REGIONAL TRAINING OF TRAINERS (TOT): TRANSBOUNDARY ANIMAL DISEASES (TADs) EMERGENCY MANAGEMENT, PREPARATION OF CONTINGENCY PLANS AND SIMULATION EXERCISES

IGAD CENTRE FOR PASTORAL AREAS AND LIVESTOCK DEVELOPMENT (ICPALD)

NAIVASHA, KENYA

11TH – 16TH FEBRUARY 2019

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Contents

ACRONYMS

ASAL	Arid and Semi-Arid Lands
CAHW	Community-based Animal Health Worker
CBBPP	Contagious bovine pleuropneumonia
CCPP	Contagious caprine pleuropneumonia
CDC	Centres for Disease Control
CDVS	County Director of Veterinary Services
CP	Contingency Plan
CVO	Chief Veterinary Officer
DMS	Director of Medical Services
DVO	District Veterinary Officer
DVS	Director of Veterinary Services
ELISA	Enzyme-linked immunosorbent assay
EOC	Emergency Operations Centre
EU	European Union
FAO	Food and Agriculture Organization of United Nations
GEMP	Good Emergency Management Practices
GIS	Geographical Information System
GOS	Government of Sudan
HPAI	Highly Pathogenic Avian Influenza
ICPLAD	IGAD Centre for Pastoral Areas and Livestock Development
IEC	Information Education Communication
IGAD	Inter-Governmental Authority for Development
KABS	Kenya Animal Biosurveillance System
KWS	Kenya Wildlife Service
LIMS	Laboratory Information Management System
MAAIF	Ministry of Agriculture Animal Industry and Fisheries
MOH	Ministry of Health
MWE	Ministry of Water and Environment
ND	Notifiable Disease
NDOC	National Disaster Operations Centre
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NMK	National Museums of Kenya
NTF	National Task Force
OIE	World Organization for Animal Health
PPE	Personal Protective Equipment
PPP	Public Private Partnership
PPR	Peste des petits ruminants
PVS	Performance of Veterinary Services
RRT	Rapid Response Team
RT-PCR	Reverse Transcriptase Polymerase Chain reaction
RVF	Rift Valley fever
SOP	Standard Operating Procedure
TAD	Transboundary Animal Diseases

TNA	Training Needs Analysis
TOT	Training of Trainers
UWA	Uganda Wildlife Authority
VEEU	Veterinary Epidemiology and Economics Unit
VO	Veterinary Officer
WHO	Word Health Organization
ZDCO	Zoonotic Disease Coordination Unit
ZR	Zero Report

Participants to the TOT workshop at Lake Naivasha Country Club

OPENING REMARKS AND OFFICIAL OPENING

Dr Ameha, the Head Livestock at ICPALD welcomed the 13 participants from Ethiopia, Kenya, Uganda, Djibouti, Somalia, South Sudan and Sudan to the Training of Trainers (ToT) workshop on emergency management of Transboundary Animal Diseases (TADs), preparation of contingency plans and simulation exercises held at the Lake Naivasha Country Club from 11th – 16th February 2019. He indicated that ICPALD gives top priority to the emergency management of TADs as they remain a major setback to livestock production in the IGAD region. The initial group of participants shall be joined on 15-02-2019 by representatives from the Ministry of Health, Communication and National Disaster Operations of the Ethiopia, Kenya and Uganda for the simulation exercise. Following his remarks Dr Ameha invited Dr. Solomon Munyua, Director ICPALD, to make his opening remarks and officially open the training workshop. He thanked the participants for attending the workshop and indicated that the funding for the entire workshop was supported by different programmes. ICPALD worked tirelessly to see that all member countries are represented in the training workshop. The participants are expected to apply acquired skills otherwise training will become useless. He advised the participants to make sure that correct candidates are selected for training – those who will utilize the skills to improve on service delivery. Dr Munyua asked the participants to appreciate the few resources they may have in their respective countries and do their best for there is a lot that can be achieved without external funding. He urged the participants to be innovative while delivering services. He asked the trainees to pass knowledge and skills to other officers in their countries. He impressed on one health approach in service delivery. Dr Munyua wished the participants very fruitful and free deliberations throughout the week and declared the training workshop officially opened.

TRAINING OF TRAINERS (TOT) – THE BASICS

Since the focus of the workshop is to trainer staff that will trainer others on several aspects on emergency management of transboundary animal diseases it was found necessary to highlight some key aspects of how to plan a training. The web is replete with information on training of trainers and the participants are directed to search for relevant information to enhance their skills.

The purpose of the training if to pass knowledge and skills to adult trainers (veterinarians selected from Ethiopia, Kenya and Uganda) in order to strengthen their capacity to plan, organize and conduct effective training of animal health service providers and other relevant stakeholders on best practices in emergency management of Transboundary Animal Diseases (TADs).

Training is the process of acquiring knowledge, skills, and attitude that are needed to fill the gap between what people want to do, and what they are able to do now. All learning involves acquiring new knowledge, skills and attitudes that result in some change in our ability to do something.

Principles of learning

- Understanding the information you have acquired is in most cases fundamental to effective learning.
- Learners need to make sense of what they have learned and know when, where and how to use this knowledge.
- In competence-based training we seek to promote a change that results in greater competence to perform certain desired work functions.
- Competent performance develops from the acquisition of appropriate knowledge, good thinking and practising over time.

Feedback is crucial to effective learning in the following important ways:

- Identifies the present state of learning
- Highlights what needs to be learned and suggests how to proceed with such learning
- Monitors progress in learning, helping to diagnose problems quickly and find effective solutions.
- Provides positive reinforcements for effective learning.

Characteristics of adult learning:

- Adult learning is problem-centred rather than content-oriented.
- Significant learning takes place when the subject matter is relevant to the personal interests of the student.
- Learning is easily assimilated when external threats to the learner are at a minimum.

- Self-initiated learning is the most lasting and pervasive.
- Adults will commit to learning when the goals and objectives are considered realistic and important to them.
- Application of the information in the 'real world' is important and relevant to the adult learner's personal and professional needs
- Adults need to receive feedback on how they are doing and the results of their efforts.
- Opportunities must be built into professional development activities that allow the learner to practice the learning and to receive structured, helpful feedback.
- Adults need to participate in small-group activities during the learning to move them beyond understanding to application, analysis, synthesis, and evaluation.
- Small-group activities provide an opportunity to share, reflect, and generalize their learning experiences.

Phases of training:

1. Training Needs **A**nalysis (TNA)
2. Training design (**D**esigning of curriculum)
3. Training resource **d**evelopment
4. **I**mplementation of training
5. **E**valuation of training.

The phases are also known as the ADDIE process model; only the first step is highlighted. As you plan to train others it is critical that you undertake training needs analysis.

Training Needs Analysis

- TNA is the method of determining if a training need exists and, if it does, what training is required to fill the gap.
- TNA seeks to identify accurately the levels of the present situation (level of performance) in the target group.
- For instance, in the emergency management of transboundary animal diseases what factors limit the effectiveness and efficiency of our response?
- Training may be needed when there is a gap between the desired performance, and the current performance, and the reason for that gap is lack of skill or knowledge.
- The need can be a performance that does not meet the current standard.
- The TNA process helps the trainer and the person requesting training to specify the training need or performance deficiency.

- Training can reduce, if not eliminate, the gap, by equipping the participants with knowledge and skills and by encouraging them to build and enhance their capabilities.

Justification of Training

All gaps in expected performance cannot be addressed through training. It is therefore necessary to justify the training.

- It is important to analyse which of the gaps can be fulfilled by training.
- Often gaps can be better solved by other means.
- Training is not always the most effective way to solve a problem.
- Training may sometimes not be the only solution to improving our effectiveness and efficiency for emergency management of TADs
- Inadequate number of people with skills, knowledge and experience
- Not having the right equipment or resources at the time required;
- Not being encouraged by managers and colleagues to do the right thing;
- There are no standards or expectations that are set and communicated;
- Bad workplace morale or conditions;
- Inadequate financial resources;
- Poor policies and legal framework.

GROUP WORK:

Country groups were requested to identify the key areas for training on emergency management of TADs and make plenary presentations.

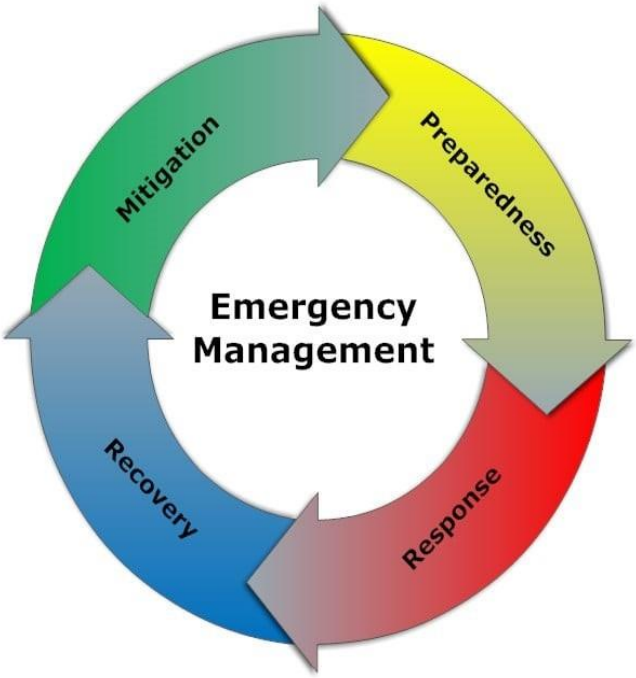
All the groups listed the need for training in all the aspects of emergency management ranging from preparedness planning, risk analysis, contingency planning, prevention/mitigation, detection, response, recovery and simulation exercise. The justification for additional training on various aspects of emergency management of TADs was reflected through group discussions, presentations and the table-top simulation exercise.

EMERGENCY MANAGEMENT OF TRANSBOUNDARY ANIMAL DISEASES

What is emergency management?

Emergency management is the dynamic process of preparing for, mitigating, detecting, responding to and recovering from an emergency. It is the organization and management of resources and responsibilities for dealing with humanitarian aspects of emergencies (preparedness, response, mitigation and recovery).

Emergency planning first aims to **prevent emergencies from occurring**, and failing that, should develop a **good action plan** to mitigate the results and effects of any emergencies. The development of emergency plans is a **cyclical process**, common to many risk management disciplines, such as business continuity. In order to avoid or reduce significant losses to business, emergency managers should work to **identify and anticipate potential risks** – recognition or identification of risks and ranking or evaluation of risks is vital.



It is important for an organization to include **procedures for determining whether an emergency situation has occurred** and at what point an emergency management plan should be **activated**. In the event that an emergency does occur, managers should have a **plan prepared to mitigate the effects** of that emergency, as well as to **ensure business continuity of critical operations after the incident** – responding to significant risks. Emergency

managers generally follow a common process to anticipate, assess, prevent, prepare, respond, and recover from an incident.

An emergency plan must be **regularly maintained**, in a structured and methodical manner, **to ensure it is up-to-date in the event of an emergency**. Testing a plan's effectiveness should occur regularly.

Hazards and disasters

Hazard means 'the potential occurrence in a specific time period and geographical area, of a natural phenomenon that may adversely affect human life, property, livelihoods or activity to the extent of causing a disaster.

- An occurrence becomes a disaster when it results in injuries, *loss of life, livelihoods and damage to* infrastructure and property.

Disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Disaster preparedness refers to measures taken to prepare for and reduce the effects of disasters. That is, to predict and—where possible—prevent them, mitigate their impact on vulnerable populations, and respond to and effectively cope with their consequences. All planning and implementation of disaster preparedness measures should be based on an assessment and prioritisation of the hazards and risks that people face, as well as their ability or inability to cope with and withstand the effects of those hazards.

Disaster preparedness planning involves:

- identifying organizational resources,
- determining roles and responsibilities,
- developing policies and procedures and
- planning preparedness activities aimed at ensuring timely disaster preparation and effective emergency response.

The objectives for Veterinary Services in disaster management are to prevent animal health and welfare, safeguard human and environmental health and assist Member Countries in restoring and enhancing economic and societal conditions.

Animal disease emergencies are likely to:

- Affect large numbers of livestock
- be highly contagious/easily spread and cross international boundaries
- have high morbidity and mortality

- cause loss of production
- have human health impact - zoonoses
- cause movement restrictions – live animals and animal products
- lead to closure of livestock markets
- lead to closure of slaughter houses
- lead to loss or disruption of local, regional and international trade in livestock and livestock products (trade bans).
- disrupt tourism
- lead to loss of livelihoods
- cause loss of consumer confidence
- disrupt allied businesses – transporters, restaurants etc.
- reduction of quantity and quality of food, such as meat and milk
- loss of livestock products: hides, skins, fibres
- Loss of animal power: traction, transport

Early warning systems

The purpose of early warning systems is to detect, forecast, and when necessary, issue alerts related to impending hazard events. In order to fulfil a risk reduction function, however, early warning needs to be supported by information about the actual and potential risks that a hazard poses, as well as the measures people can take to prepare for and mitigate its adverse impacts. Early warning information needs to be communicated in such a way that facilitates decision-making and timely action of response organizations and vulnerable groups. When developing public early warning systems, planners must account for the public's perceptions of warnings, their experience related to reacting to warnings in the past, and general public beliefs and attitudes regarding disasters and public early warnings.

Reference material for training:

https://www.youtube.com/watch?v=3jXPGs0T8

https://www.youtube.com/watch?v=RwtEp84tGYO

EMERGENCY PREPAREDNESS

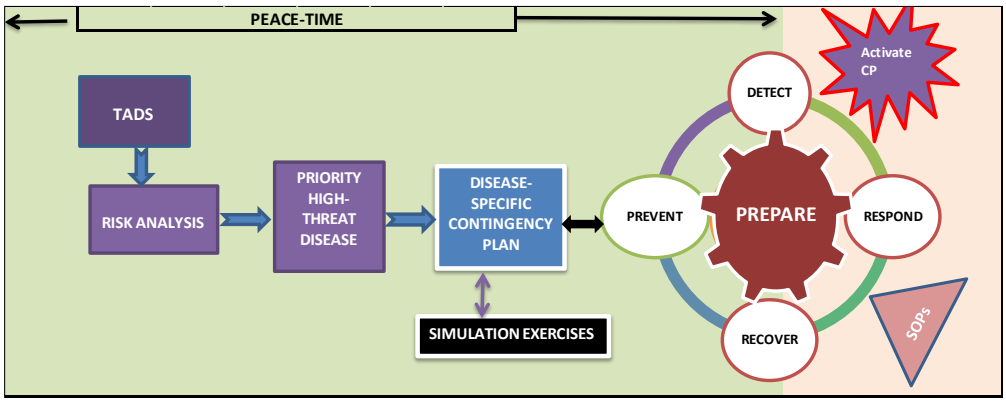
Preparedness is a continuous cycle of planning, managing, organizing, training, equipping, exercising, creating, monitoring, evaluating and improving activities to ensure effective coordination and the enhancement of capabilities of concerned organizations to prevent, protect against, respond to, recover from, create resources and mitigate the effects of disasters.

An emergency preparedness plan outlines what governments and relevant stakeholders need to do before an outbreak of a disease (peace-time) so that they can prevent, rapidly detect a disease incursion when it occurs and take early effective action in the face of a disease emergency and bring the community to pre-disease status or better. Preparedness planning takes into account all the activities, tools, policies and resources that are required to prepare for the occurrence of one or more high-threat animal diseases.

Preparedness (a state of readiness, preparation for an event) planning and practice should be recognized as one of the important core functions of national animal health services. Emergency preparedness planning starts with undertaking risk analysis to identify and prioritize potential disease risks.

Contingency plans and operations manuals are critical to enabling a swift response when an incursion of a priority high-threat is detected. Prepare the plans for the identified high-threat disease during 'peace-time'.

The following activities take place during the preparation phase (peace-time):



- Conduct a risk assessment to identify the priority high-threat animal disease for which a contingency plan and operational manuals should be developed;

Video clips on risk analysis

Hazard identification and Risk assessment
https://www.youtube.com/watch?v=Us32wyFi5Hg
Risk and how to use risk matrix
https://www.youtube.com/watch?v=-E-jfcoR2W0
Hazard, risk and safety – Understanding risk assessment, management and perception
https://www.youtube.com/watch?v=PZmNZi8bon8
Difference between risk mitigation and contingency plan
https://www.youtube.com/watch?v=ibVfAhy7WZQ

- Develop disease-specific contingency plan that:
    - Specifies measures for mitigation/prevention, detection, response, and recovery;
    - Identifies and strengthens measures to prevent entry and subsequent spread of the disease focusing on areas with the highest risk;
    - Defines institutional structures and chain of command for emergency response;
    - Implements an effective surveillance system for early detection of the disease when introduced, or when it re-emerges;
    - Strengthens disease reporting with a focus on emergency disease reporting;
    - Trains animal health service providers on recognition of high-threat animals diseases
    - Enhances awareness to animal owners on how to recognize sick animals, the signs to look for and how to report to the veterinary services;
    - Defines roles and responsibilities of responders and other actors involved in emergency management;

- Establishes, trains and equips Rapid Response Teams (RRT);
- Defines criteria and mechanisms for activation of the contingency plan;
- Has an effective communication plan for reaching target audiences before, during and after a disease emergency;
- Builds laboratory capacity to provide rapid confirmation of disease outbreak;
- Has an appropriate legal mechanism for disease control including a compensation policy;
- Identify resources and the time needed for implementation
- Has a plan for testing and updating through simulation exercises.
- Continually prepares the capacity to undertake prevention, detection, response and recovery (a cyclical process)

The contingency plans should identity a range of disciplines that are required for effective rapid response to a disease emergency. Proposed Rapid Response Teams (RRT) includes:

- Epidemiological investigation, surveillance and laboratory diagnostics;
- Clinical case management;
- Disease control at the human-animal interface;
- Logistics and security;
- Social and behavioural interventions;
- Media communications.

The contingency plan should have mechanisms to involve other sectors during response. Thus, Depending on the nature of high-threat priority disease 'a collaborative, multi-sectoral and trans-disciplinary approach at local, county, national and regional level with the goal of achieving optimal health outcomes recognizing the interconnection between animals and people and their shared environment – 'One Health' should be developed to deal with incursion or re-emergence of zoonoses'.

Early reaction to a disease outbreak can be achieved by ensuring that veterinary services are structured in such a way as to facilitate disease reporting and implementation of a nationally coordinated disease control/ eradication campaign without delay during an emergency

The Rapid Response Teams should Plan, Practice, Prepare to operate like a Formula 1 Pit Stop where a race car is stopped at 80 mph and serviced by a team of 25 service crew in less than two seconds.

