

NAPHS

NATIONAL ACTION
PLAN
FOR HEALTH SECURITY
2017-2021



UNITED REPUBLIC OF
TANZANIA

FOREWORD

From the Office of the Prime Minister, United Republic of Tanzania

Disease outbreaks always bring high costs to the lives of our communities and countries. The full costs of the Ebola epidemic in West Africa have already shown that the burden is broad in terms of short-term cost of control, patient care, hospital admission and in the broader context, dislocation of the economies. Moreover, the Ebola Epidemic has also threatened national, regional and global health security.

The epidemic raised new attention on the implementation of the International Health Regulations (IHR), adopted in 2005 by member states in the WHO and the critical need for countries to have strong health systems to respond to adverse health events when they arise. The IHR 2005 constitute the essential vehicle for addressing global health security as they aim at protecting global health security while avoiding unnecessary interference with international traffic and trade. Countries need to be prepared even before any disaster or an emergency strikes, and they need to be ready to protect their citizens and remain resilient in the face of these threats. A National Action Plan for Health Security is thus key to address holistically health security and emergencies capabilities within a country.

This is the first “**National Action Plan for Health Security (NAPHS)**” to be developed using a multisectoral approach. The NAPHS has drawn expertise from various sectors. This reflects a shared commitment to enhanced collaboration when addressing national health security. The NAPHS aims to create and maintain active collaboration between the sectors for addressing health security using “One health approach concept” so as to ensure that there is timely preparedness, and a consistent and coordinated response in the event of occurrence of an event of public health concern.

This newly developed National Health Security Plan will be a coordination platform, which will be used to map and ensure interplay between multiple sectors and other existing plans at all administrative levels of the country. The plan will be implemented under the guidance of the Prime Minister’s Office. To achieve this, an Inter-ministerial Committee to administer the plan, and monitor and evaluate its implementation will be developed and will have representatives from all relevant line ministries, and will also co-opt development partners. The Committee will be accountable to the Prime Minister’s Office.

Successful implementation of the NAPHS will contribute significantly to the overall goal of improving national, regional and global health security. We call upon other government departments, and development partners, civil society, private sector and the Tanzanian community to join us in implementation of the NAPHS. This NAPHS should be considered a “living document” and is open for feedback, additions and revisions based on changing needs.

Hon. Kassim Majaliwa (MP)
Prime Minister

ACKNOWLEDGEMENT

The journey towards the development of this National Action Plan for Health Security had been long but rewarding. The processes of development of the NAPHS, started way back in June 2016, three (3) months after the Joint External Evaluation (JEE) was conducted. The country used the existing IHR technical working group (TWG) to start the initial processes of the NAPHS development. While the focus was mainly on the JEE key findings and priority actions, the country utilized also other previous assessments which included: the path way for veterinary services (PVS) assessment, the Integrated Risk Profiling Assessment, the Antimicrobial resistance (AMR) situation analysis, the integrated disease surveillance and response (IDSR) review and the vulnerability, risk assessment and mapping (VRAM) to mention a few.

The country wishes to thank all those who contributed to the successful completion of the NAPHS, under the leadership of the Ministry of Health, Community Development, Gender, Elderly and Children. These include the President Office Regional Administration and Local Government (Health), The Prime Minister's Office (Disaster), Ministry of Livestock Development and Fisheries, Ministry of Home Affairs, Ministry of Education and Vocational Training through its Universities and Atomic Institute, Ministry of Finance and Planning, Ministry of Constitution and legal Affairs, Ministry of Foreign Affairs and East African Cooperation, Ministry of Infrastructure which houses the Point of Entries, Government Chemist Laboratory Agency, Research Institutions both Human and Animal (NIMR and TAWIRI), Tanzania Food and Drugs Authority, Tanzania Meteorological Agency, and Association of Private Health Facilities (APHTA). At regional and global level, we wish to sincerely thank World Health Organization (WHO) for the leadership in development of the NAPHS, the US CDC, Finland, the US department of defence, FAO, UNICEF, OIE, IOM, JICA, GIZ, DFID, PHE, the US department of Agriculture, the World Bank, Skoll Foundation, World Bank, SACIDS, European Union, PATH, and AMREF

Lastly, the IHR National Focal Point within the Ministry of Health, Community Development, Gender, Elderly and Children are highly appreciated for their valuable time, which they have put to the finalization of the NAPHS.

Hon. Ummu A. Mwalimu

Minister of Health, Community Development, Gender, Elderly and Children

CONTENTS

FOREWORD	i
ACKNOWLEDGEMENT	i
ABBREVIATIONS/ACRONYMS.....	v
I. EXECUTIVE SUMMARY.....	vii
1. BACKGROUND	1
1.1 Tanzania Country profile	1
1.1.1 Socio economic indices.....	2
1.1.2 Basic Socio Demographic indicators	2
1.1.3 Governance and Financing of the Government of Tanzania.....	3
1.2 IHR (2005) and other complementary assessments	3
1.2.1 IHR Joint External Evaluation	3
1.2.2 Risk Profiling of Public Health Threats	4
1.2.3 Other assessments	7
1.2.4 Overall Burden of Public Health Events in Tanzania and socio economic impact.....	7
1.2.5 Tanzania Journey From IHR (2005) JEE To Country Planning for Health Security.....	8
2. VISION, MISSION, AND OBJECTIVES OF THE PLAN	9
2.1 Guiding principles and core values	9
2.2 Vision.....	9
2.3 Mission.....	10
2.4 Goal.....	10
2.5 Specific Objectives	10
3. APPROACH FOLLOWED FOR THE DEVELOPMENT OF THE NATIONAL ACTION PLAN FOR HEALTH SECURITY	12
3.1 Consultative review of recommendations from JEE and other assessments	12
3.2 Planning Workshop in Dar es Salaam, November 2016.....	12
3.3 Costing and action plan finalisation workshop in Dar es Salaam, February 2017.....	13
3.4 Prioritisation of activities by technical areas	13
3.5 Linkage with other programmes/initiatives	14
3.6 Applying Sector wide approach to implement National Health Security Plan	15
4. COMPONENTS OF NATIONAL PLAN WITH ESTIMATED COSTS	16
4.1 Cost scenarios with inclusion of Immunization Technical Area.....	16

4.2 Total cost scenario without the Immunization Technical Area.....	17
4.3 Key summary conclusion of costing assessment	19
Cost Drivers for the NAPHS.....	19
4.4 Risk appraisal and key risks.....	20
4.5 Platform for National Action Plan – linkage with existing plan; interplay between relevant sectors enablers	10
5. DELIVERY OF ACTION PLAN.....	22
5.1 Delivery of the Plan	22
5.2 Roles and responsibilities of Inter ministerial Steering Committee for the National Action Plan for Health Security.....	24
6. SUPERVISION, MONITORING AND EVALUATION OF THE PLAN	26
6.1 Monitoring and evaluation of national action plan	26
Objective.....	26
Strategies.....	27
6.2 After Action Reviews	28
6.3 Simulations/exercises.....	28
6.4 Joint External Evaluations (JEE)	28
6.5 Other assessments	29
6.6 Midterm review.....	29
6.7 End term evaluation	29
6.8 Indicators and targets for monitoring and evaluation	29
7. BUDGET AND FINANCIAL PLAN.....	34

ABBREVIATIONS/ACRONYMS

AHW	Animal Health Workers
AMREF	African Medical and Research Foundation
APHL	Association of Public Health Laboratories
ASLM	African Society for Laboratory Medicine
AU	African Union
CAPSCA	Collaborative Arrangement for the Prevention & Management of Public Health Events in Civil Aviation
CDC	Centre's for Disease Control
CDDEP	Center for Disease Dynamics, Economics & Policy
EAC	East African Community
ECSA	East, Central and Southern Africa Community
EOC	Emergency Operation Centre
EPT	Emerging Pandemic Threat
EU	European Union
FAO	Food and Agriculture Organization
FAO-EPT2 Project	Zoonotic and Emerging Pandemic Threats
FELTP	Field Epidemiology and Laboratory Training Program
GCLA	Government Chemist Laboratory Agency
GHSA	Global Health Security Agenda
HSS	Health System Strengthening
IAEA	International Atomic Energy Agency
IHR	International Health regulations
JEE	Joint External Evaluation
KCRI	Kilimanjaro Clinical Research Institute
MALF	Ministry of Agriculture, Livestock and Fisheries
MoHCDGEC	Ministry of Health, Community Development, Gender, Elderly & Children
NAPHS	National Action Plan for Health Security
NAPHS	National Action Plan for Health Security
OHCEA	One Health Central & Eastern Africa
OIE	World Organization for Animal Health
OSBP	One Stop Border Post
PHE	Public Health Emergencies
PoE	Point of Entry
POLARG	Office of President Local Administration and Rural Government
PPE	Personnel Protective Gears
SACIDS	Southern Africa Centre for Infectious Diseases
SADC	Southern Africa Development Cooperation
SIDA	Sweden's development cooperation

SUA	Sokoine University of Agriculture
SWAP	Sector Wide Approach
TAEC	Tanzania Atomic Energy Commission
TAWIRI	Tanzania Wildlife Research Institute
TBS	Tanzania Bureau of Statistics
TFDA	Tanzania Food and Drugs Authority
TVLA	Tanzania Veterinary Laboratory Agency
URT	United Republic of Tanzania
VARM	Vulnerability and Risk Analysis and Mapping
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

EXECUTIVE SUMMARY

Since adoption of the International Health Regulations (IHR) (2005), Tanzania has been monitoring implementation of its core capacities using the “WHO **Self Evaluation**” tool and submitting reports to the WHO on an annual basis. As a way to spur progress toward full implementation of the (IHR), in August 2015, Tanzania joined the Global Health Security Agenda (GHSA) initiative, which aims to contribute in addressing health security issues at the global level as well as accelerate IHR implementation in the country. In 2015, a revised method of IHR core capacity assessment was recommended by the IHR Review Committee which included a combination of four components: (i) **Self-evaluation**, (ii) **voluntary peer review through external evaluations involving a combination of domestic and independent experts through the Joint External Evaluation (JEE) using WHO guidelines**, (iii) **After Action Reviews** and (v) **Simulation exercises**.

