REVOLUTIONARY GOVERNMENT OF ZANZIBAR

Zanzibar Comprehensive Cholera Elimination Plan (ZACCEP)

2018 - 2027

TABLE OF CONTENTS

Acronyms

ADF	Africa Development Fund		**MOF**	Ministry of Finance
CBO	Community base organization		**MoH**	Ministry of Health
CDC	Centre for Disease Control and Prevention		**MOI**	Ministry of Information
CFR	Case Fatality Rate		**NFP**	National Focal Point
CLTS	Community Led Total Sanitation		**OCV**	Oral Cholera vaccine
CTC	Cholera treatment Centre		**ODF**	Open Defecation
CTU	Cholera treatment Unit		**OPD**	Out Patient Department
DANIDA	Denmark's development cooperation		**PHEIC**	Public Health Emergency Of International Concern
DHIS	District Health Information Software		**PHL-IdC**	Public Health Laboratory Ivo de Carneri
DMC	Disaster Management Commission		**PLMMH**	Pathology laboratory Mnazi Mmoja Referral Hospital
ECC	Emergency Communication Centre		**POE**	Points of Entry
EHT	Environmental health technician		**POU**	Point of Use
EOC	Emergency Operations Centre		**PPE**	Personal Protection Equipment
EPI	Expanded Programme for Immunization		**SBCC**	Social and Behaviour Change Communication
GAVI	Global Vaccine Alliance		**STG**	Standard Treatment Guidelines
GDP	Gross Domestic Product		**SWOT**	Strength, Weakness, Opportunities And Treat
GTFCC	Global Task Force for Cholera Control		**TDHS**	Tanzania Demographic and Health Survey
HMIS	Health Management Information System		**UNICEF**	United Nations Children's Fund
HR	Human Resources		**USAID**	United State Agency of International Development
IDSR	Integrated Disease Surveillance and Response		**WASH**	Water Sanitation and Hygiene
IPC	Infection prevention and control		**WHO**	World Health Organization
IPD	In Patient Department		**ZAPHA+**	Zanzibar Association of People Living with HIV/AIDS
JEE	Joint External Evaluation		**ZAWA**	Zanzibar Water Authority
JICA	Japan International Cooperation Agency		**ZACCEP**	Zanzibar Comprehensive Cholera Elimination Plan
LGAs	Local Government Authorities		**ZEPRP**	Zanzibar Emergency Preparedness and Response Plan
LQMS	Laboratory quality management system			

Forewords

The beautiful Islands of Zanzibar has been affected by repeated cholera outbreaks since 1978. These recurrent cholera outbreaks have caused much sufferings and deaths in our population. In cognizance of the negative impact of cholera on individuals, families, communities and the overall socio-economic impact to Zanzibar, the Revolutionary Government of Zanzibar has decided to eliminate the disease through improvement of water and sanitation infrastructures and provision of Oral Cholera Vaccine as a complementary public health measure. In 2009, the Government of Zanzibar under the support of WHO and other partners successfully provided Oral Cholera Vaccine (OCV) in six highly affected shehias in Unguja and Pemba. This together with moderate improvement on water and sanitation infrastructures gave Zanzibar a breath of five years free from cholera outbreak from 2011 to 2015.

Various efforts have been made since then to improve water and sanitation infrastructures in the Islands. His Excellency the President of Zanzibar and Chairman of the Revolutionary Council, Dr. Ali Mohamed Shein in his speech during the celebration of the 54th year of the Zanzibar revolution on 12th of January 2018 has eloquently detailed the government's investment on water and sanitation infrastructure to improve access to clean and safe water and sanitation and improve living conditions of our people

As a continuation of the Government's commitment to improve social services to the Zanzibar population, the Government of Zanzibar has now decided to eliminate cholera from Zanzibar by 2027 in line to the WHOs Global Road Map to end Cholera by 2030. To this effect, the Second Vice President's Office was tasked to lead and coordinate the process to develop a multi-sectoral and multi-year cholera elimination plan in collaboration with all relevant sectors in the Islands. The Comprehensive Cholera Elimination Plan (ZACCEP) was therefore, developed under the coordination and leadership of the Second Vice President's Office, with technical leadership of the Ministry of Health. The process involved all relevant sectors in collaboration with Development Partners and NGOs. The Second Vice President's Office will continue to coordinate the execution of planned interventions by all relevant sectors.

In this regard, I urge all sectors, departments, authorities, Government offices, national and international partners to fully engage in the implementation of the Zanzibar Comprehensive Cholera Elimination Plan (ZACCEP) to ensure the realization of the goal of cholera free Zanzibar by 2027. This will enable the people of Zanzibar to live a healthy, productive and dignified life for generations to come.

I take this opportunity again, to thank His Excellency the President of Zanzibar and Chairman of Revolutionary Council, Dr. Ali Mohamed Shein, for his visionary leadership in all Government sectors, departments, authorities and offices for their engagement in developing this multi-sectoral cholera elimination plan. We look forward to the full implementation of this plan targeting at Zanzibar free of cholera by 2027.

Amb. Seif Ali Iddi
The Second Vice President,
Zanzibar

Acknowledgement:

Since 1978, Zanzibar has recorded over 19 major outbreaks of cholera and documented a total of 14,364 cholera cases with 210 deaths. These figures are likely to be an underestimate due to lack of available data for some outbreaks and under-reporting of cases. The recent large outbreak of cholera that span for ten months between September 2015 and July 2016 recorded a total of 4,330 cases and 68 deaths with a Case Fatality Rate of 1.6%.

The Revolutionary Government of Zanzibar's health policy emphasize on equitable Primary Health Care to entire Zanzibar society. To achieve that goal, the Government has built more than 156 health facilities of various categories to ensure access to basic health services to the population. The number of health workers has more than doubled since the revolution of 1964. The total health workforce in Zanzibar is 4,269 with a health worker to population ratio of 2.9/1,000. These remarkable achievements have improved access to free health services to the population.

However, the recurrent outbreaks of diseases such as cholera and the emergency of Non-Communicable Diseases have strained the already out stretched health budget in Zanzibar. The Government is analyzing various strategies that ensure sustainable health financing while preventing catastrophic out-of-pocket expenses to the individual and families in our society.

One of the strategies is to combat and eliminate communicable diseases such as cholera and divert the resources to cater other priority and emerging diseases in the islands. In this regard, Zanzibar Comprehensive Cholera Elimination Plan (ZACCEP) was developed with the aim of eliminating cholera from Zanzibar by 2027.

I thank the Second Vice President Office for the leadership in coordinating the development of this plan. My gratitude also goes to all sectors, offices, departments and authorities that actively engaged in the prevention and control of cholera and in the process of development of this document. Also, I would like to recognize the technical and financial assistance of WHO, UNICEF, MSF, CDC, SUZA, Save the Children, Water Aid Tanzania and other partners, without their support this plan would not be available today.

Finally, a special thanks to my team from the Ministry of Health, the Principal Secretary, Deputy Principal Secretary, The Director General of Health Services, Director of Preventive Services and Health Education and the Task Force composed of various departments and units from all sectors and partners.

We look forward to your continued engagement in the successful implementation of this Zanzibar Comprehensive Cholera Elimination Plan.

Honorable Hamad Rashid Mohammed (MP)
Minister of Health
Zanzibar

Introduction

Background

Zanzibar is repeatedly affected by cholera epidemics with considerable negative impact on health, economy and social development. Despite years of work in improving health systems and environmental conditions, people in Zanzibar continue to suffer and die from cholera, making the disease a significant public health and economic concern on the Islands.

Zanzibar has experienced regular outbreaks of cholera since 1978 when its first major epidemic in recent centuries was recorded. Since 1978, Zanzibar has recorded over 17 outbreaks of cholera and documented a total of 14,364 cholera cases and 210 deaths. This figure is likely to be an underestimate due to lack of available data for outbreaks occurring between 1993 and 1997, under-reporting of cases, as well as delayed response and declaration of epidemics. After spending 5 years without any reported cases, Zanzibar suffered its largest and longest reported cholera outbreak spanning 10 months between September 2015 and July 2016 with 4,330 cases and 68 deaths (Case Fatality Rate of 1.6%).

The growing number of urban slums/squatters with insufficient access to safe water combined with substandard sanitation facilities and unhygienic food practices and behaviors collectively contribute to the rising number of areas where cholera transmission can be sustained. In these same places, poor knowledge about waterborne diseases, like cholera, and un-sustained community engagement efforts have impaired prevention and control efforts.

Although access to improved water sources in Zanzibar has increased from 80% in 2010 to 98% in 2016, only 39% of the sources of water are properly treated before consumption (TDHS 2015/16)[1]. More than 200 boreholes owned by the Zanzibar Water Authority (ZAWA) pump water directly to consumers without chlorination. The Tanzanian Housing and Population Census of 2012 also indicated that while approximately 73% of households in Zanzibar have a piped water source, water safety cannot be guaranteed due to the existence of broken sewerage pipes in many urban settings.

Zanzibar's desire for cholera elimination is evidenced by the ambitious initiatives it has undertaken since the early 1920's, some of which have yielded positive results. Both water and sanitation infrastructures have steadily improved and a mass oral cholera vaccination effort in 2010 succeeded in vaccinating nearly 24,000 Zanzibari.[2] Efforts were also initiated both 2012 and late 2016 to develop a 10-year multi-sectoral plan to eliminate cholera in Zanzibar with the former effort failing due to budget constraints.

After gaining substantial experience in executing interventions to control cholera outbreaks, conditions are now ideal for Zanzibar to restart its venture in multi-sectoral comprehensive cholera control and elimination. This will require multi-prong interventions implemented through multi-sectoral national institutions with financial and technical support from development partners and other stakeholders.

[1]Tanzania Demographic and Health Survey (TDHS) 2015/2016

[2] Khatib, A. M., Ali, M., von Seidlein, L., Kim, D. R., Hashim, R., Reyburn, R., ... & Aguado, M. T. (2012). Effectiveness of an oral cholera vaccine in Zanzibar: findings from a mass vaccination campaign and observational cohort study. *The Lancet infectious diseases*, *12*(11), 837-844.

The comprehensive plan will constitute evidence-based health promotion activities, appropriate diagnosis and case management, cholera vaccination for prevention, strong surveillance system, improvement of infrastructure for provision of safe water, and sanitation facilities for the entire population. An action plan with short, medium, and long-term measures will be laid down with specific measurable indicators for each intervention. While short term measures are intended to prevent and control outbreaks, medium and long-term investments are aimed at establishing long lasting solutions for eliminating cholera from Zanzibar.

Purpose of the Zanzibar Comprehensive Cholera Elimination Plan (ZACCEP)

Since the early 1990's, the Revolutionary Government of Zanzibar has made efforts to prevent and control cholera epidemics in the Islands. However, most of these attempts have been reactive, ad hoc, and unsustainable emergency measures focused on preventing deaths but not changing the environmental or social conditions that allow for the transmission of cholera. The most critical contributors to repeated cholera epidemics in Zanzibar are the use of easily contaminated shallow wells during flooding and untreated water use from boreholes and other sources. Only over half (54%) of the households in rural areas have access to improved latrine, 16% have no toilet at all with some districts like Micheweni recording 62% of households without latrine.[3]

Although, there have been modest gains in access to environmental, water, and sanitation facilities on the Islands, cholera remains a major public health scourge in Zanzibar. Frequent cholera epidemics have repeatedly disrupted the health care services, education and food business. Cholera also adversely affects tourism, which currently accounts for almost one third of Zanzibar's GDP, and thus poses a major threat to Zanzibar's economic development.

The purpose of this multi-sector elimination plan is to reduce the incidence, morbidity, mortality and economic losses associated with cholera and other diarrheal disease epidemics through preparedness, early detection, confirmation and prompt institution of appropriate control measures, working toward consolidation of the gains attained in recent years and move towards total elimination.

1. Epidemiology of the Cholera in Zanzibar

1.1 History of the Cholera in Zanzibar

Zanzibar has been affected by repeated outbreaks of cholera since ancient time. History shows that, the diseases was first introduced to Zanzibar in 1835 during the second pandemic that was imported from North Africa. Another large cholera outbreak hit the Islands in 1869 to 1870 where about 70,000 deaths were reported. The extent of the outbreak and the number of deaths were quite horrific, some literatures described that human corpses were buried in shallow grounds and left on the shores of the ocean. This unprecedented loss of life caused lots of fear among the population.

The first cholera outbreak in the recent history took place in 1978 where the disease was confirmed through laboratory isolation of Vibrio cholera O1 Eltor, Ogawa serotype on **7th April 1978**. This

[3] Household budget survey 2014/15

sample was taken from the male patient arriving from Dar-es-Salaam and admitted at V.I. Lenin Hospital currently Mnazi Mmoja hospital. This epidemic spread into the fishing Islets of Tumbatu in North A district before affecting other rural and urban areas of the Unguja and Pemba Islands. A total of 411 cases and about 51 deaths (CFR 12.4%) were reported in this outbreak. It is possible that this number of cases and death are underestimated based on eye witnesses account during that period. Several water sample were tested and found with vibrio cholerae bacteria. These triggered enforcement of public health measures which included limiting movement of people to and from the affected areas, intense health promotion, and mass prophylaxis with antibiotics.

Since 1978 the Islands have recorded an estimated 19 cholera outbreaks with the most recent one being in March 2017 during the heavy rainfalls (Masika). The outbreaks with big magnitudes in terms of number of cases and deaths occurred in 1978, 1983,1992, 1997/98, 2001/2002, 2007, followed by the one in 2015/16. Approximately 14,364 cholera cases and 210 deaths (CFR 1.5%) have been documented in all these epidemics combined. These figures are supposedly underestimated due to underreporting particularly from 1990 to early 2000.

Furthermore, until recently, only those patients who are admitted with moderate to severe dehydration (treatment plan B and C)[4] were included in the daily situation reports. The communities frequently affected by these epidemics are those with chronic shortage of clean and safe water, limited access to latrines, poor solid and liquid waste management and overcrowded living conditions that are typical in peri-urban slums on the Islands. The outbreaks are always concentrated in urban areas (Urban, West A, and West B districts) and few rural fishing camps, the commonly affected shehias/villages include Chumbuni, Mtoni, Jangombe, Kidoti, Kinuni, Shauri Moyo, Darajabovu, Bububu, Magogoni, Welezo, Mtopepo, Fuoni and Tumbatu in Unguja. In Pemba are Micheweni and Chake-Chake Districts in Pemba (commonly affected shehiyas/villages include Kojani, Maziwa Ngo'mbe, Mjini Wingwi, Tondoni, Jadida, Vitongoji, Kiuyu Mbuyuni, Micheweni, Mgogoni, Uwandani, and Chake-Chake town).

[4] Plan A mild dehydration, Plan B moderate dehydration and Plan C severe dehydration.