Status of preparedness for HPAI

Country presentations:

UGANDA/DJIBOUTI

- Response plans are specified in the HPAI contingency plan;
- National preparedness plan -H5 (reviewed after 2017 outbreak)
- A budget for response has been prepared;
- SOPs for cleaning and disinfection, carcass disposal, PPEs, and human case management have been developed;
- Inter-Ministerial National Steering Committee is in place;
- One health approach – NTF is advocated for during response;
- Epi Unit for data analysis is in place and is planning to conduct additional studies.
- Communication officer and communication unit
- Earth moving equipment for disposal of carcass
- Mass Media for awareness creation
- Trained epidemiologists
- All districts have Veterinarians
- Trained Agricultural Police Unit in the Ministry (not for Djibouti)

- Adequate cleaning and disinfection
- Adequate cleaning and disinfection
- Animal Check points on major roads
- Rapid kits distributed to regional labs
- There is considerable investment in research
- There is political will to respond
- Availability of supportive partners
- The laboratory capacity is good, laboratory staff are well trained
- There is an enabling legal framework and command structure for emergency management of TADs
- Biosecurity at the farms heightened
- Import/border controls strengthened

Gaps

- Not sure source of funding (3.2billion) – Uganda;
- Lack a compensation policy in Uganda.

Discussion:
Uganda had recent outbreak of HPAI in 2017. Lack of a compensation policy – no stamping out during the outbreak. The CP is currently being reviewed.
The country stated that despite the outbreak of HPAI in 2017 nothing is being done to improve control of other poultry diseases that can be clinically confused with HPAI. The plenary indicated that there is need to regulate the poultry value chain and improve on biosecurity.

SOMALIA

- Somalia have a contingency and emergency preparedness plan for PPR, HPAI, CBPP and CCPP;

Challenges facing emergency preparedness in Somalia:

- socio-political instability;
- inadequate access to all livestock by veterinary personnel;
- lack of animal health inputs – high quality medicines and vaccines;
- lack of effective surveillance systems to detect suspected cases at an early stage;
- inadequate trained manpower and resources to implement disease-control strategies in the event of outbreaks.
- Effect of climatic change on animal diseases.
- Create biosecurity awareness for the upcoming large intensive commercial farms.

ETHIOPIA / SUDAN

- Sufficient trained personnel;
- Emergency budget and mechanism to release in time is in place
- Legislation to regulate poultry movement and their products is enforced;
- Awareness creation at all levels;
- Emergency plan defines measures for destocking and disposal;
- Bio-security measures applied
- Risk assessment regularly undertaken.

KENYA / SOMALIA

- In Kenya, a contingency plan (CP) that embraces a one-health approach is in place and is currently under review (There is no CP in Somalia);
- The CP has a Rapid response protocol – a number of previously trained personnel have retired; however, at the National level there are two rapid response teams that can respond to limited outbreaks;
- Training of additional RRT staff is needed;
- Operational zoonotic disease unit – Coordinates joint response.
- Zoonotic disease technical working group and thematic area subcommittees includes MOH, KWS, ENDOC;
- Competent surveillance and diagnostic technical personnel. This can handle small scale outbreaks but in widespread outbreaks, more personnel will be required.
- Communication unit with sample messages – quick production when need arises;
- ENDOC- to assist in resource mobilization;
- Good collaboration with partners e.g. FAO for technical backstopping;
- Laboratory capacity – can handle 100 samples with the available resources;
- Disposal of laboratory waste- SOPs in place and equipment available – incinerator;
- LIMS (Laboratory Information Management System) in place;
- Biosafety guideline/practices and PPE equipment in place;
- Stockpile of PPE (100) and sampling equipment
- SOPs to operationalize the CP – Donning, doffing, culling, disposal, cleaning and disinfection are available.

PREVENTION

The CVO should have an expert team that is responsible for developing and maintaining fit-for-purpose control strategies for notifiable diseases in preparation for an outbreak or incident. This involves taking a risk-based approach to policy development, whilst making best use of available evidence and expertise, and using cost / benefit analysis to inform policy decisions. The control strategies should be implemented to prevent entry and spread of identified notifiable diseases.

Prevention strategies should be applied at the following levels:

- Prevent entry of disease into a country,
- Prevent spread within a country,
- Prevent entry into premises/farms.

Prevent entry of disease into a country

- Appropriate quarantine measures and procedures for importation of animals and animal products (based on import risk analysis and OIE Terrestrial Code).
- Border controls to prevent uncontrolled entry of animals and animal products.
- Cross-border and regional cooperation
- Safe disposal of waste foods of animal origin from aircrafts and ships.
- Limiting contact of livestock and poultry with wildlife;

Prevent spread within a country

- Impose quarantine on infected premises/areas;
- Imposing livestock movement controls.
- Regulate live animal markets and slaughter places
- Increase awareness of disease prevention and control amongst animal owners and other actors in the value chain including traders;
- Proper containment of livestock within premises.
- Reducing the number of susceptible animals through vaccination.

Prevent entry to premises/farms

Minimizing or preventing disease entry and spread on farms is the goal of an effective Biological Risk Management plan. To accomplish this, there are several general management practices that every farm could implement with minimal cost. If done properly, they can help prevent and control a variety of

diseases. Extensive livestock production systems present serious challenges and some of the management practices highlighted below are not applicable.

- Limit access to your farm.
- Limit contact between your animals and others that may present a risk of disease.
- Maintain thorough and accurate records of animal movement.
- Individual animal identification is essential for proper record keeping (e.g. vaccinations, treatments, pregnancy status, etc.) which is an integral part of managing animals and minimizing disease risk on your farm.
- Keep species separately – do not mix ducks with chickens.
- Review and update your vaccination and treatment protocols with your veterinarian as appropriate depending on the livestock enterprise. Vaccination reduces the number of susceptible animals.
- Reduce access of vectors to susceptible animals – treat animals with long-acting insecticides during critical periods or remove animals from high-activity insect vector areas either at all times or during times of the day or year when insect vectors are most active.
- If practical, practice an 'All-in/All-out' method especially in commercial poultry production.
- Monitor and inspect animals at least daily for signs of illness. Animal owners must know what signs to look for, where to report to and do so promptly when the signs are detected. Early detection and prompt reporting will probably stop the spread of disease.
- Investigate all animals with unusual signs or those unresponsive to treatment, especially those that die suddenly.
- Clean equipment, boots and change clothing between animal groups with different health status.
- Removing infected and potentially infected animals
- Promptly remove dead animals from your operation as they can serve as a reservoir for many disease organisms.
- Limit the frequency and number of new introductions.
- Handle all animals that temporarily leave your operation as new introductions when they return.
- Quarantine all newly acquired animals or reintroduced animals - isolate and quarantine introduced animals for a period of 7-14 days.
- Any animals that have recently been purchased or returned to the farm should be quarantined.
- Time spent in isolation and quarantine varies depending on the disease risk so this should be determined together with an animal health service provider.

- Ensure adequate ingestion of disease-free colostrum within the first 6 hours of life.

Protect our livestock from disease occurrence.

FOCUSED GROUP DISCUSSION: MEASURES FOR PREVENTING ENTRY AND SPREAD OF DISEASES

Participants were requested to discuss the measures they have in place to prevent entry and spread of a TAD.

Group presentations and discussions

UGANDA

Prevention of entry

- Import from disease free countries/compartments
- Import permits (import requirements)
- Inspecting at the borders
- Quarantine (for some days to one month)
- Awareness creation

Prevention of spread

- Pre- export quarantine

- Pre-inspection and certification
- Vaccination
- Animal movement control (within the country)
- Inspection at markets
- Training of stakeholders
- Farm Biosafety/biosecurity
- Awareness creation
- Enforcement

KENYA/SOMALIA

Infection prevention and Spread

- Import risk analysis
- Internal risk assessment
- Improved producer level bio-security
- Public education and awareness
- Promulgation of legal regulations
- Repeal of legal regulations
- Strengthened enforcement of animal movement regulations and official controls
- Hatchery inspection and licensing –HPAI
- Hatchery and poultry establishment mapping –HPAI
- Vaccination –RVF
- Surveillance- sentinel
- Quarantine imposition
- Proper disposal

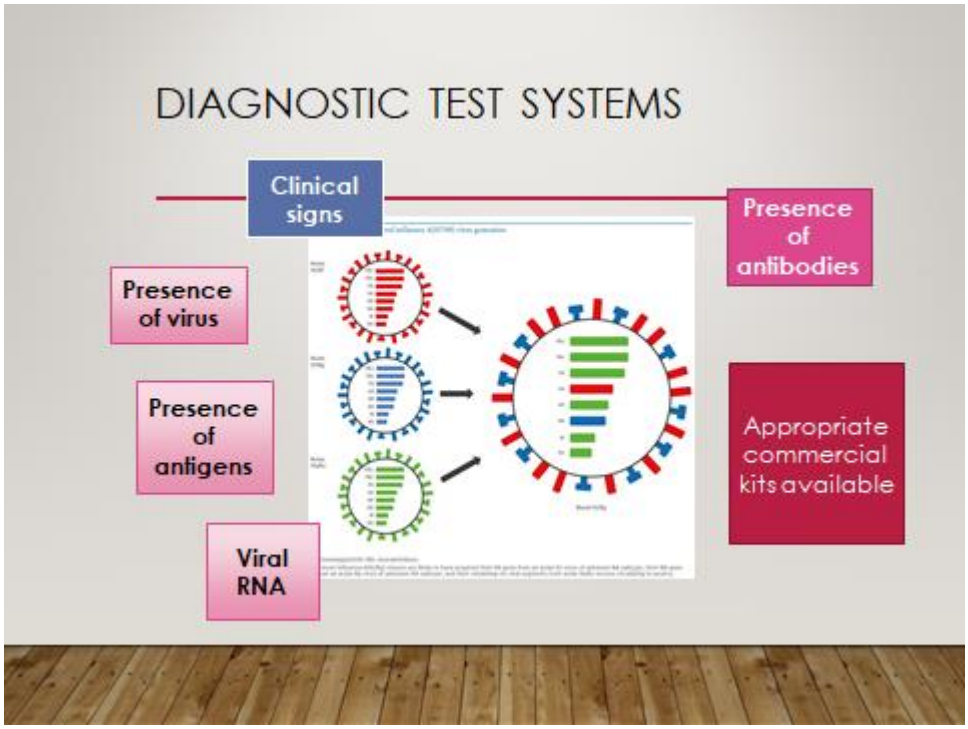
DETECTION

The rapid and definitive diagnosis of disease can only be assured in properly equipped laboratories, with sufficient expertise using internationally validated tests. Such a laboratory will have a capacity to conduct a range of diagnostic assays for different diagnostic specimens.

- The laboratory should have a specialist diagnostic team that uses the standard operating procedures specified in the contingency plan.
- Develop capacity for quickly testing diagnostic specimens during disease emergency.
- The testing must use accepted assays and methods (OIE Manual).
- Human, physical and financial capacity need to be in place to handle diagnosis of identified diseases.
- Develop relationship with international reference laboratories for testing during disease emergencies.
- Virus isolation should be restricted to laboratories with adequate biocontainment and skilled staff.
- A wide range of commercial diagnostic kits are available in the market.
    - Rapid diagnostic test kits for field
    - ELISAs
    - RT-PCR based tests
- It should also be normal practice to send samples to regional and world reference laboratories for confirmation of test results and also to ensure that a complete database of pathogens and regional and worldwide patterns of occurrence can go on record.

Laboratory confirmation of clinical signs should require a combination of at least two positive results from two different diagnostic methods:

- Positive for virus or viral RNA (nucleic acid) and antibodies, or;
- Positive for IgM and IgG with demonstration of a rising titre (four-fold) between paired serum samples collected 2-4 weeks apart (seroconversion).
- Depending on the stage of the disease virus or antibodies will be detected.



Early detection of occurrence of a disease depends on the disease reporting networks operating within a country.

We need to constantly ask ourselves:

- How well are OUR disease detection systems working?
- How often do animal owners report disease outbreaks to animal health service providers?
- How alert are our field anima health service providers? Can they detect and differentiate sick animals clinically and collect relevant diagnostic specimens?
- Are the AHSP equipped with materials for sample collection and transportation?

DETECT AND DIFFERENTIATE CLINICALLY

There is need for veterinary services to strengthen disease control in the poultry sector.

Improve control of Newcastle disease to enhance early detection of HPAI.

DISEASE REPORTING NETWORKS AND CHAIN OF COMMAND

Country group work: participants to discuss the disease reporting networks operating in their countries and review the chain of command and its impact on disease reporting from the farm level to the CVO.

Group presentations and discussions:

UGANDA AND DJIBOUTI

Disease reporting Networks for Uganda involves the following actors:

- Farmer/animal owner – forms the vital start of the disease reporting chain;
- CAHWs (where they exist especially in pastoral areas)
- Sub-county/animal husbandry officer/any administrator//Private Veterinary Practitioners
    - Weakness in reporting to DVO - No legal obligation for Private Practitioners to report to DVO
- District Veterinary Officer
- Chief Administrative Officer
    - Weakness in reporting to CVO- delayed reporting
- Commissioner Animal Health (CVO)
    - Sends a team to investigate but
    - challenge to send back reports (feedback)
- OIE

Chain of Command for Uganda

- Sub County Veterinary Officers
- District Veterinary Officers
- Commissioner Animal Health (CVO)
- Director Animal Resources
- Permanent Secretary
- Minister

DISEASE REPORTING NETWORKS FOR DJIBOUTI

- Farmer/Pastoralist/Quarantine stations/Markets/Abattoirs
- Reports to CAHWs
- CAHWs reports to regional Veterinary Services
- Director of Veterinary Services (DVS)
    - Sends a team to investigate
- OIE

Chain of Command for Djibouti

- Regional Veterinary officers
- Directorate of Veterinary services
- Ministry of Agriculture, Livestock and fisheries

DISEASE REPORTING NETWORKS FOR KENYA

- Under Cap 364 (The Animal Diseases Act): disease reporting is mandatory.

- Notifiable diseases- are those diseases whose presence or suspicion must be reported to the DVS. These diseases have been gazetted by the Director under Cap 364.

Disease reporting tools

- Detailed GIS compatible Notifiable Disease reporting forms (ND1/sanitary) forms that include important epidemiological information.
- Zero reporting forms - Zero reporting for specific diseases (Rinderpest, HPAI, Rift Valley fever, ASF, CBPP).
- Field personnel carry out inspection of animals at market places, stock routes, poultry farms, border points etc. for clinical evidence of disease and file a zero report if absent.
- Adoption of Laboratory Information Management System (LIMS) - all laboratory diagnostic work under one server is accessible to Epidemiology unit.

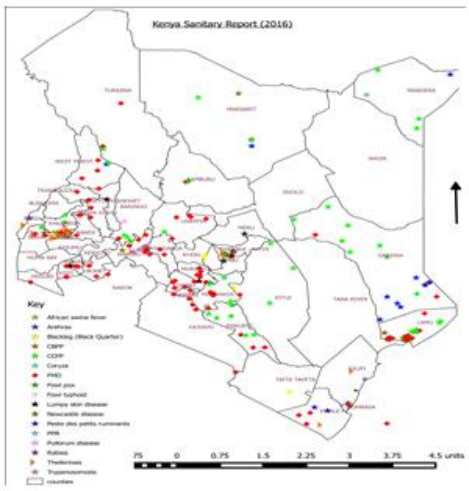
Mobile Phone Technology

- MPT using Epicollect- provides a web-based real time platform for reporting animal diseases.
- Epi-collect mobile phone application (VETINFO_DVS) captures and sends the information on near real time basis.
- Aim is to make reporting fully electronic.
- MS-Excel templates.
- Kenya Livestock and Wildlife syndromic surveillance System:- The system uses an electronic data collection application; The Kenya Animal Biosurveillance System (KABS).

- It allows surveillance officers to enter data into the system directly from the field to the CDVS and DVS using a standardized surveillance form for smart phones.
- A near real-time electronic surveillance system.

Processing of disease reports:

- CDRs, farmers reports to SCVO/ Ward VO
- SCVO/WVO captures the info through;
    - Hardcopy ND1/ZR then enters in the standard simplified reporting excel templates or ARIS II templates
    - Mobile phone applications – sends directly to database
- The Excel templates at Sub-county level are submitted to CDVS offices at least on weekly basis.
- CDVS validates, collates and cleans and transmit it to Disease Control Unit (Kabete) via VETINFO-DVS google groups.
    - Email vetinfo@googlegroups.com
- Epidemiology Unit acknowledges, collates the data
- VEEU cleans the data, provides reports to DVS and for International reporting, and feedback to Counties.



Reporting as a performance target:

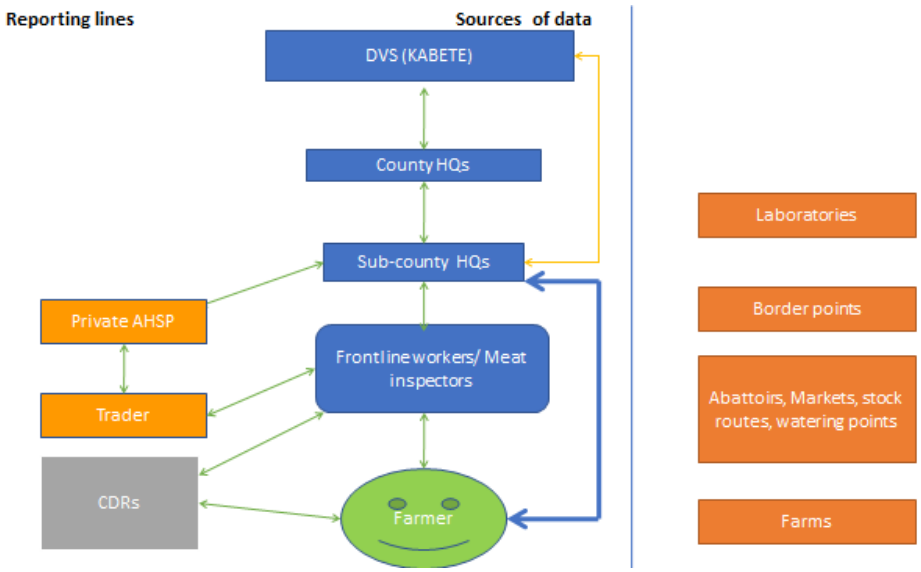
- Surveillance should be incorporated within individual work-plans (no of markets visited, samples collected etc.).
- Reports form a quantifiable and verifiable record of activities carried out by the officer.
- Rumour registers are also important in that they record the activities carried out by a particular officer.

- The development of linkages by an officer with private practitioners within his/her jurisdiction to encourage them to report outbreaks of notifiable diseases can also be a performance target.