In February 2016, Tanzania was the first country to undergo the JEE and assessed its capacity across 19 Technical Areas. The findings demonstrated that although there has been significant progress, gaps still exist in key core capacities for the country to prevent, detect and respond to Public Health Emergencies (PHE). No core capacity has attained sustainable capacity (score 5), and the majority lies between limited to developed capacity (score 2 to 3). In addition, recognizing the requirement for a multi-hazard and multi sectoral approach for emergency preparedness and response and for disaster risk management, several other assessments have been conducted in the country. These assessments include among others an exercise of risks prioritization, which took place in September 2016.

A national planning meeting was held in November 2016 as a follow up to the JEE to develop a National Action Plan for Health Security which was finalised in February 2017 through a costing working session with WHO and country experts. This plan aims to reduce morbidity, mortality, disability and socio-economic disruptions due to public health threats and to contribute to the Sustainable Development Goal number 3 (Ensure healthy lives and promote well-being for all at all ages). Specifically the plan aims at i) strengthening and sustaining the capacity of Tanzania to prevent outbreaks and other health emergencies; ii) strengthen and sustain the capacity of Tanzania to promptly detect and confirm outbreaks; iii) strengthen and sustain the capacity of Tanzania to promptly respond to and recover from the negative effects of outbreaks and health emergencies.

The plan will align all activities with the “**One Health approach**” and broader health system strengthening with full government and society involvement; map and mobilize existing and potential domestic and external financing to support the delivery of the national action plan and strengthen institutional framework to support Health Security and One Health implementation.

The implementation of the plan will consider a set of guiding principles and core values such as country ownership and leadership; community participation; gender and human rights principles; equity in access to services; strengthening partnerships; fostering inter-sectoral collaboration; evidence-led; shared responsibility; transparency; resilience and dynamism.

This plan will cover key core component areas i.e. **Prevent, Detect, Respond as well as other IHR-related hazards and Points of Entry**. Excluding the costs for immunization, the total costs for implementation of the plan for 5 years is USD **86,586,339**, with higher costs being in the “Detect” component (USD 50,329,373) followed by “Prevent” (USD 22,054,730.). Other costs include costs for “Other IHR related hazards and Point of entry” (USD 9,281,500); “Response” (USD 4,850,782) and cross cutting USD 69,955. **Inclusion of the animal vaccines, the cost for implementation of the National Plan rises to USD 603,158,558 (7 times increase)**. The main cost drivers for the NAPHS as per JEE key core component areas are:

Core Component	Cost Drivers
PREVENT	<ul style="list-style-type: none"> • Support Councils and Health Facilities to conduct fixed, outreach and mobile services • Support provision of Personnel Protective Gears (PPE) and related Equipment • Conduct training on linking human and animal health sectors
DETECT	<ul style="list-style-type: none"> • Potential staff hire for laboratory (veterinary and human labs) • Train 200 HCW and 200 Animal health workers in 26 regions (Specimen referral and transport system) • Orient CHW in 10 high risk regions and provide incentives • Train 126 Students in Masters in Science in Field Epidemiology and Laboratory Training program,
RESPOND	<ul style="list-style-type: none"> • Include the EOC facility in the new construction planning Procure of ambulances (8) to be used to transport highly infectious patients • Procure at least 4 van for public address and communication
OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY	<ul style="list-style-type: none"> • Identify, construct and equip temporary holding facilities at 12 designated Point of Entry (PoE) • Procure five (5) ambulances for transportation of ill travelers suspected to harbor infectious diseases at biggest Point of Entry (PoEs) and six (6) vehicles and 20 motorcycles to facilitate Central and zonal supportive supervision • Develop agreement (Memorandum of Understanding), organize a meeting between the ministries to discuss what to be shared and link to Web Emergency Operation Centre (EOC) information sharing system

Funds for implementation of the plan will come from domestic sources as well as from development partners. The National Health Security Plan will be a coordination platform, anchored under the guidance of the Prime Minister’s office. An inter-ministerial committee will be developed, and this will be accountable to the Prime Minister’s Office and will have representatives from all relevant line ministries, and will also co-opt members from development partners. This committee will administer the plan, and monitor and evaluate its implementation.

Progress towards the attainment of the targets set out in this national action plan will be evaluated quarterly, annually, at midterm and end term. Data will be collected through surveillance systems in human and animal health, annual reviews/assessments and reporting, after action reviews, exercises and simulations and joint external evaluations and other relevant assessments like the PVS, as well as periodic supervision and facility based surveys/assessments. For some technical areas, there will be a need to reconceptualise and re-organize the managerial and support mechanisms and structures at national, subnational and local levels, including defining a clear supervisory mechanism, roles of the various decentralized levels and the community.

The climatic condition in Tanzania varies with geographical zones: tropical on the coast; semi-temperate in the mountains with short rains November-December and long rains February –May; while it is drier in the plateau region with considerable seasonal variations in temperature. Such diverse climate attracts a wide range of vectors of veterinary and public health importance

1.1.1 Socio economic indices

The country's economic indices show that there is progress in terms of improvement of life expectancy to more than 61 years; attainment of a GDP per capita of US\$ 1,043 by 2014; putting the country at the threshold of graduating from Low to Middle Income Country status by 2025². However there is still much to accomplish as the GDP of \$1,813 (PPP) is 32% below the average of \$2,673 for the 45 sub-Saharan African countries³ and ranked 23rd among those countries. In Tanzania, 6 in 10 (61%) households have access to an improved water source. Among urban Mainland households, 86% have access to an improved water source, compared to 48% of rural Mainland household⁴. The population using improved sanitation facilities for urban population is 31.3% while at rural it is 8.3%

1.1.2 Basic Socio Demographic indicators

Table 1: Socio demographic indicators of Tanzania

Year/Indicator	2015/16
Population (millions)	52,482,726
Sex ratio	0.74 male(s)/female
Crude Birth rate	42 per 1,000
Total Fertility rate	5.5
Crude Death rate	9.3 per 1000
Percept Urban	32%
Life Expectancy at birth	61.8 years
Physician popn ratio	0.03 physicians/1,000 population

Source: DHS and Malaria Indicator Survey 2015/16; Census, 2012 data, NBS report 2015;

<http://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>, accessed 6April2017;

http://www.indexmundi.com/tanzania/demographics_profile.html

[Assessed 6April2017](#)

² The Tanzania Second Program of Development of the National five-year (2016/2017 - 2020/2021)

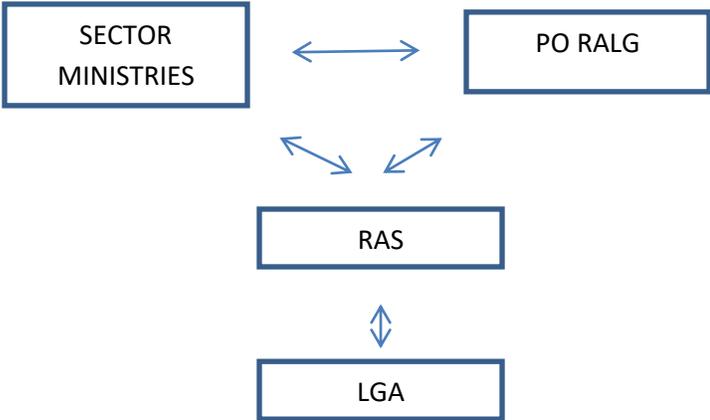
³Gross domestic product based on purchasing-power-parity (PPP) per capita GDP, Sub-Saharan Africa, International Monetary Fund, accessed 15 November 2014

⁴ 2015-16 Demographic and Health Survey and Malaria Indicator Survey

1.1.3 Governance and Financing of the Government of Tanzania

Tanzania has decentralized governance. Most government functions are through decentralization system (Decentralization by Devolution –D by D). The President Office Regional Administration and Local Government (PO-RALG) is responsible for the management and administration of services at Regional and Council level. At local level, the LGAs are responsible for planning, delivering and overseeing services i.e. health, education, agriculture and livestock extension, water supply, road and infrastructure. The LGAs are the main interface between citizens and Government in day to day life.

Figure 2: Relationships between Government levels



The Ministry of Finance manages the overall avenue, expenditure and financing of the United Republic of Tanzania and provides advice on the broad financial affairs in support of Government`s economic and social objectives.

1.2 IHR (2005) and other complementary assessments

1.2.1 IHR Joint External Evaluation

In February 2016, Tanzania underwent a voluntary assessment for the IHR country core capacities using the JEE Tool developed by WHO in collaboration with partners, in particular the Global Health Security Agenda. The findings as shown in Table 2 demonstrated that although there is significant progress, gaps still exist in key core capacities for the country to prevent, detect and respond to public health emergencies and outbreak. No core capacity has attained “sustainable capacity”, while majority lies between “limited” to “developed capacity” as shown in Table 2.

Table 2: Summary scores from IHR JEE, February 2016

No Capacity– (score =1)	Limited Capacity (score = 2)	Developed Capacity (score = 3)	Demonstrated Capacity (score = 4)
Antimicrobial resistance	National Legislation, Policy and Financing	IHR Coordination, Communication and Advocacy	Immunization
Emergency Operation Centre	Zoonotic Disease	National Laboratory System	Real Time Surveillance
	Food Safety	Chemical events	Workforce Development (Field Epidemiology Laboratory Training Program)
	Biosafety & Biosecurity		
	Reporting		
	Workforce Development (Animal workforce)		
	Preparedness		
	Linking Public Health and Security Measures		
	Medical Countermeasures &Personnel Deployment		
	Risk Communication		
	Points of Entry (PoEs)		
	Radiation Emergencies		

1.2.2 Risk Profiling of Public Health Threats

Recognizing the requirement for a multi-hazard and multi sectoral approach for emergency preparedness & response and for disaster risk management, in September 2016, the country underwent a prioritizing exercise for the risks in Tanzania. The findings of the integrated risk profiling of public health threats are shown in the figure below.

