EAST AFRICAN COMMUNITY

CROSS-BORDER FIELD SIMULATION EXERCISE NAMANGA ONE STOP BORDER POST

POST EXERCISE REPORT

11-14 June 2019

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ACKNOWLEDGEMENTS

Almost 300 people participated in the cross border FSX, the majority from the EAC Partner States Kenya and Tanzania. In addition, representatives from the EAC Secretariat, EAC Partner States Burundi, Rwanda, South Sudan, Uganda, as well as Southern African States of Lesothos, Malawi, Mozambique and Zambia, participated in the FSX.

The FSX was supported and implemented with the contributions of various partners including:

1. African Union Centres for Disease Control and Prevention (CDC)
2. Chemonics International/HRH2030
3. Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ)
4. Eastern, Central and Southern Africa Health Community (ECSA-HC)
5. EPOS Health Management
6. German Bernhard Nocht Institute for Tropical Medicine (BNITM)
7. German Federal Friedrich Loeffler Institute for Animal Health (FLI)
8. Kenya Red Cross
9. KfW (German Development Bank)
10. One Health Central
11. United Nations Food and Agriculture Organization (FAO)
12. The United States Agency for International Development (USAID)
13. US Defense Threats Reduction Agency (DTRA)
14. World Health Organziation (WHO)
15. World Organization for Animal Health (OIE)

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East Africa Community (Regional)

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EXECUTIVE SUMMARY

A Cross-Border Field Simulation exercise was conducted by the East Africa Community (EAC) Secretariat on 11 – 14 June 2019. A Steering Group and an Exercise Management Group (SG and EMG) were appointed to oversee the process. WHO's Country Preparedness and International Health Regulations (IHR) Programme were responsible for the planning, design, organization, realization and post-processing of the exercise in line with its mandate.

The purpose of the Cross-Border Field Simulation Exercise was to assess and further enhance multi-sectoral outbreak preparedness and response in the EAC region under a *One Health* approach.

The exercise scenario portrayed a cross-border Rift Valley Fever-like virus outbreak, aggravated by environmental factors and with impact on humans and animals, lives and livelihoods, agriculture, trade and tourism, peace and security and the economy as a whole. Infections and deaths in animals and human beings triggered the reporting and activation of national and regional preparedness and response mechanisms emphasising the importance of the *One Health* approach and of risk and crisis communication as well as cross-border collaboration.

The following EAC Secretariat and Partner States and agencies/organizations participated in the exercise:

- EAC Secretariat
- Kenya National PHEOC
- Kenya County PHEOC
- Tanzania National PHEOC
- Tanzania Regional PHEOC
- One Stop Border Post (OSBP) Namanga
- Farms
- Abattoirs
- Health facilities & assessment teams (RRT)
- Mobile laboratories
- Kilimanjaro Intl Airport
- Jomo Kenyatta Intl Airport

In total, almost 300 people were involved in the exercise, either as participants (players), actors/role players, controllers/facilitators, evaluators or observers.

The FSX was not only intended to identify strengths and weaknesses in preparedness and response for a public health event affecting the EAC region, but also to expose participants to a realistic scenario, enabling them to practise the roles that they would carry out in a real emergency.

Notwithstanding the number of objectives set, the diversity of organisations participating over such a wide area and the fact that many participants had limited or no prior experience of a field exercise, the Cross-Border Field Simulation (FSX) achieved its purpose. The exercise also increased awareness of the **benefits of exercises** in practising staff in their response roles, in validating policies, plans and procedures and in strengthening interoperability of public health systems and their state of preparedness.

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1. BACKGROUND

The 11th Ordinary Meeting of the East African Community[1] Sectoral Council of Ministers of Health held on 24 March 2015, directed the EAC Secretariat to conduct a cross-border simulation exercise at Namanga, on the border between Tanzania and Kenya[2]. In response to this directive, the EAC Secretariat, in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and through the "Support to Pandemic Preparedness in the EAC Region" (PanPrep) project, convened two exercises: a Table Top Exercise (TTX) in September 2018 and a cross-border Field Simulation Exercise (FSX) in June 2019. The World Health Organization (WHO) was to be responsible for the design and implementation of both exercises.

The TTX was convened on the 4-5 September 2018 at the Mt. Meru Hotel, Arusha, Tanzania. The purpose of the TTX was to strengthen the capacity of the EAC Secretariat and the EAC Partner States to prepare and respond to public health events adopting a *One Health*[3] approach.

At an EAC stakeholder meeting held from 11-12 October 2018 in Nairobi, Kenya, it was agreed that the FSX should take place from 11-14 June 2019 at Namanga, on the border of Tanzania and Kenya. A Steering Group and an Exercise Management Group (SG and EMG) were appointed to oversee the process. WHO's Country Preparedness and IHR Programme was asked to provide the technical lead and to coordinate the planning, design, organization, realization and post-processing of the exercise in line with its mandate.

The FSX built on the scenario used during the TTX, which was based on an escalated fictitious scenario of a Rift Valley Fever (RVF)-like virus that is transmitted from animals to humans and can also be transmitted between humans.

This is a technical report on the exercise conduct and its outcomes.

1 The East African Community (EAC) is a regional intergovernmental organisation of 6 Partner States: the Republics of Burundi, Kenya, Rwanda, South Sudan, the United Republic of Tanzania, and the Republic of Uganda, with its headquarters in Arusha, Tanzania. Only the EAC Secretariat, Tanzania and Kenya were participants (players) in the exercise. The other four EAC Partner States joined as observers.

2 EAC/Health/SCM-11/Decision 021.

3 One Health refers to the collaboration of multiple disciplines, sectors and groups working locally, nationally and globally to attain optimal health for people, animals and the environment.

2. PURPOSE, SCOPE AND OBJECTIVES

2.1 Purpose of the Exercise

The purpose of the Cross-Border Field Simulation Exercise was to assess and further enhance multi-sectorial outbreak preparedness and response in the EAC region under a *One Health* approach.
Specifically, the exercise was designed to:

1. Test the regional and national contingency plans and standard operating procedures (SOPs).
2. Familiarize participants with the roles and responsibilities of stakeholders from different sectors and backgrounds involved in preparedness, mitigation and response to a regional public health emergency.
3. Assess and identify strengths and weaknesses in coordination and collaboration mechanisms, emergency response deployment, logistics and administrative processes, risk and crisis communication (RCC) as well as emergency management and leadership.

2.2 Exercise Scope

The FSX was partly an operations-based, functional exercise and partly a series of exercise drills, conducted in a setting as realistic as possible while safe for all participants, observers and the general public[4]. It included the deployment of resources, both human and material, required for coordination and response to a public health emergency. The scope was complex, encompassing coordination among regional, national and sub-national levels of government, including the EAC Secretariat and district/sub-county, regional/county and national level Public Health Emergency Operations Centres (PHEOC). As part of capacity building, the exercise was also designed to train national SG and EMG members in exercise design, planning and implementation, as facilitators, evaluators or liaison/safety officers.

The FSX was not only intended to identify achievements and challenges in preparedness and response for a public health event affecting the East African Community but also, by exposing participants to a realistic scenario, to practise them in the roles they would carry out in a real emergency.

2.3 Exercise Objectives

The objectives of the exercise were to:

1. assess the use of **early warning and event detection** mechanisms at points of entry with emphasis on the Namanga border area between Kenya and Tanzania;
2. **assess coordination mechanisms, command and control systems and information sharing** channels between multiple sectors and countries; (e.g. activation of the EAC emergency structure, incident management systems (IMS) and PHEOCs);
3. assess the deployment of **rapid response teams (RRT)**;
4. validate the activation and deployment of selected **mobile laboratories**;
5. **assess animal and human cases investigation** and management and **functionality of selected veterinary and health facilities** in the border area during a large-scale outbreak of a RVF-like virus;
6. **practise regional SOPs** for pandemic preparedness and risk & crisis communication including community engagement;
7. evaluate selected **preparedness and response measures** at the Nairobi International Airport (NBO) and Kilimanjaro International Airport (JRO); and
8. **capture best practises and ensure transfer of lessons learned** to the EAC community and other regional economic communities and African regions.

4 Local authorities and the community were notified well in advance of the exercise. Posters were put up at several locations (e.g. border crossings) in the local languages.

3. EXERCISE OUTLINE

3.1 Scenario

The exercise scenario depicted a cross-border Rift Valley Fever (RVF)-like virus outbreak[5], aggravated by environmental factors and with impact on humans and animals, lives and livelihoods, agriculture, trade and tourism, peace and security and the economy as a whole. Based on the recent need to prepare EAC Partner States for Ebola due to the current outbreak in Democratic Republic of Congo (DRC), the fictitious component featured a RVF virus that mutated into a pathogen that can be transmitted between humans causing severe haemorrhagic fever resulting in increased numbers of cases and deaths. This allowed assessing and building the EAC Secretariat's and Partner States' capacities to prepare and respond to an Ebola-like situation using the One Health approach.

The scenario was implemented in three stages, namely:

1. event detection;
2. alert; and
3. response.

Infections and deaths in animals and human beings triggered the reporting and activation of national and regional preparedness and response mechanisms, emphasizing the importance of the *One Health* approach and of appropriate risk and crisis communications as well as cross-border collaboration.

During the exercise, tools, technologies, plans and procedures were utilized as they would be in a real health emergency. The activation of PHEOCs enabled evaluation of emergency operations plans and procedures and the implementation of the Incident Management System (IMS)[6].

3.2 Participating Countries and Organizations

Almost 300 people participated in the FSX. Apart from the main participating countries Tanzania and Kenya, representatives from the EAC Partner States Burundi, Rwanda, South Sudan and Uganda took part as observers. The Southern African states Lesotho, Malawi, Mozambique and Zambia were also represented. Observers from regional and international institutions and organisations also attended, including representatives from Ministries of East African Affairs, Health, Agriculture, Tourism, Trade, Environment and Defence; from tourism, trade and business; public laboratories and health facilities; slaughter houses; Ports of Entry; community and religious leaders; as well as East African experts who fought the Ebola epidemic in West Africa.

