

GHSA JEE ASSESSMENT OF THE UNITED REPUBLIC OF TANZANIA



Table of Contents

Executive Summary	3
Findings from the Joint External Evaluation	4
PREVENT	7
National Legislation, Policy and Financing	7
IHR Coordination, Communication and Advocacy.....	10
Antimicrobial Resistance	12
Zoonotic Disease.....	15
Food Safety	19
Biosafety and Biosecurity	22
Immunization.....	24
DETECT	26
National Laboratory System	26
Real-Time Surveillance.....	29
Reporting	32
Workforce Development	35
RESPOND.....	39
Preparedness	39
Linking Public Health and Security Authorities.....	44
Medical Countermeasures and Personnel Deployment.....	46
Risk Communication	49
OTHER	53
IHR Related Hazards and Points of Entry (PoEs).....	53
Chemical Events.....	56
Radiation Emergencies	58
Appendix 1: International Health Regulations and JEE Tool.....	60
Appendix 2: Joint External Assessment Purpose & Process	62
Process.....	62
Colour Scoring System	63
Appendix 3: Tanzania Assessment Background.....	65

Executive Summary

This assessment is a Global Health Security Agenda (GHS) assessment using the IHR Joint External Evaluation (JEE) tool. A multi-sectoral team of experts (nominated by GHS countries) and advisors (representing International Organizations) participated in the week long assessment which took place from February 22-26, 2016, in Dar es Salaam, Tanzania. Tanzania is the seventh country to volunteer for the GHS assessment, and the first country where the new Joint External Evaluation tool developed together with the WHO was used. The GHS tool covered 11 Action Packages—the current JEE tool comprises 19. This assessment was done in Tanzania Mainland, excluding Zanzibar in this first phase.

Tanzania first completed a self-assessment using the JEE tool. The results of this assessment, including host country self-assessed scores for the 19 Action Packages, were then presented to the External Assessment Team (EAT). The EAT and host country experts then participated in a facilitated discussion to jointly assess Tanzania's current strengths, areas which need strengthening, and priority actions; scores were developed through a process of consensus. Action Package scores, supporting information, and specific recommendations for priority actions are provided under the Action Package sections of this report.

The results of the assessment and observations of the Host Country's Health Security preparedness were presented to Chief Medical Officer Prof Muhammad Bakari Kambi, who represented the honorable Permanent Secretary for the Ministry of Health Community Development, Gender, Elderly and Children Dr. Mpoki Ulisubisya, at Dar es Salaam, Tanzania, on February 26, 2016.

Findings from the Joint External Evaluation

Overarching Issues and Priority Actions

A consistent feedback from all assessed countries is that they have highly appreciated the possibility of bringing together the different national stakeholders to discuss health security, in some cases for the first time. Most countries' administrations have the tradition of working in silos. Thus the GHSA country assessments have previously served as a strong incentive for in-country coordination and networking promoting the adoption and implementation of a One Health approach. Tanzania is showing a great commitment to implementing a One Health approach throughout its health security system. The signing of the new One Health strategy in late 2015, and the resultant One Health Steering Committee with technical working groups, holds great promise for making significant advances in this area. Priority should be given to further developing the structure for coordination, using a process of interagency consensus building to agree on priority activities, and committing to a defined plan of action which will lead to true implementation of a One Health approach.

Another important theme during the assessment has been the cholera outbreak that started in August, with a growing number of 16,000 cases and case fatality rate of 1.6%. This epidemic has been a real life exercise for Tanzania. The lessons learned from this outbreak, together with the recommendations and priority actions from this assessment, can serve as the foundation for the development of a national roadmap which will enable Tanzania to effectively prevent, detect and respond to infectious disease and other threats in the future. Discussions regarding lessons learned should include all levels-national, regional and district-to ensure a coordinated approach and commitment at all levels.

A number of excellent in depth assessments have previously been done, including internal IHR self-assessments, and Tanzania is to be commended for this commitment to improvement. The results of those assessments have been incorporated in the priority actions in this assessment. In addition, a number of good initiatives are underway; some internal and some with key partners and donors. Linking these initiatives in a coordinated manner will increase their effectiveness and impact and maximize use of resources. Tanzania has a tremendous amount of local talent and human resources. The EAT strongly urges Tanzania to convene a working group with key internal and external partners to review the three priority action recommendations from each action package and develop a plan for funding and implementation. This should be done as soon as possible.

Looking forward, the EAT encourages Tanzania to take full advantage of resources which are available at no cost, such as repeating the World Organization of Animal Health Performance of Veterinary Services (PVS) and GAP analyses at appropriate intervals as well as exploring the possibility of laboratory or veterinary education twinning projects or hosting a Food and Agriculture Organization (FAO) Crisis Management Center visit or Good Emergency Management Practices (GEMP) training. A JEE assessment could be repeated annually internally to demonstrate progress; an external evaluation could be performed again in several years' time.

In closing, the EAT would like to note that the team was very impressed with the professionalism and dedication of the Tanzanian experts who participated in this assessment. They are clearly the "heart and soul" of Tanzania's public health infrastructure, serving others not only with their knowledge and expertise, but also with a notable level of commitment. We would welcome them as experts on future missions-both to share Tanzania's best practices and expertise with others and to bring best practices back to Tanzania.

Summary of Scores

Element	Indicator	Score
National Legislation, Policy and Financing	CC1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR	2
	CC1.2 The state can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005)	3
IHR Coordination, Communication and Advocacy	CC2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR	3
Antimicrobial Resistance	P.1.1 Antimicrobial resistance (AMR) detection	1
	P.1.2 Surveillance of infections caused by AMR pathogens	1
	P.1.3 Healthcare associated infection (HCAI) prevention and control programs	3
	P.1.4 Antimicrobial stewardship activities	1
Zoonotic Disease	P.2.1 Surveillance systems in place for priority zoonotic diseases/pathogens	2
	P.2.2 Veterinary or Animal Health Workforce	2
	CC10.1 Mechanisms for responding to infectious zoonoses and potential zoonoses are established and functional	3
Food Safety	CC11.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination.	2
Biosafety and Biosecurity	P.3.1 Whole-of-Government biosafety and biosecurity system is in place for human, animal, and agriculture facilities	2
	P.3.2 Biosafety and biosecurity training and practices	3
Immunization	P.4.1 Vaccine coverage (measles) as part of national program	4
	P.4.2 National vaccine access and delivery	4
National Laboratory System	D.1.1 Laboratory testing for detection of priority diseases	3
	D.1.2 Specimen referral and transport system	2
	D.1.3 Effective modern point of care and laboratory based diagnostics	3
	CC8.2 Laboratory Quality System	3
Real-Time Surveillance	D.2.1 Indicator and event based surveillance systems	3
	D.2.2 Inter-operable, interconnected, electronic real-time reporting system	3
	D.2.3 Analysis of surveillance data	4
	D.2.4 Syndromic surveillance systems	3
Reporting	D.4.1 System for efficient reporting to WHO, FAO and OIE	2
	D.4.2 Reporting network and protocols in country	2
Workforce Development	D.5.1 Human resources are available to implement IHR core capacity requirements	3
	D.5.2 Applied epidemiology training program in place such as FETP	4/2
	D.5.3 Workforce strategy	2/3
Preparedness	CC5.1 Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed and implemented	2
	CC5.2 Priority public health risks and resources are mapped and utilized	2
	R.1.1 Capacity to Activate Emergency Operations	2

Element	Indicator	Score
Emergency Response Operations	R.1.2 Emergency Operations Center Operating Procedures and Plans	3
	R.1.3 Emergency Operations Program	1
	CC4.1 Case management procedures are implemented for IHR relevant hazards	2
Linking Public Health and Security Authorities	R.2.1 Public Health and Security Authorities, (e.g. Law Enforcement, Border Control, Customs) are linked during a suspect or confirmed biological event	2
Medical Countermeasures and Personnel Deployment	R.3.1 System is in place for sending and receiving medical countermeasures during a public health emergency	2
	R.3.2 System is in place for sending and receiving health personnel during a public health emergency	2
Risk Communication	CC6.1 Risk Communication Systems (plans, mechanisms, etc.)	2
	CC6.2 Internal and Partner Communication and Coordination	2
	CC6.3 Public Communication	2
	CC6.4 Communication Engagement with Affected Communities	2
	CC6.5 Dynamic Listening and Rumour Management	2
Other IHR Related Hazards and Points of Entry (PoEs)	CC9.1 Routine capacities are established at PoE	2
	CC9.2 Effective Public Health Response at Points of Entry	2
Chemical Events	CC12.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies	3
	CC12.2 Enabling environment is in place for management of chemical Events	3
Radiation Emergencies	CC13.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies.	2
	CC13.2 Enabling environment is in place for management of Radiation Emergencies	3

PREVENT

National Legislation, Policy and Financing

Target

States Parties should have an adequate legal framework to support and enable the implementation of all of their obligations and rights to comply with and implement the IHR (2005). In some States Parties, implementation of the IHR (2005) may require new or modified legislation. Even where new or revised legislation may not be specifically required under the State Party's legal system, States may still choose to revise some legislation, regulations or other instruments in order to facilitate their implementation and maintenance in a more efficient, effective or beneficial manner.

State parties should ensure provision of adequate funding for IHR implementation through national budget or other mechanism.

Tanzania Level of Capabilities

Overview of Action Package

Each State Party may determine how to implement the IHR in light of its own domestic legal and governance systems, socio-political contexts and policies. The laws and policies Tanzania has put in place have facilitated performance of IHR activities in a more efficient, effective or otherwise beneficial manner.

Tanzania has achieved considerable progress in this area. A review of the Public Health Act to incorporate IHR 2005 was done in 2009. In 2010, Tanzania assessed their relevant existing legislation, regulations, administrative requirements, and other governmental instruments to determine if they were appropriate for revision in order to facilitate full and efficient implementation of the Regulations. Some of policies and acts were updated and these include the newly updated IDSR guidelines, but some still need more work to address not only IHR issues but also a One Health (multisectoral) approach.

Polices and acts addressing various aspects of the IHR were enacted at the national level and adopted (details below). Some key elements of national IHR policy which were included were: defining implementing structures, their organization and their roles and responsibilities. Specific health sector policies, plans and acts have been established (e.g., National Health Policy 2007; Health Sector Strategic Plan IV, National public health Act 2009, etc.) An IHR core capacities assessment was carried out in 2010 with gaps identified and recommendations provided. This has facilitated the allocation of resources within the national budget to support the implementation of the IHR and the development of national IHR core capacities for surveillance and response to public health risks and potential PHEICs, as well as support to cross-border public health surveillance and response systems and networks.

Sustainable financing is critical for developing the IHR core capacities and implementing national and international IHR strategies. This aspect has been addressed with specific budgets available in times of emergencies. The Ministry of Health Community Development, Gender, Elderly and Children has allocated a budget to support IHR activities and there is a National Emergency and Disaster Fund are under the Prime Minister's Office. The current cholera outbreak is serving as a test for the national system and policies that are in place.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Tanzania's One Health plan needs to be operationalized. This should be done in consensus between Public Health, animal health, wildlife, security and other relevant sectors.
- Tanzania should share the roles and responsibility of the IHR TWG and replicate it at sub-national levels.
- As one of the key mechanisms enabling government to implement policy, a review of the supply chain management is recommended.

Indicators and Scores

CC1.1 Legislation, laws, regulations, administrative requirements, policies or other government instruments in place are sufficient for implementation of IHR—Score: 2

Strengths

- Review of national laws regulations policies was conducted and some guidelines have been updated e.g. Public Health Act-2009 and IDSR guidelines 2011.
- Specific health sector policies, plans and acts have been established e.g., National Health Policy 2007; Health Sector Strategic Plan IV, National public health Act 2009.
- IHR core Capacities Assessment was carried out in 2010 with gaps identified and recommendations provided.
- Current cholera outbreak is serving as a test for the system and policies.

Areas which need strengthening

- Update remaining key acts, policies and guidelines to address IHR and One Health Approach.
- Implementation or use of regulations and policies are not as clear in the sub-national level.
- Lack of adequate funding for early rapid response at subnational level as a result when the funds become available, system is already overwhelmed.
- There is minimal sharing of information and data during peace time.

CC1.2 The state can demonstrate that it has adjusted and aligned its domestic legislation, policies and administrative arrangements to enable compliance with the IHR (2005)—Score: 3

Strengths

- There is high level commitment and leadership for full implementation of the IHR.
- The IHR NFP is accessible 24/7 and with the focal point; a trained Epidemiologist who works closely with the chief veterinary officer who reports to OIE.
- The IHR NFP person is a trained Epidemiologist under FELTP program. The Staff includes an epidemiologist (Zanzibar), epidemiologist and Head PoE (Tanzania Mainland), a laboratory director (NHLQATC) and a focal person for INFOSAN.
- The FELTP program is currently training a veterinarian the first time since its inception in 2008.
- There is a budget allocation in the Ministry of Health to support IHR activities.
- The National emergency and disaster fund is under the Prime Minister's office.

Areas which need strengthening

- Implementation or use of regulations and policies are not as clear at the sub-national level.
- Functions of the IHR NFP been not been evaluated for effectiveness.

- Lessons learned from the OIE review of legislation could be used to strengthen the implementation of IHR.

Relevant Documentation

- National Disaster Management Act. 2015 (Disaster management Agency under Prime Minister's office).
- The National Disaster Management Policy 2004 (under review).
- National Operational Guidelines (2003).
- Tanzania Emergency Preparedness and Response Plan (2012).
- Emergency Communication Strategy for Disaster Prone Areas (2012).
- National Health Policy 2007.
- Health Sector Strategic Plan IV.
- National public health Act 2009.
- Health Sector All hazard Emergency preparedness and response plan final draft (2015).
- EAC Cross Border Framework for Surveillance and Response in place. (2011).
- EAC Ebola and other VHF Contingency Plan.
- SADC and Great Lakes Initiative.
- One Health Strategy (2015).

IHR Coordination, Communication and Advocacy

Target

The effective implementation of the IHR (2005) requires multi-sectoral/multidisciplinary approaches through national partnerships for effective alert and response systems. Coordination of nationwide resources, including the sustainable functioning of a National IHR Focal Point (NFP), which is a national center for IHR (2005) communications, is a key requisite for IHR (2005) implementation. The NFP should be accessible at all times to communicate with the WHO IHR Regional Contact Points and with all relevant sectors and other stakeholders in the country. States Parties should provide WHO with contact details of NFPs, continuously update and annually confirm them.

Tanzania-Level of Capabilities

Overview of Action Package

Effective IHR implementation also requires a multi-sectoral, multi-disciplinary approach. Partnership between different sectors is particularly useful to build coherent alert and response systems to cover all public health threats. Coordination of nationwide resources is important for efficiency. Implementing the IHR requires the participation of various ministries, administrative levels, partners and stakeholders. Tanzania has put a technical working group that constitutes a national multi-sectoral, multidisciplinary coordination committee.