The table below shows the list of some of the major cholera outbreaks reported:

YEAR	AFFECTED AREAS	NUMBER OF CASES	DEATHS	CFR (%)
1835; 1858/59,	Zanzibar	?	? 25,000	
1869/70	Zanzibar	>100,000	? 70,000	
1978 Feb-April	Tumbatu and Urban areas of Unguja	411	51	12.4
1983, March	Kojani (P), Kiongwe, Jambiani (U)	459	20	4.4
1992 -1994	Sporadic Small outbreaks in Unguja and Pemba	No records		
1997, March	Uzi small island, Unguja	136	23	
1997, Nov - Feb 1998	All districts of Unguja and Pemba	2011	238	11.8
2001, May	Tumbatu and Mtopepo in Unguja; Micheweni Pemba	240	3	1.3
2002 Nov. /2003 March	Jangombe, Magogoni, Chaani and Tumbatu in Unguja; and Kojani and Chwale in Pemba	602	11	1.8
2004 Feb/October	Vitongoji, Kengeja Micheweni and Pemba; and Chumbuni na Mtoni Unguja	822	12	1.5
2005, April - July	Chumbuni, Jangombe Mtoni and Dunga Unguja	105	3	2.9
2006/2007 March, August	Mlandege, Chumbuni, Jangombe, Mtoni in Unguja, and Vitongoji, Mwambe, Shamiani, Wambaa and, Kojani in Pemba	3234	52	1.6
2009/2010	Mtopepo, Kinuni, Chumbuni and Jambiani in Unguja	1073	8	0.7
2011-2014:	There was no outbreak			
2015 – 2016	All districts of Unguja and Pemba	4330	68	1.6
2017	Mainly Urban, West A, and West B districts	346	4	1.2

Commonly Affected Areas

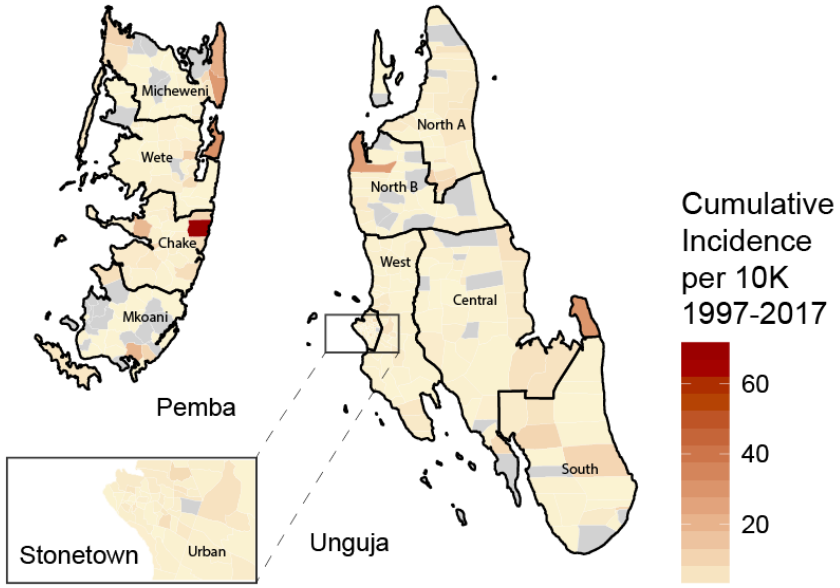


Figure 1. Shehia-level cumulative incidence per 10,000 population from 1997 through 2017. The shehia shaded in gray had not reported cases during this period. Note: data from a 2009 outbreak are missing from this figure.

1.2 Cholera Epidemic of 2015-2016

The 2015/2016 epidemic has proven not only to be one of the longest but also one of the largest in terms of both the number of patients as well as the breadth of districts and shehias affected. The epidemic started in Unguja Island on September 19th, 2015 and ended on July 28th, 2016 when the last case was reported. A total of 4,330 cases of cholera and 68 deaths were reported from 22 cholera treatment centers opened throughout Zanzibar. This epidemic occurred simultaneously with the cholera epidemic in mainland Tanzania that as of September 2018 is still on going and has affected all regions. More than two-thirds (236 out of 334) of the shehias were affected during this 10-month outbreak.

In terms of the geographic distribution, the West and Urban districts of Unguja and Chake Chake in Pemba had the highest proportion of shehias reporting cases (between 80-94%). In North A District in Unguja and Wete in Pemba, about 78% of their shehias were reported to be affected. In all other districts, between 38 and 55% of their shehias were reportd to be affected.

Shehias of Kojani and Mpambani in Wete District, Maziwa Ng'ombe, Kiuyu Mbuyuni, and Micheweni in Micheweni District, Uwandani in Chake Chake, and Kinyasini in North A represent shehias with attack rates above 2% (2.43%-5.73%). Kojani represent attack rates of almost 5%; which is comparable with data from high risk populations such as refugees and malnourished.

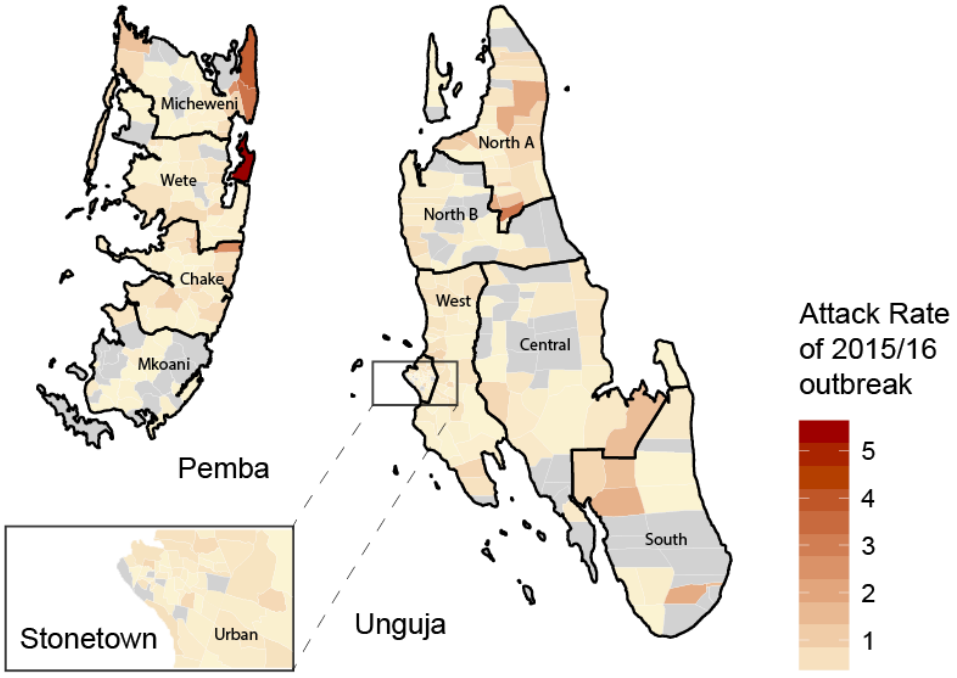


Figure 2. Shehia-level attack rate (percent of shehia population reported as a cholera case) during the 2015-2016 cholera outbreak. Shehias shaded in gray had no reported cases during this period.

Table 1: Top 20 Shehias affected by the Cholera Outbreak in 2015/16 in Pemba and Unguja Islands

	Pemba					Unguja				
No.	Shehia	AR	Case counts	District	Population	Shehia	AR	Case counts	District	Population
1	Kojani	5.73	135	Wete	2358	Kinyasini	3.11	115	North A	3756
2	Kiuyu Mbuyuni	3.77	242	Micheweni	6416	Kijini	1.82	60	North A	3821
3	Maziwa Ng'ombe	3.26	190	Micheweni	5820	Bandamaji	1.77	32	North A	1833
4	Uwandani	2.62	69	Chakechake	2631	Muungoni	1.66	29	South	1763
5	Micheweni	2.53	157	Micheweni	6197	Ukongoroni	1.35	13	Central	970
6	Mpambani	2.43	53	Wete	2178	Kiongoni	1.35	16	South	1197
7	Mbuzini	1.27	37	Chakechake	2919	Kitogani	1.24	15	South	1221
8	Makangale	1.25	33	Micheweni	2645	Mkokotoni	1.12	35	North A	3179
9	Mjini Wingwi	0.86	39	Micheweni	4521	Kikobweni	1.10	34	North A	3127
10	Shungi	0.84	21	Chakechake	2488	Mto wa Pwani	0.92	11	North A	1218
11	Kibokoni	0.81	21	Chakechake	2584	Mcheza Shauri	0.88	9	North A	1040
12	Kiuyu Minungwini	0.73	23	Wete	3133	Mtoni Kidatu	0.78	150	West	19584
13	Wingwi Mjananza	0.71	12	Micheweni	1702	Pete	0.72	11	South	1537
14	Mgogoni	0.69	18	Chakechake	2598	Kigomani	0.72	16	North A	2249
15	Fundo	0.68	11	Wete	1625	Dimani	0.72	17	West	2419
16	Tondooni	0.67	18	Micheweni	2705	Mchangani	0.70	18	Urban	2607
17	Pujini	0.66	27	Chakechake	4066	Jumbi	0.69	29	Central	4227
18	Kisiwani	0.65	21	Wete	3236	Tazari	0.67	23	North A	3498
19	Mtemani	0.56	17	Micheweni	3017	Kinuni	0.66	87	West	13360
20	Chwale	0.53	9	Wete	1698	Matemwe	0.66	37	North A	5687

1.3 The 2017 outbreak

The cholera outbreak of 2017 started in March with the onset of the rainy season. From 21st of March to 24th of July a total of 346 cases with four deaths (CFR 1.2%) were reported, all from Unguja Island. Pemba island did not report any case in 2017. As compared to the 2015/2016 outbreak, the 2017 outbreak was shorter in duration (from 10 months to only 4 months) and fewer numbers of shehias affected, the total cases was 346 as compared to 4,330 and total deaths was only four as compared to 68 in the previous outbreak. This is a 60% reduction in duration of the outbreak, 92% reduction in number of cases and 94% reduction in number of deaths.

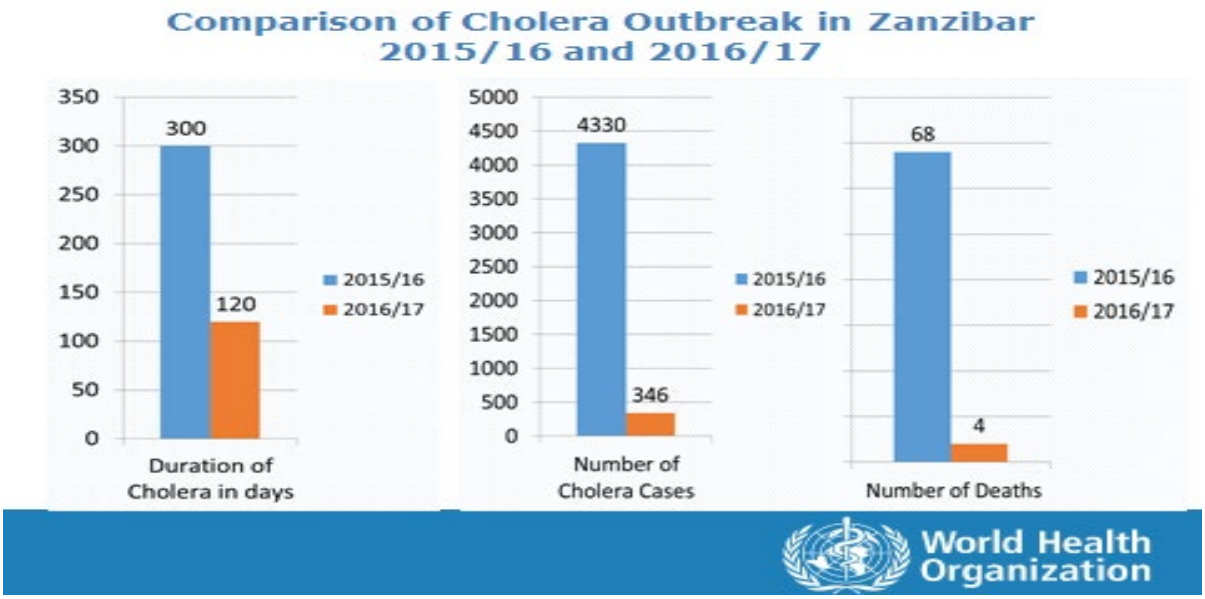


Figure 3. Duration of outbreak, number of reported cholera cases, and number of cholera-related death by outbreak 2015/16 and 2016/17 outbreak

2. Situation Analysis

2.1 Political Commitment

Since early 1990's, the Revolutionary Government of Zanzibar has shown clear interest in implementing measures to prevent, control, and ultimately eliminate cholera on the Islands. Some progress has been made towards achieving this goal looking at the following five main action areas as identified in the Cotonou Initiative against Diarrheal and Enteric Diseases in Africa (IDEA-2015): Political commitment; Enhanced surveillance; Context adapted water sanitation and hygiene promotion; Promotion of community knowledge and vaccination using oral cholera vaccine[5].

Zanzibar's investment in cholera control and prevention has evolved from epidemic response efforts and technical support towards more proactive prevention initiatives. The Government has enacted

[5] WHO weekly epidemiological report, No 24, 2016, 91, 305–316 http://www.who.int/wer

several rules and regulations to control environmental and sanitation risks that have frequently been the main factors for cholera epidemics in Zanzibar. These include the establishment of The Public and Environmental Health Act no. 11 of 2012, Disaster Risk Reduction and Management Act no. 13 of 2015 and Regional Administration Authority Act no. 7 of 2014.

The Revolutionary Government of Zanzibar is committed more than ever to see cholera eliminated in Zanzibar. This has been demonstrated through various tangible steps and actions in the most recent outbreaks. This includes, the President of Zanzibar visiting Cholera Treatment Centers, giving instructions for all relevant sectors to work together to eliminate cholera, the second vice president office coordinating cholera preparedness, response and elimination agenda in Zanzibar, the cabinet decision to eliminate cholera and the establishment of a Multi-Sectoral Task Force for elimination of cholera among others. In addition, the Government also has allocated budget for cholera elimination through bilateral and multi-lateral agreements with World Bank, African Development Bank (ADB), EXIM Bank of India, Japan International Cooperation Agency (JICA) for improvement of water and sanitation. These are just some of the tangible steps that show government's commitment and leadership to eliminate cholera in Zanzibar.

2.2 Risk Factors

Most affected areas in the archipelago tend to be those with communities facing chronic shortage of safe water and poor sanitary conditions including persistent sewage leakages in urban areas. Absence of latrines and overcrowding are common in Zanzibar. In addition, unhygienic practices including unregulated food vending and poor handwashing practices make it very difficult to prevent and control outbreaks especially with a lack of community engagement. Furthermore, highly mobile population travelling between the islands and within the region are thought to play an important role in spreading cholera in Pemba and Unguja.

There are also favorable environmental factors that drive cholera transmission in Zanzibar. These include favorable environments for cholera endemicity, existence of *V.cholerae* in the environment, and recent meteorological conditions. Zanzibar represents the ideal environment for vibrio inhabiting algae, the roots of aquatic plants, and several types of plankton and copepods. These elements of marine life are known to be present in Unguja and Pemba, possibly representing permanent reservoirs of potential infection.

2.3 Surveillance and Reporting

Cholera cases in Zanzibar are identified based on the Ministry of Health's cholera surveillance records. This is regularly done by the Integrated Disease Surveillance and Response (IDSR) and Infectious Diseases Week Ending Report (IDWE) System implemented by the the Ministry of Health with support from WHO. National Guidelines[6] for IDSR have been developed to guide regular reporting of cholera and other cases from both public and private health facilities. Frontline healthcare providers have been specificaly trained on case tracing, record keeping, and reporting. Under-reporting is frequent since some of the suspected cholera cases (according to the standard case definition) who are

[6] National Guidelines for Integrated Disease Surveillance and Response (IDRS) Zanzibar: Ministry of Health and Social Welfare; 2010.

outpatients are not registered as cholera patients. For instance, during outbreaks, some Cholera Treatment Centers (CTCs) in Unguja and Pemba were reporting only those admitted cases (classified for Treatment Plan B and C).

IDSR tools for data collection exist, and health workers at health facilities record data in a standard form and report to the district surveillance officer every week via SMS/phone calls. At the district level, the surveillance officer receives reports from health facilities and forwards them weekly to the epidemiology unit by SMS. Unfortunately, records of previous reports are not maintained at the district level. At national level, the data received by SMS is entered into the Infectious Disease Week Ending (IDWE) database. Although weekly data sets are available, there is no national database that can be used to generate trends and monitor thresholds of priority diseases and events. The IDSR performance indicators of timeliness and completeness of weekly reporting are suboptimal, with less than 50% of health facilities report on time. Lack of centralized electronic (IDWE) database, inconsistent data reporting, inadequate coordination mechanism, and the lack of capacity to perform data analysis easily jeopardize efforts of early detection and response to cholera and other outbreaks in Zanzibar.