Organizations and entities who participated as 'players' in the exercise are shown below:

<u>Agencies/Organisations:</u>

- EAC Secretariat
- Kenya National PHEOC
- Kenya County PHEOC
- Tanzania National PHEOC
- Tanzania Regional PHEOC
- One Stop Border Post (OSBP) Namanga
- Farms
- Abattoirs
- Health Facilities & assessment teams (RRT)
- Mobile Laboratories
- Kilimanjaro Intl Airport
- Jomo Kenyatta Intl Airport

5 A fictitious virus described as East Rift Fever was created so as not to interfere with current public health efforts targeting real viruses circulating in the region.

6 See WHO Framework for a Public Health Emergency Operations Centre (November 2015) (https://www.who.int/ihr/publications/9789241565134_eng/en/)

3.3 Planning and Conduct

Conducted over four days, the Namanga FSX was one of the largest and most complex to plan and implement of any simulation exercise managed and conducted by WHO. The FSX planning and preparation took over one year of dedicated work, with the support of many partners and stakeholders either through in-kind or financial contributions. The project was broken down into two main phases; (1) the pre-exercise planning, material development and set-up, and (2) the exercise final prepapration, conduct and post exercise reporting. Under the first phase key activities were conducted including the set-up of the Exercise Management Groups (EMG) and Steering Group (SG) that were overseeing the project, conduct of various planning meetings and development of the FSX material including scenario injects. In addition to the TTX conducted in September 2018, eight (8) planning meetings were hosted by the EAC Secretariat for the SG and EMG in the year leading up to the exercise. During these meetings, exercise material was discussed, developed and agreed upon. In addition, around 35 national SG and EMG members were trained by WHO experts during the 3rd joint SG & EMG meeting held 9-12 April in Nairobi, Kenya. During this training members of the SG & EMG were trained on exercise management skills, in particular on their role as facilitators, evaluators or liaison/safety officers at the various exercise sites. The training was critical to ensure national owenership of the FSX and build national exercise management capacity.

3.4 Exercise Schedule

The exercise schedule is attached at **Annex A**.

4. EXERCISE MANAGEMENT

4.1 Management Team

The Exercise Coordinator and the main Exercise Control were located at the Namanga OSBP on the Kenya side. The national facilitators and evaluators, reporting to the Lead Controller, were located at the various exercise sites. Exercise locations and staffing are shown at **Annex B.**

Roles and Responsibilities

- **Exercise Coordinator.** Located in the Exercise Control room at the Namanga OSBP, the Exercise Controller was responsible for coordinating the planning and had overall responsibility for the conduct of the exercise.
- **Exercise Controller.** Located in the Exercise Control Room and reporting to the Exercise Coordinator, the Lead Controller was responsibile for ensuring that the exercise ran smoothly and achieved its stated purpose and objectives.
- **Lead Evaluator.** Also located in the Control room, the Lead Evaluator developed the evaluation strategy, coordinated the tasks of other evaluators, and worked closely with the exercise controller to lead the debriefs, identify the outcomes and produce the first draft of the exercise report.
- **Exercise Simulation Cell.** Also located in the Control room, two nationals from both participating countries were represented and simulated various functions during the FSX. From Kenya a representative from the Kenya national disaster operations centre under the ministry of interior and coordination of national government fullfiled this role, while from the Republic of Tanzania a representative from the prime ministers office, disaster management department fullfiled this role.
- **Exercise Facilitators.** Reporting to the Lead Controller, Exercise Facilitators were deployed to each of the remote exercise sites.
- **Exercise Evaluators.** Reporting to the Lead Evaluator, Exercise Evaluators were deployed to each of the remote exercise sites.

In addition to the facilitators and evaluators, the following were assigned to principal sites to ensure safety and to manage observers and the media as well as interested members of the public:

- **Liaison/Safety Officers**: Allocated to principal exercise sites for security/safety and crowd control.
- **Role Players/Actors**: Represented national characters/members of other participating organizations.
- **Expert Advisors/Mentors**: Provided advice, mentoring and support where needed.

4.2 Inject Matrix/Master Sequence (Scenario) of Events List (MSEL)

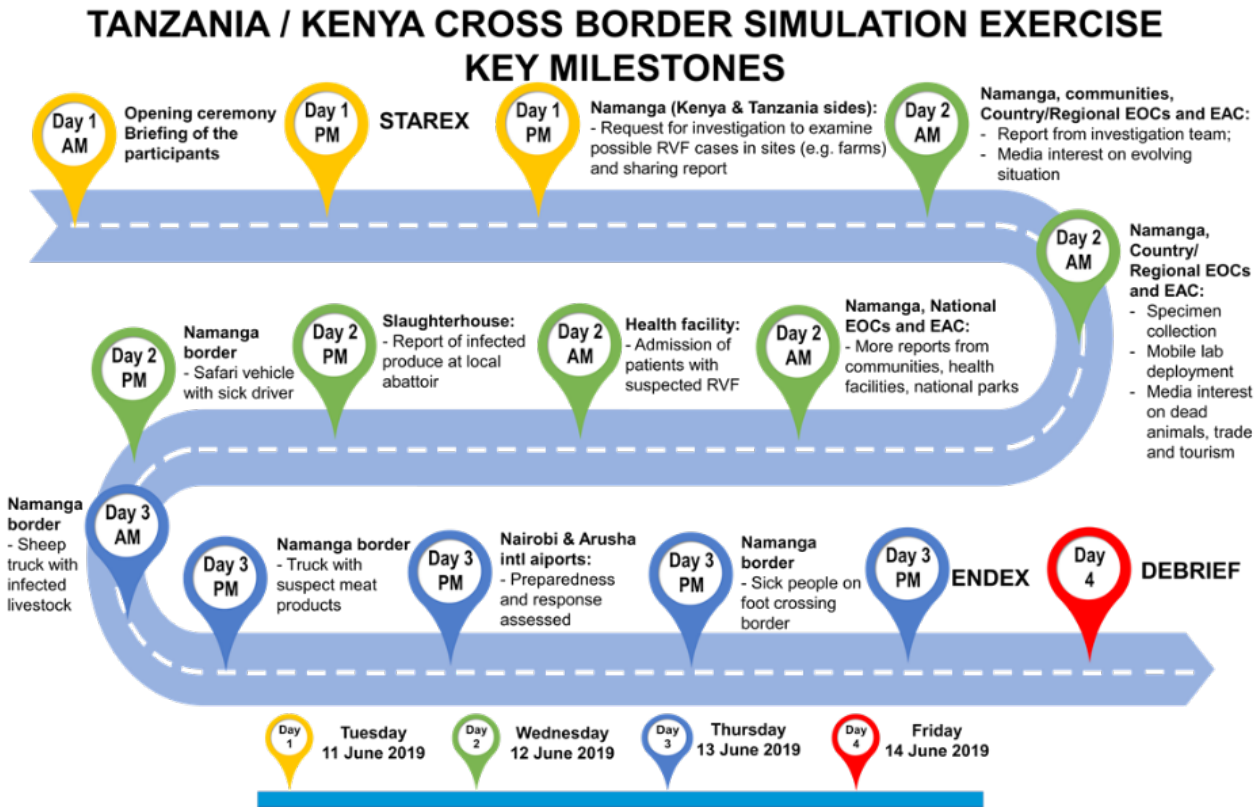
The Inject Matrix or MSEL drove the exercise. It included a description of all (scheduled) simulated events to be injected into exercise play (exercise 'injects') and the expected actions resulting from them. The events were designed to simulate a communicable disease outbreak as realistically as possible and to facilitate responses/outputs in line with the exercise objectives.

The following exercise material was issued by the facilitator responsible for each exercise location/ event:

- An **extract of the MSEL** relevant to the specific location/function of the exercise.
- **Printed injects** (exercise messages) for handing out to participants and scripts/talking points for actors/role players.
- Customised **Evaluation Forms** for completion by evaluators.

- A **contact card** including Exercise control numbers (control room and facilitators per site), generic emergency numbers.
- A copy of the **Exercise Management Guide.**
- **Observation forms** for observers.
- **Hotwash debriefing guide.**
- **Attendance list.**

Figure 1: Schematic Overview of Exercise Conduct



5. EXERCISE EVALUATION

The exercise evaluation designed to assess whether or not the exercise achieved what was intended. It involved the monitoring and recording of exercise activities,. It identified both the achievements (strengths) and the challenges (weaknesses) of the response with respect to the relevant policies, plans and procedures of the two Partner States and the EAC Secretariat. It was focussed on the collective performance of the participants, rather than individual appointments.

The evaluation involved (i) observing events or the actions, (ii) collecting supporting data; (iii) analysing collected data to identify strengths and areas for improvement and (iv) reporting exercise outcomes.
In particular, the evaluation sought to assess:

- whether or not the exercise achieved its objectives;
- strengths in the joint response to be built upon;
- improvements needed in operating procedures, protocols and guidelines;
- needed improvements in coordination of management systems;
- needed operational equipment; and
- additional training and exercisies required.

5.1 Evaluation Framework

The exercise objectives, the sequence of events, evaluation criteria and corresponding performance indicators formed the evaluation framework. Evaluators were asked to relate all activities and issues raised during the exercise to this framework.

5.2 Information Capture

Evaluation Forms, specifically tailored for each exercise event and/or location, were issued to the evaluators who were asked to observe and record:

- Whether the stated evaluation criteria were adequately demonstrated as per the performance indicators.
- Actions observed, or lack of actions, that could be potential issues.
- Availability of, or any deviations from, plans and procedures.
- Timeliness of responses or completion of tasks.
- Effectiveness of, or shortcomings in inter-sectoral coordination.
- Exercise management issues that affected the ability of participants to achieve objectives.

An example of the exercise Evaluation Form is attached at **Annex C**.

5.3 Exercise Observers

Observers from different countries and agencies with an interest in the exercise and its outcomes were invited to attend. While not actively participating, observers were encouraged to provide feedback for the exercise evaluation and were provided guidance material for their use.