Chain of command

The veterinary services were devolved after promulgation of the 2010 national constitution. The devolution had a negative impact on disease reporting:

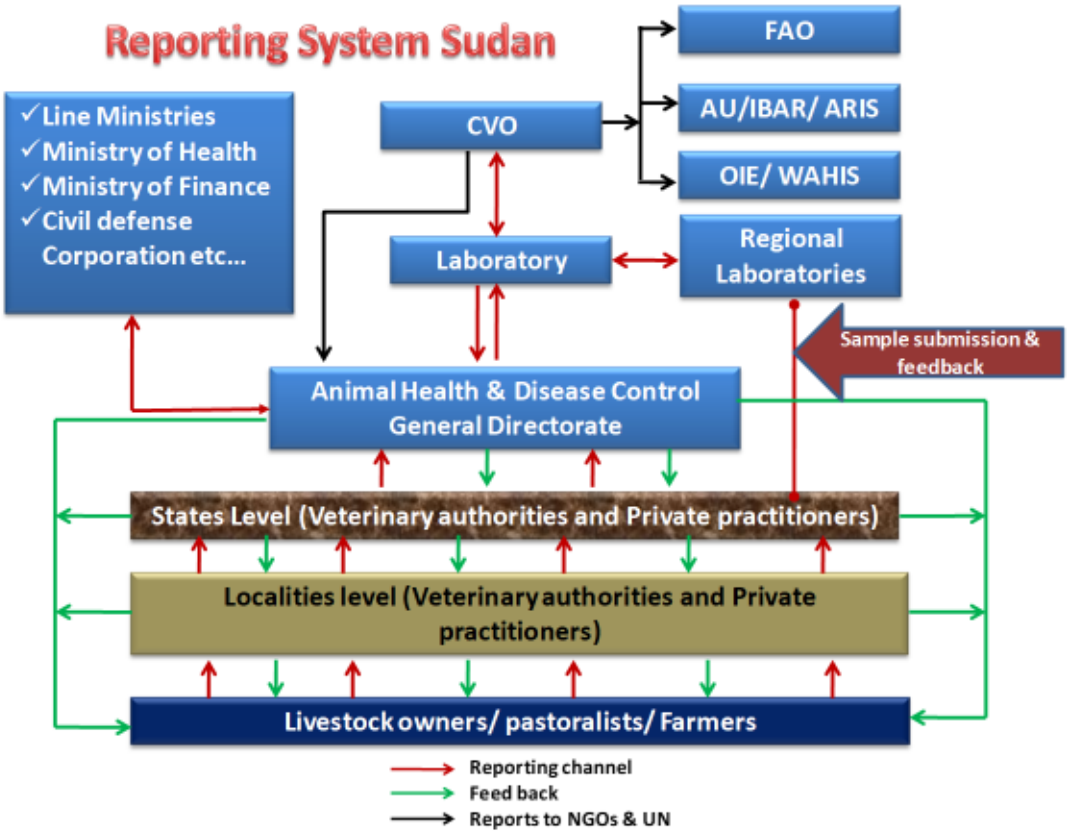
- Disease reports to national services dropped to almost zero.
- This was restored by a jointly developed document between the National and County Governments i.e. Veterinary guidelines
- Development of electronic reporting further assisted in the improvement of reporting.



Key shortcomings in the Kenyan reporting system

- Inadequate PPP in surveillance and reporting
- Failure by some Counties to report diseases leading to unrepresentativeness of data.
- Poor feedback system to the ground- National and County levels
- Limited resources – capacity building, active surveillance, reporting
- Majority of the data from counties are based on clinical diagnosis

- Piloting of different applications – Need consolidation.



FOCUSSED GROUP DISCUSSIONS AND PRESENTATION

Country groups were tasked to identify their current capacity for detection and how to improve early detection and confirmation for HPAI and/or RVF.

Country presentations:

SUDAN

National Epidemio -Surveillance System (NESS)

- Well established and coordinated NESS at national level;
- Well established notification network at national levels (mobile phones and E. Mails);
- Well established and equipped communication unit with communication material and trained of conveying communication messages (posters, seminars, radio, TV);

- Qualified adequate and well trained staff that are distributed all over the country;
- Field equipment for Surveillance and investigation available.

Human resource capacity

- The Central Veterinary Research Lab. (National Reference lab. - HQ) has well trained (MVSc & PhDs) veterinarians that can diagnose and confirm HPAI & RVF using both ELISA and PCR
- At the level of 15 regional laboratories the staff are not qualified to do laboratory diagnosis due to poor infrastructure;
- One laboratory is specialized for ELISA tests (only Abs detection)

Financial capacity

- National allocated budget in the account of the lab. – HQ;
- Emergency fund hold in the ministry of finance allocated for livestock emergency
- Livestock development fund hold in MAR account (pool) fit for emergencies.

Plans for future development

- *Training of labs. personnel s on QA & QA – FAO – TCP;*
- *Provision of diagnostic kits and reagents;*
- *Provision of equipment.*
- *Improving the capacity of 8 regional labs. As part of EU-project (LESP-SLSP), mainly lying along the pathway of livestock export in the country in term of; (NESS, Labs. And awareness of small holders and pastoralists)*
    - *Training;*
    - *Equipping;*
    - *Diagnostic kits and reagents*

Based on recommendations made by an OIE team of laboratory experts in 2014 there is a program to address the gaps in diagnostic capacity.

UGANDA AND DJIBOUITI

HPAI and RVF

	Uganda	Djibouti
Surveillance	• Human resource (Epidemiologists, Data entrants, Vet inspectors) • Vet inspectors not sufficient for border inspection, • Technical capacity needs continuous strengthening	• Inadequate Vet inspectors and Epi Unit Staff • Technical capacity needs continuous strengthening
	• Logistics - inadequate	• Logistics - inadequate
	• Materials – (Epi-material, Lab materials, consumables, PPEs) –irregular supply of all materials	• Inadequate
Laboratory	• Human Resource are competent but inadequate • Tests- Rapid tests, ELISA, PCR capacity available; • Sequencing can be done at UVRI (Uganda Virus Research Institute); • Material and reagents – Irregular supply • Collaboration of National (UVRI, COVAB, NARO) and international reference labs exists (Pirbright, Pretoria, PADOVA)	• Human Resource are competent but inadequate • Only Rapid tests for HPAI and ELISA for RVF • Material and reagents – Irregular supply • Collaboration with other labs (FFD, Regional Livestock Veterinary Quarantine Lab, Kabete)

	Uganda	Djibouti
Border Control	• 9 out of 40 designated border posts are manned • Border Staff work only 8.00am - 5.00pm • Porous borders • Laboratory spaces are available at only the one-stop-border posts but not equipped	• 4 out 16 manned • Porous borders • No Labs at borders

Improving capacity detection and confirmation

- Recruitment of more staff
- Continuous Training
- Laboratory materials supply
- Improve provision of logistics

KENYA / SOMALIA

Detection at field level

- Farmer awareness
    - HPAI-40% (Somalia, <5%)
    - RVF -70% (Somalia, <20%)
- Field technical staff in place
    - Inadequate in number
    - Need for refresher training
    - ASALs- staff are few or non at all
    - Reporting tools – personnel not fully trained
    - Need for rapid test kits
- Epidemiology unit in place- Needs strengthening
- Surveillance system in place – designed standard reporting forms (ND1 and Zero report forms)
- Electronic reporting system adopted but in few areas
    - KABS and EPICOLECT applications
- Rumour registers in place but follow-up not satisfactory
- Sentinel herds surveillance in place for RVF
- Somalia uses standardized reporting forms
- Inadequate PPE
- Inadequate sampling equipment
- Poor sampling and packaging skills
- Inadequate cold chain system
- Sample transportation system not well structured
- Awareness creation materials developed
- Not adequately circulated
- Good network and collaboration among key players – MOH, KWS, NMK

Laboratories – what is their current capacity to confirm HPAI?

- Well trained staff
- Inadequate staff
- Equipment in place- ELISA, PCR
    - Need for regular servicing and calibration
- Reagents and consumable- inadequate supplies
- Laboratory coverage across the country
- Participate in proficiency test for quality control of lab tests.

How to improve detection capacity?

- Improve the capacity of passive surveillance
    - Increase number of field staff
    - Staff training
- Improve public awareness through regular public awareness engagement
- Strengthen Epidemiology unit
    - Increase staff numbers
    - Equip and maintain data processing and storage equipment
- Upscale electronic/mobile reporting systems throughout the country
- Improve follow-up/response to rumours

Plenary discussion

From the general discussions it was apparent that most of the countries have inadequate capacity to detect diseases in the field and confirmation in the laboratory. ICPALD representative stated that they had trained staff from Member States on risk analysis and wondered whether the skills are being utilised at the country level. Ethiopia reported that they have capacity for risk analysis and they are using it well – RVF risk assessment in 2018. Sudan mentioned that it does not have specialised persons for risk analysis and they would benefit from training. South Sudan had similar requirements including capacity for data analysis and laboratory diagnostic capacity for HPAI and RVF.

In Uganda, staff is trained on risk analysis at different levels (qualitative and quantitative) but they do not have a database of the trained personnel. In Kenya, staff have been trained on short courses on risk analysis and have software on risk analysis. Lab personnel are trained on lab-based risk analysis and given the tools. In Djibouti – there is capacity but require refreshment while in Somalia, training has been done but there is no support to undertake risk analysis of TADs. It was also observed that even as sanitary requirements for international trade are made friendlier, like in the case of RVF, traders in Somalia vaccinated and shipped the animals well under the 14 days recommended for the animals to mount sufficient immunity. Obviously, non-compliance with vaccination and quarantine procedures led to imposition of trade ban.

During discussion it was emphasised that the veterinary services should be very transparent in disease reporting. Transparency in reporting will create confidence with our trading partners. With the multiplicity of digital platforms it is important that the veterinary services stays ahead of the rumour in disease reporting – “if you do not do it quickly and accurately, someone else who is not answerable to you will do it”. Ethiopia indicated that disease reporting has a lot of political control and the technical experts cannot freely share disease

data. A participant from Uganda felt that too much transparency could negatively impact on trade especially if the neighbouring countries are not very forthright with disease information. Clearly, a lot needs to be done to improve timeliness and transparency in disease reporting in the region.

RESPONSE

Containment of an outbreak of an epidemic disease is the first priority during response. Once there is suspicion of occurrence of a high-threat disease a number of coordinated actions defined in the contingency plans are put in place. The key pillars in a response include:

Finding the infection fast

- Surveillance
- Public awareness

Eliminate infection quickly

- Culling and disposal
- Cleansing and disinfection
- Compensation

Stop infection spreading

- Biosecurity
- Movement restrictions
- Public awareness
- Vaccination/treatment

EMERGENCY PREPAREDNESS AND RESPONSE TO A TAD EMERGENCY – EXPERIENCE AND LESSONS LEARNED

COUNTRY PRESENTATIONS

Country delegates made presentations on the stated of preparedness for HPAI and their experience in responding to disease emergency.

SUDAN EXPERIENCE – HPAI

Sudan reported that suspicion of the Highly Pathogenic Avian Influenza was first reported in one of its administrative states in February 2006. The affected area was delineated into three zones based on their epidemiological status:

- Infected zone – of 1 Km radius where poultry and poultry products were destroyed;
- Buffer zone – of 2 Km radius where poultry and poultry products were also destroyed;
- Surveillance zone – of 7 Km radius where quarantine measures and disease investigation were carried out.

The samples collected from the sick chickens were not tested until after 2 months of reporting the suspicion. Samples were finally sent to the Reference Laboratory for Avian Influenza in Padova, Italy and the occurrence of H5N1 was confirmed. Disease reports continued in the areas declared infected until 09/04/2006 indicating that the disease continued to spread. On April 2006, the presence of the disease was officially declared in two states and OIE was duly notified on 19/04/2006.

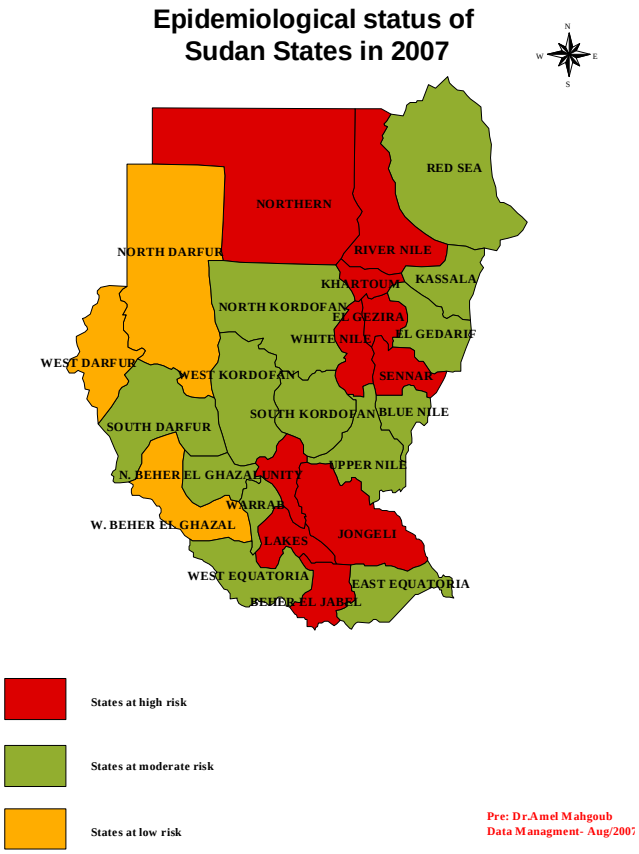
Risk assessment

A risk assessment was carried out and on the basis of this assessment the country was divided into:

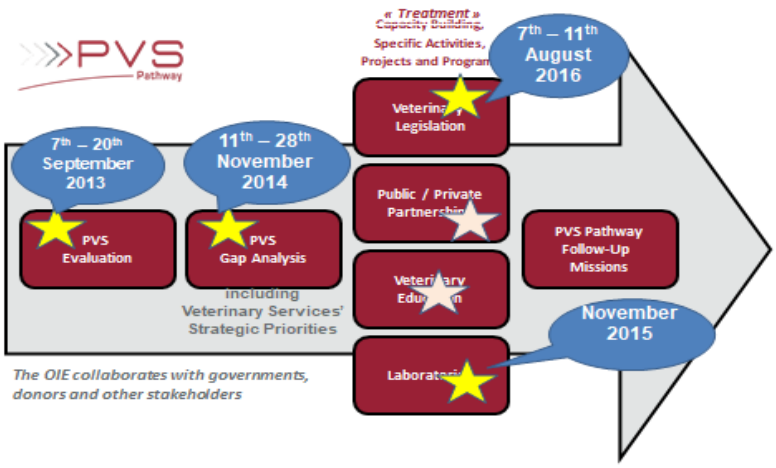
- High risk areas
- Moderate risk areas
- Low risk areas
- Post containment populations at risk

Lessons learned

An evaluation of some projects implemented in the country between 2003 and 2012 showed that the control and eradication of a TAD is possible through if there is sustained funding and a coordinated and harmonized approach at the national, regional and international level is used to control the disease. Close collaboration between the national veterinary authorities and those of the neighbouring countries was seen as an important factor in the success of disease control. The strengthening of the National Epidemio-Surveillance System (NESS) was seen as a precondition to boosting the numbers and value of Sudan's livestock.



Sudan also carried out an evaluation of the Performance of Veterinary Services (PVS) to identify the gaps that needed attention.



By addressing the areas identified through the gap analysis such as the need to cascade the achievements made at the national level to state and local levels. By reinforcing diagnostic and disease reporting capacities at grassroots the smallholder livestock producers will benefit. The compliance with the OIE PVS and WTO regulations led to increased demand of livestock by the importing countries. The gaps identified will also be addressed through several donor funded projects such as the EU funded LESP-SLSP (2018-2022) that will also strengthen the One-Health Approach to emergency management of TADs.

AN OUTBREAK OF RIFT VALLEY FEVER IN KENYA IN 2018

Kenya presented an overview of the emergency management of an outbreak of Rift Valley fever (RVF) that was reported during the prolonged heavy rains of 2018.

Introduction:

Rift Valley fever (RVF) is an acute and severe, viral disease of domestic animals (such as camels, cattle, goats and sheep) that also affects humans. Livestock get infected through mosquito bites while humans get infected via contact with infected animals and/or contaminated animal tissues like products of abortion, blood and meat. As such, certain occupational groups such as herders, farmers, slaughterhouse workers, and veterinarians are at higher risk of infection.

Kenya experienced unusually heavy rains in 2018 which resulted in widespread flooding across a number of counties. There were fears that if this was to continue there would be a high possibility that mosquito and other vector will increase and an upsurge in outbreaks of vector borne diseases such as RVF and bluetongue would occur.

Mitigation measures put in place

Kenya has a Contingency Plan developed under a One Health approach, by the Directorate of Veterinary Services and the Directorate of Health, which spells out measures that need to be taken to mitigate for outbreaks of RVF. This plan had been disseminated to counties and training on it had been conducted in most high risk counties.

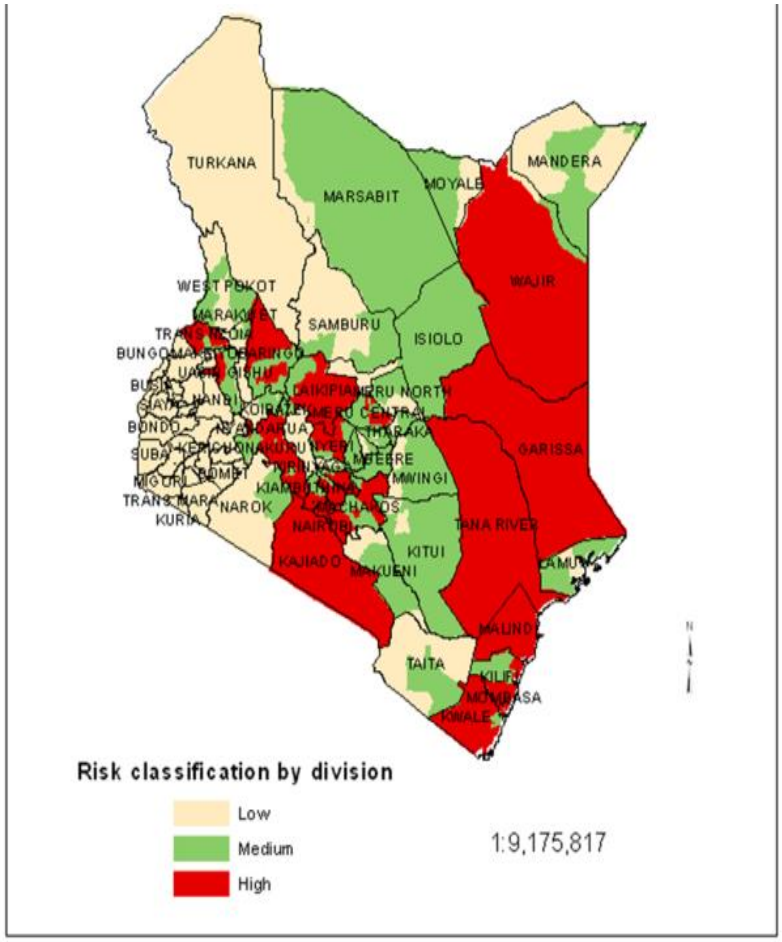
In February 2018, in anticipation of the expected rains that were to start in March, the Chief Veterinary Officer (CVO) issued an alert to all counties on possible outbreaks of RVF. The counties were asked to carry out mitigation measures including awareness creation, up-scale surveillance and carry out **vaccination** for those counties in high risk areas. On the 24th of April 2018 a reminder on the above alert was again sent to the counties. It is worth noting that none of the counties carried out vaccination as advised.

On the 4th of May 2018, in view of the then heavy rains being experienced, the CVO convened a meeting of **experts and stakeholders** to discuss possible measures to be undertaken. It was agreed that awareness creation, heightened surveillance and vaccinations should be carried out focusing on the high-risk counties.

A press statement prepared jointly by DVS and DMS was released both in electronic and print media.

Between March (4/3/2018) and May (7/5/2018) several technical teams were sent to the field to monitor sentinel herds in Machakos, Uasin Gishu, Bachuma, Maseno and Naivasha. The sentinel herds tested negative for RVF and there were no signs of RVF in the surrounding farms.