As recommended by WHO, not all suspected cases have samples collected for cholera confirmation. Before an outbreak is confirmed, any suspected cholera case is supposed to have a stool sample sent to a reference lab for culture, serotyping and antibiotic sensitivity analyses. Once an outbreak has been confirmed on one of the islands, only one in ten cases from that island are sampled to monitor the outbreak. Rapid diagnostic tests (RDT) for cholera are not currently used in Zanzibar.

2.4 Laboratory

In Zanzibar, laboratory services are provided through medical/clinical and public health laboratories. They are an integral part of the health care provisions. Currently, there are two reference public (MOH) laboratories (Mnazi Mmoja and Pemba Public Health Laboratory), one private sector at Global Hospital, and one military laboratories in Zanzibar. The pathology laboratory at the Mnazi Mmoja Referral Hospital in Unguja is the reference laboratory facility in Zanzibar. In Pemba, referral lab is the Public Health Laboratory Ivo de Carneri (PHL-IdC). It is also a WHO collaborating center for neglected tropical diseases. Both labs have the capacity to perform cholera culture, serotyping and antibiotic sensitivity analysis, with more than 410 samples analyzed in the recent outbreaks. This has helped to gauge the progress of the outbreak and provide appropriate treatment of cholera in Zanzibar.

Zanzibar has developed policies and regulations for laboratories including the National Laboratory Act, 2016 and the National Laboratory Policy, 2016; Laboratory guidelines and SOPs are available[7]. However, there is a lack of a strategic plan to address specimen management and supply-chain management issue in addition to the absence of the Integrated Disease Surveillance and Response (IDSR) implementation framework. In addition, there are significant challenges with equipment availability and regular maintenance at the laboratories. Therefore, it is essential to develop the capacities of laboratories to provide diagnostic support for surveillance of infectious diseases such as cholera.

[7] Joint External Evaluation of IHR Core Capacities, United Republic of Tanzania – Zanzibar - Mission report: 22–28 April 2017.

There is a recognized need to strengthen the capacity of laboratories performing public health testing for early diagnosis of cholera. Trained staff is a challenge as well as equipment maintenance, repair, supply-chain management. The specimen transportation system exists with couriers available to transport samples from field sites to laboratories in both Pemba and Unguja and to the mainland laboratories for confirmation. During outbreaks, samples are forwarded by district coordinating officers through field staff or courier[8].

2.5 Case Management

After confirmation of a cholera outbreak, all cases that fit the case definition (any person age 2 years or more with acute watery diarhea, with or without vomiting or any individual experiencing 3 or more lose stools with or without vomiting during 24 hour period) are reported and treated as cholera cases. Patients with cholera are treated at cholera treatment centers (CTC) to reduce risk of cross infection to health workers, communities, and visitors.

WHO cholera treatment guidelines have been used in all cholera outbreaks in Zanzibar. However, a chronic shortage of human resources and frequent stock outs of essential medicine and clinical consumable have seriously compromised case management.

Training of healthcare workers has been carried out by MoH and WHO, but no cholera-specialized teams were created. For the most part, regular healthcare facilities are functionally converted into CTCs and CTU operating under the same staff. As a result, most of the CTCs lack conducive environment for patient care. Since no standalone CTC structures exist, some hospitals that run CTCs suspended in-patient activities in favor of cholera hospitalizations while continuing to run out-patient consultations in the same structure. In this condition, infection control and separation between the services cannot be effective.

Infection prevention and control is well maintained at CTC. Patients receive health education on food and hand hygiene, environmental sanitation, and water safety when they are discharged. However, due to lack of resource for transportation, case follow-up at community levels are not enforced effectively.

Despite of the relative predictability of cholera outbreaks in Zanzibar, there is constant delay in cholera preparedness and response due to lack of functional rapid response teams (RRTs) at all levels. Inadequate planning and budgeting for cholera and other infectious diseases contributes to this delay. It is common for CTC to experience shortage of essential supplies and medicines even after declaration of outbreak. This shortage can be attributed to poor supply chain management which affects many services and inadequate coordination of cholera response activities. Poor adherence to cholera management guidelines and SOPs with irrational use of antibiotics and IV fluids contributes to shortage of these medicines.

[8] Zanzibar Laboratory Situation Analysis Report 2009.

Another challenge facing Cholera case management in Zanzibar is limited laboratory services at the point of care. In the current arrangements, samples collected from CTC are sent to the tertiary or referral hospitals and PHL for analysis. In addition to this, there is erratic laboratory supplies and reagents necessary for confirmation of diagnosis, isolation of causative vibrio type and continuous monitoring of sensitivity pattern.

Delay in health seeking behavior is also a concern since many patients are admitted with severe dehydration which requires more resources to manage. This delay is due to limited sustained SBCC activities and other social-economic factors affecting health seeking behaviors. There is no mechanisms in the community to ensure patients with acute watery diarrhea (including cholera) are provided with ORS during transfer. Community based ORS can save life and needs to be prioritized.

2.6 WASH

Zanzibar Water Authority (ZAWA) manages water supply in Zanzibar, and has made significant effort in improving access to clean water supply to Zanzibaris in recent years. Currently, more than 84 %[9] of households in Zanzibar have access to piped water from ZAWA and private boreholes. However, Zanzibar's water supply and water quality present a complex series of challenges, hence the coverage indicated above is more of infrastructure and not water availability, for instance ZAWA daily production is only 41% (162 000 000 l/d) of the demand (396 000 000l/d).

Inadequate chlorination of the ZAWA water is attributed to various infrastructural, financial, and technical problems. The majority of urban and peri-urban areas served by water pipes draw water directly from the source (direct pumping) without being chlorinated. An innovation done by ZAWA whereby certain boreholes are directly chlorinated through the injection of chlorine at the well-head is detrimental to pumps, and automatic chlorine dispensers and bowsers positioned after pumping are not available. With the assistance of institutions such as African Development Bank (ADB) and Japan International Cooperation Agency (JICA), 4 separate water treatment plants were constructed with the capacity to store and treat water, however, the capacity of ZAWA to procure chlorine for regular uses is not guaranteed. Other infrastructure programs to improve WASH and waste management are at different stages of development with different donors such as EXIM Bank of India, USAID, Ras-Al-Kheima Fund, China Aid, and World Bank (WB).

Intermittent supply of chlorine for municipal water treatment is partialy attributed to insufficient funding. Currently, only 12.9% of ZAWA customers use metered water and the majority of customers pay a monthly flat rate of 4000 shilling (less than US$2) making a cost recovery to be as low as 35%, though ZAWA is in the process of installing water meters for all customers.

Leakages and mixing of water from different sources present numerous opportunities for contamination along the supply chain, especially in the urban and peri-urban areas of Zanzibar. This issue is linked to a variety of problems including antiquated piping systems (dating back to colonial times), regular water rationing leading to loss of pressure in the network, illegal connections and siphoning of water. Shallow wells and other informal water sources remain the principal means of

[9] Tanzania Demographic and Health Survey and Malaria Indicator Survey 2015/16; pg 31

accessing water in areas outside of piped water provision and rural/semi-rural areas. Of concern are the island and coastal areas, where options for water are scarce. In these areas, individuals, even municipalities, dig tube wells and make use of unregulated water sources. These unregulated water sources are often unprotected and remain vulnerable to contamination. Given the complexities in accessing safe water, point-of-use (POU) water treatments should be the best option for the population. Yet POU water treatments are not available for domestic purchase and have only been deployed in response to epidemics (e.g., Waterguard).

Access to improved sanitation remains Zanzibar's most pressing problem. Sanitation coverage has remained stubbornly <60%[10] with little improvement over the last 10 years. In urban areas households access to sanitation at domestic level has improved, however, sewage collected by cesspit emptier or sewers in urban areas is discharged crudely to the sea due to lack of sewage treatment systems in Zanzibar. In addition, sanitation coverage in some rural and semi-rural areas (Kojani, Kokota, Mjini Kiuyu) can be as low as 3-4%.

Poor solid waste is another grave concern, which can also degrade the environment and threaten the aquatic and terrestrial life. Only less than 50 per cent of solid waste is collected by municipal trucks and crudely disposed-off in Kibele dump site. To improve the sanitation situation, since 2013 there has been a diversity of initiatives which concentrate on bringing sanitation to schools, as well as promoting households to construct their own latrines (UNICEF). The Environmental Health Unit of the Ministry of Health is working closely with other WASH related sectors to ensure effective protection of the community against potential public health threats, but limited financial and human resources has remained a hindrance to scaling up of sanitation promotion inteventions. In Solid waste the World Bank (WB) has been providing support in trasportation and properly improving the Kibele dumpsite to enable composting. The Bank is also implementing a project on urban infrastructure improvement through Zanzibar Urban Service Project (ZUSP) for which a total of 19,600 meters storm water drain channels designed to reduce the effect of floods will be constructed by the end of the project in 2020 costing US$ 19 million.

[10] Tanzania Demographic and Health Survey and Malaria Indicator Survey; pg 32

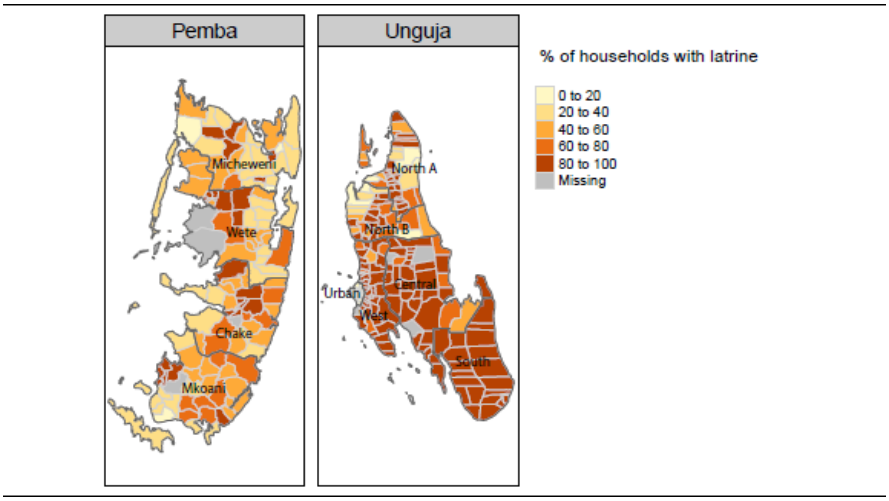


Figure 4. Map of Pemba Island showing percentage of households with latrines.

Other key interventions undertaken by the RGOZ to strengthen WASH services includes: Instituting and enforcing law and regulations on water, sanitation and waste management where the Government established Public and Enviromental Health Act no. 11 of 2012, Zanzibar Local Government Authority no 7 of 2014 and the Zanzibar Disaster Risk Reduction and Management Act of 2015.

2.7 Social and Behaviour Change Communication (SBCC)

Social and Behavior Change Communication (SBCC) plays a central role in successful prevention, preparedness and response of cholera. However, SBCC actions including coordination and allocation of resources to raise awareness and engage communities are usually limited to outbreak periods and not sustained. Behavioural and socio-cultural factors contributing to the risk of Cholera are not well analysed nor disaggregated, thus high risk groups are not adequately engaged through tailored approaches and messages.

Since the first Cholera outbreak in Zanzibar in 1978 several SBCC initiative have been undertaken to prevent and respond to the epidemic. However, no comprehensive assessment has been undertaken to identify behaviours contributing to Cholera and inform appropriate measures. A recent telephone-based household survey (T-Watoto) aimed at rapidly assessing Knowledge, Attitude and Practices (KAP) of community members, revealed that there is still limited community knowledge about cholera prevention including awareness about safe sanitation and hygiene practices, with only 57 per cent having knowledge about handwashing at critical times and 67 per cent reporting treating their water before drinking. The survey also showed a higher tendency of respondents to take a sick person with serious diarrhoea and vomiting to the health facility (84.7 per cent), however the tendency of giving ORS and water was very low with 10.8 per cent and 1.5 per cent respectively. HBS 2014/15 reports that 74 per cent of HHs have no handwashing facilities close to toilet.

During the recent Cholera outbreak in 2015/16, the MoH through its Health Promotion Unit have been using various media and outreach programs to reach communities with messages on cholera

prevention, early health seeking behaviors, and environmental sanitation. In collaboration with UNICEF, Tanzania Red Cross Society Zanzibar branch, ZAPHA Plus, and Pemba Island Relief Organization (PIRO) conducted community education and mobilization interventions in Unguja and Pemba. The Health Promotion program needs to further strengthen such collaboration with key development partners and local NGOs for sustained promotion of safe hygiene and sanitation practices.

Effective and strategic community engagement is critical at all levels. It is not just about providing information to affected communities; it should also facilitate participatory discussion to trigger community action contributing to building trust between communities and service providers. Engaging community members, including children and women, and providing a platform for transparent feedback from affected communities is critical for effectiveness of cholera prevention and control. However, community networks and wider social platforms are not adequately harnessed to facilitate supportive social norms. Insufficient engagement of key influencers, including religious leaders has affected their key roles in sustained advocacy and community sensitization. All the above shortfalls are aggravated by lack of strategy and plan on community mobilization and hygiene education in place.

2.8 Oral Cholera Vaccine (OCV)

In addition to the ongoing public health and WASH related measures to control cholera epidemics, the Ministry of Health Zanzibar, under the joint initiatives with WHO and International Vaccine Institute, carried out a mass Oral Cholera Vaccination (OCV) pilot campaign in 2009 focused in 6 of the most vulnerable and highly cholera-affected Shehias, namely Chumbuni, Karakana, and Mtopepo in Unguja and Kengeja, Mwambe, and Kojani in Pemba. During this campaign, a total of 26,617 (60%) people above the age of 2 years old were vaccinated using two doses of Dukoral (a vaccine with similar levels of protection to the vaccines most commonly used in public health today, Shanchol and Euvichol).

While there was one small outbreak immediately after vaccination, no cholera cases were confirmed from any health facility until 2015. These results may be attributed to the positive impact of the OCV campaign and moderate improvements in access to clean and safe water in these areas. While the true cause of this reduction is unknown, current evidence shows that OCV provides moderate to high-levels of protection against cholera for at least three years. This experience highlighted the capacity of the MoH to conduct OCV campaigns, and the acceptance of the vaccine in the community.

However, it has to be emphasized that Oral Cholera Vaccine is an additional public health measure to control and eliminate cholera but not a substitute to improved water and sanitation situation in Zanzibar. As the OCV provides a temporary protection for up to three years, the infrastructure development for improving access to safe water supply, environmental sanitation and access to improved latrines together with enforcement of the public health laws on food vending and construction of residential and public buildings should be intensified at all times. These will bring a sustainable cholera elimination in Zanzibar.

3. Goal, Objectives, and Targets for Cholera Elimination

The overall goal of the Zanzibar Comprehensive Cholera Elimination Plan (ZACCEP) is to eliminate local transmission of cholera in Zanzibar within a 10-year period (2018/19-2027/28). This will be achieved by meeting the following thirteen objectives that will effect change on three pillars: i) create an *enabling environment* that promotes the elimination of cholera through policy, legislation, and multi-sectoral coordination; ii) enhance the scope and effectiveness of *preventative measures*/services, and iii) improve Zanzibar's capacity to *respond* and contain localized/isolates outbreaks/ cholera events. To ensure that these objectives are met, a set of targets have been outlined to help monitor progress over the course of this 10-year period.