5.4 Exercise Debriefings

On-site Hotwash

Directly after the day's activities at any site, the on-site facilitator held a debriefing or "hot wash" in order to gather immediate feedback from all participants on strengths and weaknesses of the response

while the event was still fresh in their minds. This information, together with the completed Exercise Evaluations Forms, was returned to Exercise Control for analysis.

Exercise Participant Debrief

A participant debrief was conducted at Longido on Friday, 14 June 2019 to provide feedback on the FSX from the participants (players) perspective. Particular emphasis was placed on the ability of the EAC Secretariat and the two Partner States to operate together and launch an effective response to a disease outbreak.

The Participant Debrief took the form of a *World Café* [7], whereby participants were organized into two groups of four tables, each of which represented specific functional areas and Partner States or entities from the exercise. Each group was asked to post on a flipchart what they considered to be the five most significant **achievements,** or strengths, observed during the exercise response, as well as the five most significant **challenges,** or weaknesses.

After 25 minutes consideration, the members of each group rotated to a different table, leaving one - two person(s) as the "table host(s)" for the next round of discussion. The host welcomed the new group and briefly explained their findings, which were then further discussed and amended as thought necessary. This process was repeated twice, after which each original group was asked to consolidate their findings. The breakout groups formed for the Participant Debrief and their findings are shown at **Annex D.**

At the conclusion of the Debrief, Participants were asked to participate in a survey of the design and conduct of the exercise using an electronic voting system. The feedback was very positive. Participants clearly appreciated the relevance and value of this exercise in strengthening emergency preparedness and response. The full results of the survey are shown at **Annex E**.

Exercise Management Meeting and Debrief

A final meeting and debrief of the Joint SG and EMG was held at the Kibo Palace Hotel in Arusha on 17-18 June 2019. The purpose of the meeting was to:

a. evaluate the FSX internally;
b. identify strengths and weaknesses in preparedness and response;
c. propose recommendations suited to close gaps and be better prepared for future outbreaks; and
d. review and evaluate the project management setup (planning, implementation and evaluation) and functioning of the SG and EMG.

The meeting was attended by members of the exercise management team from WHO, who facilitated breakout sessions and provided a preliminary summary of exercise outcomes.
Facilitated by WHO, three breakout groups were formed (Tanzania, Kenya and EAC Secretariat) with the following instructions:

1. Using the outputs of the Participant Debrief (see **Annex E**) and the evaluators' observations, identify the key challenges and best practices.
2. For each challenge and best practice, identify the impact this had on the response to the simulated event.

7 *'World Café'* is a structured conversational process developed by the World Café Community Foundation (http://www.theworldcafe.com) for knowledge sharing. It was adapted to assist participants to identify the most significant strengths and weaknesses in response revealed by the exercise.

3. For each challenge and best practice, identify limiting factors (for challenges) and facilitating factors (for best practices).

The findings of the breakout groups are shown at **Annex F**. Although incomplete, they provide a good basis for addressing the challenges identified and implementing the improvements required.

At the conclusion of the exercise management Debrief the exercise planning, management and organization, including the EAC Steering Group and Exercise Management Group structure and performance, was assessed. While the outcome was mostly positive, it was noted the roles of the two groups were not always clear, resulting in delays during the planning phase. A simpler management structure was recommended. The full results of a survey conducted at the end of the meeting can be found at **Annex G.**

6. KEY OBSERVATIONS AND RECOMMENDATIONS

The key exercise observations have been compiled from a review of all exercise documentation including:

- Completed Exercise Evaluation Forms
- Observers Comments
- Participants Debrief
- SG & EMG Management Debrief.

Following are the key observations relating to strengths and weaknesses revealed during the exercise and recommended actions to be taken to improve readiness and response capability.

6.1 Early warning and event detection.

Strengths

- The communication channels from the community to local authorities were clear, with MOH and veterinary services and the teams conducting investigation quite conversant in process including investigation, engaging communities and sample collection for transportation to reference laboratories for confirmation.

Weaknesses

- Current channels for passing information through multiple levels of government seem inefficient. There was often no clear role for regional/county agencies and this was reflected in Kajiado's unitary approach.
- Assessment reports were general and lacking specific details. While the exercise imposed time constraints within an artificial environment, sufficient information was provided to enable proper assessments and notifications.

Recommendation:

1. A standardised format/template for Initial Assessment Reports be developed and adopted by response agencies.

6.2 Coordination mechanisms, command and control systems and information sharing.

Strengths

- Cross-border cooperation through the Joint Border Management Coordination Committee (JBMCC) was strong and effective in coordinating the response to health emergencies.
- The EAC Secretariat provided a useful framework for the coordination of responses from Tanzania and Kenya.
- Both Partner States had Rift Valley Fever contingency plans in place and were able to activate and operate their national PHEOCs in a timely manner.

Weaknesses

- The poor flow of operational information between regional, national and district/county levels resulted in delays and disruption to the response. Direct channels need to be established and tested.
- National and regional PHEOCs have not yet properly adopted and 'operationalized' the Incident Management System (IMS).
- The arrangements between the EAC Partner States in a joint response to an outbreak seem to be ambiguous in terms of resources, outbreak response roles, responsibilities and sovereign power to

the EAC Secretariat. This has led to confusion and ambiguity of roles.

- Triggering action at the EAC sometimes seemed challenging. The EAC should be able to take action to encourage closer cooperation between Partner States but the mechanism to achieve this appeared to be unclear or poorly understood.
- There is need to strengthen communication mechanisms between the health authorities from the two Partner States at the OSBP in order to facilitate better collaboration at the border and beyond.

Recommendations:

2. Review emergency specific contingency plans and procedures (e.g. Rift Valley Fever Plan), to include multi-sectoral aspects (One Health approach) for consistency and completeness. Review to include sensitization and familiarization of how these plans and procedures relate to all levels of government and consider simplification of reporting structures.
3. Activation triggers for EAC involvement in emergency response be more clearly defined and widely promulgated.
4. The Institutional framework for Cross-border Integrated Disease Surveillance and Response in the East African Community Region be promulgated and implemented.

6.3 Deployment of Rapid Response Teams.

Strengths

- Rapid Response Teams (RRT) were on call, well-equipped and deployed in a timely manner (activation).
- Accurate assessment team reports were produced and disseminated to the appropriate authority in a timely manner.
- Standardised templates were used, reflecting recent training initiatives.

Weaknesses

- Rapid Response Teams were generally disorganised and communication between the different RRT levels was poor.
- There was no evidence of set, practised procedures, nor of a register.
- No formal procedure followed in composition and dispatch of RRT.

Recommendations:

5. Rapid Response Teams should (i) be assembled from a register of experts at the national, and sub-national levels (ii) be properly trained and (iii) respond in accordance with validated and practised procedures.
6. A regional pool of rapidly deployable experts be established and operationalised.

6.4 Activation and deployment of selected mobile laboratories.

Strengths

- Mobile laboratories were staffed, equipped, and deployed in a sufficient manner.
- Laboratory staff were properly trained and had the required skills to operate the mobile laboratory.

Weaknesses

- Errors were made in the collection/labelling and safe transport/storing of blood samples.
- It is unclear how mobile laboratories are formally activated and what the relationship is between the national and private laboratories.

Recommendation:

7. Procedures for the collection, labelling, transport and storage of blood samples be reviewed and regular drills conducted to ensure standardization and quality assurance.
8. Procedures for activation of the mobile labs be further developed and disseminated.

6.5 Animal and human cases investigation & management and functionality of selected veterinary and health facilities in the border area.

Strengths

- Demonstrated experience of the two sectors in working together, including joint field investigation during which respective roles and responsibilities are known and appropriately implemented;
- Good knowledge of the sector-specific procedures (including of the international standards to be followed for transboundary challenges and for disease reporting) and also of the joint procedures ensuring coordination during zoonotic event management
- Appropriate sharing of information and collaboration between the sectors.

Weaknesses

- Safe procedures for working with suspected infection of humans and animals, including the donning/doffing of Personal Protective Equipment (PPE), were often not carried out correctly (resulting in exposure to contamination).
- There is a need for properly equipped isolation units as well as support in human resources to monitor health situations during periods of high alerts. Isolation units should also be provided with psychosocial support personnel as part of the response teams and knowledge transfer to human health and veterinary officers on psychosocial support as integral components of the response especially where cases have been isolated
- Security authorities, especially those manning border points, should have a better understanding of the threat of an infectious disease outbreak and measures required to control it.
- In border communities, there is need for coordination and collaboration with the traders involved in livestock and livestock products to ensure they a have basic understanding on disease transmission and also how best they can collaborate with the veterinary services to improve reporting of diseases that enhance response.
- Infection prevention and control measures at health facility will require some attention as healthcare workers were not well guided by means of SOPs for easy reference in the PPE donning and doffing areas (e.g. counter measures after self-contamination could be clearly posted on the wall).
- Structures for handling animals are missing at the border. The quarantine facility at the border is incomplete.

Recommendations:

9. A review of operational training for staff of public health posts at points of entry (particularly patient identification, use of PPE and patient management) be conducted.
10. Coordination and collaboration with traders involved in livestock and livestock products be established to ensure they have basic understanding on disease transmission and on how best they can collaborate with the veterinary services to improve reporting of diseases.
11. Procedures for the donning and doffing of PPE be reviewed and promulgated for health workers.
12. Animal handling structures be constructed.
13. Quarantine facility at the Namanga border to be completed.

6.6 Regional SOPs for preparedness and risk & crisis communications.

Strengths

- The need for SOPs and contingency plans is well understood and steps are being taken to complete response plans and SOPs.
- The EAC secretariat group effectively utilised the existing SOP and understood them on an ad-hoc basis
- Both Partner States, as well as the EAC Secretariat, were familiar with the International Health Regulations (IHR 2005) and compliance requirements.