In a closely interdependent world, partnerships are essential to the successful implementation of the Regulations. Partnership between different sectors is required for sharing technical skills and resources, supporting capacity strengthening at all levels, supporting each other in times of crisis and promoting transparency. It is also essential for building coherent alert and response systems that cover all public health threats and rapidly mobilizing the required resources in a flexible and responsive way during an event. The mobilization of both national and international donors and partners is also needed for IHR implementation.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Review of multi-sectoral, multidisciplinary coordination and communication mechanisms during the current outbreak for effectiveness and action.
- Terms of Reference for the Technical Working Group are completed and just need the final step of being approved by the stakeholders.
- Ideally the TWG functions should be replicated at the sub-national level.

Indicators and Scores

CC2.1 A functional mechanism is established for the coordination and integration of relevant sectors in the implementation of IHR—Score: 3

Strengths

- The IHR Technical Working Group was created in 2012 and all responsible ministries are members.
- The Tanzania One Health Strategy was finalized in 2015.
- An operational OIE contact point is within the Ministry of Livestock and Fisheries Development and accessible 24/7.

- The IHR NFP hosts a trained Epidemiologist and works closely with the chief Vet officer who reports to OIE. The IHR NFP person is a trained Epidemiologist under FELTP program. To date, the IHR NFP does not have a veterinarian; the 5 people are -Epidemiologist (Zbar), Epidemiologist and Head PoE (Tz Mainland), Lab Director (NHLQATC) and Focal Person food-INFOSAN. The FELTP program also is currently training a vet person for the first time since its inception in 2008.

Areas which Need Strengthening

- Despite having the IHR TWG, performance of the IHR NFP is hindered by quality and timeliness of information received and obstacles caused by coordination with other levels and sectors.
- Finalization of the Terms of Reference for the Technical Working Group that would enable smooth operation of the IHR NFP across all sectors
- Evaluation and documentation of current outbreak should be completed and cross checked with existing preparedness and response plans.

Relevant Documentation

- Joint External Evaluation Tool

Antimicrobial Resistance

Target

Support work being coordinated by WHO, FAO, and OIE to develop an integrated and global package of activities to combat antimicrobial resistance, spanning human, animal, agricultural, food and environmental aspects (i.e. a one-health approach), including: a) Each country has its own national comprehensive plan to combat antimicrobial resistance; b) Strengthen surveillance and laboratory capacity at the national and international level following agreed international standards developed in the framework of the Global Action plan, considering existing standards and; c) Improved conservation of existing treatments and collaboration to support the sustainable development of new antibiotics, alternative treatments, preventive measures and rapid, point-of-care diagnostics, including systems to preserve new antibiotics.

Tanzania Level of Capabilities

Overview of Action Package

Antimicrobial resistance is a major problem in Tanzania. There are high levels of inappropriate use of antimicrobials in the human and animal sectors.

There has been excellent work done on resistance to antimalarial drugs, and there are systems for monitoring HIV and TB resistance (8.5% new cases resistant to one drug, 1.1% MDR TB.) There is, however, no process for systematically collecting data on the prevalence of antibiotic resistance in common pathogens. There have been many several studies that show high and increasing resistance. Resistance of *Strep Pneumoniae* to Trimethoprim Sulphamethexazole in children under 5 increased from 25% in 2006 to 80% in 2012, leading to changes in the protocols for ARI treatment in children. *E. coli* from urinary infections have been shown to be 90% resistant to Ampicillin and 30-50% resistant to other common antibiotics. ESBL, which causes resistance to all beta lactam antibiotics is found in 25-40% of *E. coli* (community and hospital) with more than 50% in children.

There is an excellent situation analysis, covering the situation and drivers of resistance in human and animal health that has been developed by a multi-sectoral group. However the awareness among the public, most health professionals, farmers and agricultural extension workers is very low. A focal point for AMR has been identified in the ministry and the Government has set timeline for completion of the national action plan. There is no mention of antimicrobial resistance in the One Health Action Plan.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- AMR is a major threat to human health in Tanzania. Political engagement, awareness within the health system, and action on the issue needs to increase.
- Tanzania should develop a National Action Plan to address AMR. This should align with the Global Action plan for AMR, incorporating action by all relevant sectors; particularly health, Veterinary and agriculture. The first step for this would be for the government to nominate a National Task Force and convene a multi-sectoral group with high level leadership. The GARP situation analysis will provide an excellent starting point.
- Systems for surveillance and collecting data to inform policy and clinical decisions should be improved. Laboratory capacity should be strengthened through involvement in the World Health Organization (WHO)/NICD External Quality Assessment Programme (EQA).As a part of the action plan there should be a strategy for surveillance, identifying those laboratories best placed to systematically collect and analyse data. This should build on existing capacity and interest and include public and academic institutions.

Indicators and Scores

P.1.1 Antimicrobial Resistance (AMR) Detection—Score: 1

National, Zonal and Regional hospital laboratories can undertake culture and sensitivity tests, but these are done infrequently as clinicians tend to treat empirically and reagents are not always available. There have been projects to collect data and undertake quality assurance for specific pathogens but these are not sustained.

Strengths

- Laboratories are relatively well equipped and there is significant capacity (See laboratory package).

Areas which need strengthening

- Lab supplies should be maintained to allow regular reliable culture and sensitivity to be performed at regional and zonal laboratories.
- Culture and sensitivity should be incorporated into quality control mechanisms so that capacity for reliable testing is developed and sustained.
- Links with animal health labs, particularly around Quality Assurance, should be established.

P.1.2 Surveillance of infections caused by AMR pathogens—Score: 1

Data on pathogens is captured through IDSR, but this does not incorporate sensitivity patterns. No national plan for surveillance or systematic collection of data on resistance patterns of priority AMR pathogens has been approved.

Strengths

- There are numerous studies and these have been synthesised into an excellent situation analysis with support from the Global Antibiotic resistance partnership GARP.
- There is capacity in public, mission hospital, private and research laboratories.
- A guideline adopted from WHO on AMR laboratory surveillance is in draft form

Areas which need strengthening

- A systematic approach to surveillance of resistance patterns to common pathogens in humans needs to be developed. This could be through routine data collection, sentinel sites, or point prevalence surveys.
- Systematic surveillance or studies of resistance patterns of key pathogens in animals should be undertaken.

P.1.3 Healthcare associated infection (HCAI) prevention and control programs—Score: 3

Policies and guidelines exist but implementation is inconsistent. Studies suggest significant HCAI and rising levels of MRSA.

Strengths

- A clear plan and numerous supporting policies and guidelines for infection prevention and control exist.
- There are infection prevention and control committees in health facilities across the country (although not always well resourced, active, or that effective).
- There has been substantial recent investment and action through a maternal health programme.
- There are ongoing improvements in waste management programmes.

Areas which need strengthening

- Standard Operating procedures for all elements of infection prevention and control should be developed and monitored.
- The focus on consistent rigorous adherence to infection prevention and control must increase to ensure that staff and patients are effectively protected.
- All health facilities need to have provision of adequate, appropriately maintained water and sanitation.
- Health waste management need to be strengthened.

P.1.4 Antimicrobial stewardship activities—Score: 1

Although there has been ongoing activity in several important components of a stewardship framework, no framework for drug stewardship has been approved, and control of use is weak.

There has been engagement on this issue at an academic level, but the systems, structures and processes to control use in the animal sector are weaker than in humans. Antibiotics are freely sold and used, often as a supplement or for mass prophylaxis.

There are high levels of inappropriate use in the human and animal sectors. Antibiotics can be purchased widely without prescription, and regulation of public sector pharmacies through the pharmacy council is difficult and poorly resourced. Studies have shown that public sector consultations generated 2.3 prescriptions per patient, and one study showed that 62% of all patients attending a clinic received a prescription for an antibiotic. The Tanzania Food and Drug Administration is interested and active in the area, but constrained by resources and access to reagents.

Strengths

- There are recent attempts to collect data on the consumption of antibiotics in the animal sector by OIE and there are similar plans for the human sector.
- The government has regularly updated the essential drugs list and prescribing standard treatment guidelines.
- There have been regular studies of prescribing practice in public and private facilities.
- The Tanzania Food and Drug Authority is an effective agency with strong leadership and an interest in AMR.
- Stock outs of first line drugs are regularly monitored.

Areas which need strengthening

- The Pharmacy Council needs to have a stronger, clearer role in managing antibiotic prescribing and sales in public and private sectors.
- The Medical Stores Department should ensure that first line drugs are widely available in order to allow adherence to treatment guidelines.
- There should be clarity on indications for use in agriculture, if possible with tighter control of use for growth promotion.

Relevant Documentation

Situation Analysis and Recommendations: Antibiotic Use and Resistance in Tanzania, Global Antibiotic Resistance Partnership, June 2015

Zoonotic Disease

Target

Adopted measured behaviors, policies and/or practices that minimize the transmission of zoonotic diseases from animals into human populations.

Tanzania Level of Capabilities

Overview of Action Package

Zoonotic diseases are communicable diseases and microbes spreading between animals and humans. These diseases are caused by bacteria, viruses, parasites, and fungi that are carried by animals and insect or inanimate vectors may be needed to transfer the microbe. Global data sets (1940-2004) have shown that 58% (800) of human pathogens (1,415) are zoonotic and 80% of animal pathogens are multi-host. In addition, 60% (335) of all emerging diseases are zoonotic; with the majority of these (72%) originating from wildlife.

This is a concern for zoonoses in Tanzania, especially from the fact that the same data has shown that zoonotic diseases will continue to emerge; and that hotspot areas are regions where human population is dense and growing and where biodiversity is high (like Tanzania). The diverse ecosystems in Tanzania with un-fenced protected areas that facilitate free human-livestock-wildlife interaction makes human and animals be at risk of infection with zoonoses. This is exacerbated by poor knowledge on zoonoses and various socio-cultural norms including eating raw meat, drinking raw milk and blood among pastoral communities that favors transmission of zoonoses. Tanzania has identified 23 zoonotic diseases of interest from a consultative process but these diseases are not ranked in order of importance. The zoonotic diseases considered of greatest public health concern within the country based on ministerial and donor interests are: Rift valley fever, Avian influenza, Anthrax and Brucellosis.

The public health system reports zoonotic diseases through the Integrated Disease Surveillance System that has immediate and weekly reporting schedule while the animal health sector reports zoonotic diseases on immediate, weekly and monthly basis. Both systems have some elements of event based reporting which are not well established. Routine reporting of zoonotic diseases from both sectors is still suboptimal and requires improvement.

At sub national level, Disaster Management guidelines are also not well elaborated due to frequent staff changes, turnover etc. Re-activation of these committee need to be done regularly as well as provision of budget for operations of key issues including funds for emergency response to zoonotic events

Tanzania has a new One Health strategic plan that will facilitate the process of integrating the One Health approach in the public health, animal health and wildlife/ecosystem health and other related sectors. Currently, the sectors involved in animal and human health share some information and participate in joint events when needed; this plan's intent is to foster more formal collaboration between sectors.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Tanzania needs to expedite the operationalization of the One Health strategic plan by setting up the physical office, staffing the OHCU, appoint the One Health Steering Committee and Technical Working groups, and ensure regulations are in place to allow operations.
- The veterinary/animal workforce has to be strengthened through training and recruitment of more veterinary officers and paraprofessionals with at least one Veterinary officer per district.

- Through legislation or memorandum of understanding, there is an urgent need to establish formal mechanism for information sharing between animal and human health sectors and linkages between laboratories to leverage on available expertise and diagnostic capacities. Linkage should take into account of existing governance structures and at across all levels (national to subnational).
- Reporting for zoonotic diseases needs to be improved through empowering local communities on how to recognize diseases using simple tools/ aids, retraining of field staff and transition the reporting systems from paper-based reporting to digital platforms which are user friendly.
- Existing legislations/regulations for both sectors (animal and wildlife) need to be improved to reflect a One Health approach.

Indicators and Scores

P.2.1 Surveillance systems in place for priority zoonotic diseases/pathogens—Score: 2

Strengths

- A provisional list of priority zoonotic diseases is available with 23 diseases considered to be of public health importance.
- Surveillance systems are in place to detect and report on priority zoonotic diseases in both the human and animals sectors (including wildlife). Surveillance is mostly passive and indicator based. Disease specific active surveillance is employed for a few diseases.
- Disease reporting is obligatory for both human and animal health sectors with daily, weekly and monthly reports received at the national level for the priority zoonotic diseases.
- Control plans are available for two zoonotic diseases; Rift Valley Fever and Avian Influenza.

Areas which need strengthening

- Zoonotic disease reporting is low in both human and animal surveillance systems. The situation in animal sectors needs special attention given current estimates of underreporting of up to 90%.
- Surveillance is almost entirely paper based in the animal sector resulting in reduced reporting and challenges in data management. There is need to transition this to electronic reporting.
- Animal and human laboratories are not linked to share information or testing of samples.
- There is no process of sharing of laboratory reports between public health and animal health laboratories and changes in regulations and/or authorizations may be required to facilitate this sharing.
- Surveillance systems for animal and human health sectors are not linked or interoperable. Linkages between these surveillance systems will ensure information is shared real time.
- Only two of the 23 priority zoonotic diseases have control plans, so there is a need to develop control plans for more zoonotic diseases to enable better response.
- Zoonotic disease list is not ranked and has not been updated to incorporate recent emerging and re-emerging pathogens like Ebola and Middle East respiratory syndrome corona virus (MERS-CoV).
- The current legislation (policy and Acts) between the two sectors (Public and Animal) should be revised to reflect a One Health approach.
- The existing workforce need additional and on-job training on basic epidemiology including developing tools to support outbreak investigations procedure.

P.2.2 Veterinary or Animal Health Workforce—Score: 2

Strengths

- Tanzania has an adequate veterinary/animal health workforce established at the national level and some regional levels.
- Sokoine University of Agriculture trains animal health professionals and graduates, with 40-60 high quality veterinary doctors finishing each year. Specialised curricula of Veterinary Public health and Preventive Veterinary Medicine are also offered at the university.
- There are 6 livestock training institutes that offer training in diploma and certificate level in animal health.
- Plans are in advanced stages to include veterinary officers in the Tanzania FELTP in 2016 with Muhimbili University offering degrees in Applied Epidemiology.

Areas which need strengthening

- There is a shortage of animal health personnel especially in the public sector at the sub national level. Recruitment of additional veterinarians and veterinary para-professionals is needed.
- Veterinarians and field officers have not received adequate in-service training on disease control, surveillance and the One Health concept. Continuing Animal Health Education will help bridge this gap.
- Curricula of all tertiary institutions should be reviewed for conformity with required standards and incorporation of the One Health approach in the training.
- There is need for Tanzania to conduct a census of animals in the country to provide better estimates of personnel/animal ratios and deployment of staff.
- There is a need to employ more wildlife veterinarians to a level of one for each protected area as opposed to the current situation where wildlife veterinarians are serving a whole zone.
- There is a need to have a specific degree programme for wildlife health instead of using conventional veterinarians to address wildlife health issues after attending short term courses on wildlife health.