3.1 Objectives

I. Enabling Environment:

1. **Multi-sectoral coordination:** To ensure effective multi-sectoral coordination in eliminating local cholera transmission in Zanzibar.
2. **Regulations:** To ensure the existence of and adherence to land-use, environmental health and food hygiene regulations to reduce the risk of cholera and other water and sanitation-related diseases.
3. **Surveillance system:** To strengthen epidemiological and laboratory-based surveillance and early warning systems to ensure early detection and timely response to cholera outbreaks.
4. **Capacity:** To build capacities of all participating sectors/ministries for implementing the comprehensive cholera elimination plan.
5. **Monitoring, evaluation and risk assessment:** To ensure that M&E system is in place to track cholera elimination progress and to ensure that the plan is regularly updated incorporating changes of risk factors.
6. **Resource mobilization:** To ensure at least 80% of the required resources (domestic and external) are mobilized to implement the Comprehensive Cholera elimination plan.

II. Prevention:

7. **Water supply:** To ensure universal and equitable access to safely managed and affordable water for all.
8. **Sanitation infrastructure (liquid and solid waste):** i) To ensure adequate and equitable access to safely managed sanitation facilities for all; ii) 100% solid waste is properly collected, transported and disposed-off.
9. **Social and Behavior change:** To improve hygiene and sanitation practices through social and behavior change communication that is evidenced based, effective and adapted to the needs of the community.
10. **Cholera vaccine:** To ensure adequate oral cholera vaccine coverage for all eligible populations.

III. Response:

11. **Case management:** To improve the quality of patient care by increasing early access to effective treatment to prevent morbidity and mortality at the community and health-facility levels.
12. **Surveillance during outbreak:** To improve case finding, documentation, response, and reporting of cholera response activities at all levels.
13. **Logistics and supplies:** To ensure that adequate stocks of cholera treatment supplies and other key resources are rapidly available in the case of a cholera outbreak.

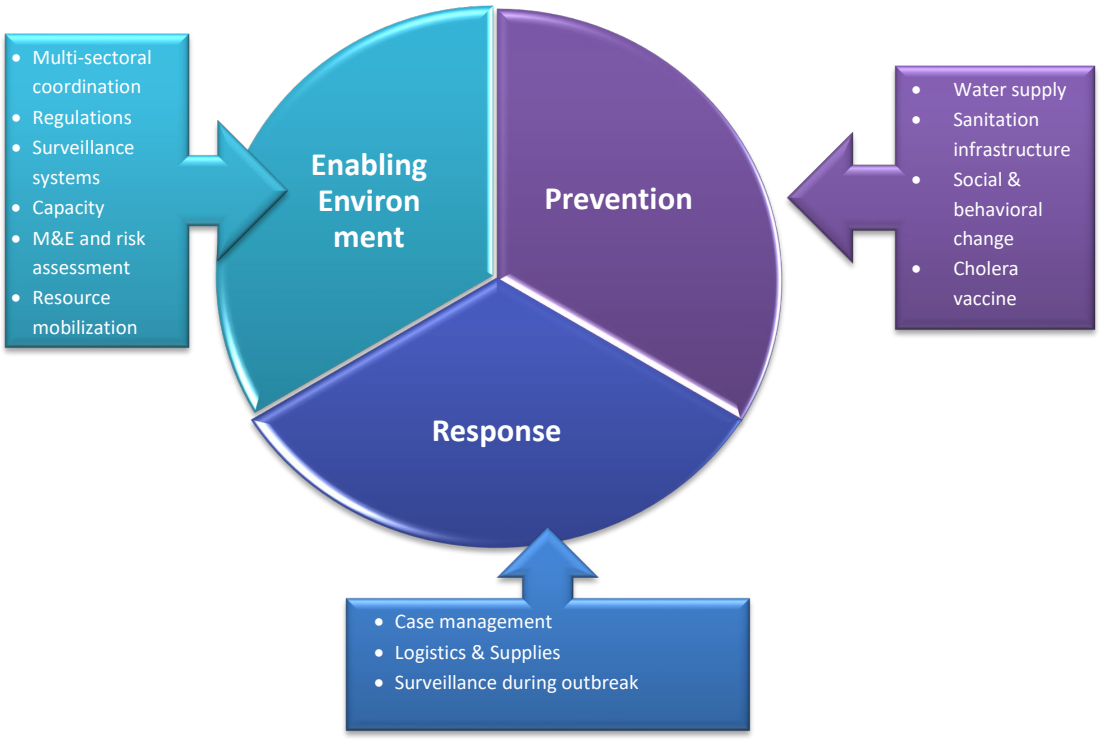


Fig-5. The three pillars of the Zanzibar Comprehensive Cholera Elimination Plan (ZACCEP) and key interventions

I. Enabling Environment

1. Multi-sectoral Coordination: To ensure effective multi-sectoral coordination in eliminating local cholera transmission in Zanzibar.

The organizational structure of the cholera elimination plan had been discussed with the Minister of Health and further debated and agreed by the authorities of relevant sectors during the multi-sectoral consulting meeting on September 5th, 2017. The Second Vice President Office (SVPO) will oversee the implementation of the multi-sectoral interventions to eliminate cholera in Zanzibar and the MOH will serve as the technical arm. There will be a Steering Committee of the ZACCEP chaired by the Principal Secretary of the SVPO and membership

should include Ministry of Health, Ministry of Regional Administration and Special Departments (Zanzibar Municipalities), Ministry of Agriculture, Natural Resources, Live Stock and Fisheries, Ministry of Lands, Water, Energy and Environment (Zanzibar Water Authority), Ministry of Education and Vocational Training, Ministry of Information, Ministry of Finance and Planning. Development partners will be co-opted as needed.

Activities

- Establish and Appoint office of the ZACCEP Coordinator
- Map stakeholders for cholera elimination plan
- Conduct quarterly Stakeholders/Technical Work Group meetings
- Conduct regular steering committee meetings
- Refine clear the roles and responsibilities of the stakeholders and disseminate at National and District levels
- Integrate cholera elimination interventions into annual sectoral operational plans (7 sectors)
- Develop and implement advocacy and communication strategy for cholera elimination
- Advocate for a budget line for multi-sectoral coordination
- Allocate Program management staff and office operations

Targets

- All stakeholders participate in a coordinated manner at the implementation of the plan to

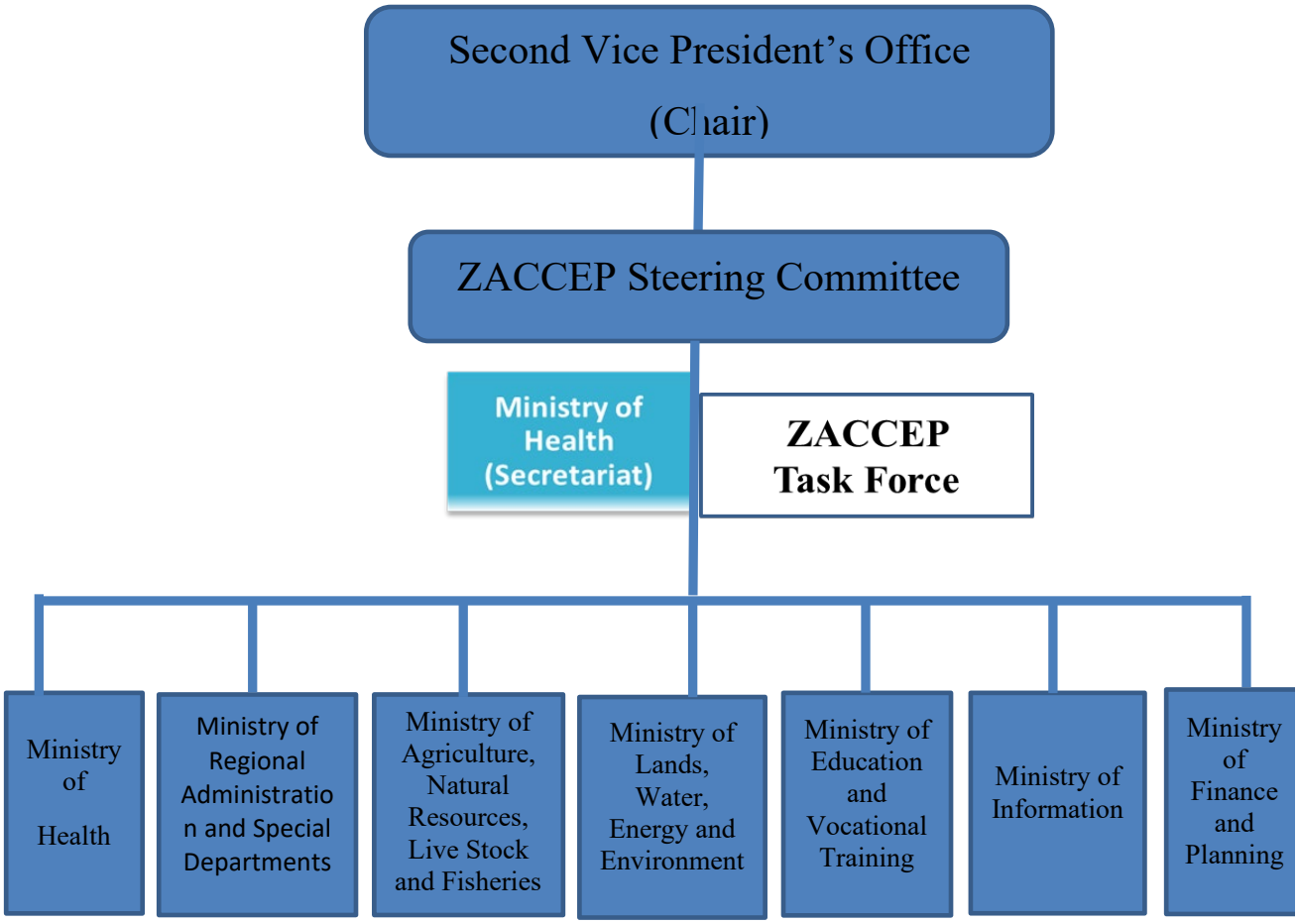
achieve the agreed targets.

- Conduct regular steering committee meetings
- Refine the roles and responsibilities of the stakeholders and disseminate at National and District levels
- Integrate cholera elimination interventions into annual sectoral operational plans (7 sectors)
- Develop and implement advocacy and communication strategy for cholera elimination
- Advocate for a budget line for multi-sectoral coordination

Targets

- All stakeholders participate in a coordinated manner at the implementation of the plan

ZACCEP Coordination Structure



2. ***Regulations:*** To ensure the existence of and adherence to land-use, environmental health and food hygiene regulations to reduce the risk of cholera and other water and sanitation-related diseases

Activities

- Assess the existing Acts, laws and regulations in line with cholera elimination in all relevant sectors
- Develop/revise and disseminate regulations and by laws related to cholera elimination across relevant sectors and agencies
- Enforce the regulation and by laws related to cholera elimination across sectors

Targets

- By 2022, 100% of food premises adhere to the by-laws on food safety according to Public Health regulations of Zanzibar.

3. ***Surveillance System:*** To strengthen epidemiological and laboratory-based surveillance and early warning systems to ensure early detection and timely response to cholera outbreaks.

A strong surveillance system is synonymous with a well-functioning intelligence system of the country. It ensures prevention, timely detection and response to all health threats. This will focus on capacity building of the Ministry of Health staff at all levels to be aware of Integrated Disease Surveillance & Response (IDSR) and International Health regulations (IHR) and system improvement to include alert and rapid response system and improve the detection and follow-up of cholera cases. The community surveillance and response system will also be strengthened.

Activities

- Review, translate, print and disseminate IDSR guidelines and other IDSR tools (including, reporting books, case definitions and one pagers)
- Review and develop IDSR training curriculum for TOT and supervision and mentoring
- Conduct TOT for ~20 surveillance officers on IDSR to be responsible for supervising and mentoring other facilities, including specimen collection, handling and transport
- Conduct on-job training, supervision, and mentoring of health workers, laboratorians and port health staff on IDSR including specimen collection, handling and transport
- Conduct regular (one annual) port health/cross border surveillance meetings
- Conduct annual refresher training for national laboratory staff (Mnazimmoja and Pemba) on culture and sensitivity testing for cholera

- Build capacity of the laboratories in 4 regional level hospitals for culture and sensitivity testing (Kivunge, Makunduchi, Mkoani, Wete) – buying incubators, water bath, autoclaves, petri dishes, refrigerators and other supplies
- Construct/renovate lab premises for microbiology services at three (identified) hospitals (Makunduchi, Kivunge and Wete)
- Train 3 microbiologists (2 years' master s course)
- Develop protocols and train staff at primary health care facilities on use of cholera RDTs
- Procure and distribute 100 cholera RDTs to district facilities for use during confirmed outbreaks ($2/test); replace every 2 years (Makunduchi, Kivunge, Wete, Mkoani, Chake,
- Review QA SOP with National Health Lab and Quality Assurance Training Centre
- Develop SOP for supporting whole genome sequencing for monitoring circulating strains of cholera
- Procure and distribute cholera diagnostic laboratory supply to identified facilities
- Introduce electronic IDSR system e.g. mobile, online application, tablet, etc.
- Train facilities health staff on IDSR
- Develop community based surveillance guidelines
- Orient community health structures (Shehia health custodian committee) on community based surveillance guidelines
- Conduct epidemiological study on risk factors, transmission pathway and trends of cholera outbreak

Targets

- By the end of 2028 epidemiological surveillance for timely detection of cholera cases and other diseases under surveillance strengthened and properly functioning.

4. ***Capacity:*** To build capacities of all participating sectors/ministries in implementing the comprehensive cholera elimination plan.

Activities

- Conduct capacity needs assessment for other sectors
- Develop and implement capacity building plan based on needs assessment results (Refer Obj. 1)

Targets

- All key ministries, departments and agencies have roles, capabilities and commitment in implementing ZACCEP.

5. ***Monitoring, Evaluation and Risk Assessment***: To ensure that M&E system is in place to track cholera elimination progress and to ensure that the plan is regularly updated incorporating changes of risk factors.

Activities

- Build capacity of IDSR/M&E unit at Ministry of Health:
- Deploy 2 ICT staff
- Train 2 M&E personnel
- Procure 12 laptops and 6 desk tops for Unguja & Pemba
- Develop an M&E framework to track progress in implementation and financial information of cholera elimination Plan
- Produce Cholera M&E information (reports, bulletins etc.) and dissemination to relevant stakeholders
- Conduct supportive supervisory visits at all levels

Targets

- ZACCEP implementation is effectively monitored and rectified in response to recommendations from review processes.

6. ***Resource Mobilization:*** To ensure at least 80% of the required resources (domestic and external) are mobilized to implement the Comprehensive Cholera elimination plan (2018-2027)

Activities

- Establish a technical working group for resources mobilization
- Develop and implement resource mobilization Strategies

Targets

- ZACCEP is completely budgeted and approved by the RGoZ
- Government of Zanzibar and development partners provide adequate financial and technical support for implementing the plan

II. Prevention

7. ***Water Supply:*** To ensure universal and equitable access to safely managed and affordable water supply for all.

Adequate and safe water supply is key in ensuring that people are effectively utilize improved or safely managed sanitation and hygiene facilities as well as acquire improved hygiene behaviors. The Ministry of Lands, Water, Energy and Environment, and ZAWA will ensure the availability of adequate and safe water supply to at least 95% of the population in Zanzibar.

Special emphasis will be given to those who are underserved and presently use an unsafe water supply.

A common framework for action and key indicators for measurement of service provision are needed for ZAWA to accurately identify gaps and determine investment in water supply. The implementation of water supply interventions will be done by the Government through ZAWA with support from development partners.

Promotion and facilitation of local and international NGOs, CBOs with the capacity to get involved in social mobilization on household water treatment and safe storage is a key to driving positive behavioral change. The project will ensure engagement of various actors for water, hygiene and sanitation in Zanzibar to promote water quality improvement.