Prompted by the death of two sheep at a farm in Ruiru a surveillance team was dispatched to Kiambu County on 21st May to carry out purposive surveillance. A budget for active surveillance and procurement of vaccines was developed and presented to RPLRP (Resilience program), who had offered support. A committee to oversee the setting up of a mobile-based surveillance system involving farmers was set under the Field Epidemiology and Laboratory Training Programme. A further budget seeking for funds to address other necessary control measures was prepared and sent to the Principal Secretary-Funds was not available on time



Over 1000 samples from Wajir, Tana River, Isiolo, Marsabit, Baringo, Kitui, Garissa, Kajiado, Kwale, Mandera, Meru, Taita Taveta , Nairobi and Siaya counties were submitted to the Central Veterinary Laboratory at Kabete for testing.

	Cases by 25th July 2018	
	County	Number of positive animal samples
1	Kiambu	2
2	Wajir	15
3	Marsabit	23
4	Siaya	41
5	Isiolo	34
6	Mandera	2

7	Meru	1
8	Garissa	1
9	Kajiado	7
10	Tana River	1
11	Taita Taveta	6
12	Nairobi	2
13	Baringo	1

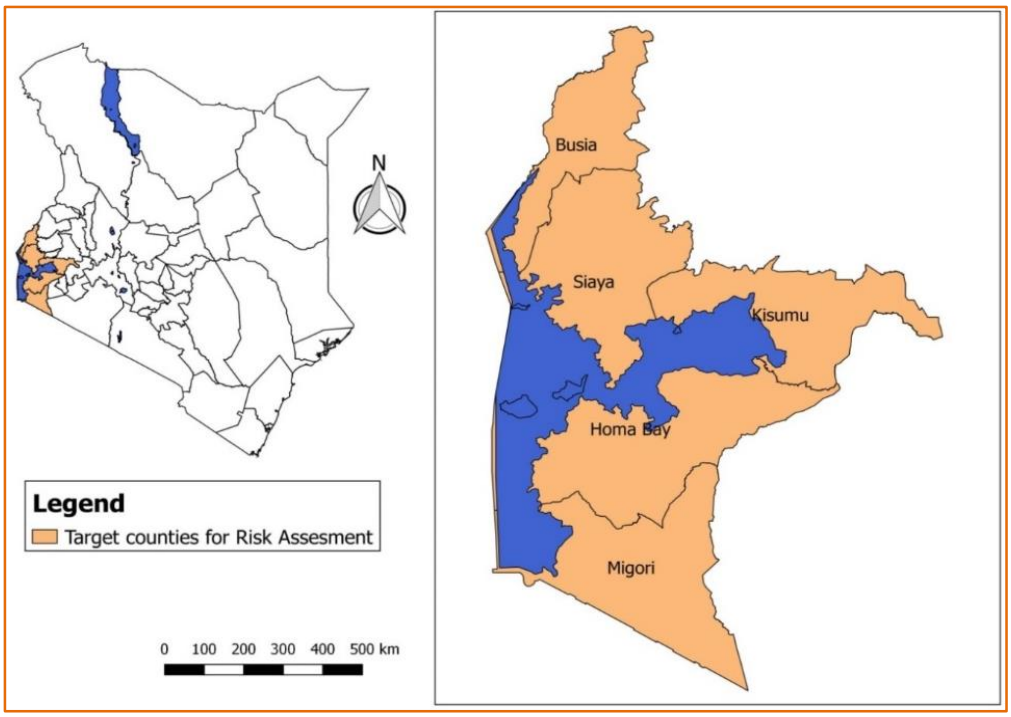
RVF Technical Working Group

A meeting of RVF technical working group was convened on 18th June 2018 at National Public Health Laboratory, Ministry of Health. The RVF technical working group comprised representatives from the following organizations:

- Directorate of Veterinary Services
- Ministry of Health
- Kenya Agriculture and Livestock Research Organisation
- Kenya Medical Research Institute
- United Nations Food and Agriculture Organization
- World Health Organization
- International Livestock Research Institute
- Kenya Red Cross
- United States Center for Disease Control and Prevention
- Washington State University
- Kenya Field Epidemiology and Laboratory Training Program
- Kenyatta National Hospital
- Médecins Sans Frontières- Suise

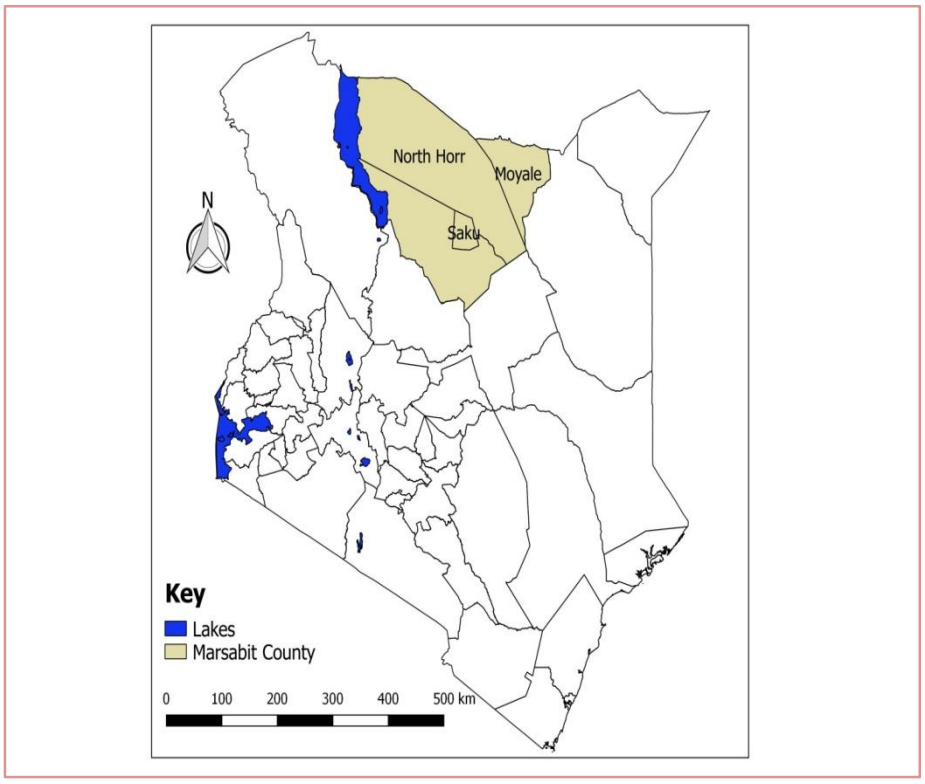
Active surveillance in Nyanza and Western Provinces, Kenya

The sub-counties included; Budalangi, Samia in Busia, Alego Usonga, Bondo in Siaya, Nyando, Nyakach in Kisumu, Karachuonyo, Ndhiwa in Homa bay and Nyatike, Kuria East in Migori counties. In total 480 samples (sera and blood) were obtained from the cattle sheep and goats. A total of 90 questionnaires were administered and 30 individual animal forms filled for all the 480 animals sampled.



Active surveillance in Marsabit

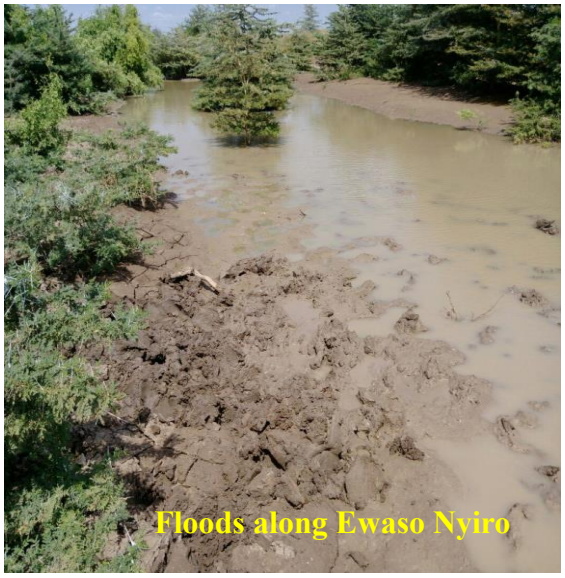
The surveillance was conducted from 27th June to 4th July 2018.



- 6/8 camel +ve (North Hall)
- 2/6 Caprine +ve (Antut, Moyale)
- 2/3 Ovine +ve (Dabel, Moyale)

Active surveillance in Garissa, Tana River, Wajir, Baringo

Many parts of the Garissa, Tana River, Wajir and Baringo were flooded. Active surveillance was conducted in these counties from 9th to 14th July 2018.

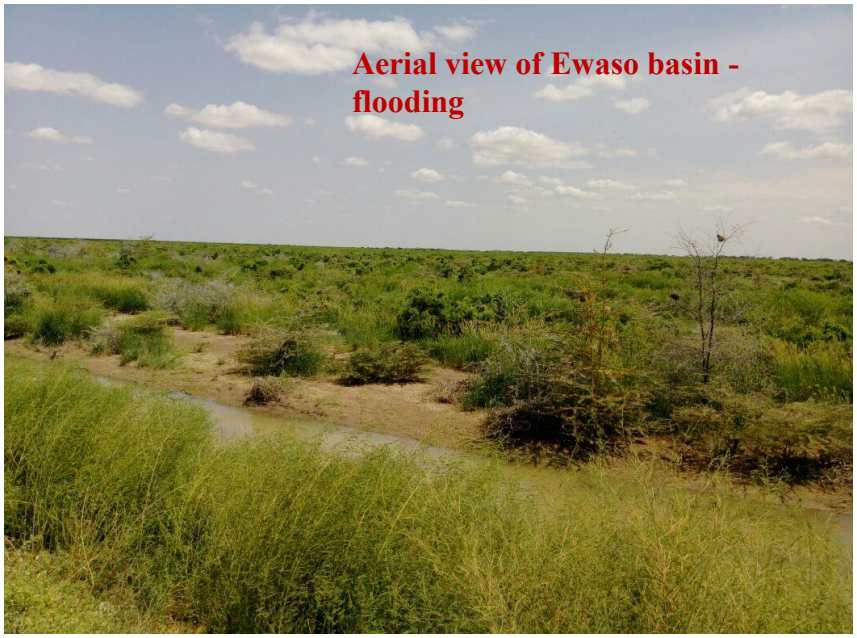


Floods along Ewaso Nyiro

- 48 samples were collected from Garissa (caprine 33, Ovine 15) - 1 caprine from Garissa-Bijarirot (near Tana River) tested positive. There were no clinical cases reported in the area (Garissa).
- 81 samples collected from Tana River County (caprine 53, ovine 28) – all the samples were negative. There were no clinical cases observed in Tana River.

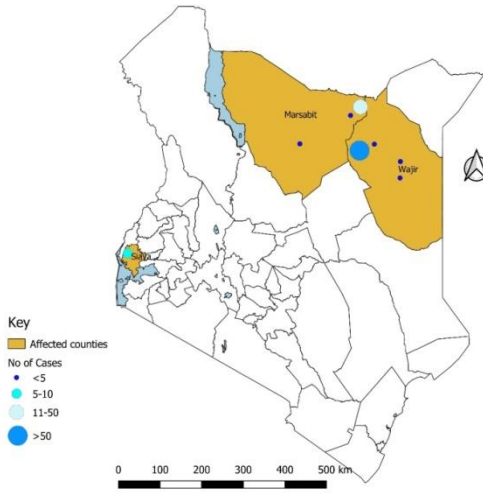
Floods near Habaswein

- 105 samples from Baringo County (Caprine 19, ovine 86) - No RVF clinical cases reported in Baringo.



One kilometer from the Ewaso valley the area was very dry and there were no clinical cases.

Human cases



- Mean age 33.7 (±16.6), 43% aged 15-29 years
- 18(60%) were male.
- Wajir 21(70%), Marsabit 8(26.7%) and Siaya 1(3.3%).

- 7 deaths (CFR=23.3%)
- Fever 30 (100%),
- Headache 22 (73.3%)
- Bleeding 10(33.3%),
- Jaundice 4(13.3).

Public health measures

- Community risk awareness on the dangers of consumption of sick/dead animal carcass;
- Active case finding and case management;
- Ban on slaughter and sale of livestock;
- Livestock quarantine to and from the affected areas;
- Vaccination of livestock in the unaffected areas;
- Formation of national RVF taskforce to coordinate the RVF outbreak response.

Achievements

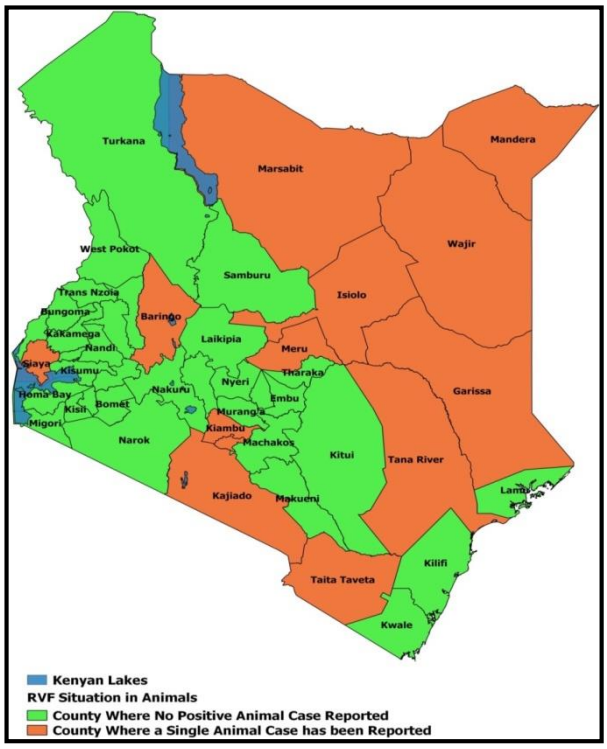
- Early detection;
- Prompt outbreak response;
- Quick control of the outbreak;
- Proper RVF outbreak coordination mechanism in place.

Challenges

- The dependence on livestock for livelihood by the pastoral communities is a big hindrance to the control of the outbreak if there is lack of alternative food sources;
- Restricting livestock movement is difficult in places like Marsabit and Wajir where several herds rely on a common water pan;
- Cultural factors play a role in accelerating the outbreak with slaughter and consumption of sick animal carcass.

Way forward

- There is need to strengthen livestock health surveillance system at the county as it provides the early warning system that will help to mitigate the outbreak;
- In the RVF high-risk areas there is need to develop a schedule for livestock vaccination and implement it when alerts are issued;
- Climate forecasting models should be adopted to predict future outbreak;
- Need for adequate supply chain for RVF vaccines in the high-risk areas. Vaccine manufacturers should use innovative distribution channels when an alert is issued particularly for the remote areas.
- There should adequate supply of communication materials and laboratory requirements etc.
- Need for emergency funds with minimal bureaucracy to access to improve response and recovery.
- Regular simulation exercises to identify the gaps and address them should be conducted.



RVF situation in animals in 2018 outbreak

Emergency Management experience in Ethiopia (RVF)

Ethiopia made a presentation on RVF based on a field investigation that was carried out in response to the outbreak of RVF in the north-eastern region of Kenya in 2018.

The country has a contingency plan for RVF and a team from the Federal government was sent to districts bordering Kenya to assess and investigate the disease.

Objectives of the assessment

- To gather information alongside border districts on TADs including RVF following its outbreak in Kenya.
- To create more awareness of RVF among animal health workers and to alert them of the disease situation before possible entry into Ethiopia.

Methodology

Active surveillance was carried out in districts that neighbour Kenya and constitute the major risk areas for entry of RVF during an active outbreak in Kenya. Information on occurrence of abortions in livestock was collected and blood for serum was collected from sheep, goats and cattle. The blood samples were sent to the laboratory for serological tests using ELISA. Data on important vectors for RVF virus was collected and common insect vectors were trapped for classification.

A questionnaire to assess the risk and collect information on what the community knows about RVF was administered. Information on weather conditions, movement of animals and humans and the grazing patterns was also collected for analysis.

Results

All the serum samples tested negative for RVF. However, a high level of abortion was observed. Serology results and data on levels of abortion shared during country presentations were removed from the final edition that was submitted for compilation of the workshop report.

Conclusion and recommendations

- Public health experts, veterinarian and public living around the outbreak areas should be made aware of the disease;
- Capacity building to the national and regional laboratories, and strengthening sero-surveillance and vector surveillance in the country should be enhanced;
- There is need to establish appropriate vector control strategies.

Major challenges

- Illegal cross border trade in livestock and livestock products;
- Widespread occurrence of other diseases (such as TADs);
- Poor coordination among stake holders;
- Weak coordination and collaboration with most border countries (even though Agreement made);
- Uncontrolled livestock movement across the borders;
- Lack of awareness about RVF;
- Shortage of laboratory reagent and material at regional laboratory and at the districts;
- Lack of capacity building/training/ on emergency management and on others issues;
- Budget and logistics deficiency at regional and district level.

Emergency management: Outbreak of anthrax in Uganda

UGANDA

The participants from Uganda presented their experience in responding to an outbreak of anthrax that caused human and animal mortality.

Detection

- Multiple outbreaks of anthrax were reported in 2017 and 2018.
- A adult man in a refugee camp become sick and died and the health workers noticed a large lesion on the man's skin – a sign of anthrax;
- Information of the cases reached public health officials;
- Dozens of people died after eating infected meat;
- Following the media reports, the DVO verified the reports and suspected the cause of cattle deaths to be anthrax.
- DVO immediately reported to CVO who sent a team to conduct an investigation.
- Anthrax was confirmed in the laboratory.
- Meanwhile Ministry of Health also confirmed the disease in humans
- The disease spread within Arua and to other districts (Kween, Isingiro, Kiruhura) within a period of 3 months.

Lesions of anthrax in a patient

The anthrax outbreak affected many cattle and some of the people consumed meat from the carcasses.

Samples being collected from a suspect cattle in Kiruhura, Uganda

RESPONSE

The response involved a multi-sectoral one-health approach with representatives from MAAIF, MoH, MWE, local government and development partners (FAO, CDC, WHO, UWA, ZDCO). The combined efforts marked the first full-fledged collaboration between the animal and human public health sectors to tackle outbreaks of a priority zoonotic disease in Uganda.

The response measures included;

- Formed teams to respond to the outbreak;

- Creation of awareness among the affected communities;
- Proper carcass disposal;
- Tracing and follow up of families who ate or came into contact with the meat and carcasses;
- Sample collection;
- Epidemiological studies;
- MAAIF mobilized private sector to import more vaccines for farmers to access;
- Quarantine and movement restrictions;
- MAAIF and MoH remained on ground to continuously investigate any new cases.

Note: There was inadequate access to human medicines and there is insufficient stock of vaccine for animals.

Communication

- Channels of communication were formalized;
- Radio messages were developed and disseminated;
- Information, Education and Communication (IEC) materials were developed and disseminated.

Recovery

- The anthrax vaccines are now available on open market;
- PPEs are now available at MAAIF.