CC10.1 Mechanisms for responding to zoonoses and potential zoonoses are established and functional—Score: 3

Strengths

- Tanzania has a One Health Strategic plan 2015-2020 that was endorsed in December 2015. It establishes the One Health Coordinating Unit domiciled within the Prime Minister's Office- Disaster Management Department. In this plan, the coordinating unit will be a secretariat to a higher level One Health Steering Committee that will guide the implementation of One Health activities through technical working groups.
- Human, animal and ecosystem health teams have participated in real zoonotic events or joint exercises for Rift Valley fever preparedness following the predicted El Nino event in 2015.
- Disaster Management system policy and elaborated guidelines are available at all levels of government- this provides a key opportunity to expedite the operationalization of the One Health strategic plan.
- Tanzania has various One Health Networks or platforms that can be used to strengthen the National One Health agenda, the networks include SACIDS, Afrique One and OHCEA, just to mention a few.

Areas which need strengthening

- There is no memorandum of understanding between the animal, human and ecosystem health sectors to streamline joint activities between the sectors.
- Regularly scheduled meetings between human and animal sectors need to be established.
- There is no plan for advocacy and communication on One Health at all the three levels of governance. This needs to be developed and implemented.

- Existing legislations and regulations in human and animal health sectors have not been reviewed adequately to accommodate issues on One Health approach.
- At sub national level Disaster Management guidelines is not well elaborated due to frequent staff changes, turnover etc. Re-activation of these committee need to be done regularly

Relevant Documentation

- OIE-PVS Evaluation report of the Veterinary services of Tanzania
- PVS GAP analysis: preparation of a plan to strengthen the veterinary services of Tanzania
- The United Republic of Tanzania One Health Strategic Plan 2015–2020
- National Rift Valley Fever Emergency Preparedness and Response Plan (NRVF-EPRP)
- National Multisectoral Avian Flu Preparedness and Response Plan
- Regional Plan of Action for the Prevention and Control of Human and Animal Transboundary Diseases in East Africa: 2007–2012
- Standard Methods and Procedures (SMPs) for Control of Brucellosis in the Greater Horn of Africa
- Standard Methods and Procedures (SMPs) for control of Rift Valley Fever (RVF)in the Greater Horn of Africa
- The National Integrated Disease Surveillance and Response (IDSR) Guidelines 2nd edition, 2011

Food Safety

Target

State parties should have surveillance and response capacity for food and water borne diseases' risk or events. It requires effective communication and collaboration among the sectors responsible for food safety and safe water and sanitation.

Tanzania Level of Capabilities

Overview of Action Package

Consumers expect that the food products they purchase will be subjected to proper production, processing, distribution, preparation, storage and handling, be safe for human consumption. As food safety hazards can be introduced at any stage of the food supply chain, effective controls throughout the food chain are essential to avoid the adverse human health effects and economic consequences of food-borne illness, injury, and food spoilage.

Tanzania should identify and train adequate number of people to take part in food safety control including foodborne disease outbreak investigation and response. The staff involved in foodborne disease surveillance and response need to know who are the focal points for food safety, animal health and the key laboratories that would be required to test to test clinical and/or food samples collected during field investigations.

Tanzania should establish an effective (formal or informal) mechanism for rapid information exchange during suspected foodborne disease outbreak investigations between all the stakeholders. In addition, a risk profiling of food safety problems should be conducted to help identify opportunities for authorities to implement appropriate risk management strategies. The country should establish a functioning communication mechanism between all food safety stakeholders. A communication mechanism and materials should be in place to deliver information, education and advice to stakeholders across the farm to fork continuum.

At continental level, the African Union Commission is working to establish the African Union Food Safety Management Coordination Mechanism (AUFMCM) and Rapid Alert System for Food and Feed (RASFF).

Food safety capability and capacity building is recognized as important priority in Tanzania. The national food control system is fragmented across different governmental institutions. However the food control system responsibilities rely heavily on the Ministry of Health, Community Development, Gender, Elderly and Children; in particular the Tanzania Food Drug Authority (TFDA), established since 2003 as the food safety regulatory body. Other food safety players include the Department of Plant Health Services and Post-Harvest Monitoring and the Department of Veterinary Services (Ministry of Agriculture, Livestock and Fisheries), the Offices of Health Inspectors in the Districts and Regions (President's Office - Regional Administration and Local Government), the Tanzania Bureau of Standards (TBS), the Tanzania Atomic Energy Commission, the Government Chemical Laboratory Agency and Food Commodity Boards.

A food borne surveillance system is implemented by TFDA in 7 out of 25 regions with limited number of food inspectors. However, inspectors under the Local Government authorities are recognized by the Tanzania Food, Drugs and Cosmetics Act which established TFDA. Regulations made under the Act and a number of Guidelines are used in ensuring effective enforcement of the law. Food Inspectors are trained on enforcing food legislation and conduct inspection based on perceived risk using risk based food inspection guidelines.

The food safety hazards identified in Tanzania are mainly associated with microbial contamination of food and water due to poor sanitation (In 2014/2015 out of total 7349 reported cases 7332 (99.7%) were due to

waterborne diseases). This indicates potential low awareness of food safety issues and lack of knowledge. Chemical hazards identified include pesticide residues, additives and aflatoxins.

Following an assessment carried out by TFDA showing a significant aflatoxin contamination in some isolated places in Tanzania and in particular for maize and pea nuts, a draft strategy has been developed and shared with the Ministries responsible for Agriculture, Health, Livestock, and Trade for allocating resources to implement their respective activities.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Tanzania should develop a national food safety strategy and plan of action with inputs from all stakeholders to ensure more widespread adoption of a One Health approach.
- A formal integrated, trans-disciplinary, cross-sectoral and inter-departmental collaboration among all food control players should be established.
- The Food Borne Surveillance System should be updated; Early Warning and Rapid Alert capabilities should be integrated; and the new system should be introduced throughout the country.

Indicators and Scores

CC11.1 Mechanisms are established and functioning for detecting and responding to foodborne disease and food contamination—Score: 2

Strengths

- Food standard setting is coordinated by the Tanzania Bureau of Standards (TBS) based on Codex or ISO standards. TBS is the National Codex Contact Point.
- Tanzania has laboratory capacity to test for microbial hazards, heavy metals, pesticides and veterinary drug residues although most of the laboratory facilities are located in Dar es Salaam, Mwanza and Arusha and few are accredited.
- A food borne surveillance system has been implemented by TFDA in 7 regions.
- Guidelines for Investigation and Control of Foodborne Diseases exist.
- Co-ordination of foodborne diseases surveillance is defined from ward level to national level in the Guideline for Investigation and Control of Foodborne Diseases.
- Food borne inspection is done using relevant Regulations and Risk based inspection Guidelines.
- There are some food inspectors working under the Local Government Authorities to which some TFDA functions have been delegated.
- Tanzania is a member of INFOSAN (International Food Safety Authorities Network) and OIE. The INFOSAN focal point and the OIE Delegate participated regularly in international meetings.

Areas which need strengthening

- A national food safety policy/strategy and plan of action needs to be developed.
- Coordination among food safety players should be improved.
- Mapping of risks associated to food safety problems in Tanzania needs to be completed.
- More food inspectors need to be trained.
- Appropriate food control infrastructures need to be established and maintained.
- Preparedness in addressing emerging and re-emerging food borne diseases needs to be strengthened.
- Coordination among food safety stakeholders is limited and should be improved.
- Food safety awareness needs to be improved among stakeholders and the public in general.

Relevant Documentation

- Publications related to Food Safety: <http://www.who.int/foodsafety/publications/all/en/>
- Tanzania, Food, Drugs and Cosmetics Act Cap 219 of 2003
- Presentation on Food Safety done during the GHSA Assessment

Biosafety and Biosecurity

Target

A whole-of-government national biosafety and biosecurity system is in place, ensuring that especially dangerous pathogens are identified, held, secured and monitored in a minimal number of facilities according to best practices; biological risk management training and educational outreach are conducted to promote a shared culture of responsibility, reduce dual use risks, mitigate biological proliferation and deliberate use threats, and ensure safe transfer of biological agents; and country-specific biosafety and biosecurity legislation, laboratory licensing, and pathogen control measures are in place as appropriate.

Tanzania Level of Capabilities

Overview of Action Package

Tanzania is making progress towards the “One Health” All Hazard approach. There is strength in laboratory accreditation and testing and training in biosafety but biosecurity needs strengthening. Sharing of equipment, reagents and personnel between animal and human laboratories particularly for molecular biology work should be easier; Consideration to be given to those with relevant training to be registered to allow them to work in specific areas of Medical labs.

As highlighted elsewhere, it is important that Regional and District laboratory capacity is strengthened and linked more closely with Epidemiological/ Surveillance data

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Improve sustainable lab capacity in Districts & Regions; including guidance, SOPs, reagents, equipment, personnel, and biosafety and biosecurity training.
- Personnel with relevant training should be considered for registration in order to allow them to work in specific areas of Medical labs.
- In regard to biosecurity, current capacity should be mapped out-including sample storage, documents, guidance, and legislation required-these should be incorporated into formal and in-service training.

Indicators and Scores

P.3.1 Whole-of-Government biosafety and biosecurity system is in place for human, animal, and agriculture facilities—Score: 2

Strengths

- Accredited national human health (NHLQATC) and veterinary laboratories (TVLA) demonstrate good biosafety and are developing biosecurity measures.
- There is a wide range of laboratories (MoH, Animal Health, University, Partners) with trained personnel at different levels - Certificate (2yrs), Diploma, Advanced diploma & Degree.
- Lab biosafety manuals, SOPs, Good Lab Practice guidelines, and PPE are in place.
- Laboratories undergo regular EQA.
- Biosafety officers are appointed in each lab.

Areas which need strengthening

- Sustainable laboratory capacity in Districts & Regions needs to be strengthened with improved guidance, SOPs, reagents, equipment and personnel, including biosafety and biosecurity training.
- A baseline assessment of the current state of affairs for biosecurity should be mapped out-including sample storage, available documents, and guidance.
- Biosecurity legislation does not exist and needs to be developed.
- Personnel with relevant training should be considered for registration in order to allow them to work in specific areas of Medical labs.
- Using available resources, a map of where trained staff are working should be developed (Ministry of Health, Academic/ Research, partner agencies, private labs) to enable/ensure surge capacity.
- Effort should be made to retain trained lab equipment engineers and future rollout training in Tanzania to build up capacity.

P.3.2 Biosafety and biosecurity training and practices—Score: 3

Note: Biosafety training is more advanced than Biosecurity training

Strengths

- Lab personnel are trained in Tanzania to different levels of proficiency: Certificate (2yrs), Diploma, Advanced diploma and Degree.

Areas which need strengthening

- Biosecurity should be incorporated into training, both formal & in-service, with an overseeing body to implement and monitor.
- Personnel with relevant training should be considered for registration in order to allow them to work in specific areas of Medical labs.

Relevant Documentation

- Joint External Evaluation Tool
- Country Assessment pre-Visit
- Notes taken during Assessment—Discussions with senior laboratory staff, visits to health (NHLQATC) and veterinary laboratories (TVLA). SOPs within laboratory

Immunization

Target

A functioning national vaccine delivery system—with nationwide reach, effective distributions, access for marginalized populations, adequate cold chain, and ongoing quality control—that is able to respond to new disease threats.

Tanzania Level of Capabilities

Overview of Action Package

This action package demonstrates a key GHSA strategy (PREVENT) to be able to prevent infectious diseases and the Tanzanian immunization program provides a solid platform for future preventive interventions that may need delivery of vaccines as preventive measure. This is a mature immunization program whose coverage is countrywide of immunization services. The country an immunization multi-year plan is aligned to the global vaccine action plan and working with supportive partners like GAVI, WHO and UNICEF to mention but a few. The program has attained high level immunization coverage of DPT3 of 97% and measles of over 80%. The program has the potential of taking on other under used vaccines.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Tanzania should intensify surveillance in high risk districts for both measles and polio.
- The AEFI monitoring system needs to be strengthened both in capacity and coverage including a national committee.
- Local strategies should be put in place to have sufficient immunization staff available to reduce waiting for the care takers.

Indicators and Scores

P.4.1 Vaccine coverage (measles) as part of national program—Score 4

Strengths

- The EPI is aligned to the GVAP.
- Tanzania has an EPI Comprehensive Multi Year Plan 2016-2020.
- Outreach services are in place to reach the “hard to reach” using the RED strategy.
- Public perceptions of immunization are monitored and addressed.
- Zoonotic concerns are managed: Rabies vaccinations are in place.
- 90% of the country’s 12 month old population has received at least one dose of measles vaccine.
- Immunization of the target group is mandatory.

Areas which need strengthening

- Local strategies should be put in place to have sufficient immunization staff available to reduce waiting for care takers.
- Tanzania should work to increase coverage for the second measles dose and polio in poorly performing districts.
- Surveillance for both measles and polio should be intensified in high risk districts.

P.4.2 National vaccine access and delivery—Score: 4

Strengths

- The government procures cold chain equipment in more than 80% of the districts making immunization services available to more than 80% of the target population.
- The cold chain equipment status is monitored and maintained regularly using the cold chain inventory tool.
- The government procures the basic vaccines (BCG, OPV, Measles and TT) and these vaccines are accessible to over 80% of the districts.
- There is a systematic vaccine delivery mechanism to the health facilities through regional and district tiers from the central level.

Areas which need strengthening

- Outreach services should be amplified to increase access to identified populations far from immunizing health facilities.
- The AEFI system will need strengthening both in capacity and coverage, including a national committee.
- The identified infrastructure gaps need to be implemented at the district level to increase accessibility to vaccines.
- Waste management needs concrete feasible solutions to protect the public.

Relevant Documentation

- Country immunization presentation
- Tanzania reports to WHO on vaccine coverage
- Public Health Act of 2009

DETECT

National Laboratory System

Target

Real-time biosurveillance with a national laboratory system and effective modern point-of-care and laboratory-based diagnostics.

Tanzania Level of Capabilities

Overview of Action Package

There is a functional public health laboratory network with a high quality national health laboratory and quality assurance training center (NHL-QATC) at the apex and four zonal reference laboratories-Mbeya, Bugando, Kilimanjaro Christian Medical Centre (KCMC) and Muhimbili National Hospital Laboratory. The NHL-QATC is capable of conducting 7 of 10 priority testing areas: Bacteriology, virology, serology, parasitology, biochemistry, hematology and molecular, including RT-PCR isolation and sequencing, and has been internationally accredited to the ISO 15189 standard for laboratory competency and quality. All other 4 zonal laboratories are also internationally accredited to the ISO 15189 (KCMC, Muhimbili, Buganda and Mbeya). There are 2 biosafety level 3 laboratories and 1 other laboratory currently undergoing an upgrade to allow handling/diagnosis of VHFs such as Ebola and Marburg. The zonal/regional laboratories are capable of conducting RNA/DNA PCR, TB culture and sensitivity, microbial confirmatory testing, antimicrobial sensitivity testing, standard biochemical testing and serology. At the district level, the laboratories are capable of conducting microscopy, biochemical, hematological and rapid diagnostic tests (RDTs), while health center level laboratories conduct specimen collection, microscopy and RDTs. Personal protective equipment (PPEs) are available and are tracked through an inventory system at the medical stores department (MSD) and stock management is coordinated through the NHL-QATC. All laboratory staffs have been trained on how to don and doff PPEs in scenarios of highly infectious pathogens such as Ebola and further trainings have been conducted in basic biosafety and biosecurity.