Weaknesses

- At many sites, hard copies of regional risk and crisis communication SOPs were not known and available for reference.
- National public health emergency response plans and emergency operating procedures were at varying stages of development and not always available for reference by responders.
- Regional coordination and communication between Partner States and the EAC Secretariat was a challenge.
- Communications caused difficulties, particularly reliance on mobile phones when contacting the local level. Need for capacity building at the local level.

Recommendation:

14. Regional plans and procedures for responding to public health emergencies be harmonized, validated and approved for each level of the response.
15. Regional collaboration in provision of emergency medical services be strengthened, including procedures for the transfer of patients suspected to be harbouring infectious disease.
16. EAC Secretariat to sensitize and familiarize Partner States at the national and district levels on the regional preparedness and risk and crisis communications SOPs.

6.7 Preparedness and response measures at the Nairobi (NBO) and Kilimanjaro (JRO) International Airports.

Strengths

- Emergency Plans and SOPs were made available at both Nairobi (NBO) and Kilimanjaro (JRO) airports during the exercise. They are tested frequently in collaboration with relevant airport stakeholders.
- Nairobi Port Health staff provide a wide range of public health services to the airport (food and potable water inspections) which support routine IHR core capacities.
- The airports´ Port Health teams include clinicians, nurses and Port Health Officers and in Nairobi, the service is available 24 hours per day. Teams are well equipped and assessment and isolation space is available onsite (NBO). Staff have received recent, up to date training.

Weaknesses

- The ambulance at JRO was unserviceable. The transport vehicle at NBO had limited equipment.
- Regional collaboration in provision of emergency medical services, including the transfer of patients suspected to be harbouring infectious diseases, needs improvement.
- Notification of events between airports is generally poor. There appears no formal communication system between Port Health at NBO, JRO and OSBP and vice versa. It was not clear who staff should contact to notify each other of potential health threats and provide early warning. Air Traffic

Services, which is part of the formal notification services for air transport, relayed confused and delayed messages during the exercise.

Recommendation:

17. The SOP for notification of public health events at airports should be reviewed and tested with regularly scheduled drills; drills should include Air Traffic Services and airport emergency management committee. Port Health at EAC international airports to establish and regularly update communication protocols to support early notification.

6.8 Capture best practices and ensure transfer of lessons learned to the EAC and other regional economic communities and African regions.

Strengths

- There was a high degree of interest and engagement by stakeholders at all levels which ensured mutual accountability, trust and sharing of lessons and experience.
- National exercise facilitators, evaluators and liaison/safety officers were trained and gained experience in exercise management principles, including planning, conduct and evaluation.
- A photographer team, a video team and a lessons-learned writer were contracted to capture best practices and ensure wider transfer of lessons learned to the region and the EAC.

Weaknesses

- Insufficient time was available during the Management Debrief to complete the root cause analysis of the weaknesses found.

Recommendation:

18. A Working Group be formed to finalise action plans to implement these exercise recommendation and those arising from the Root Cause Analysis carried out by the Breakout Groups during SG and EMG meeting held on 17-18 June 2019.

6.9 Exercise Design and Conduct.

Strengths

- Sound regional and multisectoral goodwill and coordination was evident throughout the exercise.
- The exercise was conducted in facilities designated for coordination/management of a real event, so the available tools and technologies could be used and evaluated.
- The exercise gave the Kenyan and Tanzanian PHEOCs their first opportunity to practise response roles and responsibilities in a realistic, multi-national, high-pressure environment.

Weaknesses

- Many participants, unfamiliar with operations-based exercises, were initially seeking guidance from exercise control before responding rather than taking action on the information provided by the injects.
- The chosen communication design(i.e. that FSX participants communicated situational information and requests for support with real world institutions (labelled EXERCISE EXERCISE EXERCISE)) led to some confusion, missed feedback and an unfolding of events that could not be influenced and directed by Exercise Control. A closed communication system for upcoming exercises should be considered.

- The conduct of regular simulation exercises is an essential discipline for achieving emergency preparedness. Recurring Discussion/operations-based exercise programmes should be institutionalized at all response levels to ensure a state of readiness.
- Given the size and complexity of this exercise, participants (both players and exercise facilitators) would have benefited from more pre-exercise training on the exercised plans and procedures. The need for a **multi-year training and exercise programme** cycle to be developed, coordinated and institutionalised by PHEOCs at the regional, national and district/county levels was evident. Training must include staff across the board, including administrative, logistical and support staff, many of whom are lower grade and would benefit from formal inclusion.
- The number of observers attending the exercise proved difficult to manage, especially given the widespread exercise venues. This often interrupted exercise activities and created confusion for the participants.

Recommendation:

19. A cyclic programme of discussion/operations-based exercises, including regular exercise drills, be institutionalized at all response levels to ensure an ongoing state of readiness.

7. CONCLUSION

Notwithstanding (i) the number of objectives set, (ii) the diversity of organisations participating over such a wide area and (iii) the fact that many participants had limited or no prior experience of a field exercise, the Cross-Border Field Simulation Exercise 2019 achieved its purpose. It increased awareness of the benefits of exercises for practising staff in their response roles, in validating plans and procedures of the participating states and in strengthening interoperability of public health systems and their state of preparedness (readiness). In addition the FSX has build national exercise management capacity, as around 35 national SG and EMG members were trained by WHO experts, either as facilitators, evaluators or liaison/safety officers and in this role supported the exercise design, planning and implementation.

The results of surveys taken following the Participants Debrief and the post-exercise meeting of the Steering Group and Exercise Management Group suggest that the scenario was realistically presented and credible, that the stated objectives were met, and the exercise assisted participating organizations to build on strengths and address weaknesses in their emergency preparedness and response planning. It is now most important that action plans are drawn up, timeframes identified and responsibility allocated so that the recommendations of this report are effectively implemented.

ANNEXES

A. Exercise Schedule

B. Exercise Management Locations

C. Example of the Exercise Evaluation Form

D. Participant Debrief, Longido. 14 June 2019

E. Results of Participant Survey, Longido. 14 June 2019

F. Findings of Breakout Groups. SG and EMG Meeting 17-18 June 2019

G. Results of SG & EMG Survey, Arusha 17-18 June

H. Photo Collage

I. Links to documents, pictures and videos produced during FSX

ANNEX A: EXERCISE SCHEDULE

Day One Tue 11 June	AM	Opening ceremony Briefing of Participant
	PM	Start Exercise (STARTEX)
		Namanga (Kenya & Tanzania): - Requests for investigation to examine possible RVF cases on farms - Deployment of Rapid Response Teams (RRT) to assess the situation.
Day Two Wed 12 June	AM	Namanga, Communities, Country/Regional PHEOCs and EAC Secretariat: - Report from investigation team - Media interest on evolving situation
		Namanga, Country/Regional PHEOCs and EAC Secretariat: - Specimen collection - Mobile lab deployment - Media interest on dead animals, trade and tourism
		Namanga, National PHEOCs and EAC Secretariat: - More reports from communities, health facilities, national parks - 'Standing up' of PHEOCs
		Abattoirs: - Report of infected animals at local abattoirs
	PM	Health Facility: - Admission of patients with RVF-like symptoms
		Namanga OSBP - Safari vehicle with sick driver (Drill)
Day Three Thu 13 June	AM	Namanga OSBP - Sheep truck with infected livestock
	PM	Namanga OSBP - Vehicle with suspect meat products
		Nairobi & Kilimanjaro International Airports: - Preparedness and response assessments
		Namanga OSBP - Sick people on foot crossing border
		End Exercise (ENDEX)
Day Four Fri 14 June		Participant Debrief, Longido

ANNEX B: EXERCISE MANAGEMENT LOCATIONS

Day One		
Exercise Control	Lead Controller Deputy Controller Lead Evaluator Observer	One Stop Border Post (OSBP) KY
Cattle Farms	Actors x6 (3 ea. loc) Facilitators x2 Evaluators x2 Observers x2	KY and TZ
Day Two		
Exercise Control	As above	As above
District/County Offices	Facilitators x2 Evaluators x2 Observers x2	Kajiado (KY) and Longido (TZ)
National PHEOCs	Facilitator x2 Evaluators x2 Observers x2	Nairobi (KY) and Longido (TZ)
EAC Secretariat (TZ)	Facilitator Evaluator Observer	
Namanga Border Assessment Teams	Facilitators x2 Evaluators x2 Observers x2	KY and TZ
Slaughterhouses	Actors x4 (2 ea. lock) Facilitators x2 Evaluators x2 Observers x2	KY and TZ
Health Centres	Actors x4 (2 ea. loc) Facilitators x2 Evaluators x2 Observers x2	KY and TZ
Namanga Border Tourist Vehicle	Actors x5 Facilitator Evaluator Observer	KY
Day Three		
Exercise Control	As above	As above
District/County Offices	Facilitators x2 Evaluators x2 Observers x2	Kajiado (KN) and Longido (TZ)

OSBP Customs	Animal Handler (owner) Actors Facilitator Evaluator Observer	Live animal import/export
EAC Secretariat	Facilitator Evaluator Observer	Regional Activation
OSBP Quarantine	Actors Facilitator Evaluator Observer	Meat product importation
OSBP Immigration	Actors Facilitators x2 Evaluators x2 Observers x2	Infected people, screening Health and safety Crowd control
Community Engagement (Risk Communications)	Masai communities x2 Facilitators x2 Evaluators x2 Observers x2	
Health Centres	Facilitators x2 Evaluators x2 Observers x2	KY and TZ Treatment of ill workers
Kilimanjaro Intl Airport Jomo Kenyatta Intl Airport	Facilitators Evaluators Observers	Contract tracing

ANNEX C: EXAMPLE OF EXERCISE EVALUATION FORM

Evaluation Form **EXERCISE MANAGEMENT ONLY**

N.B. These performance indicators are a guide only; Evaluators should feel free to comment on any activity at their site.