Achievements

- Rapid response teams were established;
- One-health approach strengthened both at national and district levels;
- The outbreak created an opportunity to gain more knowledge generated on the disease and how to manage it;
- Awareness created in the general public, politicians, and other stake holders;
- Partners funding one-health interventions prefer putting money in human related activities than animal activities.

Lessons learned

- Though control of anthrax is a private good gov't needs to intervene by providing vaccines to effectively contain such outbreaks;
- Improve surveillance;

- Screening animal that come with the refugees;
- One-health approach if strengthened is good for managing zoonotic emergencies;
- Necessary to have emergency funds.

DJIBOUTI

Livestock population

Type of livestock	Population
Small Ruminants	1,000,000
Cattle	40,000
Camels	50,000
Equine	6,500
Chickens	75,000

Background

In Djibouti, the common system of disease surveillance and control is the passive surveillance and reporting from frontline are present in Djibouti to limited for target priority diseases including, FMD, PPR, CCPP, CBPP, RVF, Sheep and Goat Pox, Camel Pox, LSD, Avian Influenza (HPAI) and brucellosis.

Passive surveillance are based on reports coming from regional post veterinary service, breeders, Abattoirs inspectors, Livestock keepers, livestock traders, animal health workers, markets, check points and Quarantine stations to the central of Direction of Livestock and Vet Service (DESV).

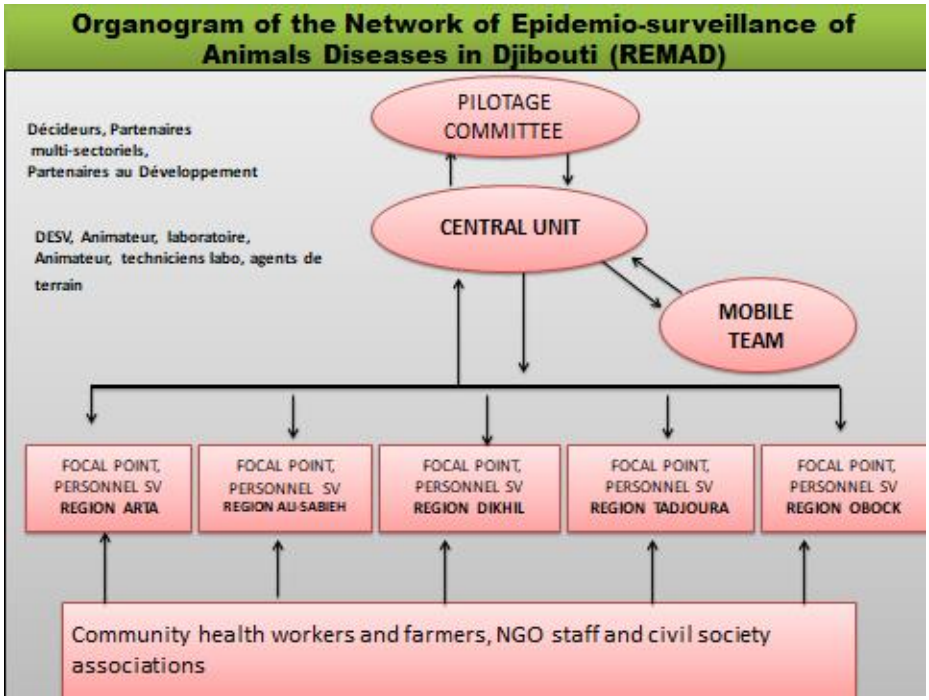
Emergency management

There is a network of epidemio- surveillance in Djibouti.

To enhance preparedness there is need to reinforce surveillance and disease control systems by strengthening the capacity of animal health service providers including the community-based animal health workers and the veterinary laboratory.

Diseases	Prevalence	Last study or outbreak	Remarks

PPR	6%	2016	
CCPP	Epi investigation ongoing	2018/2019(outbreak)	Final report under preparing
Brucellosis	1%	2016/2019	
LSD		Outbreak in 2017	Sedentary farmers
FMD	No cases		
CBPP	No cases		
Sheep and Goat pox	No cases		
Camel pox	cases seen in the border		
RVF	No cases		
HPAI		Last outbreak was 2006	Regularly laboratory testing



Challenges

- Most of TADs there is no contingency and emergency plan in the country.
- Insufficiency of awareness for TADs impact to the livelihood.
- Logistics and materials for emergency management is insufficient.

DISCUSSION

During plenary discussions on the country emergency management of a TAD several issues were raised and are summarised below:

RVF:

- Survey of the sentinel sites in Kenya in early 2018 showed no evidence of RVF virus circulation;
- The confined outbreak of the disease in Ruiru did not trigger a national rapid response for RVF especially in high-risk districts;
- County governments in affected areas failed to initiate mitigation measures when the RVF alert was issued by the CVO in February 2018;
- When RVF alerts are issued there should be a deliberate effort to increase access to RVF vaccines particularly in the remote areas;
- RVF outbreaks happened in low risk areas that in the past had reported low virus activity;
- There is need to keep on reviewing the cased definition of RVF since with the changes in livestock production systems and the environment the case definition of 1930 when farms used to have large populations of susceptible sheep and cattle and breeding was synchronised cannot be relevant today;
- During the course of this workshop information was obtained that RVF had been detected in Nyandarua and Muranga Counties.
- Although the control of RVF is a private good it is paramount that the government plays a major investment role in prevention and control of this disease - vaccinations for RVF and other zoonoses should be done by the national government for effectiveness;
- There were no recovery plans after the 2018 outbreak. The communities should be assisted to regain pre-outbreak status of livelihood or an improved livelihood;
- A post-outbreak workshop to identify what worked well, what didn't work and what needs to be done to emergency management of a future RVF outbreak should be held soon after the disease has been controlled.
- Ethiopia to be more vigilant on RVF especially in areas where virus circulation low was detected through serology (assuming the antibody positive animals were not from neighbouring country).

Anthrax:

Questions were raised on how Uganda managed such a serious outbreak of anthrax.

- Anthrax infected areas remain infected for a long time – disposal has to be done diligently and identify/mark the burial sites;
- Emergency funding – countries to lobby parliamentarians (Health/agriculture/environment committees) and treasuries for funding. Justifiable reports well packaged showing losses incurred by animal diseases.
- In Somalia, public sector should control livestock marketing in the country.

RECOVERY

In general, recovery has not been adequately addressed in the emergency management of TADs. The veterinary services stop after it has controlled the disease. It was agreed that this omission should be urgently addressed during revision of the contingency plans. The following is a summary of what countries did after an outbreak:.

SOUTH SUDAN (RVF)

- CP in place
- good coordination network,
- strong communication unit with well-trained OIE focal point
- Sentinel herds in parts countries affected
- Implementation of sanitary measures – vector control
- Creating awareness
- Diagnostic kits provision
- Lesson – activate CP ,
- impact assessment done,
- Animals vaccinated 10 km radius
- Funds should be released on time
- Sudan has emergency fund

UGANDA – HPAI

- Formation of poultry association
- Demand for inspection going up
- DVS giving technical support on biosecurity

- Biosecurity improved
- Inspection for complying farms
- Feed manufacturer – moved from use of silver fish to soya beans
- Strengthen collaboration with Ministry of trade – together working on trade policy

KENYA

After disease outbreak there is normally no follow up; there are no recovery plans after an outbreak of RVF. However, drought mitigation has an element of recovery whose activities include:

- Affected weak animals are bought
- NGOs involved with restocking
- RVF outbreak – government removed restrictions – movement, slaughtering, etc
- OH approach strengthened
- Risk allowance for veterinarians
- No element of restocking
- PPR – socio-economic study
- Exit strategy – developed capacity for reporting of disease which was used for control of other diseases
- RP- Freedom from disease ascertained and reported to OIE

Other issues raised during discussion

- DVS to have an emergency preparedness unit with personnel trained in disaster management linked to the national disaster centres.
- Advocacy for strengthening veterinary services to protect animals and human diseases
- Simulation exercises for livestock diseases/zoonoses should be regular to build capacities and keep ready to respond to emergencies
- Multisectoral Incidence command system – should be established in countries
- Develop animal diseases EOC (national emergency disease unit) for TADs however cooperate with the EOC public health when it comes to zoonoses.
- Communication on emergencies should be hipped up. We need to revisit how communication messaging should be done to change behaviour.
- Transparency to be improved through advocacy.

- Best practices in coping with emergencies and trade related issues should be encouraged among countries
- Resilience of communities to disasters important in dealing with emergencies

CURRENT CAPACITY TO RESPOND TO HPAI AND RVF

FOCUSED GROUP DISCUSSIONS

Discuss the current capacity to respond to HPAI and/or RVF in your country.

UGANDA AND DJIBOUTI

- National preparedness plan -H5 (reviewed after 2017 outbreak)
- National steering committee (one-health approach)
- There has been a deliberate effort by the Government to recruit competent technical and support staff who can adequately undertake emergency management of TADs; some staff have been trained in Good Emergency Management Practices (GEMP) and other technical competences required for emergency management of animal disease.
- The human capacity is therefore available.
- The laboratory capacity is good, laboratory staff are well trained
- Rapid kits distributed to regional labs
- There is considerable investment in research
- There is political will to respond
- Availability of supportive partners
- There is an enabling legal framework and command structure for emergency management of TADs
- However, the challenge remains the limited availability/sources of emergency funds. This in most cases affects emergency management efforts
- Biosecurity at the farms heightened
- Import/border controls strengthened

DJIBOUTI

During group discussion the following is what the participants from Uganda and Djibouti reported as the state of preparedness for HPAI:

- Response plans are specified in the HPAI contingency plan;
- A budget for response has been prepared;
- SOPs for cleaning and disinfection, carcass disposal, PPEs, and human case management have been developed;
- Inter-Ministerial National Steering Committee is in place;
- One health approach – NTF is advocated for during response;
- Epi Unit for data analysis is in place and is planning to conduct additional studies.
- Communication officer and communication unit
- Earth moving equipment for disposal of carcass
- Mass Media for awareness creation
- Trained epidemiologists
- All districts have Veterinarians
- Trained Agricultural Police Unit in the Ministry (not for Djibouti)
- Adequate cleaning and disinfection
- Adequate cleaning and disinfection
- Animal Check points on major roads
    - No sure source of funding (3.2billion)
    - Lack a compensation policy

ETHIOPIA

Plan for preventing and responding to future HPAI cases includes:-

- Promoting improved on-farm biosecurity practices in order to prevent future HPAI cases to the greatest extent possible.
- Improving HPAI surveillance in wild birds as a means to provide "early warning" risk information.
- Expanding response capabilities, including availability of personnel, equipment, and disposal and recovery options.
- Improving our capabilities to rapidly detect HPAI.
- Enhancing our ability to communicate in a timely and effective way with producers, consumers, legislators, media, and others regarding outbreaks and other information.
- Making preparations to identify and deploy effective AI vaccines should they be a cost beneficial addition to the eradication efforts in a future HPAI outbreak.

Areas of focus:

- Preventing or Reducing Future Outbreaks
- Enhanced Preparedness

- Improved and Streamlined Response Capabilities
- Preparing for the Potential Use of AI Vaccines

Emergency plan

- ***Preventing or Reducing Future Outbreaks (***The best defense against any catastrophic disease is to avert outbreaks)
- **Strengthening biosecurity**, Biosecurity is a cornerstone of livestock and poultry production systems.
- **Enhancing wild bird surveillance**, Wild birds, particularly resident and migratory dabbling ducks, serve as a reservoir for HPAI viruses.

Enhanced preparedness

- Facilitated improved State and industry response capabilities
- Significant efforts in implementing detection, preparedness, and response capabilities for future HPAI cases
- Increased ability to deploy personnel to an outbreak
- Enhanced training, safety and IT support for responders
- Improved capacity for depopulation and disposal
- Enhanced equipment and supplies
- Enhanced diagnostic laboratory preparedness
- Assisting the zoological community in prevention and response
- Improving public communications

Improved and Streamlined Response Capabilities

- Evaluated the impacts of response actions
- Increased the speed of detection of affected premises
- Prepared to depopulate all affected flocks within 24 hours of preliminary diagnosis
- Refocused from cleaning and disinfection (C&D) to virus elimination in affected facilities
- Streamlining the payment of indemnity, disposal and virus elimination costs
- Developed other HPAI-related policies
- Revised surveillance plans for control zones

Preparing for the potential use of AI vaccines

Of all the aspects of the response to HPAI, vaccination is likely the most complex. First HPAI response has not incorporated vaccination into the plan. However following further development of more effective vaccines the issue of vaccination will be reassessed for incorporation into the plan. Even if AI

vaccines do not fully prevent HPAI infection, the reduction of virus shedding is critical to interrupting the spread of infection within a population.

Conclusion:

- HPAI response planning is a dynamic process.
- Stakeholders should be as prepared as possible
- The document is still open for further development whenever necessary
- Enough trained personnel available;
- Budget for emergencies (and logistics) is allocated and mechanism to release in time is in place;
- Legislation to impose restrictions on movement of poultry and poultry products is enforced;
- Awareness creation is done at all levels.

Group discussion:
During group discussion of the Ethiopia and Sudan team the following issues were raised:

- Preparedness plan not re-activated since 2010;
- Biosecurity standard at farm level in place;
- Routine poultry farm surveys;
- Wild birds surveys in identified and known wet lands/resting areas for migrating wild birds;
- Back yard monitoring
- Live birds markets monitoring
- Wild life park
- Diagnostic capacity (Existence of poultry division in CVRL)

Coordination:

Central operations chamber based in the civil defense corporation including all line ministries, addressing disaster/emergency management – one plan for emergency preparedness addressing different sectors / multispectral committee having one plan addressing all emergencies in the country. The coordination is national and involves relevant bodies at different levels and collaborates with the private sector. A veterinarian is seconded to the Ministry of Health to join the zoonotic disease unit. The coordination committee meets quarterly.

KENYA

The initial contingency plan for HPAI was developed in 2007. This initial CP that focused only on response to the disease in animals was later revised to include response to the disease in humans. Kenya reported that it has HPAI Contingency plan that details the following protocols:

- Surveillance protocol
- Rapid response protocol
- Communication strategy
- Value chain analysis
- Diagnostic protocol
- Risk analysis – Risk map
- Surveillance system
    - ✓ Passive surveillance
    - ✓ Active surveillance
    - ✓ Diagnostic capacity

There are two rapid response teams (2 at National level) but due to staff atresia this needs to be reviewed regularly. A zoonotic disease technical working group with thematic area subcommittees has been established with representatives from MOH, KWS, and ENDOC. An operational zoonotic disease unit coordinates joint response. ENDOC will assist in resource mobilization.

The department has competent surveillance and diagnostic technical personnel that can handle small scale outbreaks but in widespread outbreaks, more personnel will be required. The laboratory capacity can currently handle 100 samples with the available resources. However, there is good collaboration with FAO for emergency support and research laboratories for technical backstopping. The laboratory has a good waste management system and has stockpiles of PPE and sampling equipment to aid in response to limited outbreaks. There is a communication strategy with pretested messages that are ready for quick production and dissemination. A Laboratory Information Management System (LIMS) links the laboratory to the epidemiology unit for data sharing and analysis.

Current efforts are aimed at achieving the following:

- Review of the contingency plan – One health approach
- Reconstitution of RRTs and training them;
- Technical working groups – regular meetings;
- Strengthening the Zoonotic disease unit

Challenges:

- Contingency plan– need for constant review to make it 'fit-for-purpose';
- Compensation policy – need to have legal and financial support;
- Emergency funds – the need to establish the fund;
- Stock piling of critical requirements for rapid response;
- Staff atresia- affects constitution of the rapid response teams – the need to ensure there is access to trained staff;
- Devolution and its effects on the chain of command in reference to risk-based surveillance and response.

Plenary discussion: Country presentations on status of preparedness for HPAI

- Kenya – emergency preparedness plan in place but not alive
- Uganda – had recent outbreak of HPAI in 2017.
    - Currently reviewing the contingency plan.
    - Lack of compensation policy – no stamping out during the outbreak.
    - There is no policy for the control of diseases that clinically resemble HPAI. The participants felt that the improved control of Newcastle disease when improve early detection of an incursion of HPAI in poultry. In addition, the poultry value chain should be more regulated and biosecurity enhanced.
- Sudan – EPP in place
- Djibouti – No EPP. Rapid tests applied in poultry.
- Somalia – EPP in place. Create biosecurity awareness for the upcoming large intensive commercial farms.

Stakeholder Analysis for Emergency Response

Response to disease emergencies requires the involvement of various stakeholders. The most relevant stakeholders need to be identified and their roles and responsibilities defined. Each stakeholder needs to know what the specific roles are before, during and after an animal disease emergency.

Participants from each country were tasked to enumerate the relevant stakeholders during a disease emergency. The identified stakeholders are listed below per country.

SUDAN

<table>
<tr>
<td>Government of Sudan (GOS)

• Ministry of Animal resources (epidemiology & labs. + States vet. Authorities)
• Wild life conservation
• Ministry of health
• Ministry of Agriculture
• Ministry of environment
• Ministry of Finance
• The higher council for drugs and vaccines
• Military

Roles & responsibilities:
• Vaccine and vaccination,
• Disease investigation and surveillance
• Diagnosis
• Research
• Training
• Awareness raising
• Vector control
• Monitoring and Evaluation (M & E)</td>
<td>INGOs + UN:

• OIE
• FAO
• WHO
• ICRC
• WB

Roles and responsibilities:
• Publish relevant documents which are used in the process
• Provide technical assistance
• funding</td>
</tr>
<tr>
<td>Private sector

• Breeder association (breeders, feed millers, poultry producers/owners etc..)
• Vaccines Bidder companies

Roles & responsibilities:

• Vaccines importation
• Diagnostic kits importation
• importation of PPE
• importation of Consumables
• importation of Field equipment
• warning the GOS about current problems
• participate in policy development</td>
<td>Academic

• Mainly universities and institutions

Roles & responsibilities:

• Technical backstopping
• Share training
• Shared policy development</td>
</tr>
<tr>
<td>Media</td>
<td></td>
</tr>
</table>

• TV • Radio • News papers Roles & responsibilities: • Lead the communication process shared responsibility with GOS	

ETHIOPIA

Background:

- Out breaks of HPAI and RVF have never been reported in Ethiopia
- Neighboring countries have been hit by out breaks of HPAI and RVF several times.
- Since Ethiopia is at risk of HPAI and RVF outbreak the following stake holder analysis has been established.

Emergency response team stakeholders are

- MOA
- MOH
- Ethiopian wild life conservation Authority.
- National disaster risk management commission.
- Ministry of Environment.
- Different NGOs

ORGANIZATION/AGENCY	ROLES
MOA	✓ Preparation of plan ✓ Provision of logistics and budget ✓ Resource mobilization ✓ Trainings.
Regional bureau (Agencies).	✓ Coordination. ✓ Provision of logistics and budget ✓ Recourse mobilization
Zonal bureau	✓ Sensitization and awareness creation. ✓ Coordination
Woreda (District) office	✓ Resource mobilization ✓ Allocate Budget

	✓ Training and Awareness creation in the community.
Kebele officers	✓ Sensitization and Awareness creation
Veterinary professionals, paraprofessionals, CAHWs	✓ Sensitization and awareness creation ✓ Conduct or provide vaccination ✓ Farmers.
MOH	✓ All the same Activity but different sector.
Ethiopian wild life conservation Authority	✓ Establishing buffer zone.
National disaster risk management commission.	✓ Alarming and early warning. ✓ Destocking ✓ Compensation. ✓ Restocking
Ministry of Environment	✓ Ready the environment for action to be taken place ✓ Protecting environment from pollution.
Different NGOs	✓ Provision of budget and logistics. ✓ Capacity building.