Table 3: Integrated Risk Profiling of Public Health Threats, 2016

Risk Matrix

IMPACT	Critical			34 -		
	Important	5 - 8 - 10 - 15 - 17 - 18 - 22 - 36 - 42 -	3 - 9 - 27 - 35 - 38 -	11 - 14 - 19 - 28 - 29 -	20 -	16 - 21 - 24 -
	Moderate	4 - 23 -	13 - 33 - 37 -	25 - 30 - 31 - 32 -	1 - 2 - 12 - 26 -	7 -
	Minor		39 -	6 - 40 - 41 -		
	Negligible					
		Very unlikely	Unlikely	Likely	Very likely	Almost certain

Key:

5. Very high
16 - Riot/conflicts => trauma and injuries, psychosocial, post traumatic stress disorders,
21 - Spill over conflict from neighboring countries => trauma, violence, psychological, insecurity
24 - Cholera => Increased demand of HR, supplies, materials, medicines and finances, high transmission, increased morbidity and mortality
4. High
01 - Drought => Malnutrition, Diarrhea Epidemics, (write RTI in full name)RTI, Skin infections, eye infections
02 - Flood => Malnutrition, water borne diseases (cholera), haemorrhagic fevers (RVF), Injuries/trauma, pneumonia, malaria, Airborne diseases, urinary infections, destruction of health infrastructures
07 - Road Accident => trauma and injuries leading to mass casualties, psychosocial stress,
11 - Building Collapse => trauma and injuries, psychosocial, post traumatic stress disorders,
12 - Storms => trauma and injuries, psychosocial, post traumatic stress disorders,

14 - Terrorism => trauma and injuries, psychosocial, post traumatic stress disorders, Malnutrition, Diseases (RTI, Eyes infections, cancers), inadequate health services, environmental contamination
19 - Domestic Fire => trauma and injuries, psychosocial stress, malnutrition, RT disorders, burn injuries,
20 - Refugees => Diseases epidemics, malnutrition, psychosocial, inadequate health care services, vaccine preventable diseases, zoonotic diseases
26 - Dengue Fever => Overwhelming of health sector in the affected area (HR, supplies, materials, medicines, finances)
28 - Anthrax => High morbidity/ mortality in both humans and animals in affected area, high transmission/spread, high consumption of drugs, funds, supplies, animal quarantine
29 - Aflatoxicosis =>High Morbidity/ mortality in humans, high consumption of medicines, funds, supplies
34 - Ebola => High transmission, high morbidity/ mortality, quarantine, high consumption of (drugs, supplies, finances), (write HR in long form) HR, panic from public and health staffs, missed vaccination, malnutrition, reduced human production, miscarriage
3. Moderate
03 - Earthquake => Injuries/trauma, malnutrition, vector borne diseases (Malaria), water borne diseases, post-traumatic stress disorders psychosocial disorders, destruction of health infrastructure
09 - Maritime Accident => trauma and injuries, death, psychosocial, water borne diseases
25 - Pneumonic Plague => Overwhelming of health sector in the affected area (HR, supplies, materials, medicines, finances), quarantine, high transmission, vector control, high mortality/morbidity
27 - Rift Valley Fever => High morbidity/ mortality in both humans and animals in affected area, high transmission/spread, high consumption of drugs, funds, supplies, animal quarantine
30 - Yellow Fever => Morbidity/ mortality in humans, high consumption of (supplies, materials, medicines and finances),HR, vector control, quarantine, vaccination
31 - Meningococcal Menengitis => High mortality/morbidity and high transmission, mass vaccination, high consumption of (finance, drugs, supplies)
32 - Measles => High transmission, high morbidity/ mortality, mass vaccination, high consumption of (drugs, supplies, finances)
35 - Pandemic Flu => High transmission, high morbidity/ mortality, quarantine, high consumption of (drugs, supplies, finances), HR, panic from public and health staffs,
38 - Chikungunya => High transmission, high morbidity/ mortality, quarantine, high consumption of (drugs, supplies, finances), HR, panic from public and health staffs

1.2.3 Other assessments

Several other assessments have also been done to address gaps in various core capacities as summarized in Table 3. See Annex for details/Specifics

Table 4: Summary of Key Assessments, 2010-2017

S/No	Type of Assessment	Sector involved	Partner Support	Year
1.	Performance of Veterinary Services (PVS) (PVS Reports, PVS Gap analysis report ,PVS- Veterinary Legislation report, PVS-Laboratory report, PVS-Follow up report)	Animal	OIE	2008, 2009, 2013, 2016, 2016
2	Peer Appraisal of the Arrangements in the United Republic of Tanzania regarding the preparedness for responding to a radiation emergency	Tanzania Atomic Energy Commission	IAEA	2014
3.	Situation analysis and recommendations on Antibiotic Use and Resistance in Tanzania	Animal/Human	Center for Disease Dynamics, Economics & Policy (CDDEP),	2015
4	IRRS mission 2015 (Integrated Regulatory review mission)	Tanzania Atomic Energy Commission	IAEA	2015
6	Vulnerability and Risk Analysis and Mapping (VRAM)	All sectors	WHO	2014
7	Integrated Risk Profiling	All sectors	WHO	2016
6	Polio Outbreak Response Simulation Exercise	Human	WHO	2016
6	Vulnerability and Risk Analysis and Mapping (VRAM)	All sectors	WHO	2017

1.2.4 Overall Burden of Public Health Events in Tanzania and Socio Economic Impact

The case for control of public health threats is compelling. The experience of Ebola Epidemic in West African in 2014/15, have shown that the economic loss to the three most affected countries was estimated at 2.2 US\$ billion, or around 16% of their collective income. The global response effort spent to reverse the spread of the disease in the cost more than US\$ 3.8 billion.

In Tanzania, the economic analysis done on the Major Rift Valley Fever (RVF) outbreak which occur in 2007, showed severe negative social economic impacts to people’s livelihoods in the country. The disease caused serious effects on rural household livelihoods, food security and nutrition and on direct and indirect losses to livestock keepers in the country. An economic impact assessment study on RVF that was carried out in Tanzania by Mlozi & Mtambo (2008) found a dramatic impact of RVF outbreak on the international and internal animal trade.

In 2006 a total of 2,594 cattle were exported to Comoro Islands, while in 2007 the figure dropped to 1,183, a 54% decline in exports. Assuming that the average cost for cattle was TShs. 300,000 (US\$ 250) the loss due to 1,411 cattle that were not exported as a result of RVF epidemic accounts to a total sum of TSh. 423.3 million (US\$ 352,750) which was substantial. Livestock internal market flows drastically dropped by 37% during latest epidemic. The estimate of loss as a result of deaths for cattle was \$4 243 250.00 whereas that of goats and sheep was \$2 202 467.00. During the latest outbreak the government spent about US\$3.84 million to bring the disease under control. Psycho-social distress that communities went through was equally enormous, which involved the thinking about the loss of their family members and/or relatives, their livestock and crop production. Socially, the status of most livestock producers was eroded in their communities.

1.2.5 Tanzania Journey From IHR (2005) JEE To Country Planning for Health Security

As a way to spur progress toward full implementation of the IHR 2005, Tanzania joined other countries in 2015, to address the Global Health Security Agenda (GHSA). This is an agenda which was initiated by US in collaboration with WHO and various nations, international organizations and civil societies spearheaded aiming at making world safe and secure from infectious disease threats; and to promote global health security as an international priority. This agenda was also a way to accelerate the implementation of internationally agreed standards for core capacities, including the IHR.

Figure 3: Tanzania`s IHR/GHSA journey summary



2. VISION, MISSION, AND OBJECTIVES OF THE PLAN

2.1 Guiding principles and core values

- **Country Ownership and leadership**, with the government coordinating and ensuring that all interventions by partners are in line with relevant national guidelines;
- **Community participation**, with the involvement of communities, civil society and the private sector;
- **Gender and human rights principles** that ensure incorporation of gender equity and human rights perspectives into policies and programmes;
- **Equity in access to services**, focusing on highly vulnerable population groups, and under-served areas;
- **Strengthening partnerships** across all partners, the private sector, research and academic institutions;
- **Fostering inter-sectoral collaboration** at local; district, zonal and regional level between human health, animal health, and the environment using the “One health Approach”;
- **Evidence-led** and forward looking to take into account emerging trends, risks and health innovations; and Inter country, regional, sub-regional and cross-border cooperation to reinforce timely information sharing and coordinated interventions.
- **Shared responsibility**: Global health security is a shared responsibility that cannot be achieved by a single actor or sector of government. Its success depends upon collaboration among the health, security, environment and agriculture sectors.
- **Transparency**: openness and willingness to promote and share information to facilitate rapid response
- **Resilience** - recognizing the varied staff, programmes, disciplines, sectors and backgrounds with the ultimate aim of reaching a common goal
- **Dynamism**- This plan will be receptive to new problem that can emerge, situations , and changes in law policy and institutions. Therefore, the plan will be reviewed and updated periodically in order to accommodate changes to make the Plan viable.

2.2 Vision

A resilient nation able to prevent, promptly detect and effectively respond to public health threats to protect population health (Human and animal and environment) and mitigate against negative impacts on the economy.

2.3 Mission

A nation that has attained and sustained all the minimum IHR (2005) core capacities

2.4 Goal

To reduce morbidity, mortality, disability and socio-economic disruptions due to public health threats and contributes to SDG no. 3

2.5 Specific Objectives

- a. To strengthen and sustain the national capacity to prevent outbreaks and other health emergencies
- b. To strengthen and sustain the national capacity to promptly detect and confirm outbreaks
- c. To strengthen and sustain the national capacity to promptly respond to and recover from the negative effects of outbreaks and health emergencies
- d. To align all activities with the “ one health approach” and a broader health system strengthening with whole of government/whole of society approach
- e. To map existing and potential domestic and external financing to support the delivery of the national action plan
- f. To strengthen institutional framework to support Health Security and one health implementation

2.6 Platform for National Action Plan – linkage with existing plan; interplay between relevant sectors enablers

The NHS Plan links with the following existing policy, strategies and plans;

- CCM Manifesto
- National Strategy for Growth and Poverty Reduction
- Tanzania Emergency Preparedness and Response Plan (EPRP), 2012
- Health sector all hazard plan, 2016
- Health Sector Strategic Plan IV (2016-2020)
- National Disaster Management policy
- Tanzania Development Vision 2025 (Vision 2025) which aims to achieve a high quality of livelihood for its citizens, peace, stability and unity, good governance, a well-educated society, and a competitive economy capable of producing sustainable growth and shared benefits by 2025.
- Tanzania Health Policy 2007
- Health Sector Strategic Plan IV (2016-2020)
- Human Resource for Health Strategy (2014-2019)
- National Integrated Disease Surveillance and Response Guidelines 2nd Edition July 2011

- One Health Strategic Plan 2015 -2020
- Livestock Development Strategic Plan (2010-2015)
- AMR action plan
- National Lab strategic plan, 2015-2020
- CAPSCA oversee the control of spread of communicable diseases through air transport
- Framework for cross border Surveillance and Response across ECSA/ECA
- National Action Plan for designated PoE
- OSBP for cross border collaboration
- AU/SADC Regional Bodies treaty

3. APPROACH FOLLOWED FOR THE DEVELOPMENT OF THE NATIONAL ACTION PLAN FOR HEALTH SECURITY

3.1 Consultative review of recommendations from JEE and other assessments

Following the completion of IHR JEE, a situation analysis was conducted by the Ministry of Health, Community Development, Gender, Elderly and Children based on JEE and other complementary assessments/recommendations in consultation with relevant sectors. This was to ensure that the planning process takes into account all the available information and that a coordinated approach is in the place between different sectors of the government and ministries during the planning and implementation of national action plan for health security. This consultative exercise led to set priorities and objectives based on the result of the situation analysis and resulted in an agreed set of activities under JEE 19 technical areas.