Tanzania is part of the East Africa Public Health Laboratory Network Project (EAPHLNP) that is supported by the World Bank and is being implemented in all the EAC member states to address cross border and cross country issues. There is a well-established laboratory information system (LIS) that links the national, zonal and regional laboratories for rapid turnaround times for results. There is an EQA system in place coordinated by NHLQATC for priority diseases. Tanzania mainland has 4 internationally certified biomedical engineers for preventive maintenance and repair of Biosafety cabinets. On the animal side, there is a Tanzania veterinary laboratory agency (TVLA), central veterinary laboratory and center for infectious diseases that is producing animal health vaccines. The TVLA is linked to 7 zonal centers/laboratories and serves as a reference for the 7 zonal laboratories and collaborates with the directorate of veterinary services in sample collection especially during outbreaks. Parasitic zoonosis are notifiable every Monday or immediately.

Joint Assessment Team/Host Country Recommendations for Priority Actions

1. Human and animal health laboratories should establish formal linkages and formalise sharing information routinely and periodically to improve linkages between human and animal health.
2. Efforts should be made to link Laboratory and epidemiology data from both human and animal health.

3. Efforts should be put in place to improve the timeliness of sample transport, including: strengthening the capacity of the laboratories in the regions and exploring additional collaboration with private transport companies provided biosecurity and biosafety concerns are appropriately addressed.
4. The country should train and re-train zonal/regional and district level health workers.

Indicators and Scores

D.1.1 Laboratory testing for detection of priority diseases—Score: 3

Strengths

- The NHLQATC is housing the NIC which is WHO accredited.
- Algorithms are in place for HIV and VHF such as Ebola and Marburg and the national and zonal laboratories are equipped with the necessary equipment.
- The MoH has upgraded the Mbeya Referral Hospital Lab to level 3 and is planning to upgrade NHLQATC to a level 3 laboratory. Mbeya referral hospital is capable of testing and confirmation for VHF such as Ebola and Marburg. Previously, samples for VHF have been tested at the Uganda Virus Research Institute (UVRI).
- Staff training is ongoing in collaboration with development partners.
- Maintenance contracts are available for most labs, however these are lacking some sets of equipment

Areas which need strengthening

- The robust laboratory network should play a more important role in AMR surveillance.

D.1.2 Specimen referral and transport system—Score: 2

Strengths

- Laboratory SOPs are available for the specimen referral network under the laboratory component of IDSR; however, there are challenges in peripheral areas.
- Though not systematic, there is evidence of isolates of cholera being referred to the national public health reference laboratory for confirmation.
- Each laboratory has developed SOP for sample/specimen management and transport through the EMS courier that is supported by MOH and partners.

Areas which need strengthening

1. While the network of laboratories in both the human and animal health is functional, there are several missed opportunities such as their involvement in AMR surveillance and tracking.
2. There is limited analysis, feedback and information sharing between human and animal health from the laboratory surveillance systems that should be regularized and periodically conducted (weekly, monthly quarterly and annually) as part of a broader laboratory information management system (LIMS).
3. There is a need to improve the availability of laboratory reagents and supplies, especially at lower levels.

D.1.3 Effective modern point of care and laboratory based diagnostics—Score: 3

Strengths

- Tanzania started with PIMA machines for CD4 estimation but now the country has initiated evaluation of 2 other point of care PCR tests for HIV viral load testing and HIV Early infant diagnosis.
- There is a procurement process for media and reagents; however the system has long lead times.

Areas which need strengthening

- There is a need to reduce lead times in the procurement of laboratory reagents and supplies.

CC8.2 Laboratory Quality System—Score: 3

Strengths

- The MoH through the national reference laboratory sends blinded samples to regional and districts laboratories for proficiency testing (PT) and maintenance contracts have been established with lower level laboratories.
- The national and zonal laboratories are all ISO 15189 accredited and the Tanzania Bureau of Standards (TBS) is ISO 17020 accredited.

Areas which need strengthening

- The national and zonal laboratory quality assurance system should be used to support other member states in the region, under the East African public health laboratory network.

Relevant Documentation

Country Presentation on National Laboratory System

Real-Time Surveillance

Target

Strengthened foundational indicator- and event-based surveillance systems that are able to detect events of significance for public health, animal health and health security; improved communication and collaboration across sectors and between sub-national, national and international levels of authority regarding surveillance of events of public health significance; improved country and regional capacity to analyze and link data from and between strengthened, real-time surveillance systems, including interoperable, interconnected electronic reporting systems. This can include epidemiologic, clinical, laboratory, environmental testing, product safety and quality, and bioinformatics data; and advancement in fulfilling the core capacity requirements for surveillance in accordance with the IHR and the OIE standards.

Tanzania Level of Capabilities

Overview of Action Package

The indicator based surveillance system is being implemented in the whole country, under the IDSR. However, event based surveillance (EBS) is currently not formally in place. The revised IDSR (2010) guidelines incorporate community and event based reporting. The term "event" in IHR 2005 is defined as "a manifestation of disease or an occurrence that creates a potential for disease". "Disease" means "an illness or medical condition that presents or could present significant harm to humans, irrespective of origin or source. Unstructured information, including: mobile phone text messaging (SMS), internet news and online discussion sites, media reports or rumors can provide detailed local and near real-time data on potential disease outbreaks and other public health events [Heymann and Rodier, 2001, Morse, 2012, WHO, 2005, 2007, Keller et al, 2009, WHO, IDSR, 2010]. These event-based informal data sources provide insights into new and ongoing public health challenges in areas that have limited or no public health reporting infrastructure but have the highest risk for emerging diseases [Jones, 2008]. In fact, event-based informal surveillance now represents a critical source of epidemic intelligence-almost all major outbreaks investigated by the WHO are first identified through these informal sources [Heymann & Rodier, 2001, Grein et al., 2000, WHO, African region Event Management System (EMS), 2015]. Consequently the, IDSR, 2010 revision emphasizes strengthening event-based reporting. It is recommended that the country should establish robust IDSR systems including EBS everywhere.

Joint Assessment Team/Host Country Recommendations for Priority Actions

1. Dissemination of the WHO standard IDSR guidelines and training materials, especially to the district levels and to also the new established regions.
2. Rapid IDSR assessments/evaluation, including a capacity and training needs assessment (TNA), followed by the development of strategic and annual operational plans for IDSR.
3. Establishment and sustaining robust early warning systems (E-WARNS) and early detection systems (E-DS) for PHEs (known and unknown) that should include: a) robust weekly surveillance system backed by robust outbreak investigation and response capacity and periodic performance measurement and feedback; b) event based surveillance as an early warning system for prompt rumour/signal/event tracing, verification, notification and response.

Indicators and Scores

D.2.1 Indicator and event based surveillance systems—Score: 3

Strengths

- Tanzania has a robust indicator based surveillance (IDSR) system with priority diseases in line with the International Health Regulations (IHR) 2005. Notifiable diseases are reported immediately using case investigation forms and line lists and then daily until the outbreak is over. Electronic (e-IDSR) has been initiated in phases, riding on the already established DHIS2 system, currently in 10 of 25 regions.
- Sentinel surveillance for specific infections is carried out for influenza and research institutes such as Ifakara Health research Institute (IHI) have a sentinel panel of districts (SPD).
- The country has initiated a community based IDSR which being rolled out in phases in 10 of 25 zones. The country has established a curriculum for Community Health Workers (CHW), and currently the first batch of training of the CHW has started in 2015 and it is expected that with this cadre in place, community surveillance activities will be outlined in their roles and responsibilities.
- Through EAC/ECSA, the country has a framework for cross border surveillance and response initiatives.
- In the e-IDSR, there is a mechanism for data validation. However, this is limited for the paper based system.
- Regional Health Officers, District Health Officers, IDSR Regional and District focal persons are all trained for the IDSR (trainings last 5 days), some staff also have a 3 month basic epidemiology course delivered by FELTP program. At HF level, the IDSR trainings draw 3 people from each facility (clinicians in charge, lab in charge and a nurse) for the three day training.

Areas which need strengthening

- In selected new regions and districts, there is a need to train health workers in IDSR (in service).
- The revised IDSR should be included in the pre-service training curricula of health institutions.
- Weekly, monthly, quarterly and annual monitoring of the implementation and performance of IDSR as well as conduct midterm and end term evaluations of the health security and emergencies plans should be conducted.
- Coverage of e-surveillance to the whole country should be scaled up.
- Periodic data quality audits (DQAs) for IDSR and HMIS at all levels should be institutionalized.
- Linkages and data sharing with animal health surveillance should be institutionalized.

D.2.2 Inter-operable, interconnected, electronic real-time reporting system—Score: 3

Strengths

- Initiatives for using M-health exist, where mobile phone SMS text messages are sent to District Focal Persons who verify and send them to the National Epidemiology staff. These SMS text message alerts are used for initiation of response across all levels.
- The e-IDSR is shared across in the DHIS2 and the national health website.
- The national level shares data with the WHO using a standardized excel sheet; and there is an electronic reporting using the e-EAIDS net web portal for the East African Community.

Areas which need strengthening

- There is a need to improve formal sharing of information/data across ministries and sectors.
- There is a need to establish and sustain inter-operable interconnected electronic reporting systems.

D.2.3 Analysis of surveillance data—Score: 4

Strengths

- An IDSR national coordinator is in place to provide technical support to the reporting regions and districts.
- Data are analysed and a weekly bulletin is produced and shared with MOHSW leadership, but not shared regularly at the lower levels.
- Public reporting of events and epidemics diseases is done during epidemic phase and is done through press releases, and also by holding various talks in the TV and radios.
- Regular programs have been initiated as from 2016, where various disease programs in the Ministry will have adequate extra time in TV/radios for giving out sessions and one has been done in January 2015.
- Plans are also underway to utilize newspapers.

Areas which need strengthening

- There is inadequate laboratory surveillance information sharing in the IDSR system and hence lab data do not feed into the surveillance system.
- There is a need to improve central mechanism for integrating data between clinical case reporting and the lab; like in the s Vaccine Preventable Diseases Program, in which they is use of unique numbers as identifiers.
- Strengthening feedback mechanism to lower levels

D.2.4 Syndromic surveillance systems—Score: 3

Strengths

- Syndromic surveillance is part of IDRS, but could be expanded.

Areas which need strengthening

- There is no syndromic surveillance and reporting system beyond that described in the National IDSR system that covers 31 diseases and syndromes that are reported immediately, weekly or monthly. Therefore, Tanzania is encouraged to strengthen syndromic surveillance as part of IDR.

Relevant Documentation

- Joint External Evaluation Tool
- Country Presentation on Real Time Surveillance

Reporting

Target

Timely and accurate disease reporting according to WHO requirements and consistent coordination with FAO and OIE.

Tanzania Level of Capabilities

Overview of Action Package

The National Focal Point (NFP) for IHR exists within the Ministry of Health and is operational. An operational OIE contact point/delegate also exists within the Ministry of Livestock and Fisheries Development. Food safety issues are reported to the IHR NFP and the NFP has a Food Safety Person as one of the 5 people constituting NFP in Tanzania. Further, OIE has a focal point on food and safety issues nested within the Ministry of Livestock and Fisheries Development.

The IHR NFP is trained as an Epidemiologist (FELTP) and has undergone trainings for IHR organized by WHO. The OIE Focal person is locally trained via regional (EAC/SADC) and OIE workshops which are organized on an ad hoc and regular basis. All NFPs are trained (Epidemiology, FELTPs, veterinary, animal health and wild life surveillance). The IHR NFP includes the Ministry of Health Tanzania Mainland (Epidemiology, and Lab) and Ministry of Health Zanzibar, Tanzania Food and Drug Authority, and Port Health Authority. The OIE NFP includes the Ministry of Health, TFDA.

A high level coordination mechanism exists as part of the DRMS in the OPM with committees at all tiers of the health care delivery system from central to village level. The Country has developed a One Health Strategy (signed in December 2015) aimed at ensuring that there is coordination of one health activities and decisions and there is a multi-sectoral and multi-disciplinary TWG. To enable the NFP function, the Permanent Secretaries from various ministries held a meeting in 2012 and appointed a focal person. A national multi-sectoral technical working group (TWG) was formed and work is on-going to finalize their Terms of Reference. In addition, protocols for public health surveillance exist and there is a POA 2015/2017.

Through the East Africa Community (EAC), the country has signed a cross border framework for surveillance and response and has developed a Web Portal for reporting notifiable diseases. For trade sensitive diseases including zoonosis, the country has jointly developed standard procedures and methods for surveillance of these diseases. The framework was developed to enhance operational procedures of undertaking surveillance so as to ease trade amongst member states within East Africa and great horn of Africa.). The MoU is in the final stages of development. For cross-border surveillance and disease control in the human side, there is a framework developed between Kenya, Uganda, Burundi, and Rwanda). There is also a Web Portal for reporting and sharing of information which has been functional since October 2015.

Joint Assessment Team/Host Country Recommendations for Priority Actions

1. Establish and sustain formal mechanisms for exchange of information between NFP, IHR and OIE delegate of FP to ensure that public health and animal health work harmoniously to limit each reporting separately

and to improve joint decision making through the disaster management committees (multi-sectorial) cascading from the central level to the regions, districts, divisions, wards and villages and coordinated under the Prime Minister's Office.

2. Fast track the policies to facilitate the IHR NFP core and expanded functions and to strengthen core capacities that have not yet been implemented as they are placed within individual sectors hence not facilitating NFPs in their expanded function. Finalize all existing draft protocols and institutionalize networking between human and animal health and use IT to enhance communication between NFPs (public health, animal health and wild life, security agencies).
3. Improve information sharing between and among sectors, including security agencies and the private sector. In addition, facilitate joint national action planning, implementation and monitoring and evaluation/reviews.