Day Two: Kenya Public Health EOC Location: Nairobi		
Evaluation Criteria	**Performance Indicator**	**Rating***
a. PHEOC Activation	(i) The facility is constantly in a 'watch' mode.	
	(ii) PHEOC activation triggered according to SOPs following report from RRT.	
	(iii) Upon activation of the PHEOC, key IMS staff were rapidly assigned and tasked. Job descriptions are available.	
	(iv) An incident Manager has been appointed by the Chief Medical Officer.	

	(iv) The PHEOC has an **all-hazard emergency response plan**, which has been read and understood by all PHEOC staff.	
	(iii) The PHEOC is activated in accordance with established Plans and Procedures, which are referred to throughout.	
	3.3 Following the activation of the PHEOC, an **Incident Action Plan (IAP)** was prepared within the timeframe specified in plans and procedures.	
Comment/ Observations:		
b. EOC Structure	(i) The PHEOC structure is in accordance with the Incident Management System. Leaders of each functional area (Operations, Plans, Logistics, Finance/Admin) have been appointed.	
	(ii) A response Status Board was displayed and maintained to keep all staff operationally informed.	
	(iii) he PHEOC was capable of providing and displaying a **common operational picture** for each phase of the response.	

*Performance Ratings:

P: Performed without challenges **S**: Performed, but with some challenges	**M**: Performed, but with major challenges **U**: Unable to be performed

ANNEX D: PARTICIPANT DEBRIEF, LONGIDO. 14 JUNE 2019

Findings of Breakout Groups: Summary

Tanzania

Group 1	Group 2	Group 3	Group 4
a. JRO Intl Airport	a. National PHEOC	a. Health Facility	a. RRT deployment
b. Safari vehicle	b. District Office	b. Community engagement	b. Farm
c. Meat product	c. Regional Office		c. Slaughter house
	d. EAC Sec Office (*split)		

Kenya

Group 5	Group 6	Group 7	Group 8
a. NBO Intl Airport	a. National PHEOC	a. Health Facility	a. RRT deployment
b. Matatu	b. County Office	b. Community engagement	b. Farm
c. Truck with live animals	c. EAC Sec Office (*split)		c. Slaughterhouse.

Groups 1 and 5

Group 1 (Tanzania): JRO Intl Airport, Safari Vehicle, Meat Product

Strengths	Weaknesses
1. Operational readiness is available in a *One Health* approach involving key stakeholders: Security, Animal health, Human health Immigration in all PoE (ground crossing and airport).	1. Operationalization of animal health SOPs for early warning at ground crossing needs to be strengthened.
2. Emergency Plans and SOPs are available at Kilimanjaro (JRO airport). Made available during exercise and they are tested frequently.	2. Airport ambulance at JRO is non-functional and there is lack of ambulance at Namanga OSBP.
3. Early warning system is functional and organized on human and animal health side.	3. No animal products and isolation areas at all PoEs and isolation/holding area for suspects at JRO needs modifications.
-	4. Inadequate animal health PPE at all PoE.
-	5. Lack of crowd management equipment at all points of entry (megaphones).

Group 5 (Kenya): NBO Intl Airport, Matatu, Truck c Live Animals

Strengths	Weaknesses
1. There are existing response teams on the ground.	1. Lack of harmonized emergency and preparedness plan and SOPs.
2. There are existing coordination structures in place e.g. control command systems, committees (JOC, BMC, PHEOC).	2. Weakness in coordination, communication and sharing of information between response teams, sub-national, national and EAC state parties.
3. Availability of core capacities e.g. personnel, equipment and facilities.	3. Inadequate funding at all levels.
4. Availability of resources to be deployed in response to emergencies.	4. Lack of a mechanism to mitigate porous borders.
5. Political goodwill.	5. Inadequacy of capacity building/empowerment of all stake holders to respond to emergencies.

Groups 2 and 6

Group 2 (Tanzania & EAC Sec.): Natl. PHEOC, District Office, Regional Office, EAC Sec

Strengths	Weaknesses
1. The response structures are well known at all levels.	1. Rift Valley fever plans and SOPs are not operational and are outdated.
2. Guideline and SOPs for rumour management in place.	2. Inadequate skilled HR for coordination and response to PH events between the levels.

3. Reporting mechanism to various levels are in place.	3. EAC reporting mechanism is not known by the partner States.
4. Database for Skilled personnel are in place.	4. Non-operational PHEOC at sub-national levels and at EAC Secretariat
5. National PHEOC in place.	5. *One Health* approach mechanism is not fully functional at sub national levels
-	6. The existing RVF guideline needs revision


Group 6 (Kenya & EAC Sec.): Natl. PHEOC, County Office, EAC Sec

Strengths	Weaknesses
Kenya PHEOC	
1. Kenya PHEOC is established and functional.	1. Deployment of national RRT delayed due to lack of contingency funds to facilitate rapid deployment.
2. Timely activation of PHEOC.	2. No clear direct mechanism for intercountry information sharing.
3. Response aligned to existing national SOPs, much as they are in draft form.	3. PHEOC SOPs still in draft form and need to be finalized.
4. Multisectoral collaboration and existence of national task force within the country.	4. Suboptimal staffing leading to PHEOC being operational for 12 hours per day.
	5. EAC Secretariat noted inadequate dissemination, circulation or sharing of EAC SOPs and poor understanding of SOPs by member states.
Kajiado County	
1. Proper coordination and command messages from County health Department.	1. Porous border points.
2. Adequate supplies of commodities from the PHEOC.	2. Lack of well streamlined communication system between sub-county and county levels. (No county communication hotline)
3. Multisectoral collaboration at county level (health, livestock and trade).	3. No county response plan for PHE.
4. Availability of right skill mix at county level*** (Frame it in reference to what happens in normal circumstances in a PHE).	
EAC Secretariat Office	
1. Good cohesive team with good understanding of roles.	1. Inadequate circulation or sharing of EAC SOPs and poor understanding of SOPs by Partner States.
2. Ability to use EAC SOPs and CP during the PHE.	2. Delay in notification of the EAC sec of the outbreak.
3. Identified areas that will help strengthen the regional team.	3. Weak communication between the EAC Sec and the national PHEOCs.
-	4. Lack of a fully-fledged PHEOC at the EAC level.

Groups 3 and 7

Group 3 (Tanzania): Health Facility, Community Engagement

Strengths	Weaknesses
1. Health facility was well equipped with PPE.	1. Ineffective time management for transport of suspected cases to the health facilities.
2. Community engagement went well and community leaders understood how RVF is transmitted and prevented.	2. Inadequate laboratory stuffs and supplies.
3. Effective isolation of RVF suspect at dispensary.	3. Inadequate training for most of the stuffs on RVF and other epidemics.
4. Incident Management System (IMS) was well coordinated at all levels.	4. Inadequate SOPs line IEC material on RVF and other epidemics disease.
5. Early response of health facilities staffs to manage situation as per guidelines.	5. Limited means of transport.

Group 7 (Kenya): Health Facility, Community Engagement

Strengths	Weaknesses
1. Team work- there was immediate reorganization of staffs to respond to the emergency situation and all heeded to call of duty. All staffs participated in the immediate setting up of the treatment unit. The facility administration provided catering services for staffs to ensure the admitted patients were cared for round the clock. A duty rota was also put up and staffs worked in coordinated shifts to ensure no gaps in patient care	1. Inadequate diagnostic capacity of the facility – admitted patient with a VHF and only a slide for malaria parasites was done
2. Good communication – there was good exchange of communication between the facility, community, subcounty and county level.	2. Delayed response and arrival of needed expertise from county and sub-county teams
3. Effective multisectoral collaboration especially between the veterinary and human health departments. Also, the administration sector helped in relay of communication and community mobilization.	3. Staff had limited knowledge on handling of RVF cases and even putting on PPEs
4. Deployment of a mobile laboratory by EAC to ensure timely and accurate diagnosis	4. Unpreparedness for outbreaks. Generally, the facility has limited capacity to handle an outbreak and thus patients had to be moved to create space for isolation and screening areas.
5. Team work- there was immediate reorganization of staffs to respond to the emergency situation and all heeded to call of duty. All staffs participated in the immediate setting up of the treatment unit. The facility administration provided catering services for staffs to ensure the admitted patients were cared for round the clock.	5. Inadequate resources to handle emergencies -SOPs, transport system

Groups 4 and 8

Group 4 (Tanzania): Rapid Response Team Deployment, Farm, Slaughterhouse

Strengths	Weaknesses
1. Availability of SOPs, Tools, and TOR for RRT, Activation and Slaughter House	1. Multisectoral TORs and SOPs are present but yet to be fully functional and operational
2. Presence of Emergency Teams/ Multisectoral teams at all levels	2. Lack of Public Health Contingency Plan and multisectoral teams with SOPs at PoE (Namanga)
3. Plans for regular animal vaccination are in place and implemented (in Longido).	3. No proper PPEs for conducting inspection of animal and animal products (meat inspection).
4. The system for sample collection, transportation and testing (animal) and human in place and implemented.	4. The slaughter slab is missing important key elements ice relage, decomposition pit and fence.
5. System for human cases detection and reporting exist and functional.	5. Limited preposition of logistics and other supplied for RRT deployment.
6. Rapid activation and deployment of well-equipped mobile lab.	6. System for animal cases detection and reporting is suboptimal.