Activities

- Carryout feasibility study of the water supply demand and rehabilitation of system needed
- Construct boreholes and extend water supply network by zone water distribution system to cover under served hotspot areas including schools, madrasa and health facilities.
- Construct water reservoir/storage tanks with chlorination system for the boreholes
- Install automatic chlorination system in all water supply mains, put in place regular maintenance and procure chlorine for annual stock
- Carryout pumping test and cleaning and Rehabilitate the existing boreholes to increase yield capacity
- Protect water resources and catchment areas from contamination.
- Recruit and train staff (15 water engineers, 30 technicians and 40 revenue collectors/inspectors)
- Enforce water and Public Health Act by conducting households and food business premises inspections, prohibiting uncontrolled street food vending
- Regulate and monitor private water sources to ensure that the safety of water supplied
- Carryout regular bacteriological water quality monitoring and salinity (sea water intrusion) for public and private systems
- Facilitate availability of watergurd in shops and promote water treatment at household level.
- Design and disseminate water quality guideline and carry out regular monitoring and reporting.

Targets

- To ensure access to adequate, safe and sustainable water supply to at least 95% of the population in Zanzibar by end of 2022.

8. ***Sanitation Infrastructure:*** To ensure adequate and equitable access to improved sanitation for all.

Community Led Total Sanitation (CLTS) will be implemented at scale covering all 11 districts in Zanzibar, targeting the hotspot areas; capacity building will be carried out at national to district level to have national and district team facilitators, with local NGOs working in complementarity with Government authorities. Actual triggering will be carried out at village level, giving high priority to areas with high open defecation levels. The activity will focus on influencing best practices and increase the capacity of municipalities to address urban sanitation problems particularly the overflowing sewage from septic tanks, soak away pits and pit latrines; as well as poor solid waste management, with a focus on urbanized cholera hot spot areas. ZACCEP proposes technically, socially, financially and economically appropriate interventions and technologies to prevent health risks and environmental pollution leading to persistent cholera outbreaks. Priority will not be directed to improvement of household sanitation only, but will also include public places such as schools, health care facilities, markets and recreation premises.

In urban areas (West A, B, and Urban Districts) a feasibility study will be carried out to assess the requirement of unplanned areas and the magnitude of the slum improvement required. In addition, support will be provided to establish and scale up low-cost liquid and solid waste management systems.

Activities

- Scale up CLTS interventions to village with high OD in all districts
- Carryout feasibility study of the unplanned settlement and magnitude of upgrading needed
- Carry out urban slum upgrading to allow road access, water supply, sewage and storm water drainage
- Introduce small engine (Tanker and vacuum) for sludge emptying in slum areas. Construct sewerage system (small bore and large sewers where appropriate) with DEWATS (Bio-digesters) in Urban –West Region
- Upgrade the Stone town sewage system and connect to treatment system before discharge
- Construct public toilet and bathing facilities in populated areas and beaches
- Procure at least 6 cesspits emptier for West A, West B and Urban districts.
- Develop and disseminate popular version of Public Health Act
- Construct WASH facilities in schools in accordance with the national SWASH guideline
- Develop and disseminate guideline on WASH in HCF
- Carry out assessment and construction of WASH infrastructure in Health Care Facilities
- Develop and disseminate solid waste management strategies in all LGAs with introduction of solid waste sorting
- Procure at least 6 solid waste collection tracks for West A, West B and Urban districts.
- Construct solid waste collection bays
- Institute waste collection fees and establish community groups for solid waste collection

Targets

- To ensure at least 90% of schools and 70% of households have access to private or shared latrine facilities by 2027.

- To ensure that 90% of new constructions/houses have latrines facilities by 2025.
- Increase collection of solid waste in the Urban area to 90% and by 80% in peri urban and rural areas

9. ***Social and Behavior Change:*** To improve hygiene and sanitation practices through social and behavior change communication that is evidenced based, effective and adapted to the needs of the community.

   The Ministry of Health in collaboration with key sectors and partners will lead the implementation of comprehensive SBCC interventions through multiple approaches and channels. Health promotion program will focus on promoting and influencing hygiene and sanitation behavior change in the four key areas of handwashing with soap at critical times, safe water and food handling, regular and consistent use of improved latrine and early care seeking.

   Based on thorough analysis of behavioral and socio-cultural drivers of cholera, a robust SBCC strategy will be developed to guide sustained sanitation and hygiene promotion interventions. The strategy will foster multi-sectoral partnership and strategic actions; dissemination of multi-media messages through appropriate channels, capacity building of social networks/CBOs and key influencer groups in interpersonal communication and hygiene promotion and advocacy with key sectors and partners on building an enabling environment.

   To ensure that hygiene, and especially handwashing with soap, become lifelong practices, efforts will focus on children to instill habits at a young age. This will include the promotion of innovative approaches such as daily group handwashing in schools using songs and poems, quiz and competitions. Moreover, collaboration with early childhood education centers, education and nutrition programs, and other child focused SBCC interventions creates opportunities to mainstream hygiene promotion.

   Various influencer groups will be identified, mobilized and trained to support the dissemination of consistent messages for promotion of safe hygiene and sanitation. For example, religious leaders will be mobilized to sensitize their congregations through their places of worship and during special events, and community/Shehia leaders during community meetings and other social events. Cholera hotspot locations will be reached with targeted interventions including; door to door visit, mobile audio/visual vans and community dialogue led by trained community health volunteers. Community groups who are especially at risk including street food and drinks vendors, water kiosks, and mobile fishermen will also be engaged through tailored approaches. These approaches will be complimented with mass media interventions to reach wider audiences and reinforce the messages disseminated through interpersonal communication.

   High level advocacy will engage key influencers groups such as parliamentarians for; policy implementation, increased WASH investment, enforcement of sanitation and environmental

health regulations and accelerating social norm change, through engagement of wide range of multi-sectorial structures and channels.

Activities

- Assess behavioral and socio-cultural risk factors contributing to Cholera
- Develop evidence-based comprehensive SBCC strategy for cholera prevention and control
- Production and dissemination of gender responsive, context specific messages through multi-media channels (print, radio, TV) and Mobile-audio visual vans
- Conduct Interpersonal Communication (House to house sensitization and community dialogue) in hot spot area and reaching community groups who are at risk including food and drink vendors
- Engage with community key influencers including religious leaders, Shehia leaders to ensure mobilization of communities
- Train key mobilizers including; Community Health Volunteers (CHVs), SHCC, CBOs, women groups on interpersonal communication
- Implement hygiene promotion interventions in schools (including Madrassas); orientation of teachers, SWASH clubs as champions and school committees
- High level advocacy with policy makers, law enforcers, Member of House of Representative, parliamentarians, highest level religious structures, private sectors, media editors, Regional Commissioners and District level team

Targets

- 80% of community members have comprehensive knowledge and practice key WASH behaviors to prevent and control cholera
- 90% of students (including those in madrassas) have comprehensive knowledge and positive behavior to protect themselves from cholera and mobilize their communities
- Key community influencers at all shehias are engaged and take action to mobilize/motivate their communities on cholera prevention and control

10. Cholera vaccine: To ensure adequate oral cholera vaccine coverage for all eligible population

Findings from the 2009's Zanzibar OCV campaign have shown the plausible benefit and feasibility of the pre-emptive mass vaccination against cholera in Zanzibar. Based on those findings and work in other countries throughout Africa, the Revolutionary Government of Zanzibar has put forward mass OCV campaigns as one of the key strategies in its program to eliminate cholera, coupled with sustainable WASH related measures to improve environmental health standards, access to safe water supply, and improved sanitation. Engagement of the population through various avenues such as the private sector (private clinics and hospitals)

and facilities of Ministry of Defense, Faith Based Organizations and others will also be deployed to assist in delivering the OCV to all eligible individuals.

The goal will be to deliver targeted mass vaccination campaign among the population in selected hot spot areas with two rounds of two doses of OCV in the first year of the program and repeat the mass vaccination program every 3-5 years for two more times in the next 10 years. The target population will be adjusted based on the experiences of previous campaigns and the need that may arise over the course of 10 years. OCV will be deployed through mass campaigns with fixed vaccination points, although special targeted campaigns will be developed for mobile populations, like fisherman. The Government, in collaboration with development partners and stakeholders, will identify strengths, weaknesses, and lessons learned from the previous OCV campaign to find means to strengthen surveillance, preparedness, intergovernmental WASH initiatives, social mobilization, and reinforcement of WASH related human resources to maximize success of the campaign.

Activities

- Assess the capacity of vaccination delivery
- Risk assessment
- Comprehensive communication around OCV and Cholera
- Mass campaigns

Targets

- At least 80% vaccine coverage of 2-doses of OCV among eligible populations of Zanzibar during 2018-19 as measured by a coverage survey.
- At least 50% 2-dose vaccine coverage within mobile fishing communities

III. Response

11. Case management: To improve the quality of patient care by increasing early access to effective treatment to prevent morbidity and mortality at the community and health-facility levels.

Once a case is identified, proper management of cases to avoid deaths and sufferings among the population is very important. Health workers will be trained in diagnosis, management, infection prevention and control measures to avoid spread of the disease to themselves and to the community. The program will also ensure the readily availability of medicines, supplies and other logistics needed to prevent, treat and control cholera.

Activities

- Annual capacity building interventions to health workers, community workers and volunteers to ensure suspected cases are appropriately referred to care and that appropriate care is provided
- Annual review of essential cholera supplies and replenishment to ensure adequate materials for cholera case management
- Establish isolation center/corners in identified, selected health facilities during outbreaks.
- Ensure availability of treatment guidelines on cholera

- Ensure quality/quantity availability of medicine in all health facilities
- Conduct spot checks during outbreaks to ensure that case management follows guidelines.

Targets

- Maintain the clinic case-fatality rate of suspected cholera below 1% in all outbreaks.
- At least 90% of suspected cholera deaths will be investigated and the contributing factors leading to the death identified.
- At least 90% of Cholera Treatment Center (CTC) staff are able to demonstrate proper infection prevention practices.
- At least 90% of CTC staff will correctly indicate signs and symptoms of severe dehydration and proper management of dehydration.

12. **Surveillance during outbreak response:** To improve case findings, documentation, response and reporting of cholera response activities at all levels.

During response active case surveillance (ACS), proper documentation, case management and record keeping using appropriate tools (e.g. line list and patients form, laboratory forms etc.) is paramount to enable following up on the trend of the transmission in the CTC/CTU's and community throughout the outbreak response. These interventions are fundamental in containing the disease outbreak and positively impact on the case fatality rate. The surveillance activities during response must be carried out simultaneously at community, health facility and central level. Presence of guidelines, functional transport, recording and reporting tools, and skilled human inputs are essential for effective surveillance.

Activities

- Review IDSR guidelines and related data tools including community case registration forms
- Orientation of RRT and IDSR teams on the revised guidelines/tools
- On-site mentorship and supportive supervision on familiarization of the tools
- Conduct active case surveillance (ACS) at community level during cholera outbreak response

Targets

- 100% of CTCs will use line listing for suspected/confirmed cholera cases as recommended by WHO.
- At least 90% of CTCs will report daily cases to the next level of MOH structure within 24 hours
- Weekly situation report (sitrep) is prepared and shared with all stakeholders/partners during cholera outbreaks.
    - 90 % of cases and deaths due to cholera at community are recorded and reported

13. Logistics and supplies: To provide adequate stocks of cholera treatment supplies and other resources within 24 hours in the event of cholera outbreak

Activities

- Produce buffer stock of material/kits for cholera cases in selected health facilities
- Health structures to host isolation center are pre- identified and the administrative step are undertaken to facilitate the construction

Targets

- Stock for cholera response are pre-positioned in the respective warehouses annually
- The designed health structures have an isolation center to treat cholera and other water-borne disease

4. Monitoring and Evaluation

4.1 Integrated Result-Based Monitoring

A monitoring and evaluation framework will be developed to ensure the timely implementation of interventions by various sectors. Annual meetings will be organized by the steering committee chair (2nd VPO) to receive reports and give policy and strategic directions to various sectors. The technical committee composed of various sectors will coordinate cholera elimination interventions in Zanzibar.

Knowing the characteristics of a given area – access to services, cultural factors determining family care behaviors is necessary part of cholera prevention and control. Three household surveys will be conducted to assess effectiveness of the ZACCEP interventions. The specific objectives are to provide baseline information for various sectors to use for planning and for setting elimination targets, to assess exposure of local population to ZACCEP intervention programs and projects, and to generate information for assessing progress towards ZACCEP targets. The surveys will complement the annual assessments and routine surveillance system, whose interpretation may benefit insights provided by household surveys. The surveys will assess progress on sanitation infrastructure, water supply and safety, social and behavioral change, and vaccination campaign. In addition, these surveys will include a serological component (sub-survey), in order to objectively measure changes in exposure to *Vibrio cholerae* and other key diarrheal pathogen. The baseline survey will be conducted by the end of 2019, midline survey at the end of 2022, and end line survey at 2027. These surveys will be designed and conducted in partnership with the MoH, WHO, UNICEF and academic partner institutions (e.g., Johns Hopkins University).

4.2 Indicators of Result of the ZACCEP

The action plan for the elimination of Cholera in Zanzibar is comprised of three phases:

Phase 1 - Two years for the short-term objectives (2018-2019)
Phase 2 - Three years for the medium-term objectives (2020-2022)
Phase 3 - Five years for the long-term objectives (2023-2027)

Table-1: Key indicators of results for the three phases of household surveys are described below

Domains	Key indicators	Baseline 2017/18	Midline 2022	End line 2027
Sanitation Infrastructure	% of households with access to *safely managed sanitation services*[11]	TBD	Increased by 25% from baseline	At least 70
	% of households with access to *basic sanitation services* [12]	59	75	93
	% of households with access to *limited sanitation services*[13]	14	10	4
	% of households with access unimproved sanitation	11	7	3
	% of open defecation	16	8	0
		62 in Micheweni	30	0
	% of schools with improved gender-separated sanitation facilities on or near premises with at least one drop hole for 20 girls, and 1 for 25 boys.	17%	25	80
	% of household with access to proper solid waste management service;	50	80	100
Water supply and water safety	% of households accessing water from *safely managed services* [14]	TBD	Increased by 70% from baseline	98
	% of households accessing water from *basic services*[15]	85	95	100
	% of households accessing water from *limited services*[16]	13.5	5	0
	% of households practicing an appropriate treatment method prior to drinking	24	80	95

[11] Safely managed sanitation are improved facilities which are not shared with other households and where excreta are safely disposed in situ or transported and treated off-site through cesspit emptier or sewers. Improved facilities are flush/pour flush to piped sewer system, septic tanks or pit latrines, ventilated improved pit latrines, composting toilets and pit latrines with slabs

[12] Basic sanitation are improved facilities which are not shared with other households (note that means of disposal not specified).

[13] Limited Sanitation are Improved facilities shared between two or more households.

[14] Safely managed drinking water services are improved sources located on premises, available when needed and free faecal and priority contamination.