Indicators and Scores

D.4.1 System for efficient reporting to WHO, FAO and OIE—Score: 2

Strengths

- The NFP for IHR exists within the Ministry of Health and is operational.
- An operational OIE contact point/delegate exists within the Ministry of Livestock and Fisheries Development.
- Food safety issues are reported to the IHR NFP and the NFP has a Food Safety Person as one of the 5 people constituting NFP in Tanzania. Further, OIE has a focal point on food and safety issues nested within the Ministry of Livestock and Fisheries Development.
- IHR NFP is trained as an Epidemiologist (FELTP) and has undergone trainings for IHR organized by WHO. The OIE Focal person is locally trained via regional (EAC/SADC) and OIE workshops which are organized on an ad hoc and regular basis.
- The IHR NFP includes the Ministry of Health Tanzania Mainland (Epidemiology, and Lab) and Ministry of Health Zanzibar, Tanzania Food and Drug Authority, and Port Health Authority.
- The OIE NFP includes the Ministry of Health, TFDA.
- A high level coordination mechanism exists as part of the DRMS in the OPM with committees at all tiers of the health care delivery system from the central to the village level.
- The Country has developed a One Health Strategy (signed in December 2015) aimed at ensuring that there is coordination of one health activities and decisions and there is a multi-sectoral and multi-disciplinary TWG.
- To enable the NFP function, the Permanent Secretaries from various ministries held a meeting in 2012 and appointed a focal person. A national multi-sectoral technical working group (TWG) was formed and work is on-going to finalize their Terms of Reference.
- Protocols for public health surveillance exist and there is a POA 2015/2017.
- All NFPs are trained (Epidemiology, FELTPs, veterinary, animal health and wild life surveillance).
- Through the East Africa Community (EAC), the country has signed a cross border framework for surveillance and response and has developed a Web Portal for reporting notifiable diseases.
- OIE: For trade sensitive diseases including zoonosis, the country has jointly developed standard procedures and methods for surveillance of these diseases. The framework was developed to enhance operational procedures of undertaking surveillance so as to ease trade amongst member states within East Africa and great horn of Africa.

- For cross-border surveillance and disease control, a draft MoU has been established after series of consultative meetings (Kenya, Uganda, Burundi, Rwanda). The MoU is the final stages of development.

Areas which need strengthening

1. Tanzania should limit informal consultations with WHO and instead use formal communication with the WHO under article 8 of the IHR, even when the event does not require reporting.
2. Coordination and communication should be improved between NFPs and between regional economic blocs (EAC, ECSA, SADC, and COMESA). Cross border information flow and reporting should be strengthened using regional economic bloc governing bodies to increased IHR resources.
3. Periodic table top exercises should be conducted to test real time reporting and sharing of information.
4. Linkages between public health, animal health and the private sector should be improved.
5. The Terms of Reference for the multi-sectoral and multi-disciplinary TWG should be fast-tracked for approval, as should approvals and resource mobilization for the priority actions in this package.

D.4.2 Reporting network and protocols in country—Score: 2

Strengths

- The Ebola Viral Disease Outbreak in West Africa was the first encounter which tested the country's system. On November 24-28, 2014, the Government of Tanzania held Workshop for Preparedness for Public Health Risks and Emergencies to strengthen system for surveillance and response to Public Health Risks and Emergencies to ensure functionality and coordination. The workshop involved more than 70 participants from various ministries, government institutions and UN partners and other International organizations and 5 subcommittees were formed which aimed to oversee the preparedness and response mechanisms as well as the restructuring of the Coordination Body.
- A PHEOC was proposed which became finalized during the recent cholera outbreak 2015.
- At least 9 suspected patients were detected in 2014/15, one through Port Health Surveillance and the rest through the human IDSR surveillance system- all were negative.
- The consultation was through the National Task Force Meeting, chaired by PS and Co-Chaired by WR. MoH/SW was given a leading role and mandate by office of Prime Ministers. In this organ, various members were present from various sectors and partners and consultative decision was made.
- Prime Minister —Disaster Management, Ministry of Education, Ministry of Defense, Ministry of Agriculture, Ministry of Foreign Affairs, Office of President, University representatives).
- The country follows the adopted resolutions by WHO and has not passed any other legislations on reporting PHEIC to WHO.

Areas which need strengthening

- There is a need for better defined protocols for communication and linkages between the NFPs.

Relevant Documentation

Country Presentation on Reporting

Workforce Development

Target

State parties should have skilled and competent health personnel for sustainable and functional public health surveillance and response at all levels of the health system and the effective implementation of the IHR (2005).

Tanzania Level of Capabilities

Overview of Action Package

Health Workforce development is key for health security and emergencies. Lack of knowledge, skills and adequate equipment was a major source of exposure and infection of the health workers (HWs) in the West Africa EVD outbreak. Health security and emergencies preparedness in Tanzania should include capacity building of all HWs in the country. Moreover, there is a need for all HWs and all those involved in the response to adhere to all the protocols. The West Africa sub-region had limited experience with EVD outbreaks. Nevertheless, despite the lack of experience with EVD response, Nigeria's robust polio surveillance system with qualified and skilled staff and the extensive field epidemiology training program was rapidly used to mobilize skilled epidemiologists, who were quickly re-oriented about EVD and quickly contained the EVD outbreak in Nigeria. The same was observed in Mali and Senegal. In contrast, in the countries without the minimum technical capacity of trained health workers, there was a big risk of spread of the EVD outbreak.

Joint Assessment Team/Host Country Recommendations for Priority Actions

1. Collaborate with training institutions to review the pre-service training curricular to ensure that IHR 2005, IDSR and Disaster Management are addressed.
2. Proactively enroll professionals from animal health in the field epidemiology and laboratory training programs (FELTP) to build the technical, leadership and managerial skills for national and sub-national surveillance and health leaders (basic, intermediate and advanced FELTP courses) in animal health.
3. Support exchange visits to established centres for mentoring attachment of critical staff from human and animal health.

Indicators and Scores

D.5.1 Human resources are available to implement IHR core capacity requirements—Score: 3

Strengths

Human health

- The Tanzania Health System has a specific cadre of Health Officers that are trained for monitoring and managing disease outbreaks and communicable diseases in general. There is also the field epidemiology training program under Muhimbili University of Allied Health Services –MUHAS which builds capacity for health workers particularly in disease surveillance and response at regional and district level. In addition to the FELTP graduates (see below), there are biostatisticians (around 20) and information System Specialists (around 50) mainly at the national level in research institutes and academia.
- Most of the Regional and District Health Officers are epidemiologists or have post graduate training in public health.
- Each region have at least a professional who has been trained in Epidemiology or Public Health; and at least 50% of the districts have the same. All clinicians at Regional and District Levels have had clinical management training.

- At intermediate level/peripheral level, there are health officers who carry out surveillance and they are trained in surveillance and some have additional training in basic epidemiology or IDSR.
- There are clear career tracks for doctors/nurses/Labs who want to study clinical disciplines. In regard to nurses or doctors who want take Msc Epi/Lab, their career path is still under discussion. However, the graduates of Epidemiology have position at districts and regions as they are chairing the technical committee which oversee all technical issues as well as surveillance and response at regional and district levels.
- In service training has been done for diseases such as VHF, Influenza, Cholera, Dengue and RVF.
- The National IDSR guidelines, 2011 edition are in place and provide guidance as to how to build and strengthen capacity for multi-disciplinary RRT.

Animal health

- Veterinary health has a two year applied epidemiology master's course, but does not have a short or intermediate course for mid-level managers.
- The number of Vets: (Public & Private) is approximately 733; Paraprofessional assistants (certificate holders) in both the public and Private sector are 840; Paraprofessional (Diploma holders) in the Private & Public sectors are 990; Laboratories(Vet Research Scientist) are 41; Lab technician are 84; Research institutions (Tanzania Wildlife Research Institute (TAWIRI), National Medical research Institute (NIMR), Ifakara Research Institute); vets: 32, Lab tech 19; Training institution(Sokoine University of Agriculture-SUA, Muhimbili University of Allied Health Sciences-MUHAS, , Nelson Mandela Institute -NAI-MAST, University of Dodoma-UDOM, St August University, Livestock Training Agency -LITA) vet 60: lab tech 23.
- For vets: out of the 169 LGAs, 49 have no qualified vets. Out of the 12,000 officially registered villages, only 6% have livestock extension officers.

Laboratory personnel

- All regional laboratories are headed by a laboratory technician and are capable of doing confirmation. However, inadequate supplies and reagents hinder adequate levels of testing.
- The Districts also have laboratory capacity depending on the levels defined by the sector ministry and there are 1500 laboratory technicians in the country.

Areas which need strengthening

- Tanzania should partner with more schools of medicine and school of public health and universities to design, develop and deliver specialist short courses in surveillance, epidemiology and outbreak investigation and response for national and sub-national level managers.
- The Ministry of Health should proactively use the Technical Committee co-chaired by FELTP graduates to guide Regional and District health management teams
- A human resource strategy should be developed to address HRH Public Workforce challenges at the sub-national level because of the wide geographical expanse of the country with many tiers of the health system.
- A clear career path in the public sector for epidemiologists graduating from the FELTP should be developed. For example: epidemiologist, senior epidemiologist, principal epidemiologist etc.
- Incentives should be provided for those who work in remote regions/districts.

D.5.2 Applied epidemiology training program in place such as FELTP—Score: 4 Human | 2 Animal

Strengths

- Set up in 2008, the FELTP is now well established with 72 graduates with MSc and 350 graduates for the short course. Importantly several graduates have been taken on to run the Programme. The FELTP program is owned by the Ministry and in collaboration with CDC, MUHAS, AFENET, WHO and NIMR, but is predominantly funded by the USG (PEPFAR, PMI, etc.) There is however also minimal government contribution since 2012 and World Bank funding since 2010
- There is also a shorter training course for district health management teams for in service employees who want to advance their training in Field Epidemiology.
- While the field Epidemiology capacity is currently not tracked, there is a database of graduates and a tracer study is planned to determine whether the graduates are practicing what they were trained to do and challenges they face.
- The graduates from the FELTP participate in the Alumni association which was formed to facilitate networking and information sharing and meet annually. Further, there is ongoing mentorship through the program staff, Muhimbili University, as well as National and Regional Local Supervisors who have been identified and oriented in Field Epidemiology.
- While partnerships have not been formally established, the graduates travel to assist other countries. For example, Tanzanian FELTP residents assisted in the 2012 Uganda Ebola outbreak and an additional 5 FELTP graduates supported the 2014 Ebola epidemic in West Africa.

Areas which need strengthening

- There is a concern for graduates from the FELTP in terms of attrition due to limited clarity on the career path, especially for those without a medical degree. These FELTP graduates are thus not attracted to the government sector, especially the Laboratory graduates and most end up in local NGO or UN agencies within the country. There is a need to develop a clear career path for FELTP graduates such as epidemiologists, senior epidemiologist and principal epidemiologist in the public sector.
- There is a need to increase the scope of the FELTP to include animal health.

D.5.3 Workforce strategy—Score: 2

Strengths

- The “Human Resource for Health Strategy 2015-2020” guides the workforce development for Human side. Currently there are no incentives in place. However, plans are underway with the President Office —Local Government to establish these incentives. Various Non-Government Organizations (such as Mkapa Foundation) assist the Government in deployment and staff allocation in hard to reach regions and provide incentives.
- Capacity building for in service staff for postgraduate studies is being provided by Ministries –health and livestock.
- Capacity building for undergraduate degree is through Ministry of Higher Learning Education); these funds come from the Ministry of Finance. The funds are given to students as loans.
- There are also donors who support the in service workforce development e.g. PEPFAR, World Bank etc.

Areas which need strengthening

- A comprehensive workforce strategy to address Public Health Workforce and other HRH issues needs to be developed, especially at the regional, district and other sub-national levels.

Relevant Documentation

Country presentation on workforce development

Human Resource for Health Strategy 2015-2020

RESPOND

Preparedness

Target

Preparedness includes the development and maintenance of national, intermediate and community/primary response level public health emergency response plans for relevant biological, chemical, radiological and nuclear hazards. Mapping of potential hazards, identification and maintenance of available resources, including national stockpiles and the capacity to support operations at the intermediate and community/primary response levels during a public health emergency.

Tanzania Level of Capabilities

Overview of Action Package

- Tanzania human and animal health authorities have an exceptional understanding of the critical components and importance of preparedness for public health and animal health emergencies, as well as understanding the needs for supporting legislative and regulatory frameworks, operationalizing the plans from National to community levels, and the need for simulation exercises.
- The National Disaster Act of 2014 provides a strong framework for a nation-wide all-hazards approach to preparedness and response, though regulations to allow implementation have yet to be put in place. This Act allows for the creation of a national agency that can operate continuously at sub-national administrative units, and hence provide on-going preparedness operations between times of emergency.
- Health risk assessments and mapping efforts were conducted for 5 regions in 2013 with epidemics, floods, motor traffic injuries, and drought were identified as hazards of higher risk.
- Multi-sectoral table top simulation exercises have been done on public health emergency scenarios coordinated by PMO

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Regulations and the establishment of an effective agency structure to operationalize the National Disaster Act of 2014 is needed.
- The draft Public Health Emergency Preparedness and Response Plan needs to be 1) reviewed with national One Health Strategic Plan in mind, 2) finalized, 3) endorsed, 4) distributed to operational sub-national units, and 5) tested via simulation exercises.
- Senior officials must recognize the importance of updating national health risk and resource mapping needs and approve allocation of the resources required.
- National health risk and resource mapping exercise should be conducted in coordination with animal health authorities, and other government sectors such as the National Weather Service be asked to contribute relevant data and guidance.

Indicators and Scores

CC5.1 Multi-hazard National Public Health Emergency Preparedness and Response Plan is developed and implemented—Score: 2

Strengths

- Tanzania currently has disease specific preparedness and response plans (RVF, Influenza, Ebola and Cholera) that have been implemented.
- The draft multi-hazard/all hazard plan stipulates Health sector specific roles and responsibilities and stakeholders roles and responsibilities in preparedness and response to different hazards, and is inclusive of Port of Entry issues.
- Surge capacity is available through reallocation of resources available at various implementation levels, i.e. the regional and district health facilities/departments including private sector, as well as from national level staff from different departments and other sectors.

Areas which need strengthening

- A multi-hazard/all hazard plan that covers the IHR Core capacities that is currently in draft form but it has not been officially endorsed.
- The draft Public Health Emergency Preparedness and Response Plan needs to be 1) reviewed with national One Health Strategic Plan in mind, 2) finalized, 3) endorsed, 4) distributed to operational sub-national units, and 5) tested via simulation exercises.

CC5.2 Priority public health risks and resources are mapped and utilized—Score: 2

Strengths

- Health risk assessments and mapping efforts were conducted for 5 regions in 2013 with epidemics, floods, motor traffic injuries, and drought were identified as hazards of higher risk.
- Disaster Risk Management Country Capacity assessment was carried out in 2012 which involved capacity in terms of resources. The assessment did not focus directly on IHR but on DRM in general inclusive of Public health risks.
- Stockpiles are kept for commonly occurring health risks e.g. PPEs, IVF at government facilities. These are also relevant for IHR related hazards.

Areas which need strengthening

- Senior officials must recognize the importance of updating national health risk and resource mapping needs and approve allocation of the resources required.
- A national health risk and resource mapping exercise should be conducted in coordination with animal health authorities and other government sectors such as the National Weather Service should be asked to contribute relevant data and guidance.