KENYA

The management of notifiable diseases requires the participation of internal and external stakeholders. The engagement need to be implemented through continued and structured meetings National Disaster Operations Centre (NDOC).

Stakeholders	Roles in HPAI	Roles in RVF
Animal farmers	• Reporting disease to Veterinary Services • Collaboration in carrying out disease control measures.	• Reporting disease to Veterinary Services. • Collaboration in carrying out disease control measures.
Farmers' organizations	• Compliance with control measures on marketing of animals and products. • Advocacy for compliance.	• Compliance with control measures on marketing of animals and products • Advocacy for compliance.

Community-based organizations/Faith based organizations	• Advocacy for compliance	• Advocacy for compliance
Consumers	• Feed-back to Veterinary authority • Compliance.	• Feed-back to Veterinary authority • Compliance.
Livestock traders, middlemen, transporters	• Compliance to veterinary control measures • Reporting of diseases to veterinary authority	• Compliance to veterinary control measures • Reporting of diseases to veterinary authority
	•	•
Livestock marketing associations	• Compliance to veterinary control measures • Reporting of diseases to veterinary authority • Advocacy to members for compliance	• Compliance to veterinary control measures • Reporting of diseases to veterinary authority • Advocacy to members for compliance
Directorates of Veterinary Services	• Implement CP and disease control policy • Activate RRT • Disease detection, monitoring, reporting and notification to public & OIE/IBAR • Implement disease control measures • Emergency vaccination • Regulate biosecurity measures • Import controls • Certification • Inspection of animals, products & establishments	• Implement CP and disease control policy • Activate RRT • Disease detection, monitoring, reporting and notification to public & OIE • Implement disease control measures • Mass vaccinations • Management of biosecurity measures • Import controls • Certification • Inspection of animals, products & establishments
Private veterinary service providers	• Reporting disease to veterinary authority • Participate in the disease control measures	• Reporting disease to veterinary authority • Participate in the disease control measures
Processors	• Report disease to veterinary authority	• Report disease to veterinary authority

	• Compliance to disease control measures	• Compliance to disease control measures
Financial institutions Investors	• Disbursement of funds	• Disbursement of funds
Development partners	• Technical and financial assistance to Veterinary Services	• Technical and financial assistance to Veterinary Services
Local Authorities/ County government	• Animal control and welfare • Compliance and implementation of control measures • Activate local RRT	• Animal control and welfare • Compliance and implementation of control measures • Activate Local RRT
Ministry of Lands NEMA	• Approval of disposal sites	• Approval of disposal sites
Ministry in charge of water	• Approval of disposal sites	• Approval of disposal sites
Ministry in charge of finance	• Provision of contingency funds	• Provision of contingency funds
Parliamentary Committee on Agriculture	• Lobby for financing and legislate for emergency funding.	• Lobby for financing and legislate for emergency funding.
Ministry responsible for Trade, and Cooperative Development and Marketing	• Compliance with trade restrictions/bans. • Recovery • Marketing of animals and products.	• Compliance with trade restrictions/bans. • Recovery • Marketing of animals and products.
National museum of Kenya tour guide bird watcher	• Reporting of mortalities in wildlife. • Surveillance.	NA
Ministries responsible for Public Works,	• Provision of earth moving equipment for disposal pits.	• Provision of earth moving equipment for disposal pits.
Office of the President Police department Judiciary	• Security and law enforcement	• Security and law enforcement
The Kenya Veterinary Board	• Assurance on quality veterinary services.	• Assurance on quality veterinary services.
Research Institutions Public universities	• Participate in the control measures through technical backstopping.	• Participate in the control measures through technical backstopping.

	• Gather data for research and development.	• Gather data for research and development.
Kenya Veterinary Vaccines Production Institute	• Production of vaccines for use in animals	• Production of vaccines for use in animals
Kenya Wildlife Service	• Collaboration with Veterinary Services in disease surveillance	• Collaboration with Veterinary Services in disease surveillance
Ministry of Water and Irrigation	• Development of water for livestock	• Development of water for livestock
Non-Governmental Organizations/Civil society	• Advocacy/lobbying for compliance	• Advocacy/lobbying for compliance
Parliamentary committee on Natural Resource (SOM)	• Monitor line Ministry activities like the ministry of livestock	• Monitor line Ministry activities like the ministry of livestock
Ministry of Health	• Surveillance in humans • Provide isolation facilities and treatment of sick people • Psychological support	• Surveillance in humans • Provide isolation facilities and treatment of sick people • Psychological support
Suppliers/manufacturers of kits and other laboratory supplies	• Provision of laboratory supplies and reagents	• Provision of laboratory supplies and reagents
Meteorological Department	NA	• Weather forecasting

UGANDA

	STAKEHOLDERS	ROLES AND RESPONSIBILITIES	
		HPAI	**RVF**
1	Ministry of Agriculture	Policies, Awareness, Surveillance, Enforcement, Detection, Technical guidance	Policies, Awareness, Surveillance, Enforcement, Detection, Technical guidance, vector trapping, control and identification
2	Ministry of Health	Policies, Awareness, Surveillance,	Policies, Awareness, Surveillance,

		Enforcement, Detection, Technical guidance	Enforcement, Detection, Technical guidance
3	Ministry of Finance	Funds	Funds
4	Ministry of Water and Environment	Early Warning, Guidance on water body use/Land	Early Warning
5	Ministry of Trade	Trade Policies, Negotiation with trade partners	Trade Policies, Negotiation with trade partners
6	Ministry of Foreign Affairs	Diplomatic Trade Negotiation	Diplomatic Trade Negotiation
7	Ministry of Internal Affairs	Enforcement	Enforcement
8	Ministry of Tourism (UWA)	Policies, Awareness, Surveillance, Enforcement, Detection, Technical guidance	
9	Ministry of Transport	Authorization of Biosecurity infrastructure and Check points along high ways	Authorization of Biosecurity infrastructure and Check points along high ways
10	Ministry of Information	Regulation of info and communication	Regulation of info and communication
11	Ministry of Justice	Enforcement and prosecution	Enforcement and prosecution
12	Local Governments	Implementation of prevention, detection, Response, Recovery measures and enforcement	Implementation of prevention, detection Response, Recovery measures and enforcement, vector trapping, identification and control
13	Prime Minister's Office	Coordination, recovery	Coordination, recovery
14	Office of the President	Overall Policy Guidance	Overall Policy Guidance
15	FAO	Technical Guidance, Funds, Capacity Building, Early warning	Technical Guidance, Funds, Capacity Building, Early warning
16	WHO	Technical Guidance, Funds, Capacity Building and Early Warning	Technical Guidance, Funds, Capacity Building and Early Warning
17	OIE	Global Notification, Technical guidance and Information Sharing, Early Warning	Global Notification, Technical guidance and Information

			Sharing, Early Warning
18	IGAD	Technical Guidance, Funds, Capacity Building, Early warning	Technical Guidance, Funds, Capacity Building, Early warning
19	AU-IBAR	Technical Guidance, Funds, Capacity Building, Early warning	Technical Guidance, Funds, Capacity Building, Early warning
20	CDC	Technical Guidance, Funds, Capacity Building, Early warning	Technical Guidance, Funds, Capacity Building, Early warning
21	Research Institutions	Research	Research
22	Universities	Train /Research	Train /Research
23	Poultry Producers Organisations	Implementation of prevention, Response, Recovery measures, farmer mobilization, information sharing	
24	Farmers	Implementation of prevention, detection, Response, Recovery measures	Implementation of prevention, detection, Response, Recovery measures
25	Poultry Feed Manufacturers	Feed Biosecurity and Biosafety	
26	Transporters, Traders, Abattoirs	Enforcement and Compliance with movement controls, detection, information sharing and Recovery	Enforcement and Compliance with movement controls, detection, information sharing and Recovery
27	Media	Information sharing, awareness creation and education	Information sharing, awareness creation and education
28	Civil society	Advocacy, information sharing	Advocacy, information sharing
29	NGOs	Funds, capacity building, advocacy, information sharing, awareness	Funds, capacity building, advocacy, information sharing, awareness
	Key: coloured in red are used for response and are primary		
	In blue are secondary response		

DISCUSSION

During the plenary discussion it was agreed that the stakeholder analysis for response to a TAD should be revised and focus on those stakeholders involved in actual response (primary stakeholders), those that are needed but do not have a central role (secondary stakeholders) and those that only need to be informed about the occurrence of the disease and what if being done to control it (tertiary stakeholders). Identification of stakeholders is important when planning simulation exercises where participants have defined roles and responsibilities.

REVIEW OF HPAI RESPONSE MECHANISMS

FOCUSED GROUP DISCUSSION

Countries were requested to review the response mechanisms in country specific contingency plans for HPAI consider the following scenarios:

Consider:

1. Disease suspected in a neighbouring country;
2. Disease confirmed in a neighbouring country and reported to OIE;
3. Disease suspected in your country;
4. Disease confirmed in your country.
5. What are the deficiencies in each case?

This exercise is important for the table-top simulation exercise to be conducted later during the training workshop.

KENYA / SOMALIA

Disease suspected in neighbouring country

- DVS/DMS convene HPAI National Task force (NTF) within 48 hours – Provide technical guidance;
- Upon advice from the NTF, the DVS activates RRTs to be ready to respond;
- Enhance active surveillance at high risk areas and along border points/ points of entry of suspected neighboring country;
- Enhance routine data management.
- Activate a community-based syndromic surveillance enhanced;
- Planning for resources needed in case of an outbreak;

- Regular dissemination of surveillance information to relevant stakeholders;
- Laboratory on high alert to analyze samples submitted for conformation.
- DVS may advice for a risk analysis in the suspected outbreak country;
- Public education and awareness.
- DVS may advice for a risk analysis in the suspected outbreak country;
- Public education and awareness.

Deficiencies in the response plans

- It should be made clear on who is the first to convene the HPAI task force;
- CP not clear on coordination between the two levels of government.

Disease confirmed in neighbouring country and confirmed to OIE

- DVS/DMS convene HPAI National Task force within 48 hours – Provide technical guidance;
- Upon advice from the National task force, the DVS activates RRTs to be ready to respond;
- Enhance active surveillance at high risk areas and along border points of suspected neighboring country;
- Enhance routine data management.
- Activate a community based enhanced syndromic surveillance;
- Ban imports of poultry and poultry products from affected country;
- Issue biosecurity guidelines to all production sectors;
- Public education and awareness.
- CVO/DMS convene HPAI National Task force within 48 hours – Provide technical guidance;
- CVO communicates to OIE;
- Upon advice from the National task force, the DVS activates RRTs to move to outbreak area;
- CDVS (County Director of Veterinary Services) mobilize Local response teams;
- National RRTs implement control measures under direction of NTF;
- County RRTs operate under direction of the CDVS and CDH (County Director of Health).

Disease suspected in your country

- DVS/DMS convene HPAI National Task force within 48 hours – Provide technical guidance;
- Upon advice from the National task force, the DVS activates RRTs to move to outbreak area;
- CDVS mobilize Local response teams;
- Enhance active surveillance at high risk areas;
- Enhance routine data management;
- Activate a community based enhanced syndromic surveillance.
- Multi-sectoral team conduct outbreak investigation to confirm presence or absence of HPAI;

- Enhance active surveillance in high risk areas;
- Regular dissemination of surveillance information to relevant stakeholders;
- Issue biosecurity guidelines to all production sectors;
- Public education and awareness.

Disease confirmed in your country

- CVO/DMS convene HPAI National Task force within 48 hours – Provide technical guidance;
- CVO communicates to OIE;
- Upon advice from the National task force, the DVS activates RRTs to move to outbreak area;
- CDVS (County Director of Veterinary Services) mobilize Local response teams;
- National RRTs implement control measures under direction of NTF;
- County RRTs operate under direction of the CDVS and CDH (County Director of Health).
- Enhance active surveillance at high risk areas;
- Enhance routine data management;
- Activate a community based enhanced syndromic surveillance;
- Monitoring trends of disease in infected areas to continuously inform response;
- Regular dissemination of surveillance information to relevant stakeholders.
- Imposition of quarantine;
- Zonation of outbreak areas;
- Issue biosecurity guidelines to all production sectors;
- Enhance public education and awareness;
- Humane culling and disposal;
- Decontamination of outbreak areas.
- Clinical disease management in humans in case of human infection;
- Travel and trade restrictions depending on disease spread;
- Modify messages based on characteristics of outbreak.

Deficiencies in the plans

- Differentiate mandate and composition of the RRTs and multisectoral response teams;
- Dry ice is not recommended for culling- Use cylinder carbon dioxide;
- The current CP is too heavy on animal health.

SIMULATION EXERCISES

Training objectives

- Learn about different types of simulation exercises and their usefulness in refining skills needed for disease emergencies;
- Learn how to select simulation exercises for training responders;
- Practice decision-making during an unfolding emergency, including understanding and applying protocols for emergency response and using response tools;
- Understand and apply best practices on communication and coordination of stakeholders involved in emergency response;
- Acquire knowledge to train others on the use of simulations in improving emergency management of transboundary animal diseases.

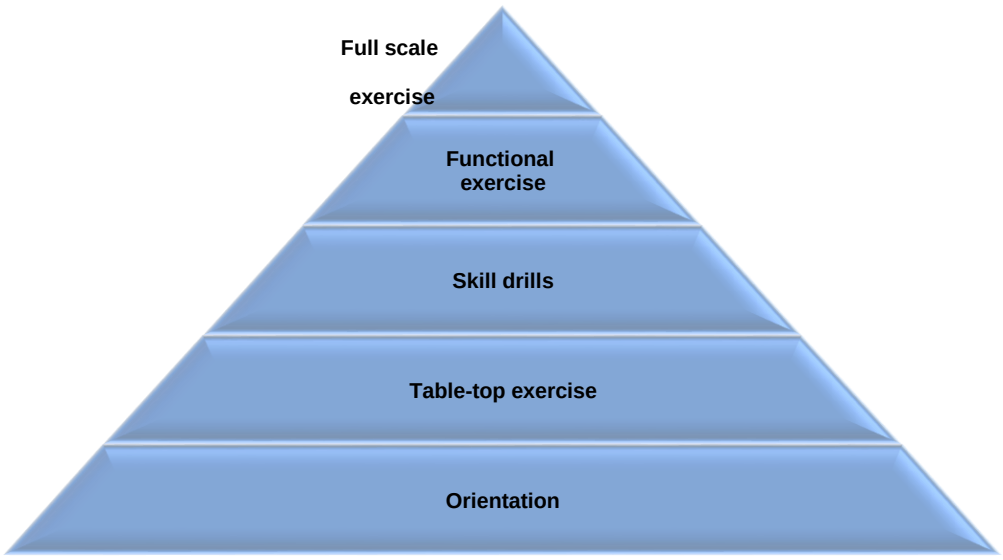
Health emergency simulation exercises provide an excellent opportunity not only to raise awareness and promote understanding of the key issues involved, but also to test and improve coordination mechanisms and crisis management structures. Exercises are instrumental in identifying gaps and consequently strengthening preparedness and response capacities at all levels (local, national, regional and global). Where plans are developed for previously unexperienced events, planners, managers and those responsible for the response need to be sure that the plans developed will work.

- The effectiveness of planned activities, such as command and control, communications, technology and agreements, need to be verified.

Advantages for using simulations

- They test or evaluate preparedness or emergency plans;
- They allow for training and updating knowledge;
- They evaluate the decision-making process and coordination mechanisms;
- They help to strengthen coordination within an organization and with other sectors and institutions;
- They validate the instruments and processes used to collect and organize information;
- They evaluate how participants react in specific situations.

Different types of exercises



Orientation

- The objective of an orientation exercise is to identify improvements through discussion.
- Exercise can take the form of seminars or workshops focused on existing processes as well as case studies.
- Least complex and costly and should be regarded as the minimum prerequisite for reviewing and validating existing plans or plans under development.

Table-top exercise

- Table-top exercises are carried out as informal meetings, in a conference setting, and the players are challenged with simulated emergency situations without time constraints.

- Exercise uses a progressive simulated scenario, together with series of scripted injects, to make participants consider the impact of a potential health emergency on existing plans, procedures and capacities.

Drills

- A drill is an organised, controlled exercise commonly used to test a specific function or process – such as an alert and notification, information flow, activation of an emergency plan or specific skills.
- Drills are used to train and develop particular skills and cooperation as a limited part of a larger organisational response.
- Test the relevance and effectiveness of plans, protocols, procedures, guidelines, and other operational mechanisms for emergency response.
- Evaluate abilities and the use of techniques, tools, resources, and actions related to the organization of emergency response operations.

- Drills primarily consist of practical actions, performed by participants who have experience in emergency management, including persons who can play specific roles.

Full-scale exercise

- To test the operational capability of emergency preparedness and response procedures and systems a full-scale exercise is the most appropriate choice.
- A full-scale exercise is organised in a realistic setting and includes deployment of resources to coordinate and respond to the planned event, without disrupting the infrastructure or putting the general public at risk.

How to conduct Table-top exercises

https://www.youtube.com/watch?v=1XK_dZkb9Kw

TABLE-TOP SIMULATION EXERCISE

Objectives of the Table-top simulation exercise

1. To assess the effective application of measures to prevent introduction of HPAI into the country;
2. To assess the actions taken by the veterinary services (and public health) in the event HPAI occurs in the country.
3. To assess the coordination and communication mechanisms during a response.

Background

Avian Influenza has captured the attention of the international community over the years, with outbreaks in poultry having serious consequences on both livelihoods and international trade in many countries. In addition, although most avian influenza viruses do not infect humans, some, such as avian influenza H5N1 and H7N9, are well known to the public because of their implication in serious and sometimes fatal infections in people. To date nearly all cases have reported being in close contact with infected birds. Due to the ongoing circulation of various strains (H5N1, H5N2, H5N8, H7N8, etc.) outbreaks of avian influenza continue to be a global public health concern.

Instructions for the exercise

- Your discussions should be based only on the information that is provided.
- Your actions should be based on the contingency plan for HPAI.
- It is advisable to record any deficiencies in the plan.
- Please respect every ones opinion as the exercise is not about being right or being wrong
- You are free to contact your neighbouring country and any of the teams participating in the table-top simulation exercise.
- Please be precise in your requests.
- Accurately record all the decisions and actions that your team makes.
- Keep time and act fast

You will work in five groups each with 4 participants:

Group 1: Coordination and Resource Mobilization

Group 2: Surveillance and Laboratories

Group 3: Communications, media and civil society

Group 4: Prevention and Control

Group 5: Case management

Scenario 1 – Disease outbreaks in poultry in a neighbouring country

Country X that neighbours your country has a huge population of back yard chickens and almost every household keeps indigenous chickens. A large number of households also keep ducks that freely mix with the indigenous poultry. There are also a number of commercial poultry farms in the country. The country has several lakes and swamps that serve as resting stops for wild migratory birds. The poultry value chain is complex and poultry and poultry products find their way to all the neighbouring countries. Poultry health management in this country is not given adequate attention and there are no coordinated disease control programs for poultry.