3.2 Planning Workshop in Dar es Salaam, November 2016

Three levels of WHO (Country Office, Afro region and Headquarters) worked with Ministry of Health, Community Development, Gender, Elderly and Children and other health development partners to facilitate further reviews of priorities to formulate 5-year National Action Plan for Health Security. The criteria used to undertake the reviews include:

Criteria to review priorities:

- Based on the listed priorities for 19 technical areas, are there any critical (technical) gaps that need to be addressed?
- Whether the activities stated to achieve the key priority are realistic, relevant and achievable with the milestones and measures in planning context
- Whether activities listed to address priority/gap will develop the health security capacity in a sustainable way in consideration of health systems strengthening and sector wide development

Cost Driver:

- Application of cost drivers on key priorities identified i.e. to categorize them into big costs, small costs or in between
- From these priorities of large cost, what would be the major activities and inputs for implementation?
- Of the activities assumed to have a high cost, which are in the Government of Tanzania budget? Of those that are not, are there any development partners who have shown interest in these?

The meeting has also identified the need for a **coordination platform** to map and ensure interplay between multiple sectors and other existing plans at all administrative levels of the country. The plan was proposed to be implemented under the guidance of the Prime Minister's office and a multi-sectoral high level technical group, accountable to the Prime Minister's Office, with representatives from all relevant line ministries and WHO will be formed to administer the plan, monitor and evaluate its implementation.

3.3 Costing and action plan finalization workshop in Dar es Salaam, February 2017

Three levels of WHO, Ministry of Health, Community Development, Gender, Elderly and Children and other health development partners convened a follow up workshop to facilitate final reviews of priorities, sequencing and costing to formulate 5-year National Action Plan for Health Security. The criteria applied to undertake the reviews include:

- Activities considered for costing are realistic, measurable and will exert impact and efficiency to corresponding objective(s)
- The technical area has adequately considered the areas of activities that will allow the country to demonstrate progress from lower to higher scores. Likewise, the Plan allows the country to maintain the capacities on areas where it showed demonstrated capacities (high scores – 4-5).
- The activities under this (specific) technical area identifies and includes wider sectors and levels for their participation to deliver it by underpinning One Health, Health System Strengthening equity as/where applicable
- The activities follows a sequential / phased approach (year 1, 2, 3-5) for its operationalization commensurate with resource availability and mobilization by utilizing ongoing financial outlook
- The technical area utilizes best available data to categorize activities in terms of domestic vs external funding
- The technical area identifies responsible Ministries/Offices to take forward agreed activities

3.4 Prioritization of activities by technical areas

National consultative process including the two workshops (November 2016 and February 2017) has led to come up with a confirmed list of objectives, target, impact, summary of planned activities, inputs including unit costs for consideration into estimated costing. For unit costs, Government procurement guidelines were used and where data not available, other authoritative sources such as WHO procurement reference were used.

3.5 Linkage with other programmes/initiatives

There are countries that developed IHR implementation plans and/or other plans which cover features of health security. It was therefore necessary that these plans be reviewed to ensure that priorities across sectors/areas of work are captured but also to avoid unnecessary duplications.

By nature and to bring synergies, Tanzania National Health Security Plan is going to be linked with many on-going initiatives across all levels and this include;

- The second program of development of the national five-year (2016/2017 - 2020/2021)
- National Strategy for Growth and Poverty Reduction which aligns with key core values of equity, gender and other social economic indicators
- Overall Staff employment and retention strategies which ensure adequate workforce is in place
- On going projects and programs in various sectors which address Public Health Threats
 - East African Public Health Laboratory- World Bank Funded Project
 - Bill and Melinda/WHO Rabies Project
 - Centres for Diseases (CDC)/Global Health Security Agenda (GHSA)Health Projects targeting human health
 - Africa Society of Laboratory Medicine (ASLM) and Association of Public Health Laboratories (APHL) targeting Human Laboratories
 - PATH and AMREF targeting Human Surveillance and WASH projects
 - Food and Agriculture Organization –Emerging Pandemic Threats Project (FAO-EPT2 Projects)
 - Zoonoses and Emerging Livestock system (Universities –Glasgow and MALF & SUA, TAWIRI, KCRI)
 - Southern Africa Centre for Infectious Diseases (SACIDS) –mobile technology and repository of animal disease data, community surveillance
 - OHCEA-One health workforce
 - Finnish Government- Tanzania Veterinary Laboratory Agency (TVLA)
 - SIDA-Food safety and Vaccination training (Capacity building) –Ministry of Agriculture, Livestock and Fisheries (MALF), Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), Tanzania Food and Drug Authority (TFDA), Tanzania Bureau of Statistics (TBS), Ministry of Trade and Industries
 - European Union Project (EU) –Support in Lab Unit for Radio nuclear event

3.6 Applying Sector wide approach to implement National Health Security Plan

With regard to the sector wide approach (SWAP), the arrangements have already been laid down in terms of code of conduct and basket funding. Agreements have been laid in various ministries and there are technical committees –SWAP and Joint Annual Reviews which are instruments for collaboration between stakeholders, with open and transparent discussion. With this plan, this model will be used to ensure that there is harmonization between monitoring of this NAPHS and the SWAP across all sectors.

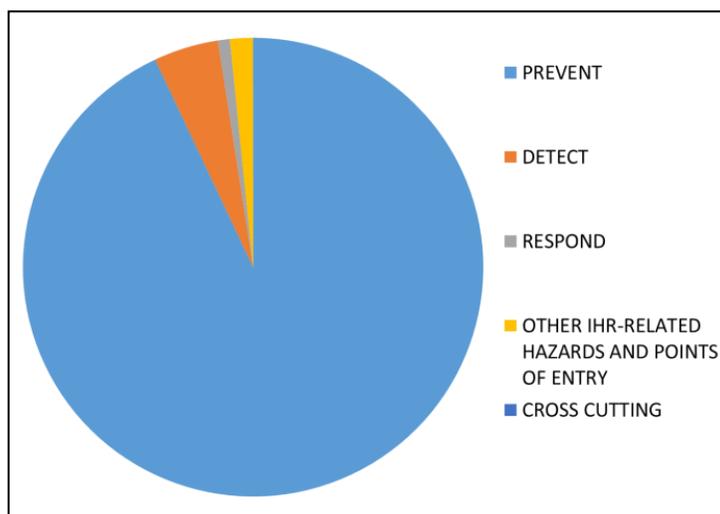
4. COMPONENTS OF NATIONAL PLAN WITH ESTIMATED COSTS

4.1 Cost scenarios with inclusion of Immunization Technical Area

This table shows the cost breakdown by high level component of the National Action Plan for Health Security for the 5-year period. The overall cost of the plan is **Tshs 1,326,948,826,317 (USD 603,158,558)**. The Prevent component has the highest budget while the Respond one is relatively low. The cost of the Prevent component includes the purchase of more than 40 million doses of animal vaccines.

Table 5: Total Costs by Category (inclusion of animal vaccines)

<i>CATEGORY</i>	TOTAL (TSH)	TOTAL (USD)
<i>PREVENT</i>	1,184,979,286,153	538,626,948
<i>DETECT</i>	110,724,620,164	50,329,373
<i>RESPOND</i>	10,671,720,000	4,850,782
<i>OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY</i>	20,419,300,000	9,281,500
<i>CROSS CUTTING</i>	153,900,000	69,955
<i>Grand Total</i>	1,326,948,826,317	603,158,558

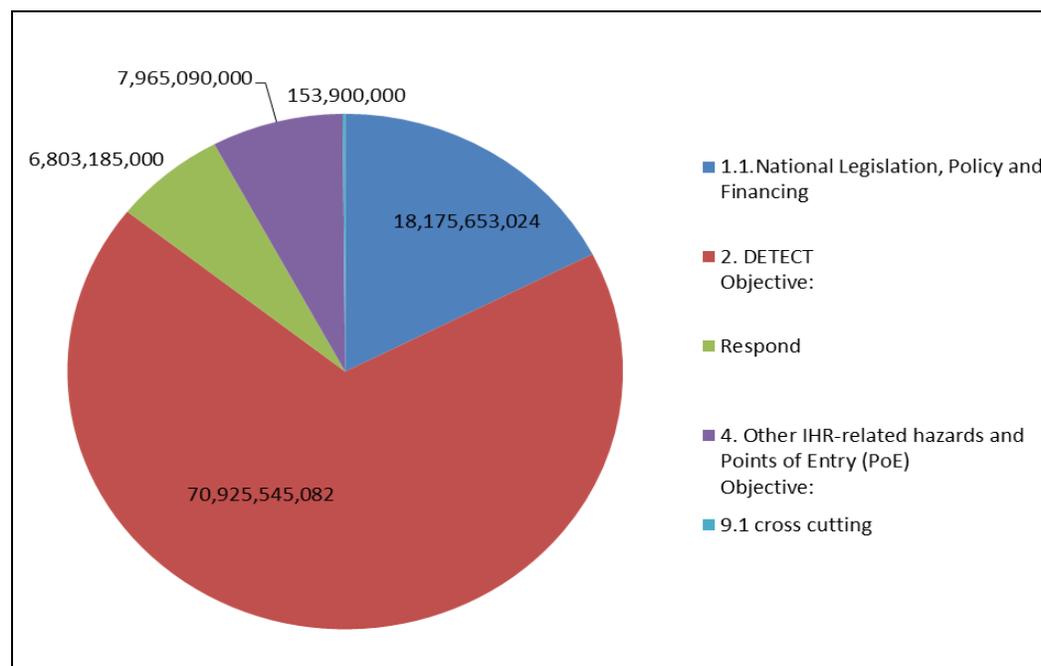


4.2 Total cost scenario without the Immunization Technical Area

This table shows the cost breakdown by high level component of the National Action Plan for Health Security without Immunization for the 5-year period. The overall cost of the plan is Tshs 190,489,946,211.64, equivalent to approximately USD 86,586,339 as shown in Table 6.