Relevant Documentation

- National Ebola and Marburg Preparedness and Response Contingency Plan
- Tanzania Emergency Preparedness And Response Plan (TEPRP)
- National Pandemic Influenza Preparedness and Response Plan of the United Republic of Tanzania
- The United Republic of Tanzania One Health Strategic Plan 2015–2020
- National Operational Guidelines 2003 (Draft 2nd edition 2014)
- Tanzania Health sector Emergency Operations Guidelines 2013

Emergency Response Operations

Target

Countries will have a public health Emergency Operation Center functioning according to minimum common standards; maintaining trained, functioning, multi-sectoral rapid response teams and “real-time” bio-surveillance laboratory networks and information systems; and trained EOC staff capable of activating a coordinated emergency response within 120 minutes of the identification of a public health emergency.

Tanzania Level of Capabilities

Overview of Action Package

A Public Health Emergency Operations Centre (PHEOC) is a physical location for the coordination of information and resources to support health incident management activities. A PHEOC integrates traditional health services and other functions into an emergency management model, recognizing that public health threats and consequences require coordinated response. Such a center plays a critical role ensuring staff and materiel resources are efficiently and effectively utilized. It also provides the foci for the coordination and collaboration of the efforts of health agencies and supporting entities in managing the health consequences of all emergencies and disasters. The PHEOC provides a hub for the receipt, collation and dissemination of data and enabling action. An established and properly resourced PHEOC can provide effective coordination, improving control of outbreaks and other health consequences of all emergencies.

The government of Tanzania initiated the establishment of a Public Health Emergency Operations Centre (PHESO) approximately five months prior to this assessment. It was instituted as a response mechanism to coordinate the activities required to manage the cholera outbreak. In this relatively short period of time, the PHEOC has developed into a recognized resource and reference point for health agencies and several other sectors. This has put very high expectations on the PHEOC to provide the necessary functions to support the health aspects of managing an ongoing significant cholera outbreak while still attempting to further develop the PHEOC.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- High level leadership from the Ministry of Health (CMO and PS) is needed to provide official Directives and recognition regarding the existence and utility of the PHEOC, enumerating its roles and responsibilities to support engagement of all those required to jointly manage the health consequences of all emergencies.
- The Ministry of Health should provide a budget line for PHEOC and facilitate official availability of fully dedicated EOC focal persons from the various health clusters, particularly during emergencies.
- The staff level of the PHEOC should be increased and employees provided with the required Training.
- The required technical equipment and physical space should be obtained.
- A Comprehensive Health Emergency Program should be established at the policy level.

Indicators and Scores

R.1.1 Capacity to Activate Emergency Operations—Score: 2

Strengths

- There is strong high level support for the further development and utilization of the PHEOC as a central hub for Health Operations support to the Regions.
- Extremely dedicated and knowledgeable core staff are in place.

Areas which need strengthening

- There is a need for an increase in dedicated **staffing** of IMS critical functions required in Monitoring and Documentation (Situation Status), Data Management (Epi), Contextual Mapping (GIS), support for designated EOC Manager (Deputy EOCM) and others.

R.1.2 Emergency Operations Center Operating Procedures and Plans—Score: 3

Strengths

- A basic PHEOC Management SOP is in its final draft stage of development and is being used. It is at the policy stage and approval is still pending.
- Full utilization of Incident Management System (IMS) as a national standard has been instituted in the PHEOC - this will enable interoperability with Sub-National Health authorities and other agencies and sectors as they further develop their plans.

Areas which need strengthening

- Staff and partners need training in IMS. Applied to the Tanzania context, this would increase HR capacities and capabilities for managing public health events.

R.1.3 Emergency Operations Program—Score: 1

Strengths

- There is strong high level support for the further development and utilization of the PHEOC as a central hub for Health Operations support to the Regions.
- The country has initiated the HEP although not fully defined as a program as functions which are in place are not optimally implemented

Areas which need strengthening

- For sustainability and comprehensiveness to address all components of Prevention and Mitigation, Preparedness, Response and Recovery, Tanzania should institute an **overarching “Health Emergency Program” (HEP)**.
- The HEP should include; 1. Risk assessment (Hazard and Vulnerability Assessment), 2. Prevention and Mitigation (Treatment of risks), 3. Preparedness (assessment of capabilities, plan development, sustainability of infrastructure etc.), 4. Response (PHEOC and field level resources) and 5. Recovery (infrastructure restoration and resilience, after action reviews, implementation of action plan to mitigate risks and improve future response).

CC4.1 Case management procedures are implemented for IHR relevant hazards—Score: 2

Strengths

- IDSR is utilized in the majority of the regions (includes case definitions and case management guidance for high risk pathogens).

Areas which need strengthening

- Tanzania should promote and increase the utilization of IDSR in all regions and laboratories by resourcing the necessary staffing and providing them with the appropriate training.

Relevant Documentation

Country Presentation on Emergency Response Operations

Health Sector Emergency Operations Guideline 2013

Mass Casualty Management Guidelines 2013

National IDSR Guidelines 2011

Linking Public Health and Security Authorities

Target

In the event of a biological event of suspected or confirmed deliberate origin, a country will be able to conduct a rapid, multi-sectoral response, including the capacity to link public health and law enforcement, and to provide and/or request effective and timely international assistance, including to investigate alleged use events.

Tanzania Level of Capabilities

Overview of Action Package

This package provides an opportunity for public health officials to collaborate with experts who have a comparative advantage in investigating criminal activities related to misuse of biological materials with the intent to harm society. The law enforcement sub-sector has surge capacity and can deploy logistics at short notice. Tanzania is on the right path to linking Public Health with Law enforcement (this was observed by the consistent presence of an INTERPOL officer who sat in during the external assessment exercise). Protocols which allow the sectors to work together have been established under the Superintendent of the Office of the Prime Minister. The law enforcement officers are in the working structures of the Ministry of Health (similar to the IHR TWG) and are sharing training resources.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- A joint training program and curriculum should be developed.
- A mechanism for sharing information on a regular basis should be established.
- The roles of law enforcement in the cycle of PHEs should be explicitly defined and shared.

R.2.1 Public Health and Security Authorities, (e.g., Law Enforcement, Border Control, Customs) are linked during a suspect or confirmed biological event—Score: 2

Strengths

- The IHR Technical Working Group has a member from law enforcement.
- FELTP has trained three officer from TPDF in joint training (this is good practice for sharing resources and developing acquaintances that facilitate in real incident team work).
- The Ministry of health has undertaken a simulation exercise together with law enforcement.
- The Emergency Preparedness and Response Plan articulates clearly working with the law enforcement sub-sector although the roles of law enforcement are not clearly articulated.
- Protocols for collaboration with Law enforcement exist (although these are not formal MOUs).

Areas which need strengthening

- SOPs for joint/shared risk assessment should be developed.
- A mechanism for sharing information on a regular basis should be established.
- Formal procedures to identify potential biological events or other public health events that may have deliberate motives should be established.
- Public health experts should also participate in emergency response exercises which are regularly carried out by the law enforcement and are linked to the Biological and Toxins Weapons Convention.

Relevant Documentation

- Tanzania Comprehensive Multi-Year Plan for 2010-2015

- Tanzania Emergency Preparedness and Response Plan

Medical Countermeasures and Personnel Deployment

Target

A national framework for transferring (sending and receiving) medical countermeasures and public health and medical personnel among international partners during public health emergencies.

Tanzania Level of Capabilities

Tanzanian medical countermeasures (MCM) capacities are limited. Although some emergency stockpiles exist, planning is based on re-distribution of items in stock. Purchases are made when there is a health emergency. A number of existing plans make reference to MCM. However, there are not clear SOPs on sending and receiving MCM. With the Medical Stores Department (MSD), Tanzania seems to have a reliable distribution system in place.

For personnel deployment, Tanzania has proven its capacities by sending health experts to West Africa during the Ebola epidemic. Nevertheless, there are no written procedures in place to send assistance or to request and receive foreign personnel.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- There is a need for development of SOPs and protocols for MCM and personnel deployment. Protocols should include criteria for sending and receiving MCM and personnel and procedures for fast track importation of MCM, including procedures for potential tax exemption for MCM in emergency situations. Agreements with neighbouring countries and regional organizations should be formalized to ensure mutual cross border aid with personnel and MCM.
- Estimates (“including a forecasting-tool”) on the type, quantity and costs of MCM needed for priority scenarios should be developed. These figures could be used as the basis for further planning.
- The draft *All Hazard Health Emergency Preparedness and Response Plan* should be finalized to allow implementation of the described measures for MCM and personnel deployment.

Indicators and Scores

R.3.1 System is in place for sending and receiving medical countermeasures during a public health emergency—

Score: 2

Strengths

- Several plans, guidelines and acts make reference to MCM in emergency situations. Responsibilities and general funding sources, although limited, are described.
- The draft *All Hazard Health Emergency Preparedness and Response Plan* includes concrete steps and strategies for the establishment of contingency stocks. However, the plan has yet to be adopted and implemented.
- The Medical Stores Department, which is an autonomous department under the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), has a well-recognized distribution network with 9 regional hubs to serve health facilities within 24 hours (if requested item is available in hubs). Fast track mechanisms for emergency distribution and procurement exist within MSD.
- MSD has framework agreements with different suppliers for emergency situations. Pooled procurement mechanisms exist within the East African Community (EAC) and the South African Development Community (SADC).
- A national donation guideline for medicines and medical supplies is in place.

- The Tanzanian Food and Drugs Authority (TFDA) has fast track procedures in place allowing rapid importation. In an emergency situation “one-time” special importation permits for needed countermeasures, which are not nationally registered/licensed can be issued to ensure timely importation.

Areas which need strengthening

- Although procedures and responsibilities for MCM are reflected in a number of plans, guidelines etc. - there are no SOPs available for receiving and issuing medical countermeasures, including SOPs for rapid customs clearance of donations.
- Consider implementation of tax exemption for donated medicines, related medical supplies, PPE and other disaster related equipment.
- Tanzanian dedicated stockpiles for emergency situations are very limited. Building up of stockpiles for priority countermeasures should be considered. Currently it is planned to use the regular stockpiles; additional purchases will be made on an ad hoc basis when there is a health emergency.
- Emergency provisions for blood and blood-product supplies should be included in strategies and plans.
- A clear policy on how emergency funds will be utilized during the very early stages of response should be delineated in order to avert critical delays especially in a rapid onset emergency.
- The capacity for supply chain management of medical countermeasures is described as very limited and needs strengthening.
- Mechanisms for receiving and sending medical countermeasures need exercising.
- Estimates (“forecasting-tools”) on the type, quantity and costs of needed countermeasures for priority scenarios are not available.

R.3.2 System is in place for sending and receiving health personnel during a public health emergency—Score: 2

Strengths

- Tanzania has proven its capacity by sending medical personnel to West Africa during the Ebola epidemic. International deployment mechanisms were used, based on pre-existing agreements with WHO (GOARN) and AFENET (African Field Epidemiology Network).
- There are some agreements with EAC, ECSA (East, Central and Southern Africa Health Community) and SADC (Southern African Development Community) which make reference to the rapid deployment and to receiving rapid response teams (RRTs).
- The draft *All Hazard Health Emergency Preparedness and Response Plan* includes concrete steps and strategies for health staff deployment. However, the plan has yet to be adopted and implemented.

Areas which need strengthening

- There are no specific plans and SOPs for deployment and receiving personal. There is currently no policy that directly addresses regulatory and licensure concerns of receiving health personnel from an international source. This should be developed.
- Agreements with neighbouring countries and regional organizations for sending and receiving surge health personal should be formalized.
- Agreements and SOPs for national, in country deployment of Rapid Response Teams should be made available, to ensure smooth deployment of health personal between the Tanzanian regions, if needed. The role and responsibilities of the public health emergency operation centre for deployment of personal should be reflected in SOPs.
- Pre-deployment trainings should be set up.

Relevant Documentation

- National Operational Guidelines for Disaster Management, 2003
- The Public Procurement Act, 2011
- National Avian and Pandemic Influenza Emergency Preparedness and Response Plan, 2011The Disaster Management Act, 2015
- Draft - All Hazard Health Emergency Preparedness and Response Plan, 2015
- Guidelines for Medicines and Medical Supplies Donations (Tanzania Mainland), 2015

Risk Communication

Target

State parties should have risk communication capacity which is multi-level and multi-faced real time exchange of information, advice and opinion between experts and officials or people who face a threat or hazard to their survival, health or economic or social well-being so that they can take informed decisions to mitigate the effects of the threat or hazard and take protective and preventive action. It includes a mix of communication and engagement strategies like media and social media communication, mass awareness campaigns, health promotion, social mobilization, stakeholder engagement and community engagement.

Tanzania Level of Capabilities

Overview of Action Package

Tanzania is very well aware of the importance of risk communication for health emergency management. Every ministry has a communication unit. However, resources for health risk communication are very limited, both in terms of staffing and financial resources. By now the Public Health Emergency Operations Centre (PHEOC) does not have capacity for risk communication. Several emergency related plans and guidelines make reference to risk communication, both at national and subnational level but some important documents are still in a draft form, not yet adopted, implemented nor tested. In general social mobilization is considered as a priority, although the number of trained messengers (health personal, community chiefs and religious leaders etc.) needs to be increased. Given the scarce resources, research on the effectiveness of risk communication has not have been conducted systematically to date.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Given the utmost importance of risk communication, the current capacity (allocated budget and staffing) might not be adequate. The capacity for risk communication needs to be strengthened, both at national and subnational level. Training tailored to the specific target groups (staff at national level, messengers at local level etc.) should be set up. In particular, the PHEOC needs to be provided with capacity for risk communication.
- Strategies for more pro-active risk communication should be developed. Public-private partnership models with the media (cell phone providers, radio, TV, newspapers, social media providers) should be considered.
- The draft All Hazard Health Emergency Preparedness and Response Plan should be finalized to allow implementation of the described measures for risk communication and social mobilization.

Indicators and Scores

CC6.1 Risk Communication Systems (plans, mechanisms, etc.)—Score: 2

Strengths

- Tanzania has a national multi-hazard risk communication plan in place (Tanzanian Disaster Communication Strategy (TDCS)). The TDCS outlines the organization, operational concepts, responsibilities and procedures for emergency communication. The TDCS [is linked and complementary to the multi-sectorial emergency preparedness and response plan (Tanzania Emergency Preparedness and Response Plan (TEPRP)). The TDCS applies the one health approach. The animal health sector was involved in the development of the TDCS.

- The draft All Hazard Health Emergency Preparedness and Response Plan includes concrete steps and strategies for strengthening risk communication at all levels. However, the plan has yet to be adopted and implemented.
- For the health sector, the National Communication Guidelines for Public Health Risks and Emergencies (NCGPHRE) have been drafted with World Bank support. The NCGPHRE outlines principles and strategies, including some roles and responsibilities for implementation on national and subnational level.
- In addition disease specific plans and strategies exist (e.g., Ebola—National Strategy for EVD Outbreak Communication and Dissemination; Avian Influenza—Tanzania National Avian Influenza Emergency Preparedness and Response for Raising Public awareness on HPAI).
- Every government sector has a communication unit. The communication units are regarded as “links between the ministries and the community”. In the United Republic of Tanzania Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), the communications unit coordinates response to queries related to health risks; a health promotion section coordinates public education and awareness for positive behaviour change.