[15] Basic drinking water services are the improved sources provided collection time is not more than 30 minutes for a round trip including queuing

[16] Limited drinking water services are improved sources which requires over 30 minutes for a roundtrip including queuing

Domains	Key indicators	Baseline 2017/18	Midline 2022	End line 2027
	% of schools with access to basic water services (Drinking water from an improved source is available at the school)	82	90	100
Hygiene	% of households with soap and water at hand washing facility within or immediately near sanitation facility	37	50	95
	% of schools with soap and water at hand washing facility within or immediately near sanitation facility	25	50	100
Social and Behavioral Change	% of population who have heard/seen a cholera prevention or hygiene promotion messages	TBD	90	100
	% of population who recall 4 key cholera prevention and control messages	TBD	80	95
	# of key influential leaders who are active in sensitizing their communities	TBD	80	100
	% of households with proper hand washing facilities and soap near toilet	TBD	50	90
Multisectoral Coordination	Proportion (%) of meetings held by the ZACCEP task force (quarterly when no outbreak and weekly during outbreak)	<25	100	100
	Proportion (%) of sectors/institutions actively participating in regular ZACCEP meetings	TBD	100	100
	Proportion of Ministries regularly reporting on ZACCEP planned activities	TBD	100%	100%
Cholera Case Management	Incidence rate,	5 per 1000	<1 per 1,000	0 per 1,000
	Case Fatality Rate (%)	1.6	<1	0
	Attack rate, (%)	0.31	<0.1	0
	Proportion of patients with severe dehydration (%),	>30	<5	0
Surveillance	% of outbreaks detected within 24 hours of occurrence,	70	100	100

Domains	Key indicators	Baseline 2017/18	Midline 2022	End line 2027
	% of outbreaks reported to WHO within 24 hour,	20	100	100
	% of outbreaks responded by RRT within 48 hours	10	90	100
	% of cases confirmed with laboratory results (culture, PCR, RDT)	<10	70	100
	# of laboratories capable of performing culture and/or PCR	3	7	12
	# of Districts with at least one laboratory capable of performing culture and/or PCR	3	7	11
	Number of districts with trained microbiologists	2	7	11
Cholera Vaccine	OCV coverage (%),	54	>80	>90

Table-2: Area of Intervention by Lead Agency/Sector

AREA OF INTERVENTION	LEAD AGENCY
Multi-sectoral Coordination	Vice President and DMC offices, MOH
Regulations	All Ministries and Offices
Surveillance System	MOH
Capacity	Vice President and DMC offices
Monitoring and Evaluation and Risk assessment	Vice President and DMC offices
Resource Mobilization	MOF
Water Supply	ZAWA
Sanitation Infrastructure	Municipality and Ministry of Local Government
Social Behavior Change	MOE, MOI, MOH
Cholera Vaccine	MOH
Case management	MOH
Logistic and supply	MOH

5. Financial Resources Mobilization

5.1 Funds Committed by the Donor Sector

Organization	Activity	Total USD
AfDB	Water Project Urban West Region	23,673,000*
WHO	Oral Cholera Vaccine (OCV)	9,500,000
	Recruitment of cholera elimination expert	381,000
	Surveillance and epidemic response	330,000
UNICEF	WASH through KOICA	5,000,000
World Bank		
Exim Bank of India	Water supply Project West A and West B districts	92,000,000**
Japanese International Cooperation Agency (JICA)	ZAWA water supply infrastructure (we need to check this)	2,000,000

*AfDB will support water infrastructure in Unguja

** Exim Bank will support water supply project in West A and B Districts

5.2 Funds Needed by Thematic Area

	Total needs USD	Government Agency (Name)	Government Allocation USD	Donor Organization (Name)	Donors Allocation USD	Gaps
Multi-sectoral Coordination	303,396	SVPO	100,000	-	0	203,396
Regulations	15,000	Govt. sectors	15,000	-	0	0
Surveillance System	565,000	MOH	200,000	WHO	330,000	35,000
Capacity needs assessment	20,000	MOH/SVPO	20,000	-	0	0
Monitoring and Evaluation and Risk assessment	316,000	MOH	196,000	WHO/UN	100,000	20,000
Resource Mobilization strategy	2,000	MOH	2,000	-	0	0
Water Supply	11,294,290	ZAWA	1,000,000	UNICEF	1,000,000	9,294,290
Sanitation Infrastructure	16,450,000	Govt.	2,000,000	UNICEF	5,000,000	9,450,000
Social Behavior Change	7,500,000	MOH/MOI	1,500,000	-	0	6,000,000
Cholera Vaccine	9,540,000	MOH(in kind)	0	WHO	9,540,000	0
Case management	945,000	MOH	740,000	WHO	200,000	5,000
Surveillance	400,000	MOH	0		0	400,000
Logistic and supply	3,622,000	SVPO	640,000	-	0	2,982,000
Program Management staff and office operations	816,000	SVPO	60,000	-	-	756,000
Grand Total	**51,788,686**		**6,473,000**		**16,170,000**	**29,145,686**

6. Estimated Budget for ZACCEP

KEY INTERVENTION	EXECUTING AGENCY	SHORT TERM 2018 - 2019	MEDIUM TERM 2020 - 2022	LONG TERM 2023 - 2027	TOTAL
Multi-sectoral Coordination	SVPO	101,132	101,132	101,132	303,396
Regulations	Govt. sectors	15,000			15,000
Surveillance System	MOH	188,333	188,333	188,333	565,000
Capacity needs assessment	MOH/SVPO	10,000	5,000	5000	20,000
Monitoring and Evaluation and Risk assessment	MOH	105,333	105,333	105,333	316,000
Resource Mobilization Strategy	MOH	1,000	500	500	2,000
Water Supply	ZAWA	5,147,145	5,147,145	1,000,000	11,294,290
Sanitation Infrastructure	Govt.	8,225,000	7,225,000	1,000,000	16,450,000
Social Behavior Change	MOH/MOI	2,500,000	2,500,000	2,500,000	7,500,000
Cholera Vaccine	MOH(in kind)	3,180,000	3,180,000	3,180,000	9,540,000
Case management	MOH	315,000	315,000	315,000	945,000
Surveillance	MOH	133,333	133,333	133,333	400,000
Logistic and supply	SVPO	1,207,333	1,707,333	707,333	3,622,000
Program Management staff and office operations	SVPO/MOH/WHO	163,200	244,800	408,000	816,000
Grand Total		**21,291,809**	**20,751,777**	**9,542,832**	**51,788,686**

7. ZACCEP Results Framework for all pillars.

Pillar 1: ENABLING ENVIRONMENT

Key Strategic Area: Multi-sectoral coordination

Outcome 1.1: Zanzibar cholera elimination plan is well coordinated and funded at national and subnational levels

	Key activities	**Expected Results**	**Performance Indicators**	**2018-2019 (Two Years)**	**2020-2022 (Three Years)**	**2023-2027 (Five Years)**	***Responsible Sector***	***Estimated Cost USD***
Objective 1.1.1; To ensure effective multi-sectoral coordination in eliminating local cholera transmission in Zanzibar								
1.1.1.1	Establish and Appoint office of the ZACCEP Coordinator	Effective implementation and coordination	Qualified coordinator in place	x	x	x	SVPO &MOH	236,396
1.1.1.2	Map stakeholders for cholera elimination plan	Enhanced multi-sectoral coordination for cholera elimination (key stakeholders identified).	# of stakeholder (Who, by location, intervention, national/international)	x			SVPO	2000
1.1.1.3	Conduct quarterly Stakeholders/Technical Work Group meetings	(Implementation monitored and challenges addressed).	# of meetings and minutes disseminated	X	X	X	SVPO / MoH	20,000
1.1.1.4	Conduct regular steering committee meetings	Government (implementation overseen and policy and	ToR for the steering committee	X	X	X	MoH	0

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
		guideline related issue resolved.						
1.1.1.5	Refine clear the roles and responsibilities of the stakeholders and disseminate at National and District levels	Enhanced understanding of every stakeholder on their Roles and responsibilities	Refined roles and responsibilities in cholera elimination	X			SVPO	0
1.1.1.6	Integrate cholera elimination interventions into annual sectoral operational plans (7 sectors)	Enhanced and executed sectoral response for cholera elimination	Through annual sectoral meetings (7 sectors at $500/mtg), sectoral operation plans in place and added as appendices to ZACCEP	X	X	X	SVPO	35,000
1.1.1.7	Develop and implement advocacy and communication strategy for cholera elimination	Developed by technical work group and adopted by steering committee for enhanced partnerships for elimination of cholera	Advocacy and strategy developed and shared with steering committee and stakeholders (4 meetings at $2,500/mtg)	X			SVPO	10,000
1.1.1.8	Advocate for a budget line for multi-sectoral coordination	Enhanced coordination	Amount of funds allocated	X	X	X	SVPO	0

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
1.1.1.9	Allocate Program management staff and office operations	Enhanced efficiency and effectiveness of program management	Percentage of interventions implemented OCV coverage among target populations	X	X	X	SVPO/WHO	816,000
	Total							**1,119,396**

Key strategic area: Regulations

Outcome 1.2: Zanzibar with effective enforcement of act and regulations in all sectors.

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
Objective 1.2.1: To ensure the existence of and the adherence to land use, environmental health and food hygiene regulations and by laws to reduce the risk of cholera and other water and sanitation-related diseases								
1.2.1.1	Assess the existing Acts, laws and regulations in line with cholera elimination in all relevant sectors	Identify regulatory gaps in relation to cholera elimination (regulatory gap identified)	Assessment report	X			SVPO Ministry of Health Ministry of Justice	0

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
1.2.1.2	Develop/revise and disseminate regulations and by laws related to cholera elimination across relevant sectors and agencies	comprehensive set of regulations to address cholera elimination (in place)	Number of by-laws and regulations reviewed, revised, or developed.	X			SVPO Ministry of Justice	10,000
1.2.1.3	Enforce the regulation and by laws related to cholera elimination across sectors	Increased adherence to public health standards	No. of institutions /communities sensitized on cholera related regulations Percent of hospitality premises adhering to cholera related regulations	X	X	X	All sectors including police	5,000
	Total							15,000

Key Strategic Area: Surveillance system

Outcome 1.3: Zanzibar with strong surveillance system critical for ensuring timely response and control of cholera

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
Objective: 1.3.1 To strengthen epidemiological and laboratory-based surveillance and early warning systems to ensure early detection and timely response to cholera outbreak								

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
1.3.1.1	Review, translate, print and disseminate IDSR guidelines and other IDSR tools (including, reporting books, and case definitions)	Enhanced knowledge and skills of health workers in IDSR	Number of facilities with IDSR guidelines in place	X			MoH	20,000
1.3.1.2	Review and develop IDSR training curriculum for TOT and supervision and mentoring	Enhanced knowledge and skills of health workers in surveillance	Existence of a training curriculum		X			20,000
1.3.1.3	Conduct TOT for ~20 surveillance officers on IDSR to be responsible for supervising and mentoring other facilities, including specimen collection, handling and transport	Develop a cadre of IDSR facility trainers	Number of surveillance officers trained on how to mentor IDSR	X	X		MOH	15,000
1.3.1.4	Conduct On job training, supervision, and mentoring of health workers, laboratorians and port health staff on IDSR., including specimen collection, handling and transport	Enhanced knowledge and skills of health workers in IDSR	Number of health workers (including laboratorians and port health staff) trained on IDSR Complete and timely IDSR reporting above 80% from facilities	X	X	X	MoH	90,000
1.3.1.5	Conduct regular (one annual) port health/cross border surveillance meetings	Enhanced port health / cross border collaboration	Number of cross border meetings on cholera and minutes	X	X	X	MoH, WHO, Ministry of transport	25,000

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
1.3.1.6	Conduct annual refresher training for national laboratory staff (Mnazi Mmoja and Pemba) on culture and sensitivity testing for cholera	Enhanced capacity of laboratory skills	Number of laboratory staff trained Number of cholera cases confirmed	X	X	X	MoH	5,000
1.3.1.7	Build laboratory capacity in 4 regional level hospital for culture and sensitivity testing (Kivunge, Makunduchi, Mkoani, Wete) – buying incubators, water bath, autoclaves, petri dishes, refrigerators and other supplies	Have additional laboratories capable of testing for cholera	Number of labs able to conduct culture and sensitivity testing for cholera	X	X	X		100,000
1.3.1.8	Construct/renovate lab premises for microbiology services at three (identified)hospitals (Makunduchi, Kivunge and Wete)	Microbiology services provided in identified hospitals	Number of tests performed.	X	X			75,000
1.3.1.9	Train 3 microbiologists (2 years master s course)	Capacity at microbiology lab strengthened	Number of 3 microbiologist in place	X				32,500
1.3.1.10	Develop protocols and train staff at primary health care facilities on use of cholera RDTs	Have rapid test capacity at the primary care facilities	Number of staff trained (carried out as part of IDSR training)	X	X	X		5,000
1.3.1.11	Procure and distribute 100 cholera RDTs to district facilities for use during confirmed outbreaks ($2/test); replace every 2 years (Makunduchi, Kivunge, Wete, Mkoani, Chake,	RDTs in place	Number of district facilities with RDTs	X	X	X		10,000

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
1.3.1.12	Review QA SOP with National Health Lab and Quality Assurance Training Centre	QA procedures in place	Number of isolates sent for confirmatory testing to NHL-QATC	X	X	X		0
1.3.1.13	Develop SOP for supporting whole genome sequencing for monitoring circulating strains of cholera	SOP for genome sequence in place	Availability of SOP document	X				10,000
1.3.1.14	Procure and distribute cholera diagnostic laboratory supply to identified facilities	Enhanced laboratory capacity to diagnose and confirm cholera cases	Number of facilities with relevant laboratory supplies for cholera Percentage of facilities reporting stock outs for cholera laboratory supplies	X	X	X	MoH	15,000
1.3.1.15	Introduce electronic IDSR system e.g. mobile, online application, tablet, etc.	Improved real time monitoring	Timeliness of reporting Completeness of reporting IDSR system in place	X	X	X	MoH, WHO	80,000
1.3.1.16	Train facilities health staff on IDSR	Strengthened staff capacity	Number of health staff trained	X	X	X		30,000
1.3.1.17	Develop community-based surveillance guidelines	Enhanced engagement of communities in surveillance	Number of communities reporting disease outbreaks	X				5,000
1.3.1.18	Orient community health structures (Shehia health custodian committee) on community based surveillance guidelines	Community Surveillance structured in place	Number of cases reported from community Evidence of reports at community level	X	X	X		7,500
1.3.1.19	Conduct epidemiological study on risk factors, transmission pathway and trends of cholera outbreak	Epidemiological Factors Identified	Recommendation from Study report		X		WHO/MOH	20,000

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
	Total							**565,000**

Key strategic area: Capacity Building

Outcome 1.4: Zanzibar with adequate capacity for cholera preparedness and response in various sectors

	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
Objective 1.4.1: To build capacities of all participating sectors/ministries for implementing Comprehensive cholera elimination plan								
1.4.1.1	Conduct capacity needs assessment for other sectors	Capacity needs identified	Capacity needs assessment report	X			WHO/MOH	20,000
1.4.1.2	Develop and implement capacity building plan based on needs assessment results (Refer Obj. 1)	Enhanced capacity	Presence of capacity building plan	x	x	x	All sectors MoH, SVPO	0
	Total							20,000

Key strategic area: Monitoring and Evaluation

Outcome 1.5: Strong M&E system and risk assessment established to ensure accountability and good performance in ZACCEP

	Key activities	**Expected Results**	**Performance Indicators**	**2018-2019 (Two Years)**	**2020-2022 (Three Years)**	**2023-2027 (Five Years)**	***Responsible Sector***	***Estimated Cost USD***
Objective 1.5.1: To ensure that the M&E system is in place to track cholera elimination progress and to ensure the plan is regularly updated incorporating changes of risk factors								
1.5.1.1	Build capacity of IDSR/M&E unit at Ministry of Health:	Improved M&E system	Periodic M&E reports	x	x	x	MoH	20,000
1.5.1.2	Deploy 2 ICT staff	Proper data management in place	Number of staff deployed Comprehensive data base management	X				60,000
1.5.1.3	Train 2 M&E personnel	Cholera elimination plan is timely monitored and evaluated	Epidemiological report in place	X				8,000
1.5.1.4	Procure 12laptops and 6 desk tops for Unguja & Pemba	Cholera data base in place	Electronic reports available Time processing and analysing	X	X	X		8,000
1.5.1.5	Develop an M&E framework to track progress in implementation and financial information of cholera elimination Plan	Robust M&E framework developed and implemented	No of M&E report generated regularly	x	x	x		5,000
1.5.1.6	produce Cholera M&E information (reports, bulletins etc.) and dissemination to relevant stakeholders	Enhance understanding of cholera situation in Zanzibar	Frequency/ number of cholera information product developed	x	x	x	MoH and partners	15,000
1.5.1.7	Conduct (general) supportive supervisory visits at all levels	Improved performance	Number of supervisory visits annually	X	X	X		200,000
	Total							**316,000**

Key strategic area: Resource Mobilisation

Outcome 1.6: Adequate resource available to implement planned activities

	Key activities	**Expected Results**	**Performance Indicators**	**2018-2019 (Two Years)**	**2020-2022 (Three Years)**	**2023-2027 (Five Years)**	***Responsible Sector***	***Estimated Cost USD***
Objective 1.5.1: To ensure at least 80% of the required resources (domestic and external) are mobilized to implement the Comprehensive Cholera elimination plan								
1.6.1.1	Establish a technical working group for resources mobilization	Enhanced resource mobilization	No of expert identified No of proposal/concept note developed and submitted	x	x	x	SVPO and relevant sectors	0
1.6.1.2	Develop and implement resource mobilization Strategies	Enhanced resource mobilization	Amount of money generated	x	x	x	SVPO and relevant sectors	2,000
			TOTAL					**2,000**
	Total Enabling Environment							**1,221,396**

Pillar 2: Prevention

Key Strategic Area: Safe and adequate water supply.