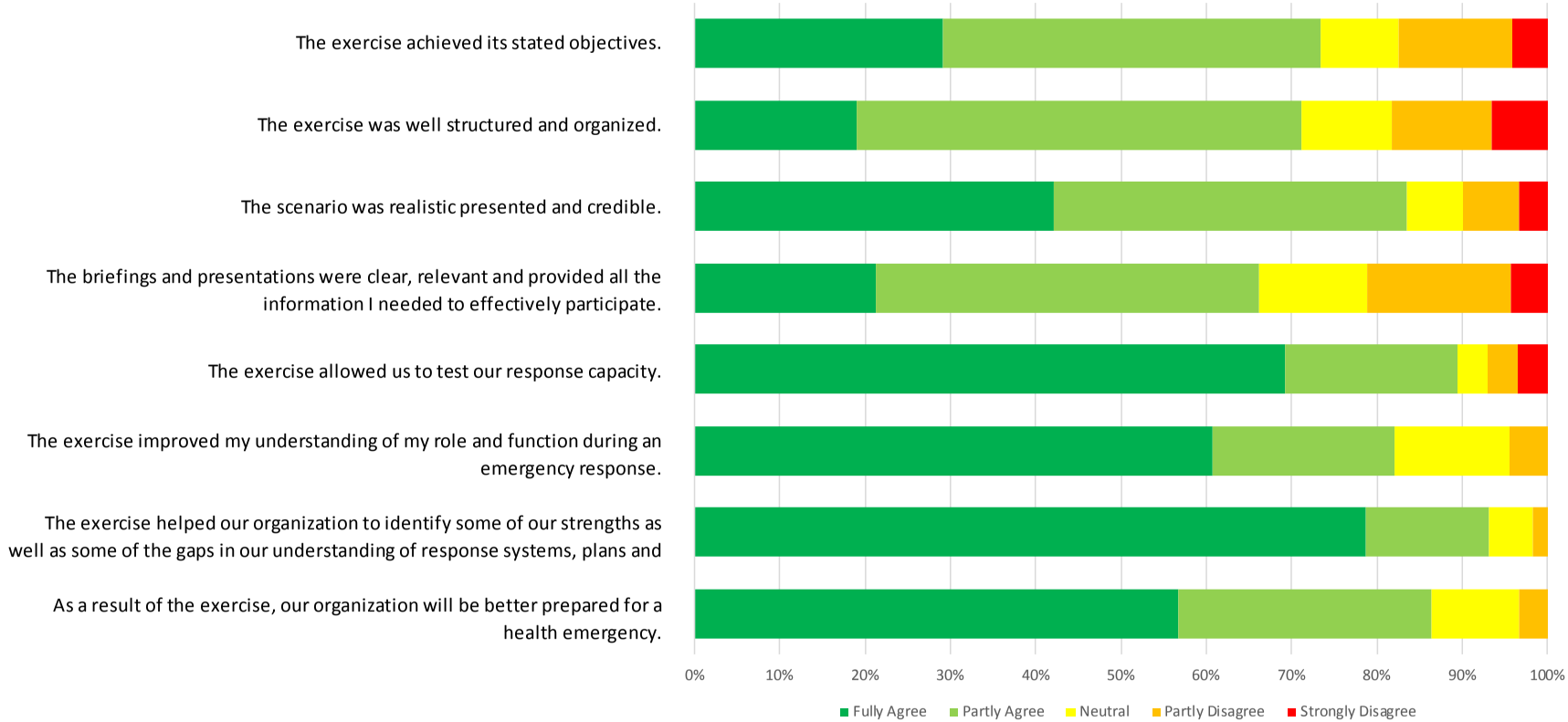
Group 8 (Kenya): Rapid Response Team Deployment, Farm, Slaughterhouse

Strengths	Weaknesses
1. RRT in place.	1. Lack of clear communication channels.
2. Communication (Information sharing intra country).	2. No training for RRTs.
3. Good multisectoral Collaboration.	3. No IPR response plans, SOPs and TORs especially for the County and Sub County RRT.
4. Existence of some Emergency response structures.	4. Delayed response to Emergencies due to financial and logistical challenges.
-	5. IEC Materials not always available (Only available during outbreaks).
-	6. Lack of clear communication channels.
-	7. No training for RRTs.

ANNEX E: RESULTS OF PARTICIPANT SURVEY, LONGIDO. 14 JUNE 2019

Feedback collected at the end of the participants' debrief session on Friday 14th June 2019 in Longido, tanzania

A total of 121 participants, control team members and international observers participated to the survey (46 from Kenya, 47 from Tanzania, 6 from the EAC secretariat and 22 from other



BEST PRACTICE: EAC

1. The response structures are well known at EAC level.

Impact:	Enabling Factors
Various sectors/stakeholders at regional level can respond in a timely way: Activating the 4 areas of emergency response structure: • Data and Risk analysis • Finance and Administration • Risk and Crisis Communication • Planning and Logistics	a. Channels of communication Partner States and EAC were open b. Consultation between key sectors across board at the EAC Secretariat c. The EAC Secretariat was able to do a rapid assessment of resources availability in terms of finance d. Enabling policy and regulatory environment on preparedness and response materials and logistical issues

2. Guidelines and SOPs for rumour management are in place.

Impact	Enabling Factors
Unsubstantiated information is quickly and easily managed	a. A communication department, with personnel in place at the EAC Secretariat with tools like the website, social media etc. b. Corporate communication and RCC strategies in place at EAC

3. Database for skilled personnel is in place.

Impact	Enabling Factors
There is a resource centre for managing and archiving data at EAC Secretariat	a. Availability of information for use Enabling factor b. Health Informatics officer in place

4. Regional EAC PHEOC in place.

Impact	Enabling Factors
Coordinated preparedness and response to disease outbreaks in the region (Secretariat can coordinate and advise the Partner States)	a. Regional contingency plan in place b. Regional RCC strategy in place c. Availability of regional SOPs

5. RCC recognized at EAC Secretariat

Impact	Enabling Factors
Better communication flow before, during and after emergency to enable people make informed decisions	a. RCC strategy and SOPs have been developed for the regional level Enabling factor b. Experts have been trained on RCC in the EAC region

6. Conducting simulation exercises to improve preparedness and response capacities in the region

Impact	Enabling Factors
Improved preparedness and response to Public Health Emergencies (PHE)	a. Policy and regulatory frameworks supporting regional coordination in preparedness and response to emergencies, i.e. the Contingency Plan – biannual field simulations b. Partner States commitments to undertake simulation exercises c. Training and conduct of simulation exercises

ANNEX F: FINDINGS OF BREAKOUT GROUPS. SG AND EMG MEETING 17 JUNE 2019

CHALLENGES: EAC

1. **Rift Valley Fever plans and SOPs are not operational and are outdated.**

Impact	Limiting Factors
EAC Secretariat can coordinate and give advisory services	a. The RVF preparedness and response plans have not been adequately disseminated b. There is no dissemination plan c. Inadequate funding for the RVF plans

2. **Inadequately skilled human resources for coordination and response of One Health sectors in EAC Secretariat.**

Impact	Limiting Factors
This will impact on (rate and status) of preparedness and response in the region	a. Some of the positions for preparedness and response at the EAC Secretariat are not filled, i.e. epidemiologists in animal and human health departments, RCC experts, Data analyst b. Inadequate training in One Health competencies

3. **EAC reporting mechanism is not known by the Partner States.**

Impact	Limiting Factors
Coordination and the advisory roles of the EAC Secretariat are compromised	a. Partner States do not necessarily adhere to the reporting mechanism of the EAC

4. **Non-operational PHEOC at EAC Secretariat**

Impact	Limiting Factors
Compromised preparedness and response by EAC Secretariat	a. Limited finances, human resources, equipment and infrastructure b. No framework in place to operate PHEOCs

5. **Multi-sectoral coordination for One Health approach is poor and not functioning well.**

Impact	Limiting Factors
Poor preparedness response to disease outbreaks making it difficult to implement preparedness and response under One Health approach	a. There is no instrument/framework to guide One Health at EAC, i.e. no strategy b. The EAC council decision on One Health has not been fully implemented c. There is no funding for One Health at EAC Secretariat d. There is no One Health desk or personnel at EAC Secretariat

6. **RCC is not operational at EAC Secretariat.**

Impact	Limiting Factors
It is a challenge to manage communication before, during and after emergencies to enable the public to make informed decisions	a. There is no substantive position and personnel to implement RCC at EAC Secretariat b. No Resources to operationalize RCC

BEST PRACTICE: KENYA	
1. **Border Management Committee has TORs.**	
Impact:	**Enabling Factors**
Better coordination of incidences at the ports of entry	a. Existing legislation b. Political support c. Good reporting structure
2. **PHEOC functional, with all instruments (guiding documents), right infrastructure and can be activated, well versed with information. Active 24hrs.**	
Impact	**Enabling Factors**
Better information sharing and coordination at National level.	a. Partners support b. Trained HR +
3. **Compliance with international and regional regulations IHR and OIE guidelines**	
Impact	**Enabling Factors**
Better information sharing.	a. Existing Regulation b. Political good will c. Personnel sensitized
4. **Existing legislation, guidelines and policies.**	
Impact	**Enabling Factors**
Better information sharing and coordination	a. Existing structure for implementation
5. **Multi-sectoral coordination at national level.**	
Impact	**Enabling Factors**
Proper coordination	a. Existing regulations and trained personnel
6. **PHE plan, screening protocols, good infrastructure (isolation, holding rooms, good communication Joint Operations Centre).**	
Impact	**Enabling Factors**
Better coordination of incidents at NBO.	a. Proper implementation of AITA Regulations.