Areas which need strengthening

- The allocation and alignment of human and financial resources were described as being insufficient (e.g., the MoHCDGEC’s communication unit consists only of two staff). There is no dedicated budget line for risk communication for emergencies.
- The newly established Public Health Emergency Operations Centre (PHEOC) does not have any dedicated staff for risk communication.
- Although during the recent cholera outbreak coordination mechanisms were applied, to date no structured simulation exercise has been conducted.
- Risk communication training offered by partners to national and subnational personnel may not be sufficient and only partially adequate for the target group. In particular there is a lack of training for “communicators”, including community chiefs, religious leaders etc. at the subnational level.
- The draft NCGPHRE and the All Hazard Health Emergency Preparedness and Response Plan should be finalized in consultation with all relevant stakeholders.
- Standard and disease specific templates for risk communication might be supplemented to the respective existing plans. The availability of templates would facilitate communication in times of crisis and would help to make the existing plans and guidelines more “operational”.
- Based on a risk assessment, communication messages for priority scenarios should be developed, ready to be used immediately (or quickly adapted) in a health emergency situation.

CC6.2 Internal and Partner Communication and Coordination—Score: 2

Strengths

- Some existing plans and strategies (e.g., National Strategy for EVD Outbreak Communication and Dissemination) account for communication to different target groups.
- There are (informal) mechanisms for sharing information, communication plans, talking points, agreements and/or standard operating procedures between other entities and stakeholders involved in risk communication.
- The National Task Force (Case Management Subcommittee) is considered as a path for coordination and communication with health care facilities. Private health care facilities are formally part of the subcommittee, however their engagement in the subcommittee is considered low.

Areas which need strengthening

- Regular and systematic involvement of all relevant stakeholders has not yet reached an adequate level.
- Formalization of communication coordination mechanisms with national and international stakeholders (incl. government, civil society, public sector, international partners) is needed.
- Ensure availability (incl. dissemination) of materials for risk communication with staff involved in emergency operations, e.g., information on specific risk and self-protection measures for responders involved in emergency operations.

CC6.3 Public Communication—Score: 2

Strengths

- For public communication, the MoHCDGEC's communication unit works in collaboration with the health promotion section within the ministry.
- Both traditional and new (social) media are used for dissemination of messages.
- During the recent cholera outbreak weekly press statements and updates have been released.

Areas which need strengthening

- There is no analysis of the effectiveness of information, including analysis of whether the target audience was reached. Media research needs to be strengthened. The involvement of research and training institutions should be considered.
- Strategies for more proactive reach out to a variety of media platforms, such as newspaper, TV, social media should be established.
- Private media platforms, local radio, TV, cell-phone companies etc., should be embedded as partners in risk communications activities. The possibility of sponsorship agreements with private media providers should be assessed.

CC6.4 Communication Engagement with Affected Communities—Score: 2

Strengths

- The tasks of the Health Promotion Section in the MoHCDGEC include social mobilization and behaviour change communication activities.
- An informal feedback loop between at-risk or affected populations and response agencies exists on an ad-hoc basis. Local lessons learned and best practices from implementing risk communication measures at subnational level are shared nationally, but not in a systematic way.
- The draft NCGPHRE and the *All Hazard Health Emergency Preparedness and Response Plan* includes a strong component on social mobilization. A subcommittee on social mobilization with corresponding structures at sub-national level is planned to be established according to the NCGPHRE.

Areas which need strengthening

- Risk communication capacities and capabilities at sub-national level are very limited. Capacity building measures, such as regular training and supervision for sub-national communicators is needed. This includes training of health care workers in social mobilization at “house-to-house” level.
- The subcommittee on social mobilization, including corresponding structures at sub-national level is not yet functioning.
- Since unpredictable and aggressive behaviour of a “social mob” is considered as a priority scenario in a health emergency, a respective contingency strategy could be developed.

CC6.5 Dynamic Listening and Rumor Management—Score: 2

Strengths

- The MoHCDGEC is very aware of the importance of dynamic listening and rumour management.
- Rumours are addressed by reaching out to community meetings, to religious gatherings, schools, markets and by involving key decision makers in the community.
- Strategies for managing specific rumours are discussed based on ad-hoc meetings.

Areas which need strengthening

- The capacity and capability for monitoring and managing is very limited. Key staff and key decision makers at local level should be trained.
- The ability to determine that actions changed behaviour and stopped rumour spreading should become part of a strategy to evaluate communication response and effectiveness.

Relevant Documentation

- National Avian Influenza Emergency Preparedness and Response Plans—Raising Public awareness on HPAI, 2008
- Tanzania Disaster Communication Strategy (TDCS) 2012
- National Strategy for EVD Outbreak Communication and Dissemination, 2015
- Draft - All Hazard Health Emergency Preparedness and Response Plan, 2015
- National communication guidelines for public health risks and emergencies, 2016
- National climate change and health communication strategy, 2016—2021

OTHER

IHR Related Hazards and Points of Entry (PoEs)

Target

States Parties should designate and maintain the core capacities at the international airports and ports (and where justified for public health reasons, a State Party may designate ground crossings) which implement specific public health measures required to manage a variety of public health risks.

Tanzania Level of Capabilities

Overview of Action Package

Control of diseases at border crossings remains a fundamental element of the International Health Regulations. In addition to routine measures that must be in place at PoE, a number of IHR (2005) requirements for surveillance and response apply to designated airports, ports and ground crossings. The JEE Team visited two international airports: namely, Julius Nyerere International Airport (JIA) and Kilimanjaro International Airport (KIA) and one ground crossing (Namanga border crossing) of the country's 43 recognized Points of Entry (PoEs). Routine screening for yellow fever vaccination for travelers from endemic and EVD affected countries is conducted at points of entry using surveillance forms and public health passenger locator forms. These designated PoE were found to have arrangements with nearby health facilities for provision of emergency medical and diagnostics services. Draft Aviation Public Health Emergency Plans are available but still need to be incorporated into the aerodromes' response plans. The airports had dedicated ambulance services and some vector control activities were being carried out. However, these do not adequately cover all the recommended areas including outside the airport perimeter fence. Training on ship sanitation inspection and issuance of ship sanitation certification has been provided to 90% of PoE staff; however, they lack the necessary tools to effectively carry out their duties.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- The public health emergency contingency plans for PoE should be finalized and operationalized.
- The effectiveness of PoE in responding to Public health Events at PoE should be evaluated through simulation exercise.
- The necessary standard operating procedures, guidelines, equipment and kits for facilitating routine work at PoE should be facilitated.
- Tanzania should ensure proper workforce protection including provision of free vaccines, equipment and training.

Indicators and Scores

CC9.1 Routine capacities are established at PoE—Score: 2

Strengths

- Various personnel from IHR hazard related sectors such as public and environmental health, fisheries, atomic energy, chemical and food and drug agencies were found working together in Namanga border crossing.
- Routine screening for yellow fever vaccination for travellers from endemic and EVD affected countries is conducted at points of entry.

- Body Temperature Scanners were available, though the evidence for the effectiveness of body temperature scanning is low.
- Traveller surveillance forms and public health passenger locator forms are available at the point of entry. Travellers from high risk countries complete forms before entry to the airport premises.
- The designated PoEs have made arrangements with nearby health facilities for provision of appropriate medical services including diagnostic facilities for ill travellers.
- Over 90% of the Public Health PoE staff have been trained in conveyance inspection and control measures.
- Regular vector control through insecticide spraying is done around the airport compound. However, the spraying does not adequately cover the stipulated areas including outside the airport perimeter fence.

Areas which need strengthening

- The Health care workers at the Points of Entry should receive regular updates on public health issues and be vaccinated against disease such as yellow fever and hepatitis.
- There is no vector risk assessment and mapping in KIA- only ad hoc water sampling for quality assurance.
- There are inadequate incineration facilities and lack of a mechanism for vector mapping and control, particularly at KIA.
- There is no ship sanitation inspection at PoE due to lack of inspection kits.

CC9.2 Effective Public Health Response at Points of Entry—Score: 2

Strengths

- A draft Aviation Public health Contingency Plan is available at the national level, however it needs to be reviewed and finalized in consultation with the relevant stakeholders.
- There is a multi-sectoral, facilitation committee in the airports made up of representatives from the various key stakeholders.
- There is a Joint Border Coordinating committee (JBCC) established at Namanga border crossing with representation from customs, immigration, revenue authority, radiation, chemical, food and drugs, port health authorities, and others.
- One holding unit with six beds with Personal Protective Equipment's (PPEs) and medical supplies are available just outside the Kilimanjaro International Airport perimeter fence.

Areas which need strengthening

- There is a need for operational Public health emergency contingency plans for responding to public health emergencies at the points of entry.
- The draft national and airport contingency plan for responding to public health emergencies at the points of entry needs to be finalized.
- Simulation exercises for public health related events at points of entry are not conducted.
- There are no designated rooms with capacity for all passengers/crew in a flight for temporary separation and isolation from other airport passengers/personnel. This is needed in case an ill passenger suspected of having a highly pathogenic disease was on board in order to perform necessary inquiries regarding completion of passenger locator cards, questions on direct exposure during flight, etc.
- There is a patient isolation (holding unit) with no beds at Julius Nyerere International Airport. However, as the new terminal building is currently under construction, a designated room for patient isolation will be available in future.

Relevant Documentation

- Kilimanjaro Airport Emergency Plan developed by the Kilimanjaro Airport Development company
- Assessment tool for core capacity requirements at designated airports, ports and ground crossings
- Handbook for inspection of ships and issuance of ship sanitation certificates
- Protocol for Assessing National Surveillance and Response Capacities for the International Health Regulations (2005)
- Site visitation

Chemical Events

Target

State parties should have surveillance and response capacity for chemical risk or events. It requires effective communication and collaboration among the sectors responsible for chemical safety, industries, transportation and safe disposal.

Tanzania Level of Capabilities

Overview of Action Package

The management of specific risks including chemical, toxic and environmentally induced events is particularly challenging. The improvement of national control programs that aim to reduce the public health risks associated with chemical, toxic and environmentally induced events is an effective way to improve national health security. The Industrial and Consumer Chemicals, Management and Control, Act Cap 182, was passed in Tanzania in 2003 and is implemented by Government Chemist Laboratory Agency (GCLA) in the Ministry of Health, Social Welfare, Gender, the Elderly and Children. The legislation aims to protect health and the environment from adverse effects of chemicals. The act also provides for management and control of chemicals from production, transportation, exportation, storage, dealing, handling and safe disposal. The Act is implemented through registration, inspection and issuance of permits for importation, exportation & transportation of chemicals.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- Conduct a survey and list persistent organic pollutants to enable updating of the 2003 Legal Framework on industrial chemicals.
- Establish an electronic inventory of major hazard sites and installations.
- Implement the roadmap and programme for chemical accident prevention and preparedness, including reporting.

Indicators and Scores

CC12.1 Mechanisms are established and functioning for detecting and responding to chemical events or emergencies—Score: 3

Strengths

- Legislation on industrial and Consumer Chemicals, CAP 182, has existed since 2003.
- Multi-sectoral and interdisciplinary coordination mechanisms which deal with chemical safety exist and are comprised of the Prime Minister's office, health, environment, industry, agriculture, research & academia and non- government sectors, as well as others.
- Currently, 1 055 chemical dealers are registered, 70 Chemicals Inspectors are appointed and about 20 points of entry and exit are inspected daily with many companies complying with CAP 182.
- Major chemical multilateral environmental agreements are being implemented in Tanzania, including the following ratified conventions and agreements: Basel, Stockholm, Rotterdam including Montreal Protocol, and Mercury- Minamata.
- There is laboratory capacity to confirm aetiology of chemicals for heavy metals, pesticides and inorganic compounds.

Areas which need strengthening

- Procedures for risk assessment in chemicals among all stakeholders need to be strengthened.
- There needs to be routine surveillance and monitoring of chemical events of facilities that use chemicals- not just during the inspection and enforcement period.
- A roadmap and programme for chemical accident prevention and preparedness including reporting needs to be developed.
- A specialized waste disposal system and facilities for hazardous chemicals need to be developed and established.
- Human and financial resources must be increased for effective implementation of the chemical act.

CC12.2 Enabling environment is in place for management of chemical Events—Score: 3

Strengths

- A Chemical Accidents Prevention and Preparedness (CAPP) Project has been implemented.
- Analysis of water, air, and soil sediment for chemical hazards in accordance with the requirements of the Environmental Management Agency is ongoing.
- Control of imports and exports of chemicals through permits, inspection, sampling and analysis as necessary has been implemented.
- The Food and Drugs Agency is monitoring the quality of foodstuffs.
- A National Poison Control Centre has been established.

Areas which need strengthening

- The emergency response plan needs to be finalized by defining the roles and responsibilities of relevant agencies.
- The roadmap on chemical accident prevention and preparedness needs to be operationalized.
- The chemical risk management strategies need to be incorporated into existing government and corporate policies.
- Tanzania needs to create awareness about and establish a mechanism for chemical events reporting.

Relevant Documentation

- The industrial and consumer chemicals (management and control) regulations, 2015
- Procedures for inspection of imported medicines, medical devices and cosmetic products at the point of entry
- Harmonized border fisheries inspection guide for promotion of regional fish trade in eastern and southern Africa
- Protocol for Assessing National Surveillance and Response Capacities for the International Health Regulations (2005)

Radiation Emergencies

Target

State parties should have surveillance and response capacity for radio-nuclear hazards/events/emergencies. It requires effective communication and collaboration among the sectors responsible for radio-nuclear management.

Tanzania Level of Capabilities

Overview of Action Package

Identification of a radiological and nuclear emergency event is based on the assessment of the case history and the confirmation of radiation exposure. Coordination of preparedness and response between radiological/nuclear authorities and local, regional and national governments is critical. Therefore, protocols for operational interfaces and plans for coordinating the national response to the range of potential nuclear and radiological emergencies should be in place. The Tanzania Atomic Energy Commission (TAEC) was established under the Atomic Energy Act No. 7 of 2003. TAEC is empowered by the law to authorize and inspect the activities which involve ionizing radiation and to enforce the legislation.

Joint Assessment Team/Host Country Recommendations for Priority Actions

- The draft National Nuclear and Radiological Emergency Response Plan (NNRERP) should be finalized.
- National radiation risk mapping and installation of Radiation monitoring devices in strategic places, including at the designated Points of Entry should be conducted.
- The standard operation procedures and action guides for responders to radiation emergency should be finalized.