<i>INDICATOR</i>	TOTAL (TSH)	TOTAL (USD)
<i>PREVENT</i>	48,520,406,048	22,054,730
<i>DETECT</i>	110,724,620,164	50,329,373
<i>RESPOND</i>	10,671,720,000	4,850,781.818
<i>OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY</i>	20,419,300,000	9281500
<i>CROSS CUTTING</i>	153,900,000	69954.54545
<i>Grand Total</i>	190,489,946,211.64	86,586,339

Table 6: Total Costs by Category (without inclusion of animal vaccines)

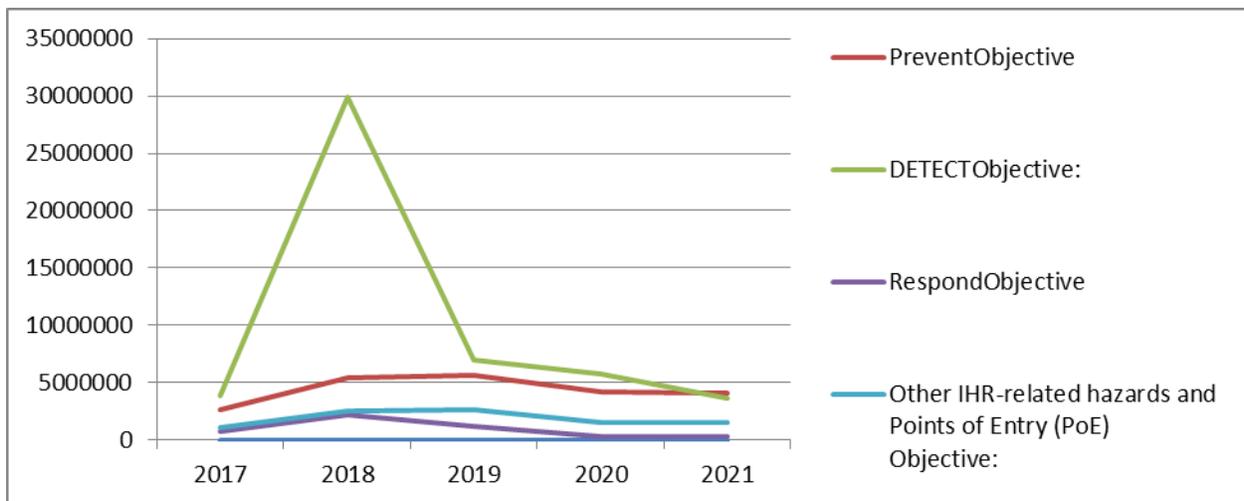


Cost breakdown by core component over years

The table below presents the cost breakdown by technical area over years. There is a common trend across the other components (Prevent, Detect, Other IHR-related hazard) of cost increase in the first three years of the plan. The costs tend to be the same in years 2 and 3 and decrease in years 4 and 5 (see line chart).

Table 7: Cost Breakdown by Core Components by Year

Component	2017	2018	2019	2020	2021
PREVENT	2,652,034.10	5,430,044.56	5,606,965.00	4,244,381.82	4,121,304.55
DETECT	3,921,700.00	29,945,918.18	6,991,859.09	5,804,825.04	3,665,070.49
RESPOND	769,538.64	2,231,743.18	1,157,438.64	334,090.91	357,970.45
PoE and other IHR-related hazards:	1,115,463.64	2,525,459.09	2,614,754.55	1,535,638.64	1,490,184.09
cross cutting	-	-	69,954.55	-	-
Grand Total	8,458,736.37	40,133,165.01	16,440,971.82	11,918,936.40	9,634,529.58



The Table below compares the costs for the key core components and the JEE scores. The Detect component which scored the highest on average (2,8) has the highest cost while the Respond component which scored the lowest (2) has the lowest cost. The Prevent and Other IHR-related hazards & Points of Entry components scored respectively 2.4 and 2.5 on average.

<i>INDICATOR</i>	AVERAGE JEE SCORES	TOTAL (TSH)	TOTAL (USD)
<i>PREVENT</i>	2.4	48,520,406,048	22,054,730
<i>DETECT</i>	2.8	110,724,620,164	50,329,373
<i>RESPOND</i>	2	10,671,720,000	4,850,782
<i>OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY</i>	2.5	20,419,300,000	9,281,500
<i>CROSS CUTTING</i>	NA	153,900,000	69,955
<i>Grand Total</i>		190,489,946,211.64	86,586,339

4.3 Key summary conclusion of costing assessment

Cost Drivers for the NAPHS

The main cost driver of the National Action Plan for Health Security in Tanzania is the procurement of vaccines for livestock. With the immunization technical area included, the total cost of National Action Plan increases by 38 times. The cost of the Respond thematic area seems relatively low compared to the others, but if costs of important infrastructure and procurement items could have been included, this could have significant influence to current cost scenario.

The main cost drivers per JEE Thematic areas are presented in the table below:

Core Component	Cost Drivers
PREVENT	<ul style="list-style-type: none"> • Support Councils and HF to conduct fixed, outreach and mobile services • Support provision of PPE and Equipment • Conduct training on linking human and animal health sectors
DETECT	<ul style="list-style-type: none"> • Potential staff hire for laboratory (veterinary and human labs) • Train 200 HCW and 200 AHW in 26 regions (Specimen referral and transport system) • Orient CHW in 10 high risk regions and provide incentives • Train 126 Students in MSx in FELTP
RESPOND	<ul style="list-style-type: none"> • Include the EOC facility in the new construction planning of MoH • Procure of ambulances (8) to be used to transport highly infectious patients • Procure at least 4 van for public address and communication

OTHER IHR-RELATED HAZARDS AND POINTS OF ENTRY	<ul style="list-style-type: none"> • Identify, construct and equip temporary holding facilities at 12 designated PoE • Procure five ambulances for transportation of ill travelers suspected to harbor infectious diseases at biggest PoEs and six vehicles and 20 motorcycles to facilitate Central and zonal supportive supervision • Develop letter of agreement (MOU), organize a meeting between the ministries to discuss what to be shared and link to Web EOC information sharing system
--	---

Number of activities per year

	2017	2018	2019	2020	2021
Number of Activities	112	157	117	77	72

4.4 Risk appraisal and key risks

Key uncertainty, assumptions associated with the plan and key risks that have significance to national planning and its operationalization. These include;

Table 8: Risk Appraisal and Key Risks

Category	Uncertainty/Risk	Assumption
Administration of the implementation of the plan	<ul style="list-style-type: none"> • Low collaboration between stakeholders' participation in implementation of the plan 	<ul style="list-style-type: none"> • Interministerial and partners Steering Committee
Technology	Fast Changing of technology	<ul style="list-style-type: none"> • No Technological advancement – possibility to fit the existing technology into new/advanced technologies at low cost • No need for big IT solution does not support • Systems can be scalable and meet increased capacity requirements
Finance	<ul style="list-style-type: none"> • Late application for the funds • Unavailability of funds (domestic and external) • Overwhelming public threat/hazard • Delay in getting finance • Change in government 	<ul style="list-style-type: none"> • Availability of adequate funding • Dispersed timely and sufficient amount • Funds will be used as per plan • Donor financial support will be available • No high inflation and/or accurate forecasting • Each stakeholder will play the required Role

	priorities over time	
Human resource	<ul style="list-style-type: none"> • High staff turn over • Low deployment rate • Non approval by responsible authorities (Council, Treasury Registrar, Utumishi) for hiring/recruitment • Re-allocation of trained staff 	<ul style="list-style-type: none"> • Human resource will be available • Availability of working tools
Social	<ul style="list-style-type: none"> • Low level of public awareness and participation • hard to reach communities • Social – cultural barriers 	<ul style="list-style-type: none"> • Targeted and sustained advocacy for community participation will be in place
Governance	<ul style="list-style-type: none"> • Minimal support from politicians • Lack of buy in from political support 	<ul style="list-style-type: none"> • Government buy-in and ownership is in place • Continued political stability • Good practice principles applied at all levels •
Natural (Man-made/natural disaster)	<ul style="list-style-type: none"> • Unknown disaster happening 	<ul style="list-style-type: none"> • Adequate preparedness and effective & timely response to known hazards
Plan implementation	<ul style="list-style-type: none"> • Misinterpretation and lack of sense of ownership 	<ul style="list-style-type: none"> • No fragmentation of implementation of plan • Effective coordination at all levels • Full compliance and abide to the plan • Implementers understood their roles and boundaries
Infrastructure	<ul style="list-style-type: none"> • geography of the country- Inability to deliver services or supplies timely 	<ul style="list-style-type: none"> • The Plan`s core values will address the equity