Task: In the next 15 minutes please identify the 5 most important things your team is going to do.

Identify the weaknesses, strengths and challenges in this scenario.

Inject 1

Information appearing in ProMed indicates widespread morbidity and mortality in back-yard chicken in country X that neighbours yours. Over the next five days, outbreaks continue to be reported throughout the neighbouring country and have also been reported in commercial poultry. Live chickens and eggs from country X have historically entered your country and approximately 70% of this trade is through illegal channels. Products from country X easily enter your country poultry value chains and can be distributed to outlets that are scattered all over the country within 48 hours. The news of the outbreaks in country X continues the public and media in your country are showing growing concern that the outbreaks could spread to within your borders.

Task: In the next 30 minutes please identify the 5 most important things your team is going to do.

Identify the weaknesses, strengths and challenges in this scenario.

Inject 2

Reports reaching your country indicate that field investigations in country X are ongoing. Your department of veterinary services is getting concerned that country X which has a high risk for introduction of avian influenza through migratory wild birds is taking too long. After two weeks since the initial report the field investigations and laboratory testing in country X confirm the outbreak to be caused by the highly pathogenic avian influenza (HPAI). Immediate notification of an outbreak of listed disease (HPAI) has been sent to OIE by country X.

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.

Identify the weaknesses, strengths and challenges in this scenario.

Inject 3

There are rumours that poultry prices in country X have plummeted due to a serious disease outbreak. Poultry farmers and traders are selling chicken almost at through-away prices. Mr Jones who is a prominent poultry trader sources his

chickens from far and wide including country X. He recently has increased his sales and he seems happy with the good margins he is making. He sells the chickens to farmers and butcheries.

In your country, you have received reports that poultry farmers with backyard chickens in Northwest district that is approximately150 Km from country X have started observing an increase in sudden death in chickens. Northwest district has three lakes that have wild water birds. Mr Jones has had a good business selling chickens to farmers in Northwest district.

In David's farm, a community elder, reports indicate that after buying chickens from Mr Jones several of his chickens fell sick and he slaughtered some for consumption. He also gave 5 chickens from the flock to his uncle who lives about 30 km away in a neighbouring district. In the local live bird markets it is business as usual. Meanwhile, the increased mortality in backyard chickens in the district continues to increase.

An outbreak with high mortality has been reported in a commercial poultry farm. Simon, a worker who tends poultry at David's farm and slaughtered the sick chickens has been feeling unwell and he has reported to the local dispensary complaining of high fever and general weakness. The local dispensary treats him with antipyretic/analgesics and he goes home. Two more patients report to the dispensary with similar ailment. The dispensary reports the cases to the national disease surveillance unit in the Ministry of Health

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.
Identify the weaknesses, strengths and challenges in this scenario.

Inject 4

The local veterinary officer responds to the reports of increased mortality in chickens and he visits homes where disease has been reported. He carries out preliminary investigation and reports the findings to the Chief Field Officer who in turns informs the CVO. The CVO dispatches the rapid response team to investigate the disease and collect samples for laboratory diagnosis. The

samples test positive for highly pathogenic avian influenza at the national reference laboratory. At the same time, samples collected from Simon test positive for bird flu.

Meanwhile three other districts 30 to 60 kilometres apart have reported sick birds with high mortalities in commercial poultry.

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.

Identify the weaknesses, strengths and challenges in this scenario.

Scenario 2 – Country X successfully resolves the outbreak

Two months ago country X successfully managed to control and eradicate the HPAI outbreak in backyard and commercial poultry. In your country, the control measures that have been applied appear to be working very successfully**.** Poultry farmers in your country are agitating for compensation for chickens that were culled to control the disease. The civil society insists the farmers have a right to be paid by the government and they require assurances from the Minister responsible for livestock that they will be compensated. The farmers are reluctantly complying with the disease control measures and there are fears that they could under-report the outbreaks.

Task: In the next 15 minutes please identify the 5 most important things your team is going to do.

Identify the weaknesses, strengths and challenges in this scenario.

Inject 1

The national response teams of your country continue to apply several disease control measures including public awareness, culling, movement control, enhanced biosecurity, culling, disposal, cleansing and disinfection.

Surveillance conducted has not detected any cases for the last 6 months and the CVO declares that the outbreak has been eradicated..

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.

Response to scenarios and injects

GROUP 1: COORDINATION AND RESOURCE MOBILIZATION

1. Tareke Aga
2. Lealemselam Nega Desta
3. Mary Nafuka
4. Matur

GROUP 2: SURVEILLANCE AND LABORATORIES

1. Ayele Bizaneh
2. Jacquiline Kasiti
3. Abdi Mohamoud
4. Doris Kiconco

GROUP 3: COMMUNICATION / MEDIA AND CIVIL SOCIETY

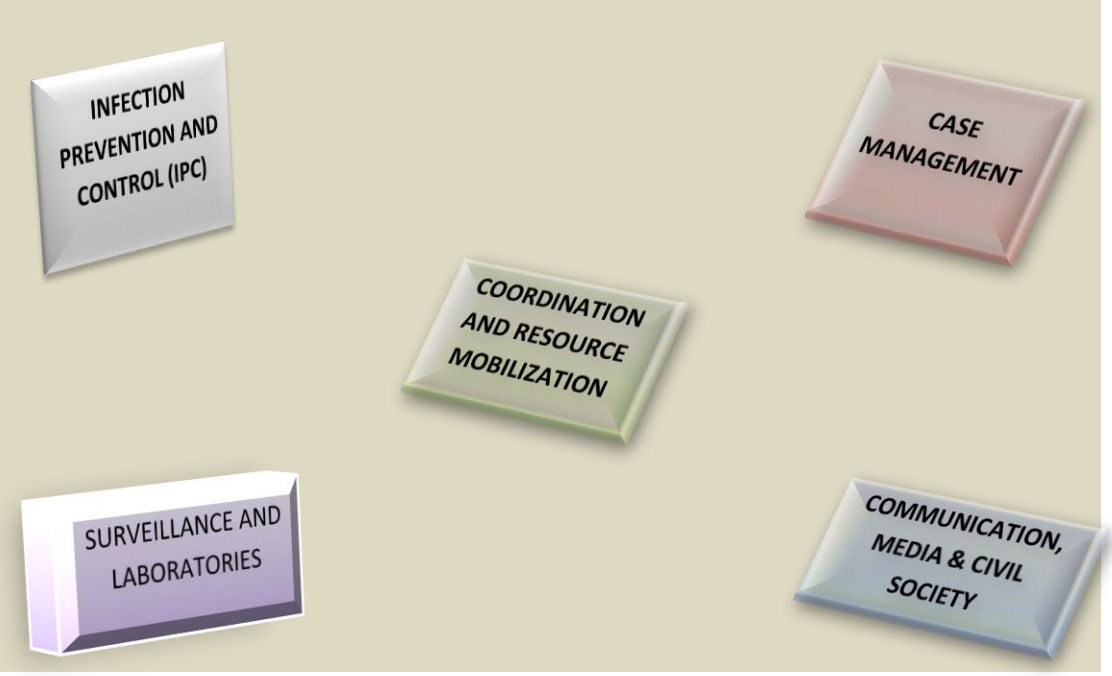
1. Alemayu Berhanu
2. Joseph Mosabi
3. Fred Monje
4. Mohamoud Osman

GROUP 4: PREVENTION AND CONTROL

1. Hanan Yousif
2. Mesfin Tilaye
3. George Njogu
4. Dan Tumusiime

GROUP 5: CASE MANAGEMENT

1. Nebiyu Kassa
2. Carolyne Nasimuyu
3. Nanyende David
4. Emmanuel Isingoma



The groups were timed for each scenario and inject. A short discussion after each session was allowed to ensure the participants were moving in the right direction. In addition, the consultant visited the group for any clarification and guidance. Members of the five sub-committees discussed each scenario and arrived at five most important actions they have to do to respond to the situation. The sub-committees were to discuss each scenario and the subsequent injects, make decisions on the actions that they must take and also contact the other sub-committees with requests that will facilitate their operations. All the requests had to be documented on paper and passed on to the relevant sub-committee for action. Brief discussions were held after each inject. Injects provided additional information as the disease outbreaks continued to spread from one country to the other and from poultry to humans.

The following are the discussions and interactions that occurred between the five groups:

Scenario 1: Disease outbreaks in poultry in a neighbouring country

Scenario 1 – Disease outbreaks in poultry in a neighbouring country
Country X that neighbours your country has a huge population of back yard chickens and almost every household keeps indigenous chickens. A large number of households also keep ducks that freely mix with the indigenous poultry. There are also a number of commercial poultry farms in the country. The country has several lakes and swamps that serve as resting stops for wild migratory birds. The poultry value chain is complex and poultry and poultry

products find their way to all the neighbouring countries. Poultry health management in this country is not given adequate attention and there are no coordinated disease control programs for poultry.

Task: In the next 15 minutes please identify the 5 most important things your team is going to do.

Identify the weaknesses, strengths and challenges in this scenario.

COORDINATION AND RESOURCE MOBILIZATION

Actions:

- Inform local law enforcement to restrict movement of the birds and products
- Coordinate rapid task force to go and assess the risk areas
- Coordinate surveillance team to activate check point
- Coordinate the communication teams
- Coordinate materials
- Coordinate the NTF to conduct trainings (labs, surveillance teams)
- Mobilization of funds (MoF, MoA, NGOs, Partners)

Challenges:

- Illegal trade of poultry and poultry products
- Lack of trained personnel
- Porous borders
- Media coverage not 100%

Requests received:

- Request for funds though some did not indicate how much had go back to them (to purchase rapid kits from surveillance) – **USD10,000**
- Requested to source information about the rumor in ProMed.
- Information of what could be the course of Mortality in backyard chicken.

SURVEILLANCE AND LABORATORIES

Actions:

- Review case definition
- Identify high risk area and intensify surveillance
- Understand the movement and resting places for migratory birds and carry out surveillance in these areas
- Laboratory receives and analyses samples
- Surveillance data analyzed and information shared with coordination

Weaknesses of the scenario

- Huge population of backyard chicken
- Population at risk is high
- Poor health services for poultry in country X;
- No disease surveillance programs.

Strengths

- Country X knows the production system they have.

Challenges

- Country X has several water bodies
- Large number of backyard poultry
- Complex poultry and poultry products value chain

INFECTION PREVENTION AND CONTROL

Actions:

- What to do: Nothing
- import restrictions
- Weakness: Weak veterinary services,

COMMUNICATION, MEDIA AND CIVIL SOCIETY

Actions:

- Participate in coordination meeting for updates
- Refer to contingency plan (CP) for appropriate messages in this scenario for activities to carry out
- Present Budget line to coordination team
- Roll out appropriate messages to the public, border authority etc.
- Activate toll free number to receive information from stakeholders

Inject 1

Information appearing in ProMed indicates widespread morbidity and mortality in back-yard chicken in country X that neighbours yours. Over the next five days, outbreaks continue to be reported throughout the neighbouring country and have also been reported in commercial poultry. Live chickens and eggs from country X have historically entered your country and approximately 70% of this trade is through illegal channels. Products from country X easily

enter your country poultry value chains and can be distributed to outlets that are scattered all over the country within 48 hours. The news of the outbreaks in country X continues the public and media in your country are showing growing concern that the outbreaks could spread to within your borders.

Task: In the next 30 minutes please identify the 5 most important things your team is going to do.

Identify the weaknesses, strengths and challenges in this inject.

COORDINATION AND RESOURCE MOBILIZATION

Actions:

- Recheck the resources we have (Mobilized more funds from partners)
- Coordinate surveillance -Hotspot Mapping/Risk areas
- Inform surveillance teams,
- coordinate the communication team
- Coordinate regular meeting – information
- Coordinate materials (PPEs etc.)
- Visited the affected countries to discuss collaboration in control of the disease

Challenges

- Illegal trade of poultry and poultry products
- Porous borders
- Media coverage not 100%.

Requests from other subcommittees

- Been contacted to find out where the outbreak occurred
- Coordinate funds for material (PPEs, disinfectants, Antibiotics), trainings and activities like surveillance, control.
- Request for funds to which we gave USD 200,000.

SURVEILLANCE AND LABORATORIES

Actions:

- Involve community and value chain actors in disease reporting
- Deploy more surveillance team to heighten surveillance activities
- Procure more laboratory reagents and consumables
- Continuous Surveillance data analysis and information sharing with coordination

- Update the risk map.

Weaknesses:

- Illegal channels of trade
- Quick distribution of illegal commodities in the country
- Fast disease spread in the commercial production system in country X
- No information from veterinary authorities and so the public and media are showing concern.

Strengths:

- Country X has published the outbreak in ProMed
- There is continuous reporting of disease.

Challenges:

- Spread is overwhelming
- Huge illegal trade (70%).

INFECTION PREVENTION AND CONTROL

Actions:

- Request CVO to convene a National Task Force within 48 hrs
- Inform districts/counties to be on high alert
- Request surveillance team to heighten surveillance at border points
- Activate Rapid Response Teams and dispatch to the field
- Request Coordination team to allow us send technical personnel to neighboring country to support diagnosis

Request made to the Surveillance and Laboratory Team

- Please heighten surveillance at border posts

CASE MANAGEMENT

Actions:

- Obtain and disseminate for use case management guidelines from line sub-committees
- Develop/avail clinical case management guidelines for clinical use
- Asses staffing needs
- Schedule healthcare worker training on HPAI case management
- Identify and prepare a possible isolation ward in case of an outbreak.

Requests sent:

- IPC sub-committee for IPC guidelines
- Surveillance subcommittee for case definitions
- Request to co-ordination sub-committee to provide funds for healthcare worker training.

COMMUNICATION, MEDIA AND CIVIL SOCIETY

Actions:

- Refer to the CP for the appropriate actions
- Analyse the risk assessment reports – knowledge gaps, backyard chicken?
- Activate appropriate message and release: public to comply with the issued guidelines regarding trade, and assurance of public to be calm
    - Translate into local languages
- Prepare press release for the CVO (in different forms) to allay fears and pre-empty activists
- review budget for subcommittee and share with coordination team
- Alternatives for the farmers in this scenario (refer to CP)
- Research and gathering information on peoples behaviours attitudes in the neighbouring countries
- Weaknesses: illegal trade/unregulated trade;

Inject 2

Reports reaching your country indicate that field investigations in country X are ongoing. Your department of veterinary services is getting concerned that country X which has a high risk for introduction of avian influenza through migratory wild birds is taking too long. After two weeks since the initial report the field investigations and laboratory testing in country X confirm the outbreak to be caused by the highly pathogenic avian influenza (HPAI). Immediate notification of an outbreak of listed disease (HPAI) has been sent to OIE by country X.

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.

Identify the weaknesses, strengths and challenges in this inject.

COORDINATION AND RESOURCE MOBILIZATION

Actions:

- Continue media communication coordination
- Coordinate the surveillance team to survey the wild birds and also to motivate the NTF to do their work- NTF motivated
- Ask for more funds from partners, NGOs and concerned Ministries
- Ask surveillance team to dispatch samples to reference labs for confirmation – Response; The country is free from disease but we are at risk
- Coordinate get information from OIE website which strain of HPAI the country x have for our country information
- Weekly communication by press release – our reply
- Asked the CVO concern on country x and it has affected our population.

Challenges:

- Illegal trade of poultry and poultry products
- Lack of trained personnel
- Porous borders
- Media coverage not 100%.

Requests from other sub-committees:

- Convene the NTF within 24hrs
- Request for funds though some did not indicate how much had go back to them (to purchase rapid kits from surveillance) – **USD100,000**
- Received Training reports and update on activities from case mgt sub committee
- How often do we request press release for the CVO for communication
- Received report that our country is free from disease although we at risk.

SURVEILLANCE AND LABORATORIES

Actions:

- Request Communication team to intensify awareness on case definition and reporting
- Intensify surveillance along the border and inside our country; in both domestic and wild birds

- Use of rapid test kits in the field
- All samples submitted are tested with PCR within 12hrs
- Laboratory data analyzed and information shared with coordination team.
- Contact reference lab and ship samples for quality assurance.

Weaknesses:

- High risk of spread of avian influenza through migratory birds
- Delayed confirmation and reporting of the disease until after 14 days

Strengths:

- Country X is carrying out investigations
- Country X reported to OIE immediately after confirmation
- Country X has lab diagnostic capacity

Challenges:

- Presence of migratory birds

INFECTION PREVENTION AND CONTROL

Actions:

- Request CVO to convene a national task force meeting
- Activate the HPAI CP
- Develop a work-plan and budget for activities and submit to Coordination team
- Activate RRTs
- Request surveillance to heighten surveillance at the borders of the affected neighboring country
- Request CVO to ban imports of live poultry and poultry products
- Issue biosecurity guidelines
- Qualitative Risk assessment for introduction of HPAI.

Weaknesses:

- Country X claims to have diagnosed the disease but they do not have a credible veterinary services structure
- No mention of whether it is zoonotic influenza

Request sent	Request received

Surveillance team to heighten surveillance at border points	Provide IPC guidelines (response: go to guidelines.health.ke)
Coordination team to release funds to send technical staff to country X for more risk analysis and support control measures 1.request granted and USD 80,000 released for activities	

CASE MANAGEMENT

Actions:

- Training of healthcare workers on case management of HPAI
- Follow-up on requested guidelines and stock piles (currently using WHO guidelines)
- Screening of patients using the standard WHO case definitions and reporting any suspects
- Liaise with the lab to sample any suspect cases
- Send out regular updates to coordination, surveillance and communication subcommittees on the progress thus far.

Requests/Updates

- IPC guidelines to the relevant subcommittee
- Updates sent to coordination, communication and surveillance sub-committees
- Sent an alert to the lab to be on standby for sample collection and processing
- Update received from surveillance that there are no positive cases reported.

COMMUNICATION, MEDIA AND CIVIL SOCIETY

Actions:

- Get clarity from CVO about his/her concerns
- Write to the CVO through the coordination team
- Sustain community and public awareness on the preventive measures through radio, TV, print media etc. including regular press release by CVO.

- Use information from OIE/Promed websites to update our citizens
- Assure our citizens on actions being taken by the country to prevent incursion of the disease
- Simplify technical messages including case definitions for inclusion in the public awareness creation messages to support early detection through reporting (Comment – the messages should have been tested during the preparedness phase)
- Proactively involve the media for any communications and encourage them to report accordingly.

Inject 3

There are rumours that poultry prices in country X have plummeted due to a serious disease outbreak. Poultry farmers and traders are selling chicken almost at through-away prices. Mr Jones who is a prominent poultry trader sources his chickens from far and wide including country X. He recently has increased his sales and he seems happy with the good margins he is making. He sells the chickens to farmers and butcheries.

In your country, you have received reports that poultry farmers with backyard chickens in Northwest district that is approximately150 Km from country X have started observing an increase in sudden death in chickens. Northwest district has three lakes that have wild water birds. Mr Jones has had a good business selling chickens to farmers in Northwest district.