Outcome 2.1: Zanzibar communities utilize equitably distributed and safely managed water supply services critical for cholera prevention and control

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
Objective 2.1.1: To ensure universal and equitable access to safely managed and affordable water supply for all.								
2.1.1.1	Carryout feasibility study of the water supply demand and rehabilitation of system needed in all district.	Report on feasibility study in place	Recommendation of the study	x			ZAWA	1,500,000
2.1.1.2	Construct 60 boreholes (35 Pemba, 25 Unguja;) and pipe extension to 30km to reach under served hotspot areas .	Increased % of population accessing safe and adequate water.	# of new borehole constructed % of households accessing water from improved sources	X	X		ZAWA ZEMA	2,812,772
2.1.1.3	Construct 15 water reservoir at least 200,000 - 350,000 litres each, with chlorination system (on line and on the tank)	reliability of safe water supply in place	# of reservoir/overhead tanks constructed and functioning # of households accessing improved sources within recommended distances in marginalised		X		ZAWA	3,214,540
2.1.1.4	Rehabilitate existing boreholes, storage facilities and pipe systems. This include Pumping test (scanning) 20 boreholes, cleaning, and monitor salinity	Increased coverage of safely water supply	# of borehole rehabilitated % of unaccounted for water	X	X	X	ZAWA	650,000
2.1.1.5	Carry out monthly water quality monitoring: Water sample collection, analysis and reporting	Increased water quality	Availability of regular report on water quality % of water supplied with FRC	x	x	x	ZAWA/MOH	90,000

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
		monitoring services	#of sources e. coliform					
2.1.1.6	Procure annual stock chlorine for Municipal Water supply and dosing machine for all water supply tanks/distribution mains	Water supplied from all ZAWA facilities is chlorinated	% of sources with chlorination plant % of water samples with FRC	X	X	X	ZAWA	192,685
2.1.1.7	Design and disseminate water quality guideline and carry out regular monitoring and reporting.	Public and ZAWA staff observes and implement water quality guidelines	Evidence of understanding on water quality	X	X			22,302
2.1.1.8	Promote water chlorination at house level (Waterguard procurement and distribution)	Household members are using chlorinated water	% of hh chlorinating water at point of use % of hh with FRC	x	x	x		645,190
2.1.1.9	Bulk water vendors registered and monitored.	Bulk water vendors sell chlorinated water	% of sampled water with required FRC % of bulk water vendors registered	X	X	X	ZAWA/MOH	223,015
2.1.1.10	Monitor and supervise water quality and infrastructure	Earlier identification of fault/ leakage	Rate of down time % of leakages	X	X	X	ZAWA	89,206
2.1.1.11	Protect water resources and catchment areas from contamination.	Reduced contamination /destruction of water sources	# of water catchment areas protected		X	X	ZAWA, ZEMA, MOH COMMUNITY, MOALD(Agriculture)	178,412

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Five Years)	*Responsible Sector*	*Estimated Cost USD*
2.1.1.12	Recruit and train staff (15 water engineers, 30 technicians, 40 revenue collectors/inspectors	Improved efficiency and effectiveness of services	# of staff recruited, # of staff trained, % of targeted revenue collected	X	X	X	ZAWA	1,000,000
2.1.1.13	Enforce water and public health acts and regulation	Illegal act controlled. No encroachment of, water sources. Register and chlorinate private water sources.	# of illegal cases observed % compliance to laws # of private water sources registered	X	X	X	ZAWA/ MOH	88,084
2.1.1.14	Carryout GIS Mapping of Boreholes (Public &Private) for registration and tracking, and mapping of environmental factors.	Data availability for tracking networks and faults	GIS report on water supply/water sources	X	X		SUZA	500,000
2.1.1.15	Enforce water and public health Acts and Regulation	Improved adherence to water law	# of cases/fines # of register water works	X	X	X	X	88,084
Total - Water supply								**11,294,290**

Key Strategic Area: Safely managed sanitation infrastructures

Outcome 2.2: Communities in all households and institutions in Zanzibar access safely managed sanitation infrastructures critical for cholera prevention and control

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
Objective 2.2.1: ***To ensure adequate and equitable access to safely managed sanitation facilities for all***								
2.2.1.1	Scale up CLTS interventions to village with high OD in 4 districts at least (Micheweni, Wete, North A&B.	Open/beach defecation stopped	% of OD # of improved toilets constructed annually per district # of HH with leaking sewage	X	X		MOH, MOE, NGOS, PORASD	650,664
2.2.1.2	Carryout feasibility study of the unplanned settlement and magnitude of upgrading needed	Feasibility study report in place	Recommendations	X	X		Municipalities of West A, West B, & Urban	133,809
2.2.1.3	Carryout urban slum upgrading to allow access road, water supply, sewage and storm water drainage.	Improved accessibility to public services in slum areas. (road, drainage and WS)	# of proper solid waste collection bay # of improved slum settlement Evidence of increased wastewater removal	X	X	X	PORASD, Urban and West Municipalities,	4,803,512
2.2.1.4	Construct sewerage system (small bore sewer) and DEWATS in Urban –West Region	Risk of soil contamination due to wastewater overflow in urban areas eliminated	% of are covered by sewerage system # of functional DEWATS	X	X	X	PORASD, Urban and West Municipalities,	3,014,273

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
2.2.1.5	Procure 4 High pressure cleaning unit for sewer lines. Carryout routine maintenance	Sewage overflow in streets significantly reduced	# of sewer cleaning unit % of sewer blockages reduced		X	X	Urban and West Municipalities	450,000
2.2.1.6	Upgrade the stone town sewage system	Sewage overflow in stone town significantly reduced	% of sewer blockages reduced		X	X	PORASD, Urban and West Municipalities	1,784,121
2.2.1.7	Construct Public toilet and bathing facilities in populated areas and beaches	WASH facilities available and used in populated areas and beaches	# of populated areas with public toilets % of beaches sites with public toilets and bathing facilities	X	X		Ministry tourism, All municipalities and LGAs	903,211
2.2.1.8	Procure cesspit emptier trucks at least 2 for each of the West A, B, and Urban)	Risk of soil contamination due to faecal sludge overflow from pit latrines and septic tanks eliminated	# of tracks procured and operational Revenue collected as Evidence of sustainability of services		X	X		802,855
2.2.1.9	Develop and disseminate popular version of Public Health Act.	Increased compliance to PHA	% of defaulters KAP on PHA	X	X		MOH,MOE,LOA,MOJC,NGOS,MICS, PORASD	26,762
2.2.1.10	Construct WASH facilities in schools in accordance with SWASH National	All Primary Schools comply	% of school with improved WASH facilities as per SWASH guidelines	X	X	X	MOEVT, PORASD	1,605,709

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
	guidelines; focus with hotspot areas. 30 schools (20 Unguja, 10 Pemba)	with SWASH guidelines						
2.2.1.11	Develop and disseminate Guidelines on WASH in HCF	Health Personnel are aware with Guidelines for WASH in HCF	Evidence of improved hygiene practices among health personnel	X	X	X	MOH,LGS, PORASD	13,381
2.2.1.12	Carry out Assessment and Construct WASH infrastructure in health care facilities (30). Focusing hotspot areas.	All HCF with improved Water and sanitation services	HCF with poor WASH identified % of HCF with functional latrine and hygiene equipment % of HCF with functional water supply	X	X	X	MOH, LGAs	267,618
Objective 2.2.2: ***100% of solid waste collected, transported and disposed-off properly***								
2.2.2.1	Develop and disseminate Solid waste management strategies in all LGAs	Cleaner living environment especially urban areas. Solid waste strategy in operational in all LGAs	Funded solid waste management strategies	X				15,315
2.2.2.2	Procure at least 2 solid waste collection track for West A, West B and Urban districts - Unguja ; 2 in Chakechake and Wete - Pemba		# of trucks procured % of solid waste removal for disposal Evidence of sustainability/revere collected	X	X			1,224,978
2.2.2.3	Construction of Solid waste collection bays at least 15 storage bay per 3 districts - Unguja 3 in Pemba (48)	Solid waste properly stored in urban areas and LGAs	# of collection bays	X	X		Urban and West Municipalities, LGAs PORASD	642,284
2.2.2.4	Institute waste collection fees and Establish community groups for solid waste collection. Procurement of facilities, training on entrepreneurship.	Solid waste management as source of income generation.	Revenue collected # of entrepreneurs establish for SWM.	X	X		LGS,MOF, MOL, Municipalities	111,508

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
	Total - Sanitation infrastructure (liquid and solid waste).							**16,450,000**
	Total Water Supply and Sanitation							**27,744,290**

Key strategic Area: Social and Behavioural Change Communication:

Outcome 2.3: Population in Zanzibar change to social behaviours and practices that lead to cholera prevention and control in Zanzibar

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
Objective 2.3.1: To improve hygiene and sanitation practices through social and behavior change communication that is evidenced based, effective and adapted to the needs of the community								
2.3.1.1	Assessment of behavioural and socio-cultural risk factors contributing to Cholera	Evidence available to inform SBCC strategy and context specific messages	# of KAP studies conducted, highlighting key risk factors for cholera	X			MoH, Local government	81,000
2.3.1.2	Develop evidence-based comprehensive SBCC strategy for cholera prevention and control	Guidance available for sustainable Behaviour Change Communication and community engagement interventions	Comprehensive SBCC strategy available	X			MoH, Local government	250,000

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
2.3.1.3	Produce and disseminate gender responsive, context specific messages through multi-media channels (print, radio, TV) and Mobile-audio visual vans	Communities groups reached with context specific messages	# of multi-media materials produced and disseminated	X	X	X	MoH, LGA, Local broadcasters, CBOs, NGOs	2,500,000
			# of community groups reached (%) of population who have heard/seen a cholera prevention message	X	X	X	MoH, Local government, Local broadcasters, CBOs, NGOs	
			% of a representative sample of people who recall 4 key Cholera prevention messages		X	X	MoH, Local government, Local broadcasters, CBOs, NGOs	
			% of reported diarrhoea cases		X	X	MoH, Local government, CBOs, NGOs	
2.3.1.4	Conduct Interpersonal Communication (House to house sensitization and community dialogue) in hot spot area and reaching community groups who are at risk including food and drink vendors	Communities in hot spot areas have comprehensive knowledge and	# of people sensitized		X	X	Local NGOs including Red Cross, ZAPHA +.	1,000,000
			% of people who practice key WASH behaviours		X	X		

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
		have changed their behaviour	Proportion of Shehia leaders oriented with WASH knowledge in cholera prevention and control # of key influential leaders who are active in sensitizing their communities	X	X	X	MoH, Office of Mufti, JUMAZA, Local government, responsible Christian Organisation	969,000
2.3.1.5	Engage with community key influencers including religious leaders, Shehia leaders to ensure mobilization of communities	Key community influencers are engaged and take action to mobilize/sensitize their communities						
2.3.1.6	Train key mobilizers including; Community Health Volunteers (CHVs), SHCC, CBOs, women groups on interpersonal communication	Capacity of Volunteers (CHVs), CBOs, and key mobilizers enhanced to communicate Cholera prevention messages	Number of Shehias (Villages) sensitized with competent mobilizer	X	X		MOH, Local Government and partners	1,200,000
2.3.1.7	Implement hygiene promotion interventions in schools (including Madrassas); orientation of teachers, SWASH clubs as champions and school committees	All students and teachers in schools and Madrassas have comprehensive knowledge and positive behavior to protect themselves from Cholera and	# of teachers oriented # of Clubs and school committees sensitized # of students having comprehensive knowledge on Cholera prevention	X	X	X	MOH, MOE, Local Government and partners	1,000,000

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
		mobilize their communities						
2.3.1.8	High level Advocacy with policy makers, law enforcers, Member of House of Representative, parliamentarians, highest level religious structures, private sectors, media editors, Regional Commissioners and District level team	High level influencers take action to prevent and control Cholera	# of high level influencers groups reached #of high level influencers who take action in cholera elimination	X	X	X	MOH, Development Partners,	500,000
	Grand total Social Behavior Change							**7,500,000**

Key strategic Area: Cholera vaccine

Outcome 2.4: Required rounds of cholera vaccines issued to all eligible population timely to prevent cholera outbreak.

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated cost*
Objective 2.4.1: To ensure adequate oral cholera vaccine coverage for all eligible population								
2.3.1.9	Conduct study to identify demography of the priority populations at risk, estimate vaccines needed and logistics involved	Population at risk, quantity of vaccines and resources needed identified	# of population at risk	X			Ministry responsible for health,	50,000
2.3.1.10	Conduct awareness raising campaign/advocacy on cholera vaccine to community and decision makers	Decision makers support vaccination campaign along the promotion of hygiene behavior and improved sanitation	# of vaccines needed % of Knowledge Attitude and Practices on OCV; # of campaign sessions and advocacy meetings	X			Local government; MOH, Local government	120,000
2.3.1.11	Conduct mass vaccination campaign on cholera vaccine	80% or above of the targeted population vaccinated Sustained reduction in overall cholera incidence and elimination of outbreaks in pre-designated hotspots	% vaccinated	X	X	X	MOH, MOEVT, Local government,	7,500,000
2.3.1.12	Train vaccinators and supervisors on Policy and Guidelines on OCV	Policy and guidelines on OCV implemented	# of vaccinators and supervisors trained Evidence of improved skills	X	X	X		1,500,000

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated cost*
	Develop and disseminate policy and guidelines on cholera vaccine	Reliable and updated data available for reporting, planning and resource allocation.	% of KAP on Policy and Guidelines Evidence on usage of Policy and Guidelines	X			Ministry responsible for health,	80,000
2.3.1.13	Conduct supportive supervision and monitoring		# of supervision and monitoring visits done annually. Evidence of quality reports	X	X		Ministry responsible for health, local government	90,000
2.3.1.14	Carryout evaluation on effectiveness of cholera vaccine		% of cholera vaccines effectiveness	X	X	X	Ministry responsible for health, local government	200,000
Grand total Vaccine								**9,540,000**

Pillar 3: Response

Key Strategic Area: Case management

Outcome 3.1: Cholera cases well managed as per standard treatment guidelines and mortality averted at community and health-facility levels

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
Objective 3.1.1: To improve the quality of patient care by increasing early access to effective treatment to prevent morbidity and mortality at the community and health-facility levels.								