5. DELIVERY OF ACTION PLAN

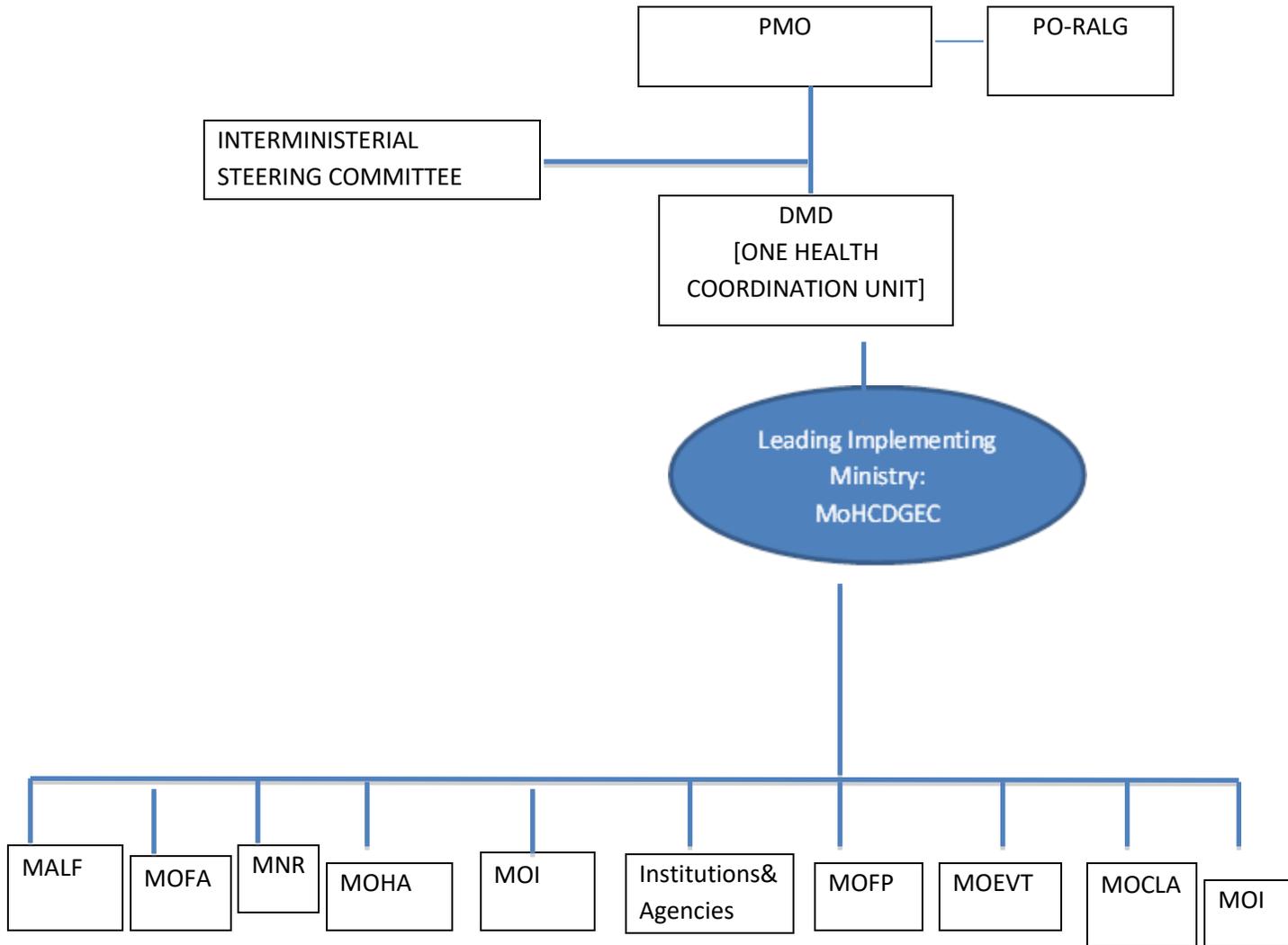
5.1 Delivery of the Plan

The delivery of the NHS plan will be done through the Prime Minister’s Office, Department of Disaster Management. It is anticipated that under Disaster management Act of 2015, the Permanent Secretary will formulate an interministerial Steering Committee. The organogram below stipulate the proposed organogram;

NATIONAL HEALTH SECURITY MANAGEMENT STRUTURE

Prime Minister Office – Office of the President		
Inter-Ministerial Committee		
DMD One Health Coordination Unit		
Leading Implementing Ministry: Ministry of Health, Community Development, Gender, Elderly and Children		
Lead Ministry 1	Lead Ministry 2	Lead Ministry 3
MOHCDGEC, MALF, MNR, MOCLA, MOHA, MOI, MOEVT, MOD		
REGIONAL AND DISTRICT		
COMMUNITY		

NATIONAL HEALTH SECURITY MANAGEMENT STRUCTURE



Key:	MOHCDGEC	Ministry of Community Development, Gender, Elderly & Children
	MALF	Ministry of Agriculture, Livestock and Fisheries
	MNR	Ministry of Natural Resources and Tourism
	MOHA	Ministry of Home Affairs
	MOFP	Ministry of Finance and Planning
	MOFA	Ministry of Foreign Affairs and International Cooperation
	MOEVT	Ministry of Education and Vocational Training
	MOI	Ministry of Infrastructure
	MOCLA	Ministry of Constitution and Legal Affairs
	MOI	Ministry of Information, Youth, Sports and Culture

5.2 Roles and responsibilities of Inter ministerial Steering Committee for the National Action Plan for Health Security

National/Government sectors	Roles and responsibilities
Prime Minister Office, Disasters Management Department (DMD)	<p>DMD primary function is coordination of disaster management activities in Tanzania. It seeks to ensure that in times of disaster, appropriate response systems, procedures and resources are in place to assist those afflicted. DMD is also in charge to coordinate disaster preparedness efforts and activities in order to minimize the adverse effects of hazards through effective precautionary measures and to ensure timely appropriate and efficient organization and delivery of emergency.</p> <p>DMD will be responsible for directing and controlling preparedness and response operations in the event of an emergency, communication and warnings, shelter and mass care, emergency public information, resources and supplies and damage assessment.</p>
President's Office, Regional Administration and Local Government (PORALG)	<p>PORALG provide support in directing and controlling preparedness and response operations in the event of an emergency, communication and warnings, shelter and mass care, emergency public information, resources and supplies and damage assessment</p>
Ministry of Health, Community Development, Gender, Elderly and Children	<p>MoHCDGEC will be the leading ministry in overseeing the overall implementation of the NAPHS; under the guidance of interministerial Steering Committee.</p>
Ministry of Finance and Planning	<p>Ministry of Finance and Planning has a primary role in resources and supply. Collaborate in reaching the financial institutions to involve them in resource mobilization and information dissemination</p>
Ministry of Home Affairs	<p>The ministry has to plan to insure security as well as support in surveillance and response using their existing structures e.g. police hospitals, transport facilities and human resource. But also the Tanzania Police Force has a primary role of evacuation and law enforcement. Supportive roles include health and medical care and emergency public information through Immigration department. Other supportive roles include search and rescue and shelter and mass care.</p>
Ministry of Agriculture, Livestock and Fisheries	<p>Facilitate in zoonotic diseases control and prevention including surveillance to support early warning systems</p>
Ministry of Natural Resources and Tourism	<p>Facilitate in zoonotic diseases control and prevention including surveillance to support early warning systems</p>
Ministry of Foreign Affairs and International Cooperation	<p>Collaborate in dissemination of information to other countries through embassies and regional organizations</p>
Ministry of Education and	<p>Responsible for supporting public awareness and information dissemination.</p>

Vocational Training	Collaborate with MOHCDGEC and PORALG in case of closure of schools during emergency situations.
Ministry of Works/Infrastructure	Collaborate with MOHCDGEC to arrange for required infrastructure facilities. The ministry has a primary role for public works and engineering.
Ministry of Information, Youth, Sports and Culture	Collaborate with MOHCDGEC to support communication and information dissemination to the public. The ministry has a primary role for communication and warning as well as emergency public information.
Institutions and Agencies- (OHCEA, TVLA, GCLA, TAEC, TFDA and other Research Institutions)	Collaborate with respective sectors in the implementation of the plan in respective areas

6. SUPERVISION, MONITORING AND EVALUATION OF THE PLAN

Prior to 2015, under Article 54 of the IHR (2005), countries were self-reporting annually their implementation status to World Health Assembly. However, several IHR review committees and various experts' panels have recommended that, in addition to annual monitoring, there is a need for after actions reviews, simulations exercises and importantly, voluntary independent joint external evaluation (JEE).

6.1 Monitoring and evaluation of national action plan

Progress towards the attainment of the targets set out in this national action plan will be evaluated quarterly, annually, at midterm and end term. Data will be collected through surveillance systems in human and animal health, annual reviews/assessments and reporting, after action reviews, exercises and simulations and joint external evaluations and other relevant assessments like the PVS, as well as periodic supervision and facility based surveys/assessments. In addition mid-term reviews will be conducted to assess interim progress; and a final programme review will be undertaken before development of the next action plan.

Building sustainable capacity at all levels-national, local governments, the private sector, facilities and communities to carry out supervision, monitoring and evaluation of IHR core capacity building is important. For some technical areas, there will be a need to reconceptualise and re-organise the managerial and support mechanisms and structures at national, subnational and local levels, including defining a clear supervisory mechanism, roles of the various decentralized levels and the community. Strengthening and ensuring a robust international health regulation supervision, monitoring and evaluation framework (IHRSMEF) at all levels will require increased investments, including the development and use of appropriate information communication a technology (ICT) for improving communication and information.

Moreover there will be a need to increase the training, recruitment and deployment of the required human resources for health security and one health at all levels. In addition, it will be critical to ensure the utilization and dissemination of information to all stakeholders for purposes of improving management, sharing experiences, upholding transparency and accountability.

Objective

To build a harmonised and coordinated framework for supervision, monitoring and evaluation in order to generate data for decision making, programme development, resource allocation and management at all levels and among all stakeholders.

Strategies

(a) Periodic supervision

Periodic supervision will be done to ensure the activities are implemented according to the agreed targets. These activities will be integrated in to the routine quarterly supervision schedules within respective sectors. The supervision will be carried out at all levels; starting from the National level i.e. Ministry supervising staff at regional levels including staff at Local Government authorities; and Local Government Authorities staff supervising those working beneath them.

Additionally, with respect to the health sector, a framework adopted in 1999, using a sector-wide approach (Annual Health Sector Review), it is expected that some indicators for the NAPHS will be incorporated. To date, the Tanzania's Joint Annual Health Sector Review has been an excellent tool to measure the progress and achievements in the sector.