CHALLENGES: KENYA	
1. Lack of response plans at sub-national level and points entry.	
Impact	**Limiting Factors**
Uncoordinated response	a. Not cascaded b. Poor funding c. Poor sensitization
2. Lack of SOPs at sub-national level.	
Impact	**Limiting Factors**
Uncoordinated response	a. Lack of dissemination b. Poor funding

3. Frontline staff inadequately trained to handle public health emergencies.	
Impact	**Limiting Factors**
Poor response	a. Funding b. High turnover of staff
4. Poor infrastructure, supply and equipment (PPE, vehicles, quarantine and isolation facilities).	
Impact	**Limiting Factors**
Disease spread	a. Planning
5. Lack of risk communication for public health related emergencies	
Impact	**Limiting Factors**
Poor preparedness, delayed response	a. Few communication experts b. Poor planning c. Poor data management d. Lack of communication strategy and communication guidelines
6. No PHEOC at animal health level.	
Impact	**Limiting Factors**
Delayed response	a. Poor planning
7. Most documents in draft form.	
Impact	**Limiting Factors**
Documents cannot be shared	a. Lack of prioritization
8. PHEOC SOPs still in draft form and need to be finalized.	
Impact	**Limiting Factors**
Documents cannot be shared	a. Lack of prioritization

9. No clear direct mechanism for inter-country information sharing.	
Impact	**Limiting Factors**
Disease spread	a. Lack of utilization of existing frameworks and protocols b. Lack of dissemination c. Lack of adoption of the frameworks
10. Porous border points.	
Impact	**Limiting Factors**
Disease spread	a. Weak border surveillance b. Lack of enough human resource to cover the border

11. Lack of a legal framework to manage public health emergencies between national and county levels.	
Impact	**Limiting Factors**
Uncoordinated response	a. Lack of political will b. Lack of policy document s
12. Multi-hazard plan not finalized.	
Impact	**Limiting Factors**
Uncoordinated response	a. Conflict of interest b. Lack of prioritization
13. Weak enforcement of regulations and guidelines.	
Impact	**Limiting Factors**
	a. Conflict of interest b. Political interference c. Lack of patriotism

BEST PRACTICE: TANZANIA

1. Operational readiness is available in a One Health approach involving key stakeholders: Security, Animal health, Human Health, Immigration in all PoE (ground crossing and airport)	
Impact	**Enabling Factors**
Likelihood of reduction of disease introduction. Timely & effective response and early containment of disease if it happened.	a. Availability of SOP, Plans and key documents b. Incident management system facilitated action c. Availability of expertise in the different fields.
2. Emergency plans and SOPs are available at JRO airport. Made available during exercise and they are tested frequently.	
Impact	**Enabling Factors**
Systematic action to respond. Common understanding of responders.	a. Country adherence to recommendations of the IHR core capacities based on JEE reports and its implementation b. Presence of key players and regular consultations among stakeholders and development partners that facilitate the development and sharing c. Compliance with international best practices of ICAO and IATA
3. Early warning system is functional and organized on human health side and may need some strengthening on the animal health side.	
Impact	**Enabling Factors**
Timely containment. Timely response. Early community engagement. Ability to trigger the whole system as a link service.	a. Establishment of the system with skilled personnel and tools and this facilitate a well-coordinated communication system and report sharing b. It is a recommended IHR core capacity the country is spearheading its implementation c. Implementation of regular drills at JRO and this need to be checked at ground crossing.

4. Community engagement went well and community leaders understood how zoonoses and other disease events are transmitted and prevented.	
Impact	**Enabling Factors**
Compliance and engagement was easy to implement	a. Good community sensitization and mobilization exist through community and religious leaders. b. Effective community-based surveillance projects exist for human and animal through NGOs c. Good collaboration and cooperation among the communities, political leaders and the sectoral focal persons e.g. chiefs, councilors, religious leaders etc.
5. Incident Management System (IMS) was coordinated effectively at all levels.	
Impact	**Enabling Factors**
Coordination for response is available	a. Political commitment b. Existence and implementation of Disaster Management Act

CHALLENGES: TANZANIA

o Operationalization of animal health SOPs for early warning at JRO & ground crossing needs to be strengthened.	
Impact	**Limiting Factors**
Zoonotic diseases and food borne infections may be missed. Inadvertent importation of animal disease is possible.	a. Orientation of staff need to be done for awareness and operationalization b. Animal health workforce capacity need to be enhanced in terms of numbers/training c. Working tools need to be provided for effective services.
o **Airport ambulance at JRO is non- functional and there is lack of ambulance at Namanga OSBP.**	
Impact	**Limiting Factors**
Delay in referring suspect which may lead to further transmission of disease and even deaths.	a. Maintenance and regular provision for fuel and other incidentals to support effectiveness of the service is currently lacking. b. Donors inputs and supplies by the governments should factor in local factors in terms of maintenance and repairs c. Need to designate ambulance for infectious diseases separately especially at the Namanga OSBP. This is linked to the need to prioritize funding for provision of the same despite the competing needs for resources. d. Because ground crossing is under the regional authorities, the contingency plan of the region should factor in the ground crossing too and not left to the national alone for effectiveness. This is a challenge.

o **No animal products and isolation areas at all PoEs and isolation/holding area for suspects at JRO needs modifications.**	
Impact	**Limiting Factors**
Challenges to the effectiveness of detainment of potentially dangerous/ infectious materials. Can facilitate disease spread.	a. Facilities were not purpose built for isolation and holding, hence the need for modification and equipping to meet purpose. b. Organization of staffing and enforcers need to be improved to meet regular challenge c. Issue of space and facilities are challenging for animal holding and quarantine

o **Inadequate animal health PPE at all PoE**	
Impact	**Limiting Factors**
Challenges to the effectiveness of detainment of potentially dangerous/ infectious materials. Can facilitate disease spread.	a. No need and capacity assessment have been done to know resource needs b. Training and drills needs are challenges impacting the facility at the Po

o **Lack of crowd management equipment at points of entry (megaphones), especially at Namanga OSBP**	
Impact	**Limiting Factors**
Panic and disaster can occur leading to human and animal deaths. Transmission of infection can occur.	It is not known if the current contingency plans have provision for crowd management, Mass casualty response plan and other relevant document should be checked for crowd management plan and if lacking, should be reviewed.

o **Health facilities are not well equipped and response of health facility staff to manage incidents as per regulations and guidelines are lacking.**	
Impact	**Limiting Factors**
Ineffective response at the health facility levels	a. Lack of adequate capacities for logistics and supplies for laboratory sample management and testing (supplies, equipment, transport, etc.). b. Lack of dedicated isolation facilities c. Lack of dedicated funds for establishment of isolation facilities.

o **Inadequate skilled HR on emerging, re-emerging diseases and epidemics response at health facility levels.**	
Impact	**Limiting Factors**
Poor efficiency and response system to contain PH events. Poor containment of events. Poor delivery of management of cases.	a. Lack of continuous professional development plan (CPD). b. High staff turnovers and transfers. c. Budget for staff capacity development is lacking.

- **EAC reporting mechanism is not known by the partner States and non-operational PHEOC at Subnational levels and at EAC Secretariat** (no Impact Statement)
- **(RRT deployment) Some Multi-sectoral TORs and SOPs are not present, and where available, they are yet to be fully functional and operational.**

Impact	Limiting Factors
Operation without standards. Ineffectiveness in implementation. Scale up of emergency and problem.	a. Developed guidelines, TORs and SOPs are not yet disseminated at national and subnational levels. b. Responsibilities for implementation responsibility are not attached to particular activities for accountability purposes c. Lack of resources and support for the development, finalization and dissemination of the document L d. Lack of government endorsement and adoption of finalized documents

- **Lack of Public Health Contingency Plan and Multi- sectoral teams with SOPs at PoE (Namanga).**

Impact	Limiting Factors
Lack of coordinated response at POE.	a. Lack of resources for development of the plans or adopt the existing document that exist for similar actors b. Lack of sensitization, coordination of POE activities across the country to share best practices. c. Lack of identifications of gaps and needs at each POE for mapping of partner supports.

- **(Abattoir) The slaughter slab is missing important key elements, e.g. lairage, decomposition pit and fence.**

Impact	Limiting Factors
Facilitate disease transmission	a. It is not clear if they are existing in the construction plans b. Resource challenge to meet these needs

- **Limited preposition of logistics and other supplied for RRT deployment.**

Impact	Limiting Factors
Timely response is delayed and ineffective.	a. Needs assessment and stockpiling are not done routinely b. Drills and regular testing of the system is unavailable c. Register of staff for deployment, resources and equipment are not available

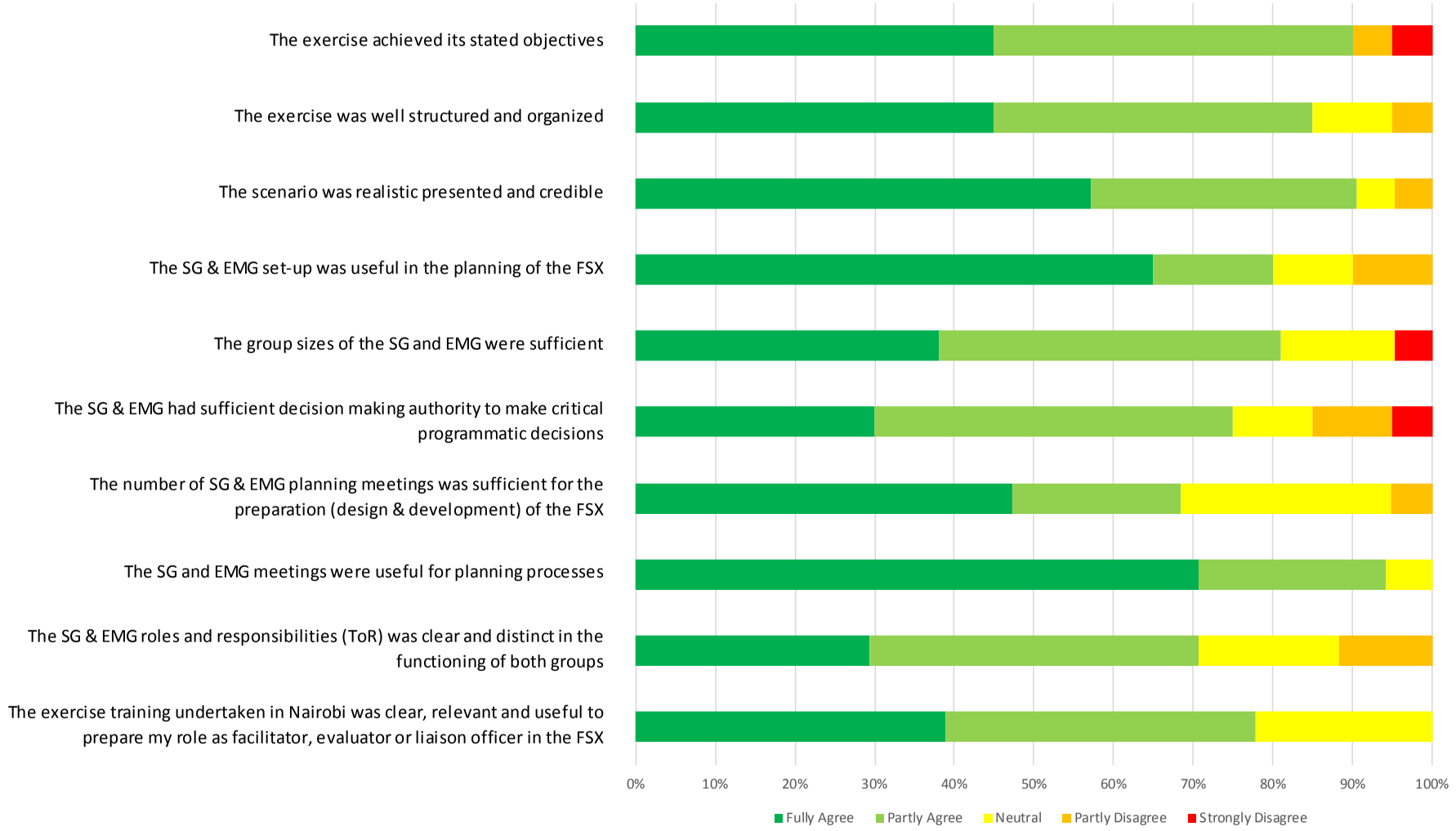
- **System for animal cases detection and reporting is suboptimal or not disseminated.**