In David's farm, a community elder, reports indicate that after buying chickens from Mr Jones several of his chickens fell sick and he slaughtered them for consumption. He also gave 5 chickens from the flock to his uncle who lives about 30 km away in a neighbouring district. In the local live bird markets it is business as usual. Meanwhile, the increased mortality in backyard chickens in the district continues to increase.

An outbreak with high mortality has been reported in a commercial poultry farm. Simon, a worker who tends poultry at David's farm and slaughtered the sick chickens has been feeling unwell and he has reported to the local dispensary complaining of high fever and general weakness. The local dispensary treats him with antipyretic/analgesics and he goes home. Two more

patients report to the dispensary with similar ailment. The dispensary reports the cases to the national disease surveillance unit in the Ministry of Health.

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.

Identify the weaknesses, strengths and challenges in this inject.

COORDINATION AND MOBILIZATION OF RESOURCES

Actions:

- Continue media communication coordination
- Coordinate the surveillance team to survey the wild birds and also to motivate the NTF to do their work- NTF motivated
- Ask for more funds from partners, NGOs and concerned Ministries
- Ask surveillance team to dispatch samples to reference labs for confirmation – Response; The country is free from disease but we are at risk
- Coordinate get information from OIE website which strain of HPAI the country x have for our country information
- Weekly communication by press release – our reply
- Asked the CVO concern on country X and it has affected our population
- The NTF to coordinate the sub-committees to do their activities
- Conducted regular meetings with sub committees and stakeholders
- Informed Surveillance to confirm the disease and put control measures in those districts
- Imposed complete ban of poultry and poultry products trade and movement
- Mobilized resources and materials (Kits and reagents, Vehicles, Motorcycles)
- Approved requests for funds and materials
- Received report of tested samples so far (8000).

Requests:

- Requested by surveillance to convene a meeting with NTF within 24hrs
- Prevention team: requested for approval of the technical experts to be sent to country X for more risk analysis and control measures
- New update report from case management; 8.00am 5 suspect cases identified, samples taken, waiting for results from lab, patient isolated, stable and being managed on the ward.

SURVEILLANCE AND LABORATORIES

Actions:

- Surveillance team dispatched to Mr. Jones, the trader, to trace back and forward the movement of chicken from country X and collect and test samples
- Conduct surveillance in Northwest district for purposes of zoning (high, medium and low infection)
- Conduct surveillance in the live bird markets and wild birds around the 3 lakes
- Conduct surveillance in 2nd district which received chicken from Mr. Jones for purposes of zoning
- Collect and test samples from suspected human cases, Simon, two more patients and all David's workers
- Conduct rapid tests for humans at dispensaries in outbreak district

(Comment: A one-health surveillance approach to include case finding) should have been emphasized)

Weaknesses:

- Plummeting of prices of poultry and poultry products in country X will increase exposure and spread of disease (more likely to increase illegal trade to neighbouring countries);
- Fast movement of poultry across the country within a short time increases the risk of introduction of the disease through trade;
- Continued trade in poultry and poultry products between the two countries.

Strengths:

- Presence of a dispensary provides first line of treatment to human cases
- Dispensaries report cases to Ministry of Health routinely.

Challenges

- Presence of lakes in North West district with wild birds.

INFECTION PREVENTION AND CONTROL

Actions:

- Convene the national Task force

- Activate and dispatch RRT
- Institute provisional quarantine
- Issue farm biosecurity guidelines for poultry farms
- Request surveillance teams to investigate the outbreak in affected village

Request sent	Request received
Case management follow up the human case	Impose Q to control poultry and poultry products movement (feedback: Action taken)
Coordination team to immediately release funds as indicated in the earlier concept	

Strengths:

- Reporting human case to dispensary
- Community elder responsible for reporting the disease

Weaknesses:

- Despite the imposed ban, trade is continuing
- Veterinary department was not informed about the outbreak in poultry.

CASE MANAGEMENT

Actions:

- Set up a triaging and screening mechanism
- Liaise with the lab to sample and test suspect cases
- Constitute a designated clinical management team for the suspect cases
- Isolate any suspect cases
- Treatment of suspect cases according to available clinical guidelines
- Send updates to the relevant subcommittees in form of hot reports

Requests

- To the lab to sample suspect patients
- A member from IPC to join the designated clinical management team
- Updates sent to coordination, communication and surveillance sub-committees.

COMMUNICATION, MEDIA AND CIVIL SOCIETY

Actions:

- Refer to CP
- Get confirmations from surveillance and lab team and case management team regarding the rumours in order to follow up with corresponding messages
- Possible routes of entry, affected species from surveillance team and lab
- Prepare communique for the CVO, DGHS to CDVS/DVO/DMO on actions to take
- Press release for CVO/DGHS to the public on the current status of the situations and actions being taken to contain the suspect
- Release appropriate and targeted messages (involving community leaders) relevant for prevention and containment.

Inject 4

The local veterinary officer responds to the reports of increased mortality in chickens and he visits homes where disease has been reported. He carries out preliminary investigation and reports the findings to the Chief Field Officer who in turns informs the CVO. The CVO dispatches the rapid response team to investigate the disease and collect samples for laboratory diagnosis. The samples test positive for highly pathogenic avian influenza at the national reference laboratory. At the same time, samples collected from Simon test positive for bird flu.

Meanwhile three other districts 30 to 60 kilometres apart have reported sick birds with high mortalities in commercial poultry.

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.

Identify the weaknesses, strengths and challenges in this inject.

COORDINATION AND RESOURCE MOBILIZATION

Actions:

- Map the affected areas and quarantine infected areas
- MoH isolate the patients

- CVO officially announce to OIE
- Control measures strengthened
- Enforcement to ban trade of poultry
- Study loses and apply compensation consideration
- Sub committees to be mobilized to a meeting and to take action
- More materials procured (PPEs)

Requests:

- Case management: Additional staff (50 nurses, 10 clinical officers,50 doctors) to support the affected districts
- Prevention team: Convene NTF, HPAI and sub committees to a meeting
- Communicate to OIE
- Updates case mgt: Out 20 suspected HPAI patients, 1 tested positive and 19 waiting labs confirmation, 1 patient discharged the rest stable and ongoing treatment
- Case mgt: Requested for more materials (PPEs, Rapid Kits, Fluid sets, Fluids)
- Update from lab and surveillance: 5 districts have been zoned, 10,000 samples analyzed out which 500 tested positive
- Request for intermediate funds.

Challenges:

- Budget is too big – approval takes a long process from the various partners
- Inadequate staff
- Incomplete requests of funds (no break down) back forth takes long for approval
- Request for materials had no specification for ease of procurement.

SURVEILLANCE AND LABORATORIES

Actions:

- Additional Surveillance in the three districts, collect and test samples to confirm; in commercial poultry, backyard poultry
- Zone for areas where disease has been confirmed; infected, protected/buffer and free areas
- Passive surveillance in the clean districts
- Send positive samples to OIE reference lab.

Strengths:

- Local veterinary officer responded by visiting the suspected outbreak farms and reported
- Rapid response teams were in place
- Laboratory had capacity to confirm the disease in place
- One chain of command

Challenges:

- Disease is spreading very fast with high mortalities

INFECTION PREVENTION AND CONTROL

Actions:

- Write to NTF and various subcommittees
- Activate CP and Develop a Response Plan
- Advise CVO to notify OIE
- Dispatch RRT to the field to establish extent of spread
- Impose quarantine in affected districts
- Develop a work-plan and budget and submit to coordination team
- Request communication team to heighten public education (backyard chicken owners, commercial farms, traders)
- Close bird markets
- Guidelines for humans to prevent and control HPAI
- Liaise with surveillance teams to Zone outbreak areas
- Humane culling and disposal
- Decontamination of outbreak areas

Strengths:

- National ref lab has capacity to confirm
- Good surveillance system
- One health approach (both animal and human samples tested)

Weaknesses:

- No rapid diagnostic kits at local level

Challenges:

- No traceability system for live birds and products

CASE MANAGEMENT

Actions:

- Request for additional staff/stock piles to support facilities in affected districts

- Continue with patient screening, triaging, isolation and testing of suspect cases
- Send regular updates to the relevant sub-committees
- Line-listing of all suspect HPAI cases
- Continue treatment of suspect and confirmed cases

Requests/update:

- Request to coordination sub-committee for staff and stock piles
- Updates sent to coordination, communication and surveillance sub-committees

COMMUNICATION, MEDIA AND CIVIL SOCIETY

Actions:

- Refer to CP on actions to take during outbreak phase
- Prepare communique for CVO/DGHS for joint declaration of the disease to OIE/WHO and neighboring countries (One Health)
- Receive updates from other subcommittees on what is happening
- Based on the above update messages to the public on the situation and assured them of the actions being taken to contain the disease
- Prepare and arrange for a press conference between media and CVO/DGHS
- Use updates from surveillance and lab team and case management team about scope of HPAI in the country
- Submit the revised budget requirements to the coordination team
- Release guidelines for containment, biosafety and disposal of the carcasses in the farms. Do the same for the medical services
    - Bulletins
    - Billboards
    - Brochures
    - Stickers
- Consider the concerns raised by farmers and the poultry industry.

Scenario 2: Country X successfully resolves the outbreak in poultry

Two months ago country X successfully managed to control and eradicate the HPAI outbreak in backyard and commercial poultry. In your country, the control measures that have been applied appear to be working very successfully**.** Poultry farmers in your country are agitating for compensation for chickens that were culled to control the disease. The civil society insists the

farmers have a right to be paid by the government and they require assurances from the Minister responsible for livestock that they will be compensated. The farmers are reluctantly complying with the disease control measures and there are fears that they could under-report the outbreaks.

Task: In the next 15 minutes please identify the 5 most important things your team is going to do.

Identify the weaknesses, strengths and challenges in this scenario.

COORDINATION AND RESOURCE MOBILIZATION

Actions:

- Send a team to study the extent of the damage/ disaster assessment – how much
- Revisit what the law says about this
- Give the report of losses to respective bodies (PM), NGOs and lobby for funds
- Send a report to Media and inform the public of the progress
- Continue with surveillance
- **Update from case management:** A number suspect cases isolated, some are still under treatment but stable and no more additional cases reported
- **From prevention:** Farmers need compensation.

SURVEILLANCE AND LABORATORIES

Actions:

- Maintain the heightened surveillance in poultry and wild birds in the whole country
- Heighten surveillance in humans at dispensaries and within the community
- Update risk map
- Report to coordination unit.

Weaknesses:

- Lack of compensation will affect disease reporting
- Farmers not complying with the zonation

Strengths:

- Control measures are working; zonation was accurate

INFECTION PREVENTION AND CONTROL

Actions:

- Continue with Quarantine
- Continue enforcing biosecurity measures, culling, disposal and disinfection
- Liaise with communication team to emphasize need for reporting
- Document details of birds lost by age, numbers and owner and present to coordination committee
- Advise coordination that farmers demand to be compensated

CASE MANAGEMENT

Actions:

- Continue with patient screening, triaging, isolation and testing of suspect cases
- Send regular updates to the relevant sub-committees
- Continue treatment of suspect and confirmed cases
- Line-listing of all suspect HPAI cases

Request/updates

- Request for lab results of patients
- Updates sent to coordination, communication and surveillance sub-committees

COMMUNICATION, MEDIA AND CIVIL SOCIETY

Actions:

- Send appreciation messages to country X about the measures to control the disease
- Roll out messages that explain the benefits of successful containment of the diseases (to continue reporting)
- Encourage the citizens including the farmers by appreciating them for their efforts so far
- Ref to the cp about it talks about compensation and prepare appropriate messages to the farmers
- Find out from the coordination about the possible alternatives with regard to compensation to address farmers concerns
- Provide forum for the stakeholders (e.g civil society, farmers) to raise the matter to the minister

Inject 1

The national response teams of your country continue to apply several disease control measures including public awareness, culling, movement control, enhanced biosecurity, culling, disposal, cleansing and disinfection.

Surveillance conducted has not detected any cases for the last 6 months and the CVO declares that the outbreak has been eradicated.

Task: In the next 30 minutes please identify the 5 most important things your group is going to do.

COORDINATION AND RESOURCE MOBILIZATION

Actions:

- Communication to OIE
- Conduct more meetings
- Restocking
- Follow up compensation
- Make preparedness (Procurement of more material)
- Review the all the performances, CP (Contingency fund) SOPs and document
- Lift bans officially
- We thank the different partners and stakeholders for the control system.

Reports:

The team received the following reports:

- Prevention team: We communicate to OIE
- Reports that no new cases, all patients discharged

SURVEILLANCE AND LABORATORIES

Actions:

- Carry out surveillance according to the updated risk map
- Continue testing samples and analyzing the data
- Share updates with the coordination unit
- A meeting of surveillance team to share experiences and lessons learnt
- Prepare a final outbreak report and share with coordination unit

INFECTION PREVENTION AND CONTROL

Actions:

- Advise CVO to communicate to OIE that outbreak is over
- Scale down operations
- Debriefing and lessons learned
- Socio-economic studies
- Restocking programme
- Review the CP to address gaps encountered

Challenge:

- No compensation policy in place

CASE MANAGEMENT

Actions:

- Discharged all patients
- Scale down functions of the isolation ward leading to eventual closure
- Scaled down on the staff
- Disband the designated clinical management team
- Suspect screening still ongoing
- Prepare a full outbreak report and send to relevant sub-committees

COMMUNICATION, MEDIA AND CIVIL SOCIETY

Actions:

- Ref to the CP for the appropriate actions during recovery phase
- Sustained awareness creation in reporting, and support of the control measures
- Roll out restocking guidelines and advantages of compliance
- Compile an after action review report

LESSONS LEARNED

The table-top simulation exercise provided a unique opportunity for the participants to think through simulated disease situations that were almost real and make critical decisions quickly. In general, the exercise was performed very well and the participants gained confidence as they moved through the simulation.

Key lessons:

- We learnt how to prioritize the actions during emergences
- Be on top of the situation at all times
- Act fast
- Understand your CP very well
- Scalability
- Status update of where we are at any one time
- One health approach very relevant
- CP should be ready all the time

Roll-out plan for TOT:

1. IGAD to share the ToTs workshop report with the participants;
2. The participants to share the report with the CVOs;
3. The participants to make sure that the training on emergency preparedness is integrated in the countries' training programmes;
4. The countries to review the emergency preparedness plans and contingency plans utilizing knowledge and skills learnt in the workshop.

Recommendations for enhancement of emergency management of TADs in the IGAD region

Veterinary services/Surveillance

1. Considering that animal disease surveillance plays a crucial role in mitigating against TADs and zoonoses, and that disease surveillance in the IGAD region is weak because of inadequate resources particularly funds and personnel, and that private animal Health service providers are in constant touch with livestock owners, it is recommended that:
    a. The DVOs should report animal diseases directly to the CVOs,
    b. Countries should advocate for strengthening veterinary services to protect animals and human diseases,
    c. The private animal health service providers are compelled to report notifiable diseases to their respective DVOs,
    d. Countries should strengthen collaboration with wildlife sectors.

Emergency preparedness plan

Considering the importance of having emergency preparedness plans for priority TADs and zoonoses, it is recommended that:

1. The CVOs should advocate for creation of an emergency fund by lobbying respective parliaments to improve on funding to veterinary services to protect animal and human health,
2. The CVOs should establish an Emergency Operation Centre (emergency preparedness unit) that is linked to the national disaster Operations Centre that works closely with the EOC in public health in case of zoonoses,
3. Countries should develop and regularly review CPs for the priority diseases,
4. Countries should regularly train officers and simulate the plans to enhance response capabilities,
5. Countries should develop a framework and structures for implementation of CPs,
6. Countries should ensure that animal disease emergencies are a component of the national disaster plans,
7. IGAD in collaboration with other regional organizations to assist countries in developing, training and simulating EPPs/CPs.

Vaccination

Considering the role of vaccines in controlling and eventual eradication of diseases, and that most of the Vaccine Production Institutes in the region are not satisfying the country demands in time, and the high cost of vaccines, it is recommended that:

1. Countries to develop vaccination plans and share them with the vaccine production institutes giving ample time for production and dispatch,
2. IGAD to take lead in establishing a regional vaccine bank/diagnostic kits.

Risk analysis

1. IGAD in partnership with other organisations to organize refresher risk analysis courses for member countries.

Response and recovery

1. Member countries are advised to establish NDCC (incidence command system) and LDCC in their respective countries,
2. Counties should include recovery as a component of managing disease outbreaks,
3. Countries should develop capacity for socioeconomic impact assessment of disease outbreaks,
4. Countries to consider review and/or development of legislations to support emergency management and Compensation policy,

5. Countries should carry out emergency management training for animal owners and value chain actors.

LAKE NAIVASHA COUNTRY CLUB

11th-16th Feb 2019

List of Participants

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TRAINING EVALUATION

TRAINING OF TRAINERS (TOT) ON EMERGENCY MANAGEMENT OF TRANSBOUNDARY ANIMAL DISEASES, PREPARATION OF CONTINGENCY PLANS AND SIMULATION EXERCISES

HELD AT LAKE NAIVASHA COUNTRY CLUB IN KENYA

FROM 11th – 16th FEBRUARY 2019

Name: _____(Optional)

Country/Department_____

Introductions and overview on training objectives	Well done	5	4	3	2	1	Not well done
Training needs analysis	Achieved	5	4	3	2	1	Failed to achieve
Group work - Training needs analysis (emergency management	Highly relevant	5	4	3	2	1	Not relevant
Overview on Transboundary Animal Diseases	Achieved	5	4	3	2	1	Failed to achieve
Group work – disease reporting networks and chain of command	Highly relevant	5	4	3	2	1	Not relevant
Country presentations on emergency managements – experience and lessons learned	Achieved	5	4	3	2	1	Failed to achieve
Emergency management	Highly relevant	5	4	3	2	1	Not relevant
Group work – response to early warning systems (experience and lessons learned)	Highly relevant	5	4	3	2	1	Not relevant
Preparedness	Highly relevant	5	4	3	2	1	Not relevant

Country presentations – status of preparedness for HPAI	Highly relevant	5	4	3	2	1	Not relevant
Contingency planning	Highly relevant	5	4	3	2	1	Not relevant
Group work – stakeholder analysis for disease emergency response	Highly relevant	5	4	3	2	1	Not relevant
Group work – measure for preventing entry and spread	Highly relevant	5	4	3	2	1	Not relevant
Prevention	Highly relevant	5	4	3	2	1	Not relevant
Group work – current capacity for detection and how to improve early detection and confirmation	Highly relevant	5	4	3	2	1	Not relevant
Group work – what is the current capacity to respond to a high-threat disease – HPAI?	Highly relevant	5	4	3	2	1	Not relevant
Response	Highly relevant	5	4	3	2	1	Not relevant
Recovery	Highly relevant	5	4	3	2	1	Not relevant
Group work – review the response mechanism in country specific contingency plan for HPAI.	Sufficient	5	4	3	2	1	Highly inadequate
Simulation exercises – theory and practice	Adequate	5	4	3	2	1	Not adequate
Table top simulation	Excellent	5	4	3	2	1	Inadequate
Conference facility	Excellent	5	4	3	2	1	Inadequate

Indicate any other suggestions to improve such a TOT training.

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