(b) Monitoring and evaluation of the surveillance systems in human and animal health

Routine health information systems (HMIS), well-functioning integrated disease surveillance and response system (IDSR) and good zoonotic and animal surveillance systems enable the monitoring of financing, the establishment of IHR core capacities and the trends in priority diseases, conditions and events. It is important that the performance of the HIMS, the IDSR, zoonotic and animal surveillance systems are also monitored through metrics such as the timeliness and completeness of reporting, the proportion of sub-national levels receiving quarterly feedback, the proportion of outbreaks and other health emergencies that are investigated and promptly responded., Morbidity and mortality rates and case fatality rates during outbreaks and other health emergencies are also monitored. Other important metrics that should be evaluated periodically includes: the accuracy, representativeness and validity of the data. Monitoring of the surveillance systems will also identify weaknesses so as to enable actions to be taken to improve the systems. The details of how to monitor and evaluate surveillance system are clearly incorporated in the IDSR technical guidelines in human health, while in the animal health, there is a Veterinary Act, No 16, 2003 which guides surveillance of zoonotic diseases (2010). Annual assessments and reporting

The main purpose of completing the annual International Health Regulations (2005) Monitoring tool questionnaire⁵ was to fulfil the obligation of Member States and the WHO Secretariat to report annually to the World Health Assembly on the implementation of IHR (2005). Although the data derived from the current questionnaire provides

⁵ WHO. HR Core Capacity Monitoring Framework: Questionnaire for Monitoring progress in the Implementation of IHR Core Capacities in States Parties
http://apps.who.int/iris/bitstream/10665/163737/1/WHO_HSE_GCR_2015.8_eng.pdf?ua=1&ua=1

consistent information's, but they do not give an indication of the functionality of the core capacities to manage public health events and its limitations, which includes bias of the self-assessment and self-reporting. This was also noted by the IHR Review Committee (WHA 68/22 Add.1) and suggested its simplification. This plan will use the revised IHR monitoring tool for annual review and reporting of the IHR core capacities

6.2 After Action Reviews

The IHR Review Committee (WHA 68/22 Add.1) recommended that there was a need to move towards a more action-oriented approach to periodic evaluation of functional capacities. The management of public health events reflects the functionality of national core capacity and of the readiness of the alert and response system. The outbreak of Ebola virus tested the functional of country capacity against the information shared by the Member States in the annual reporting questionnaire. It is imperative to complement the annual reporting tool by reviewing a real-life experience of a public health event, which can offer an opportunity to learn lessons and identify opportunities for improvement that were not recognised through the annual reporting tool. This plan will support after action review using the methodology proposed by the WHO.

6.3 Simulation exercises

The IHR Review Committee (WHA 68/22 Add.1) recommended that there is a need to move towards a more action-oriented approach to periodic evaluation of functional capacities. In addition to annual reporting, the IHR Monitoring and Evaluation Framework post 2015 (IHRMEF post 2015), recommends that when there is no suitable public health event(s) to review, exercises can serve as an alternative for testing the functioning of IHR core capacities. These will be more suitable for rather rare events such as chemical and radio-nuclear events, or when there is a need to test the performance of a particular sub-national level, because it has not been included in an after action review for a long period of time, or any other particular reason, such as the change of structure or the introduction of new plans, etc. This plan will support the conduct of exercises and simulations as per the guidance provided in the IHRMEF post 2015.

6.4 Joint External Evaluations (JEE)

During 2015, WHO developed the JEE tool based on existing tools, including: the IHR monitoring questionnaires, the Global Health Security Agenda (GHSA) assessment tools and the path way for veterinary services developed by the Food and Agriculture Organization and the Organization for Animal health (OIE). JEE is an important component of the post 2015 IHR supervision monitoring and evaluation framework because they provide an objective basis for the development of national action plans for health security. They involve an Inclusive multi-stakeholder approach to: accelerate and coordinate objective country assessment processes; they facilitate engagement between countries, international organizations, donors, and technical experts involved in the assessment process; promote transparency in exchanging information on the results of assessments, in particular to donors interested in funding the development and

strengthening of country capacities. The JEE is a peer-to-peer assessment that uses a set of agreed indicators to evaluate country capacities in 19 technical areas. Every indicator has attributes that reflect various levels of capacity with scores ranging from 1 to 5. If there is no capacity, a score of 1 (Red) is recorded, limited capacity is scored 2 (Yellow), developed capacity is scored 3 (Yellow), demonstrated capacity is scored 4 (Green) and sustainable capacity is scored 5 (Green), which is the highest level of the achievement of implementation of IHR (2005) core capacities. Tanzania conducted a baseline JEE in 2016 and will conduct a follow up JEE in 2019 to guide the development of another action plan.

6.5 Other assessments

Additionally, other animal and human assessments will also be used to assess the implementation of the plan and this include;

- Annual Joint Health Sector Performance review (Health)
- Performance for Veterinary Services
- Livestock sector analysis
- Facility based surveys/assessments.

6.6 Midterm review

A mixed (internal and external) midterm review of the plan will be conducted in 2019

6.7 End term evaluation

A mixed (internal and external) end term review of the plan and follow up JEE will be conducted in 2021

6.8 Indicators and targets for monitoring and evaluation

PREVENT

National Legislation, Policy and Financing

- By the end of year 1 (2018), 100 % of regulations, laws and acts mapped and reviewed.
- By the end of year 2 (2019) at least 50% of regulations, laws and acts are amended and passed.
- Starting 2017/2018, a budget line for implementation of IHR will be available in all relevant sectors every fiscal year.

IHR Coordination, Communication and Advocacy

- Inter-ministerial steering committee formed, terms of reference developed and functional by end of 2018
- At least one simulation exercise conducted per year

- 50% of sub-national level got functional steering committee by end 2019

Antimicrobial resistance

- National comprehensive plan to combat antimicrobial resistance implemented in 80% of regions by 2021
- Seven surveillance sentinel sites functional and reporting AMR data by 2021
- National integrated reporting system using a one-health approach for AMR functional by 2020
- Consumption of antimicrobial agents use in human, animals and food production reduced by 20% by 2020
- Reports on antimicrobial agents use in human, animal and food production generated in 10 high-risk regions by 2020.

Zoonotic Disease

- Functional surveillance system for at least 5 priority zoonoses using one health approach developed and implemented by 2020
- Functional One Health teams for human, animal and environment health established at all regional levels by 2019 and district levels by 2021

Food safety

- A functioning surveillance system for detecting and responding to foodborne diseases, conditions and events as well as food contamination is in place by 2020

Biosafety and Biosecurity

- The national biosafety and biosecurity management strategic plan and number of guidelines and procedures available and implemented sector wide by year 2020.
- A National coordination system for biosafety and biosecurity risk management is in place by 2020

Immunisation

- > 90% coverage of the country's twelve-month-old population with at least one dose of measles-rubella vaccine as demonstrated by administrative data.
- Progressive increase in the number of districts with coverage >90%
- A functional animal /human vaccination programme for high priority zoonotic diseases is in place (By 2021)

DETECT

National Laboratory System

- A nationwide laboratory system capable for providing quality testing for 10 priority diseases from human and animal health by 2021
- Appropriately specimen management applied in at least 80% of districts in GSHA priority regions by 2019
- Integrated public and animal health surveillance reports generated monthly from at least 80% of high risk regions by 2021

Real Time Surveillance

- Functional electronic system for surveillance of priority diseases, public health events and conditions available countrywide in least 80% of the districts by 2020.

Reporting

- Proportion of potential PHEICs that are reported timely (within 24 hours) by the IHR NFP to WHO and OIE delegate to OIE and FAO
- 80% of regions reporting significant public health events by 2019

Workforce Development

- Certificate, Diploma and Degree Curriculum to have one health component by 2019
- By the next two years 100% of districts have at least one trained on FELTP the basic course and 50% of regions to have intermediate and long FELTP course
- Developed a strategy to guide workforce need for all levels and sectors by 2017/2018
- An implemented strategy by end of third year (2020)

RESPOND

Preparedness

- Availability of Hazard Specific plans for priority public health risk for at least 70% of High-risk regions by year 4
- Multi-sectoral and multi-disciplinary RRT established and operationalized both National as well as sub-national levels by year 4

Emergency Response Operations

- Fully functional National Public Health Emergency Operation Center is in place for coordination of public health event in one health approach by year 3
- At least 2 simulation exercises involving multiple sectors will have been conducted by year 2 to validate and test the response plan.

Linking Public Health and Security Authorities

- 50% of law enforcement agencies to have developed and incorporated SOP and operationalize
- Proportion responses to PHEs which have jointly been investigated by public health and law enforcement authorities
- At least one simulation exercise conducted once in every year

Medical Countermeasures and Personnel Deployment

- A framework developed and assigned MOU to relevant stake holders by the end 2018
- Budget line for MCM is in place for each fiscal year

Risk communication

- Risk Communication Strategy in place and Operationalized by 2020
- Communication mechanism for public health risk established and implemented by year 3

OTHER IHR HAZARDS AND POINTS OF ENTRY (PoEs)

Points of Entry

- Public health emergency plan developed and operationalized at 12 designated Points of Entry (PoE) by year 3.
- Linkage between PoE Surveillance and National Surveillance system established by year 5.