Impact	Limiting Factors
Outbreaks may go unnoticed or may be escalated. Spread of zoonoses to human is possible.	a. SOPs and early warning system are not always available b. International oversight bodies do not push enough for implementation of PVS c. Well-structured HR resources are not available at all stages

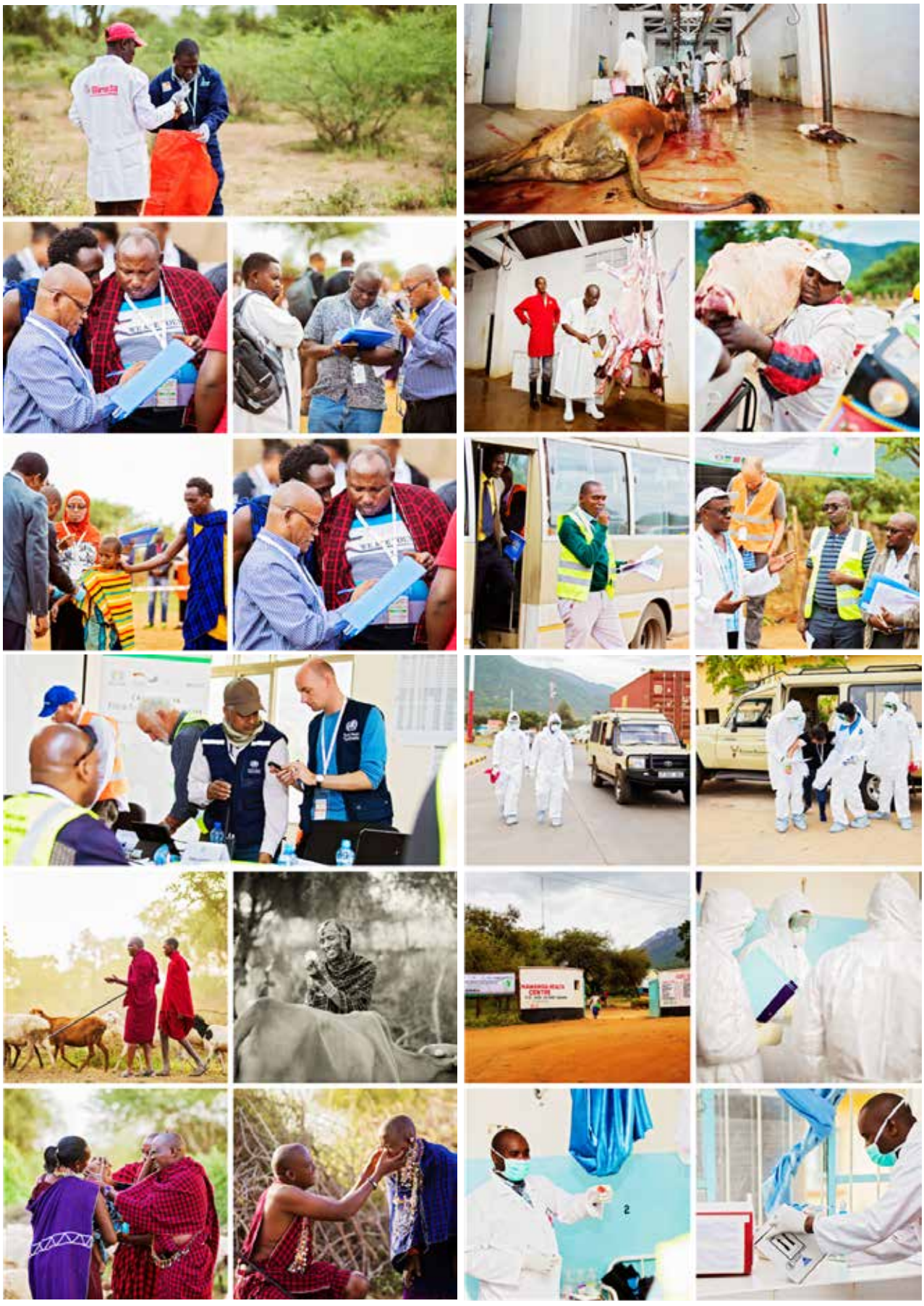
ANNEX G: RESULTS OF SG & EMG SURVEY, ARUSHA 17-18 JUNE

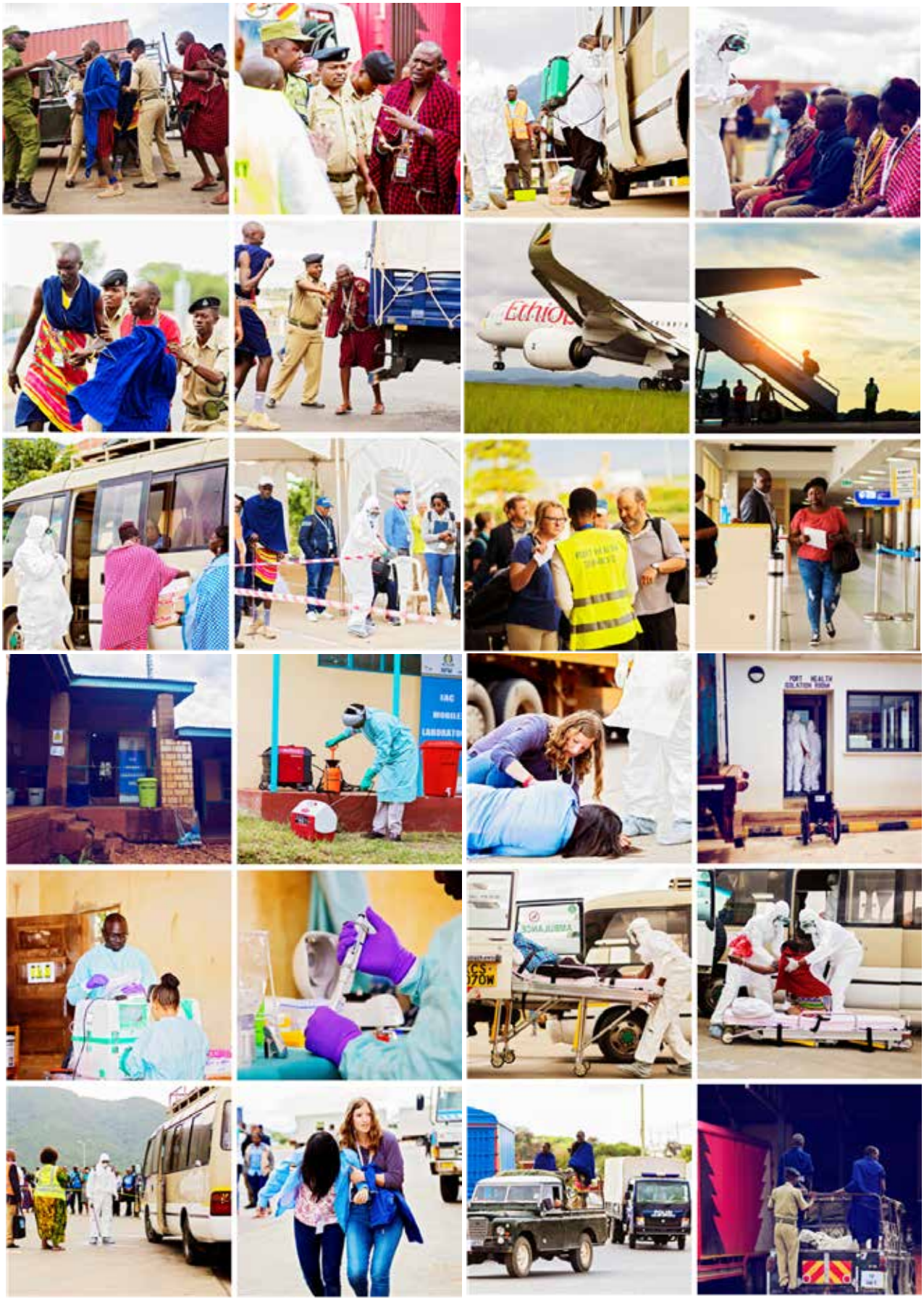
Feedback collected during the EMG & SG debriefing meeting on 17-18 June 2019

A total of 21 participants (9 from the SG and 12 from the EMG) participated to this survey



ANNEX H: PHOTO COLLAGE





ANNEX I: LINKS TO DOCUMENTS, PICTURES AND VIDEOS PRODUCED DURING FSX

The EAC website link below provides access to all TTX and FSX documents such as exercise reports and films produced during the EAC simulation project covering Tanzania and Kenya from 2018-2019.
https://www.eac.int/health/pandemic-preparedness