Indicators and Scores

CC13.1 Mechanisms are established and functioning for detecting and responding to radiological and nuclear emergencies—Score: 2

Strengths

- The Tanzania Atomic Energy Commission (TAEC), currently under the Ministry of Education Science and Technology, was established under the Atomic Energy Act No. 7 of 2003.
- The TAEC is empowered by the law to authorize, inspect the regulated activities which involve ionizing radiation and enforce the legislation and all associated Regulations.
- The Commission is responsible for the co-ordination and monitoring of the implementation of Regional and National projects which use nuclear techniques for research and development in the country. These projects are supported by the IAEA and are in the fields of Health, Agriculture, Research, Mining, Industry and Water Resources Management.
- Tanzania conducts monitoring and verification of compliance using appropriate equipment. In addition, the import and export of foodstuff is controlled in order to ensure that they are not contaminated with radiation.
- Regulations on transport of radio nuclear material and waste management exist.
- A Nuclear Energy Policy is under development; a strategic plan to strengthen surveillance and response on radio nuclear events exists.

Areas which need strengthening

- There is inadequate specialised human resource capacity.
- Financial resources are insufficient.
- Laboratories at the points of entry lack sufficient capacity.

CC13.2 Enabling environment is in place for management of Radiation Emergencies—Score: 3

Strengths

- A strategic plan to strengthen surveillance and response in the event of a radiological/nuclear event exists.
- Relevant (TAEC) staff have been trained on emergency response to radiation events & there is a radiation safety officer at all key sites.
- There is an existing partnership with the International Energy Commission to mobilize additional experts as necessary.

Areas which need strengthening

- The communication and coordination structure between the National Competent authority and the IHR National Focal Point need to be strengthened.
- The assessment and regular reporting of radiological risks to relevant authorities needs to be strengthened.
- A public health plan and guidelines for coordinated response to a massive radiation exposure should be developed.
- Community awareness and information on radiation risks and emergencies should be developed and strengthened.

Relevant Documentation

- The draft National Nuclear and Radiological Emergency Response Plan (NNRERP)
- Protocol for Assessing National Surveillance and Response Capacities for the International Health Regulations (2005)

Appendix 1: International Health Regulations and JEE Tool

In 2005 the Fifty-eighth World Health Assembly (WHA) adopted the International Health Regulations (2005) [IHR (2005)] which subsequently entered into force on 15 June 2007. The purpose and scope of the IHR (2005) are “to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade.” State Parties are required by the IHR (2005) to State Party obligations to develop certain minimum core public health capacities.

IHR capacity requirements are defined in Article 5 as “the capacity to detect, assess, notify and report events” and in Annex 1 A on “Core capacity requirements for surveillance and response” and 1B on “Core capacity requirements for designated airports, ports and ground crossings”. In addition, the core capacity monitoring framework also has a checklist and indicators which should be used for monitoring progress in the development of IHR Core Capacities in States Parties (<http://www.who.int/ihr/publications/checklist/en/>).

As stated in Annex1A.2, each State Party shall assess the ability of existing national structures and resources to meet the minimum requirements described in Annex1. As a result of such assessment, States Parties shall develop and implement plans of action to ensure that these core capacities are present and functioning throughout their territories.

In 2012, the World Health Assembly (Resolutions WHA65.23) urged States Parties to take the necessary steps to prepare and carry out appropriate national implementation plans in order to ensure the required strengthening, development and maintenance of the core public health capacities as provided for in the International Health Regulations (2005).

The IHR Review Committee on Second Extensions for Establishing National Public Health Capacities and on IHR Implementation (WHA 68/22 Add.1) suggested that ‘..., and with a longer term vision, the Secretariat should develop through regional consultative mechanisms options to move from exclusive self-evaluation to approaches that combine self-evaluation, peer review and voluntary external evaluations involving a combination of domestic and independent experts. These additional approaches should consider, amongst other things, strategic and operational aspects of the IHR, such as the need for high level political commitment, and whole of government/multi-sectoral engagement. Any new monitoring and evaluation scheme should be developed with the active involvement of WHO regional offices and subsequently proposed to all States Parties through the WHO governing bodies’ process.’

The call for the move from ‘exclusive self-evaluation’ to external evaluation comes from the recognition that transparency and mutual accountability in the international community are essential in implementing IHR collectively. A technical consultation meeting on IHR Monitoring and Evaluation Framework post 2015 was organized in Lyon in October 2015 and suggested development of processes and a tool to conduct joint external evaluation.

The call for development of an external evaluation tool came from the recognition that transparency and mutual accountability in the international community are essential in implementing IHR collectively. A technical consultation meeting on IHR Monitoring and Evaluation Framework post 2015 was organized in Lyon in October 2015 and resulted in the development of the Joint External Evaluation (JEE) tool. The JEE tool was developed according to three core principles:

- Preventing and reducing the likelihood of outbreaks and other public health hazards and events defined by IHR (2005) is essential.
- Detecting threats early can save lives.
- Rapid, effective response requires multi-sectoral, national and international coordination and communication.

Appendix 2: Joint External Assessment Purpose & Process

Purpose of the Joint External Evaluation

The JEE tool and external evaluation process share a number of important features, including: voluntary country participation; a multi-sectoral approach by both the external teams and the host countries; use and linking of other assessment reports, transparency and openness of data and information sharing; and the public release of reports. JEE refers to the joint process during an external evaluation (envisioned to take place approximately every 5 years) where a team of national experts first prepares a self-assessment supplied to the external team prior to the on-site visit and the external team uses the same tool for their evaluation, working together with the national team in interactive sessions to jointly develop the final scores and priority actions.

The external evaluation process using the JEE tool facilitates host countries' bringing all relevant ministries together to identify the most urgent needs within their health security system; to prioritize opportunities for enhanced preparedness, response and action; and to use and link the results of other assessments. It also provides an effective mechanism for host countries to engage in a coordinated manner with current and prospective donors and partners to target resources effectively. Transparency is an important element in order to attract and direct resources to where they are needed most.

Process

The first stage of the evaluation is a country survey completed by the country using self-reported data for the various indicators on the joint external evaluation tool. The approach should be multi-sectoral and include input from public health, animal health, wildlife, security, and other experts as appropriate for all relevant Action Packages. This information is then given to the joint external evaluation team which is a multi-sectoral team of national and international subject matter experts. Review of this self-assessment data provides the team members with a baseline understanding of the country's health security capabilities. These subject matter experts will then visit the country for facilitated in-depth discussion of the self-reported data as well as structured site visits and meetings organized by the Host Country. The Host Country presents their current level of capability in each of the Action Package areas to the JEE team. A multi-sectoral group of ministries should participate in these discussions as this exchange and coordination of information between all parts of government is a key component of the JEE assessment process. The information presented should include key findings and recommendations from other relevant evaluation and assessments (such as OIE PVS pathway, monitoring and evaluation of disaster risk reduction, and others). These will be used in the development of scores and recommended priority actions. The Host Country will present supporting data and proposed scores to the JEE team. The scores and their justifications will be discussed between JEE team members and Host Country experts. Final scores will be developed jointly by consensus.

After conducting the Assessment Visit, the Assessment team drafts a report which includes overarching issues and priority actions, Host Country level of capabilities for each target area, and scores and priority actions for each indicator. The report is shared with the Host Country for review and concurrence and then, with permission of the Host Country, various other stakeholders in order to facilitate international support of country implementation

efforts, share best practices and lessons learned, promote international accountability, engage stakeholders, and inform and guide IHR implementation both in the Host Country and internationally. ¹

Format

Every indicator in the evaluation tool has attributes that reflect various levels of capacity with scores of 1-5 (one indicates that implementation has not occurred; five indicates that implementation has occurred, is tested/reviewed/exercised and that the country has a high level of capability for the indicator). For each indicator, a country will receive a single score based on their current capacity. However, where significant differences exist, for example, between the public health and animal health sectors, separate scores might be given. The Technical Area Questions will guide determination of the appropriate score. Most of the measures are descriptive and qualitative. Countries will be asked to provide documentation for some of these items in addition to the responses. The documentation and responses will be reviewed by the evaluators, and will then be discussed during the external assessment. The final report will include scores as well as report narrative identifying existing capacities, gaps, and challenges. The results of the JEE are to guide IHR implementation in the country.

The JEE tool was developed to provide an external mechanism to evaluate a country's IHR capacity for ensuring health security. This tool draws on the original IHR core capacities and incorporates valuable content and lessons learned from tested external assessment tools and processes of several other multilateral and multi-sectoral initiatives that have supported the building of capacity to prevent, detect, and respond to infectious disease threats.

Colour Scoring System

While overlaps exist among the capacity sections of the tool, each will be considered separately in the evaluation exercise. The implementation status of each core capacity will be delineated by a level of advancement or scoring, which reflects the capacity to be institutionalized and sustainable. Followings describe the level of advancement or scoring with color coding.

No Capacity—1: Attributes of a capacity are not in place Color Code: **Red** - 

Limited Capacity—2: Attributes of a capacity are in development stage (some are achieved and some are undergoing; however, the implementation has started). Color Code: **Yellow** - 

Developed Capacity—3: Attributes of a capacity are in place; however, there is the issue of sustainability and measured by lack of inclusion in the operational plan in National Health Sector Planning (NHSP) and/or secure funding. Color Code: **Yellow** - 

Demonstrated Capacity—4: Attributes are in place, sustainable for a few more years and can be measured by the inclusion of attributes or IHR (2005) core capacities in the national health sector plan. Color Code: **Green** - 

Sustainable Capacity—5: Attributes are functional, sustainable and the country is supporting other countries in its implementation. This is the highest level of the achievement of implementation of IHR (2005) core capacities. Color Code: **Green** - 

¹In the WHO African Region, the IHR implementation is within the context of Integrated Disease Surveillance and Response (IDSR) Strategy and in Asia Pacific (SEAR and WPR), the IHR implementation is in the context of Asia Pacific Strategy for Emerging Infectious Diseases.

1. Without achievement of all attributes, at one level it doesn't progress or advance to another levels (for instance, in order to reach operational level, one has to meet all the attributes of developing and operational).
2. All the positive responses should be documentable.

Appendix 3: Tanzania Assessment Background

Mission Place and Time

Dar es Salaam, February 22-26, 2016

Arusha, February 24-25, 2016

Mission Team Members: Experts and Advisers

- Simo Nikkari, Finland, Ministry of Health (Team Lead)
- Karen Sliter, USA, Department of Agriculture (Team Co-Lead)
- Christophe Bayer, Germany, Ministry of Health (Team Member)
- Billy Karesh, USA, EcoHealth Alliance (Team Member)
- Issa Makumbi, Uganda, Ministry of Health (Team Member)
- Athman Mwatondo, Kenya, Ministry of Health (Team Member)
- Paul Cox, World Health Organization (Advisor)
- Bouna Diop, FAO (Advisor)
- Mark Evans, Public Health England (Advisor)
- Peter Gaturuku, World Health Organization (Advisor)
- Moetapele Letshwenyo, World Organization for Animal Health (Advisor)
- Patrick Lumumba, World Bank (Advisor)
- Tom Mogeni, World Bank (Advisor)
- Rajesh Sreedharan, World Health Organization (Advisor)
- Ambrose O. Talisuna, World Health Organization (Advisor)
- Liz Tayler, World Health Organization (Advisor)

Objective

To assess Tanzania's capacities and capabilities relevant for the 19 Action Packages of the JEE tool in order to provide baseline data to support Tanzania's efforts to reform and improve their public health security.

Preparation and Implementation of the Mission

- Tanzania is a member of the GHSA and requested an assessment as part of their commitment to this effort.
- Tanzania completed a Self-Assessment using the Joint External Evaluation Tool, developed through collaboration with the World Health Organization and GHSA Steering Group.
- The Tanzania Assessment was the first to use the Joint External Evaluation Tool.
- Tanzania's goals for the assessment were to receive feedback on its public health, food safety, and veterinary systems, to identify gaps, and prioritizes areas for future investment.

Limitations and Assumptions

- The assessment was limited to one week's time which limited the amount and depth of information which could be managed.
- The assessment is not an audit and information provided by Tanzania will not be independently verified. Information provided by Tanzania will be discussed and an assessment rating will be mutually agreed to by the Host Country and assessment team. This is a peer to peer review.

- It is assumed that the results of this assessment will be made publically available.

Key Host Country Participants and Institutions

Tanzania Lead Representative:

Dr. Janneth Mghamba, Assistant Director -Epidemiology and Program director TFELTP Ministry of Health and Social Welfare, Tanzania

Participating Institutions:

- Tanzania International Health Regulations Technical Working Group
- Office of the President of Tanzania
 - Regional Administrative Local Government (Permanent Secretary)
- Office of the Prime Minister of Tanzania
 - Permanent Secretary
 - Director Disaster
 - One Health Focal Point
 - Sector Coordination Focal Point
- Zanzibar Permanent Secretary and National Focal Point
- Tanzania Ministry of Health and Social Welfare (Mainland)
 - Office of Preventive Services
 - Office of Curative Services
 - Office of Quality Assurance
 - Office of Planning and Policy
 - Office of Human Resource
 - Office of Administration and Personnel
 - Tanzania Food and Drug Authority
 - National Institute for Medical Research
 - Government Chemist
 - Tanzania Wildlife Research Institute
 - Atomic Energy Commission
 - Office of Immunization Vaccine and Emergency
 - Assistant Directors: Epidemiology, Diagnostic, Emergency Preparedness, Environmental Health and Port Health, Health Promotion, Reproductive and Child Health, Inspectorate
 - Office of the Chief Pharmacist
- Tanzania Ministry of Livestock and Fisheries Development
 - Office of Veterinary Services
 - Office of Surveillance
 - Tanzania Veterinary Laboratory Agency
- Universities
 - Muhimbili University of Health and Allied Sciences
 - Sokoine University of Agriculture
 - Bugando Medical Centre

- Regional Offices of Health
- Research Institutions
 - National Institute for Medical Research
 - Ifakara Health Institute
- Points of Entry
 - Aviation
 - Water
 - Airports
 - Julius Nyerere International Airport
 - Kilimanjaro International Airport
 - Namanga Ground Crossing
- Association of Private Hospitals in Tanzania (APHTA)

Supporting Documentation Provided by Host Country

- Presentation on National Legislation, Policy and Financing
- Presentation on IHR Coordination, Communication and Advocacy
- Presentation on Antimicrobial Resistance
- Presentation on Zoonotic Disease
- Presentation on Food Safety
- Presentation on Biosafety and Biosecurity
- Presentation on Immunization
- Presentation on National Laboratory System
- Presentation on Real-Time Surveillance
- Presentation on Reporting
- Presentation on Workforce Development
- Presentation on Preparedness
- Presentation on Emergency Response Operations
- Presentation on Linking Public Health and Security Authorities
- Presentation on Medical Countermeasures and Personnel Deployment
- Presentation on Risk Communication
- Presentation on Other IHR Related Hazards and Points of Entry (PoEs)
- Presentation on Chemical Events
- Presentation on Radiation Emergencies