- At least 2 PoEs meet IHR core capacity requirements by 2018 and 2 additional designated PoE meet IHR core capacities each year

Chemical events

- The multi-sectoral emergency response plan for chemical threat are in place and tested through at least 1 simulation exercise by end of year 2.
- Establish routine surveillance system of chemical events at 4/10 designated facilities and communities that use chemicals are in place by year 3

Radiation events

- Availability of comprehensive plan addressing radiological and nuclear emergencies are established by year 4
- Coordinating mechanism between radio nuclear competent authorities and IHR established by year 4

7. BUDGET AND FINANCIAL PLAN

A: Budget Summary by interventions

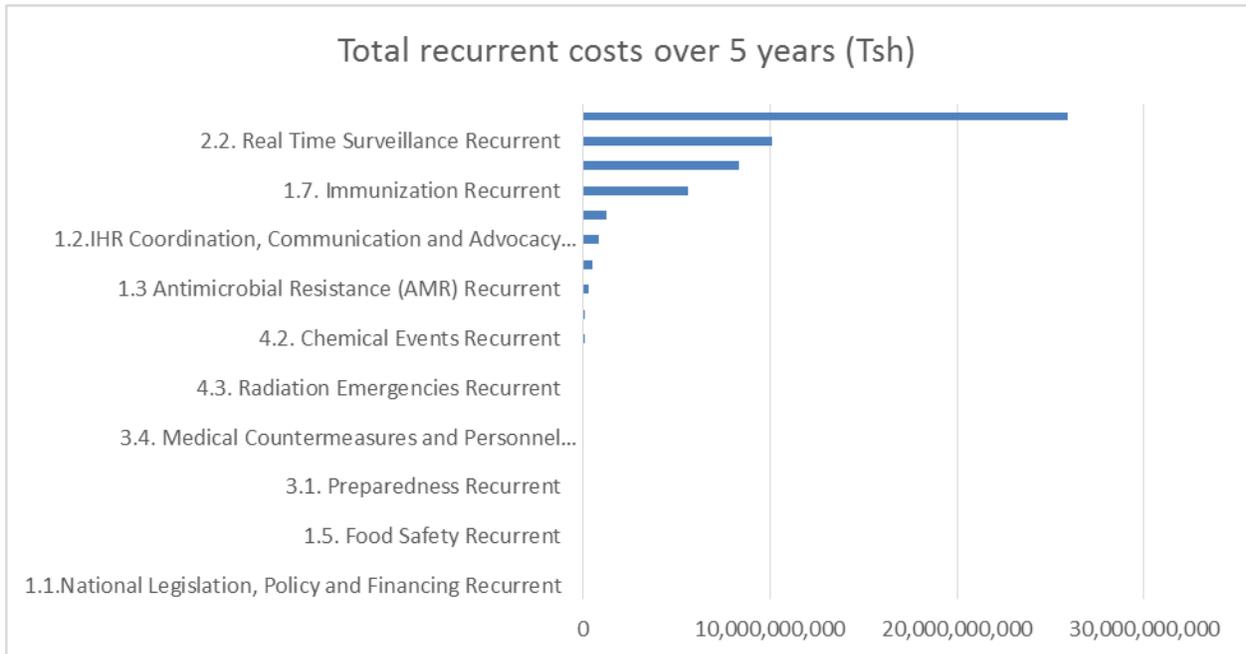
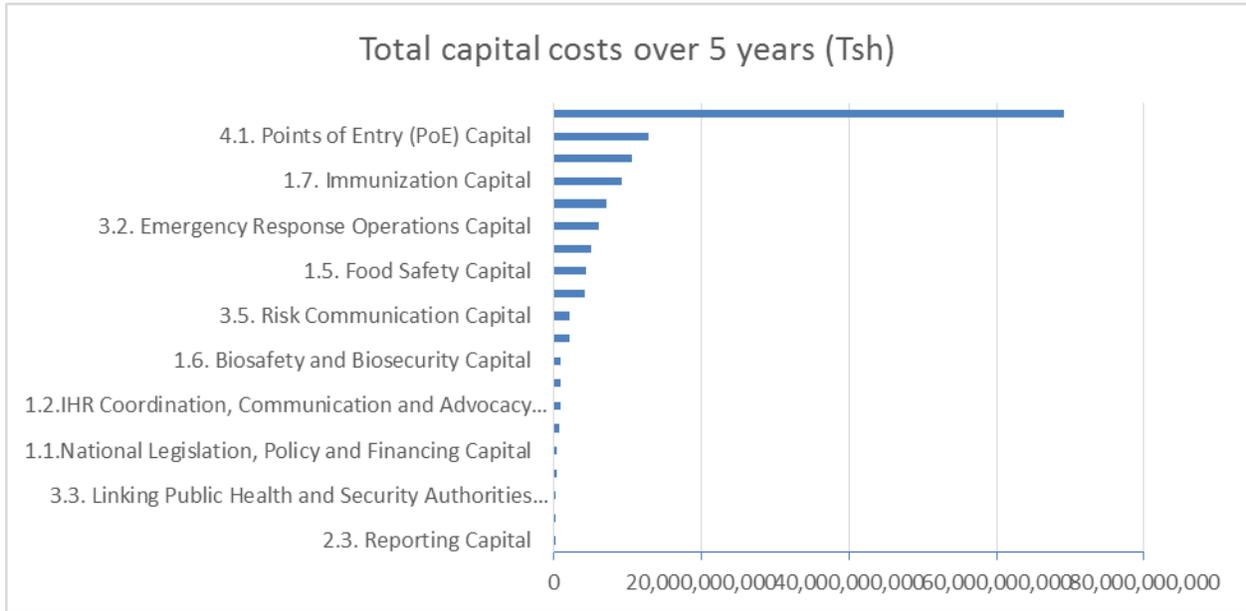
Scenario 1: Including Immunization

1. PREVENT Objective:	Tshs	USD
1.1.National Legislation, Policy and Financing	361,500,000	164,318
1.2.IHR Coordination, Communication and Advocacy	1,735,370,000	788,805
1.3 Antimicrobial Resistance (AMR)	7,488,425,048	3,403,830
1.3.1 Antimicrobial stewardship activities	-	0
1.4.Zoonotic Disease	10,514,006,000	4,779,094
1.5. Food Safety	4,398,630,000	1,999,377
1.6 Biosafety and Biosecurity	9,279,835,000	4,218,107
1.7. Immunization	1,151,696,200,000	523,498,273
Subtotal PREVENT	1,185,473,966,048	538,851,803
2. DETECT Objective:		
2.1. National Laboratory System	69,144,685,164	31,429,402
2.2. Real Time Surveillance	15,178,095,000	6,899,134
2.3. Reporting	91,790,000	41,723
2.4. Workforce Development	26,310,050,000	11,959,114
Subtotal DETECT	110,724,620,164	50,329,373
3. RESPOND Objective:		
3.1. Preparedness	952,075,000	432,761
3.2. Emergency Response Operations	6,088,150,000	2,767,341
3.3. Linking Public Health and Security Authorities	655,300,000	297,864
3.4. Medical Countermeasures and Personnel Deployment	821,220,000	373,282
3.5. Risk Communication	2,154,975,000	979,534
Subtotal RESPOND	10,671,720,000	4,850,782
4. Other IHR-related hazards and Points of Entry (PoE) Objective:		
4.1. Points of Entry (PoE)	14,050,595,000	6,386,634
4.2. Chemical Events	2,151,725,000	978,057
4.3. Radiation Emergencies	4,216,980,000	1,916,809
Subtotal Other IHR-related hazards and Points of Entry (PoE)	20,419,300,000	9,281,500
Objective:		
cross cutting	153,900,000	69,955
Grand Total	1,327,443,506,212	603,383,412

Scenario 2: Excluding Immunization

1. PREVENT	Tshs	USD
<i>Objective:</i>		
1.1.National Legislation, Policy and Financing	361,500,000	164,318
1.2.IHR Coordination, Communication and Advocacy	1,735,370,000	788,805
1.3 Antimicrobial Resistance (AMR)	7,488,425,048	3,403,830
1.3.1 Antimicrobial stewardship activities	0	0
1.4.Zoonotic Disease	10,514,006,000	4,779,094
1.5. Food Safety	4,398,630,000	1,999,377
1.6. Biosafety and Biosecurity	9,279,835,000	4,218,107
1.7. Immunization	14,742,640,000	6,701,200
<i>Subtotal PREVENT</i>	48,520,406,048	22,054,730
2. DETECT		
<i>Objective:</i>		
2.1. National Laboratory System	69,144,685,164	31,429,402
2.2. Real Time Surveillance	15,178,095,000	6,899,134
2.3. Reporting	91,790,000	41,723
2.4. Workforce Development	26,310,050,000	11,959,114
<i>Subtotal DETECT</i>	110,724,620,164	50,329,373
3. RESPOND		
<i>Objective:</i>		
3.1. Preparedness	952,075,000	432,761
3.2. Emergency Response Operations	6,088,150,000	2,767,341
3.3. Linking Public Health and Security Authorities	655,300,000	297,864
3.4. Medical Countermeasures and Personnel Deployment	821,220,000	373,282
3.5. Risk Communication	2,154,975,000	979,534
<i>Subtotal RESPOND</i>	10,671,720,000	4,850,782
4. Other IHR-related hazards and Points of Entry (PoE)		
<i>Objective:</i>		
4.1. Points of Entry (PoE)	14,050,595,000	6,386,634
4.2. Chemical Events	2,151,725,000	978,057
4.3. Radiation Emergencies	4,216,980,000	1,916,809
<i>Subtotal Other IHR-related hazards and Points of Entry (PoE)</i>	20,419,300,000	9,281,500
<i>Objective:</i>	153,900,000	69,955
<i>cross cutting</i>	153,900,000	69,955
Grand Total	190,489,946,212	86,586,339

B: Budget summary by costs -Capital and recurrent costs (without animal vaccines)



C: Stakeholder Financial Mapping and Analysis

S/No	Partner	Technical Area	Contributions (cash, in kind or others)
1	World Bank	Laboratory (Human) Surveillance EOC Preparedness	USD 30,000,000 Period: 2010-2020
2	FAO	Zoonotic Laboratory (Animal) Workforce (Animal) Biosafety and Bio-security	USD 2,219,005 Period: 2017-2020
3	CDC, with Partners- ASM, ASLM, PATH, APHL, CLSI, UVA, AFENET and ITECH)Workforce (Animal)	Laboratory Biosafety and biosecurity Surveillance PoE EOC Workforce development IHR Coordination Zoonotic Diseases	USD 11,000,000 Period: 2014-2019
4	Finish Government	Laboratory (Animal) Biosafety and Biosecurity (Animal Health) Period: 2014-2018	Technical support Procurement of Reagents and Supplies
5	SACIDS	Surveillance (Animal and Human) AMR (Genomics driven antimicrobial resistance mosquito-borne viral diseases emerging diseases viral diseases of food security importance socio-anthropology of infectious diseases)	Capacity building of surveillance system; Training of Health Workers Lab (Genome sequencing (e.g. cholera) One Health based postgraduate training (MSc and PhD) Postdoctoral Research One Health based summer school short courses (2 weeks)
6	WHO, UNICEF (through UNDAP)	IHR coordination, communication and advocacy Surveillance Laboratory Antimicrobial Resistance	Capacity building (Human)- surveillance and lab Procurement of supplies and equipment- office and laboratory Meetings for IHR coordination, Support meetings Surveillance Simulation exercises
7	Others: Partners Supporting Health Basket Funding		