practical level. Wannous provided a quick glance through the projects that targeting capacity building and surveillance, early detection, notification, and management of wildlife diseases for viral hemorrhagic fevers EBO-SURSY Project, along with OIE projects aiming to improve pathogen emergence in wildlife risk management and protecting wildlife and biodiversity. World bank also highlighted some benefits obtained by adhering to OH approach in fighting RVF represented by increased statistical reliability and 10-30% cost saving and efficient use of resources in low and high pathogen prevalence scenarios.
Stephanie Salyer	**Importance of promoting a One Health approach in the Public Health sector for Rift Valley fever**. The purpose of the One Health Practice in National Public Health Institutes framework adopted by the center of disease control in Africa (CDC), is the prevention and control of zoonotic diseases. In order to achieve this target, the CDC is managing to provide minimal objectives, proposed activities and focused guidance that NPHIs and MOH need to adopt to successfully address priority zoonotic

	diseases, using the OH approach. The framework basically targeting health coordination within One health, coordinated surveillance, diagnostic capacity, and laboratory networks, coordinated response. The Africa CDC uses a One Health approach in conducting event- based surveillances for environmental, human, and animal signals (heavy rain, high mortality, human flu-like illness) and events detection, from a wide range of sources. These include, routine MOH health data reports, media (mainly web-based resources, e.g., EIOs and Technical reports from research and field response teams and other ministries (line animal Environment). Surveillance strengthens early detection, preparedness, rapid and efficient response that losses.
Day 2/ 7.7.2021	
Speaker	Summery
Bernard Bett	Potential role of ICT-based Livestock Identification and Traceability Systems (LITS) in the surveillance and control of Rift Valley fever.
Jeroen Kortekaas	Rift Valley fever vaccines of optimal efficacy and safety: From lab to field. The need for new RVF vaccines arises from the shortcomings and disadvantages of currently marketed inactivated and live-attenuated vaccines. Current important features were explained, these include indications for use, target populations, route of administration, presentation, stability/shelf life (thermotolerance), Duration of immunity. In next-generation vaccines neutralizing antibody titers can thus be used to predict efficacy using in vitro models to reduce animal experimentation which inturn requires regulatory approvals. Attempt is contiguous to explore possibilities of production of RVF vaccine with optimal safety/efficacy profile that could be in the market (and be stockpiled) within 5 years,. This largely dependent on joint efforts of governments, non-governmental organizations and industry, taking into account the direct correlation between protection of animals and humans.
Jean-Christophe Audonnet	**Potential of subunit -based technologies for RVFVvaccines The ZAPI project experience.** Highlighted the (ZAPI)Zoonoses Anticipation and Preparedness Initiative:First One Health Project in the IMI Innovative Medicine Initiative) program.The principal objective is to deliver 100 million doses within 6 months or less. Vaccine manufacturers must manage the race between the outbreak' spread and the immunization rate in the target population.To handle the challenge, ZAPI methodology is putting in place the key principles for achieving a surge manufacturing capacity and reducing or simlyfying the development complexity. This is better attained through platform-based vaccine design which is robust, inexpensive ,simple and fast to implement at the industrial scale and when validated in target species.Therefore ,the choice of the RVFV vaccine technology has to be made on multiple parameters (manufacturing capacity , thermostability , immediate and long term protection) and actual needs.
Aurelio Cabezas	Current provisions in the Terrestrial Animal Health Code for self-declaration of freedom from Rift Valley Fever.
Raphaëlle Métras	Direct vector transmission during an outbreak. Is RVF still an occupational hazard? The study was carried out in (Mayotte island Comoros archipelago), a mathematical model developed and fitted to epidemic data to enable estimation of viral transmission amongst livestock, and spillover to humans by both direct contact and vector-mediated routes. Also, for epidemics prediction in the year to follow and for assessing the efficiency of vaccination campaigns. It constitutes a unique opportunity to investigate viral transmission to humans, by estimation and

	understanding pathogen vector transmission amongst animals, or from animals to humans, which requires animal & human adequate data from the same area at the same time .It provided helpful means for control measurement evaluation and assessment. In addition, it acquires a significant relevance and value for joint surveillance in animal-human and contingency planning with flexibility of further modification).
Mathew Muturi	The epidemiological situation of Rift Valley Fever in Kenya.(2018RVF outbreaks in Kenya A call for enhanced IEP surveillance).
Samah Alsharif	The epidemiological situation of Rift Valley Fever in the **Sultante of Oman**
Ali Alsahaf	The epidemiological situation of Rift Valley Fever in the **Kingdom of Saudi Arabia**
Karim Tounkara. **Ghazi Yehia**	Concluding remarks.

Commentaires / Comment : -

- Registered attendees exceeded 400 and actual attendance was around 150 in in each day of the webinar
- The Q&A sessions were not sufficient to accommodate all the discussions and interventions between the audience and the speakers. It indicated the need for future events in order to provide more for a to discuss different RVF control aspect.
- A poll was conducted to explore the audience trends and topics of interest to construct the agenda of the upcoming meeting in 2022.

Suites à donner / Follow up: - Preparation of the plan for the 2022 meeting.

Personnalité(s) rencontrée(s) et sujet des entretiens / Key person(s) met and subjects of discussion:

1. Dino Francescutti — Subregional Coordinator for the GCC States and Yemen, FAO
2. Markos Tibbo — Senior Livestock development officer, Sub-Regional Office for GCC States and Yemen, FAO
3. Ibrahim Qasim. — Chair of the FAO/OIE TADs ME Regional Steering Committee,
4. Peter Thompson — Professor, Veterinary Epidemiology, Pretoria University.
5. Claudia Pittiglio — Disease ecology and risk mitigation expert-FAO
6. Karl Morteo — Information Technology Officer- FAO
7. Catherine Cetre Sossah — Virologist, (CIRAD)
8. Chadia Wannous — Regional One Health Officer for Africa- OIE
9. Stephanie Fazekas Salyer — Technical Advisor, Africa CDC
10. Bernard Bett — Director, Research, Education and Outreach Centre (OHRECA) (ILRI)

11. Jeroen Kortekaas	Virologist/Project Leader Wageningen University, Netherlands
12. Jean-Christophe Audonnet	Coordinator and Senior Director Boehringer – Ingelheim ZAPI's
13. Raphaëlle Métras	INSERM, Sorbonne Université, Institut Pierre Louis d'Épidémiologie et de Santé Publique
14. Mathew Muturi	Zoonotic Disease Unit, Ministry of Agriculture Livestock and Fisheries, Nairobi, Kenya
15. Samah Alsharif	Veterinary quarantine, Ministry of agriculture & fisheries, Delegate of Sultanate of Oman
16. Ali Alsahaf	Director of Animal Health Control Ministry of Environment, Water and Agriculture Saudi Arabia.

Documents joints / Enclosed documents.

- Webinar concept note.

Diffusion / Distribution:

To: Director General

With copy to: Deputy Director Generals, Director of Administration, RAD (m.arroyo@oie.int; n.monsalve@oie.int; a.fofana@oie.int), Head of the Engagement and Investment Department, Head of the Legal Affairs Unit, Head of the Documentation Cell, Head of the Publications Unit Heads of Departments and staff as required by the subject, relevant RR/SRR.