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
3.1.1.1	Establish functional multidisciplinary Rapid Response Teams (RRTs) at all levels	RRT established at all levels for timely response established	Time taken to deploy RRTs and respond to outbreak	X			MOH/ DPS	80000
3.1.1.2	Train on cholera response and prevention requirements to RRTs at all levels	RRT trained and skilled for timely quality response	Number of multidisciplinary Teams trained in all regions and districts	X			MOH/ DPS	65000
3.1.1.3	Conduct advocacy and sensitization sessions to Local Government Authorities on the Staff retention strategy	Staff skilled for on cholera response readily available at LGA level.	% of trained staff retained for outbreak response	X			MOH/ DPS	90000
3.1.1.4	Establish functional Cholera Treatment Centers or units (CTC/CTU) according to the cholera management guidelines	CTC/CTU established according to guidelines	Number of functional CTC/CTU established	X			MOH/ DPS	260000
3.1.1.5	Conduct Re –orientation and mentorship on cholera guidelines and SOPs to all RRTs for appropriate response during cholera outbreaks	Improved adherence to guidelines, SOPs and tools during outbreak	CFR & Proportion of cases treated per guidelines at CTC/CTU	X			MOH/ DPS	150000

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
		response at all levels						
3.1.1.6	Empower Community Health Volunteers (CHVs) and other community influencers to train communities on homemade ORS preparation and establish community based ORS points	Number of cases admitted in severe conditions reduced	% of cases admitted with plan C at CTC/CTU from community	X	X		MOH/ DPS	300000

Key strategic area: Surveillance during outbreak response

Outcome 3.2: Efficient and sustainable surveillance system established at all levels

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
Objective 3.2.1: To improve case finding, documentation, response and reporting of cholera response activities at all levels.								
3.2.1.1	Conduct onsite mentorship and frequent supportive supervision during cholera outbreak response	Improved case management, timeliness and quality of data collection and reporting	% of cholera reports submitted timely and in good quality during outbreaks	X			MOH/DPPR	120, 000

No.	Key activities	Expected Results	Performance Indicators	2018-2019 (Two Years)	2020-2022 (Three Years)	2023-2027 (Four Years)	*Responsible Sector*	*Estimated Cost USD*
		during cholera outbreaks						
3.2.1.2	Review IDSR guideline to improve surveillance during cholera response	Updated IDSR guideline in place to improve Cholera notification	% of notifications of cholera epidemic that meet IDSR Cholera SCD requirements	X	X	X	MOH/DPS	125,000
3.2.1.3	Conduct orientation sessions to IDSR focal person at all levels	IDSR FP capacity at all levels on cholera surveillance improved Data management during response to outbreaks	% of cholera reports submitted timely and in good quality during outbreaks from all levels	X	X	X	MOH/DPS	150000
3.2.1.4	Conduct timely notification and confirmation of outbreak and monitor sensitivity pattern of isolated organisms during response	Timely resources mobilization and case management enhanced Duration of Disease	containment of cholera outbreak within 45 days	X	X	X	MOH/hospital services	5000

No.	Key activities	Expected Results	Performance Indicators	2018-2019	2020-2022	2023-2027	*Responsible Sector*	*Estimated Cost USD*
				(Two Years)	(Three Years)	(Four Years)		
		outbreak shortened Cholera case fatality rate reduced	<1%					
	Total Case Management							**1,345,000**

Key Strategic Area: Logistic and Supplies

Outcome 3.3: No stock-out of cholera treatment supplies and other resources

No.	Key activities	Expected Results	Performance Indicators	2018-2019	2020-2022	2023-2027	*Responsible Sector*	*Estimated Cost USD*
Objective 3.3.1 : To provide adequate stocks of cholera treatment supplies and other resources within 24 hours in the event of cholera outbreak								
3.3.1.1	Develop costed action plan on cholera response within the emergency multi-sectoral preparedness plan framework	Timely availability of funds and other resources for cholera response	Timeliness and adequacy in delivered cholera needed resources Adequacy in delivered cholera needed resources	X	X	X	MOH/DPS	25000

No.	Key activities	Expected Results	Performance Indicators	2018-2019	2020-2022	2023-2027	*Responsible Sector*	*Estimated Cost USD*
Objective 3.3.1 : To provide adequate stocks of cholera treatment supplies and other resources within 24 hours in the event of cholera outbreak								
3.3.1.2	Provide all necessary diagnostic, treatment and other supplies for appropriate management of cholera cases (including transport support , RDT and others)	Quality service provision	Number of days patients stay at CTC	X	X	X	MOH/CMS/LMU	3, 560, 000
3.3.1.3	Conduct integrated supportive supervision and mentorship on supply chain and data management	Performance of staff in cholera case management improved	Number of days patients stay at CTC CFR	X	X	X	MOH/LMU	20000
3.3.1.4	Conduct Supervision of all response, including surveillance and burial activities	Immediate contained of cholera cases at community level	Proportion of activities responded with in 24 hours	X X	X X	X X	MOH/PS	25000
3.3.1.5	Provide reliable transport for surveillance activities, supervising burials and for sample transfer from CTC to designated laboratory	Timely reaching and respond to the affected community	Time taken to reaching the community				MOH/PS	10000
Total - Logistics and supplies								**3,622,000**
Total Response:								**4,967,000**
Grand Total ZACCEP								**51,788,686**

8. National Response to the Cholera Epidemic

To reduce the risk from cholera, including limiting the occurrence and the spread of outbreaks and preventing deaths an integrated approach is of significant important with collaboration across health, WASH and other related sectors and crosscutting areas such as coordination, communication, resource mobilization, town planning, environment and education. The key partners/organizations of the project will include but are not limited to the following:

8.1 Government Organization

1) Second Vice President Office (VP2s Office) – as main coordinating
2) Ministry of Health: as a main implementing and coordinating board
3) Ministry of Education and Vocational Training
4) Zanzibar Water Authority (ZAWA): under the Ministry of Land, Human Settlement, Water and Energy
5) Municipal councils and Regional Authorities (Local governments) under the President Office's Ministry of Regional administration, Local Government and Special Departments (MRALGSD)
6) Department of Environmental
7) Zanzibar Tourism Authority under the Ministry for tourism information, culture and sports

8.2 Non-Governmental Organizations

1) Tanzania Red Cross: for water and latrine hardware and WASH education.
2) Religious and Community based Organizations (CBOs): for community mobilization.
3) Save the Children

8.3 International Agencies

1) WHO: as a key partner and co-implementer of the project
2) UNICEF: for water and latrine hardware and WASH support
3) Ivo de Carneri Foundation
4) JICA: for ongoing water project in Urban Unguja

9. Summary and Analysis

The capacity of the Government to implement this plan in accordance to GTFCC milestone is fundamental, the Government relies on existing expertise and workforce from key ministries, departments and agencies, notably Ministry of Health, Ministry of Water, Zanzibar Water Authorities, Municipalities, and State University of Zanzibar. This document has put more emphasis on strengthened multi-sectoral coordination for the smooth implementation of activities from these multiple implementers. The existence of technical and development partners notably WHO, UNICEF, John Hopkins Bloomberg School of Public Health, and others is a great opportunity that abides to the GTFCC commitment agreed by all members.

Key interventions proposed in country plan meet the following criteria:

- Equity

- Sustainability
- Multi-sectorial engagement
- Effectiveness (and cost-effectiveness)

9.1 Equity

The proposed plan for Cholera Control and Elimination will ensure that community members (including children, women end elderly), and vulnerable groups (such as people with disability and migratory transient populations) are able to benefit from the proposed interventions; and this will be adhered to. By targeting highly endemic areas – "hotspots", that experience cholera outbreak from time to time, will not only reduce the burden of cholera, but also effectively prioritise the delivery of WASH solutions to the most in need, achieving maximum impact.

9.2 Sustainability

In addition to addressing the long-term needs of the population, the proposed interventions should be both affordable and culturally acceptable. Social, political, and economic factors that could limit the longevity and success of any intervention should be taken in to account.

9.3 Multi-sectorial engagement

The process should gather a broader group of health, education, WASH stakeholders who are engaged at the outset of goal setting and implementation. The proposed interventions should be designed in a participatory way based on the local context and use a variety of tools that respond to the context. These should leverage active community involvement.

9.4 Expected effectiveness

The proposed interventions are likely to be successful in achieving the goals of cholera elimination, control or containment. The benefits in achieving the goal will exceed the cost of resources invested such and budget and staff time (expected cost-effectiveness).

Bibliography and References

- Concept Note, Zanzibar Comprehensive Cholera Elimination Program (ZACCEP) – 2018-2027
- Eliminating Cholera Epidemics Worldwide by 2030 – Water Aid, Global Task Force on Cholera Control, Bill and Melinda Foundation
- Generic Tool to assist countries for the development and the review of their national action plan for Cholera control or elimination plan – August 20th, 2017
- Government Published WASH goals – MUKUZAII
- James Christie, AM, MD, Cholera Epidemics in East Africa: 1821 – 1872, Macmillan and Co. 1876
- Joint External Evaluation of the IHR-2005 Core Capacity - The Revolutionary Government of Zanzibar Mission Report – 24th to 28th April 2017
- Malaria strategic plan (ZAMEP) – 2018-2023
- Myron Echenberge, Africa in the time of Cholera, A history of Pandemics from 1817 to present. Cambridge University Press, Cambridge, New York USA, 2011
- National Cholera Preparedness and response draft plan (NCDC) Nigeria 2017
- National Plan for the elimination of Cholera in Haiti – Republic of Haiti – Ministry of Public Health and population – National Directorate for Water supply and sanitation – 2013-2022
- OCV Mass Vaccination campaign Zanzibar experience. Oral vaccine (OCV) study project closing meeting – 28th February – 1st March 2012
- WHO, Cholera Monograph Series no. 43, 1953, Geneva Palais Des Nation 1953
- World Health Organization (WHO) Global Task Force on Cholera Control – Cholera Country Profile: United Republic of Tanzania – April 7th, 2008
- Zanzibar disaster management policy - The second vice president office – August 2011
- Zanzibar Emergency Preparedness and response Plan (ZEPRP) – The second vice president office – August 2011
- Zanzibar Guidelines for the prevention and control of Cholera – The Revolutionary Government of Zanzibar, Ministry of Health of Zanzibar, World Health Organization – June 2016
- Zanzibar program to eliminate Cholera (ZPEC), A 10-year, time-limited plan for sustainable elimination of Cholera – Ministry of Health of the Revolutionary Government of Zanzibar – World Health Organization – 2012
- Zanzibar: Building the Case for a New Comprehensive Cholera Control Plan Médecins Sans Frontières-Switzerland - Caroline Voûte, MPH – July 24th, 2016

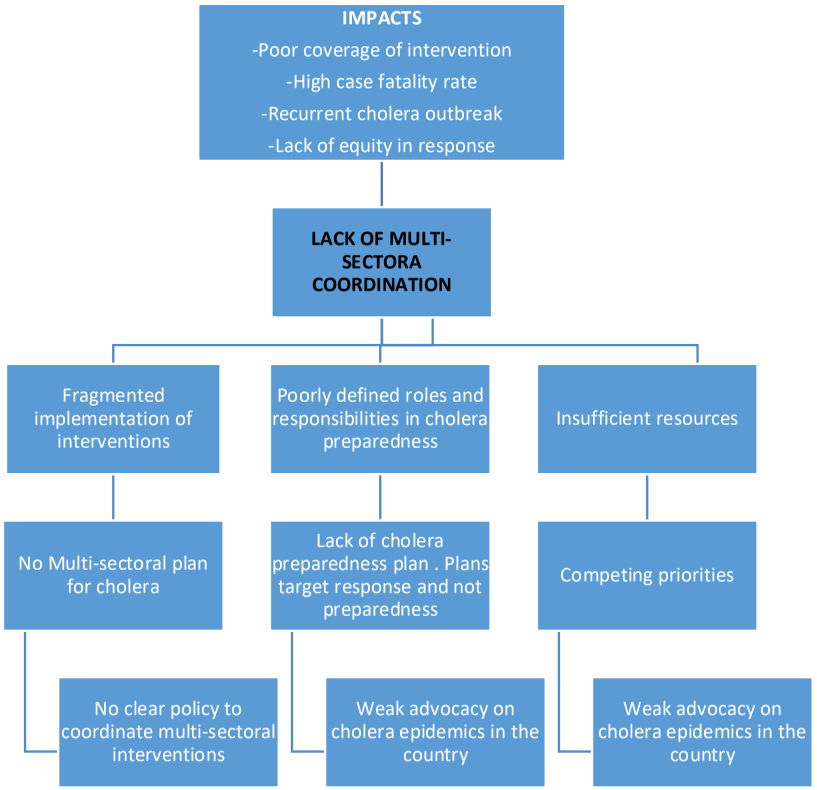
Annexes.

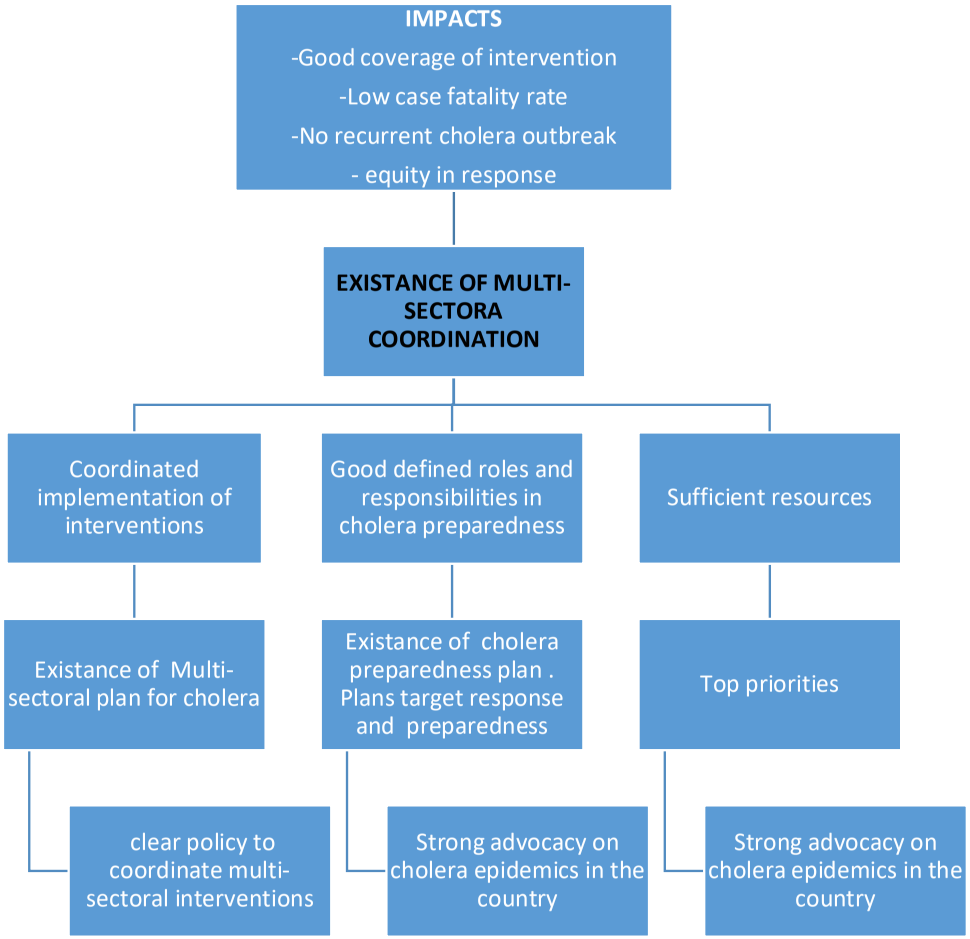
Example of the ZACCEP Results Framework Developed.

Enabling environment

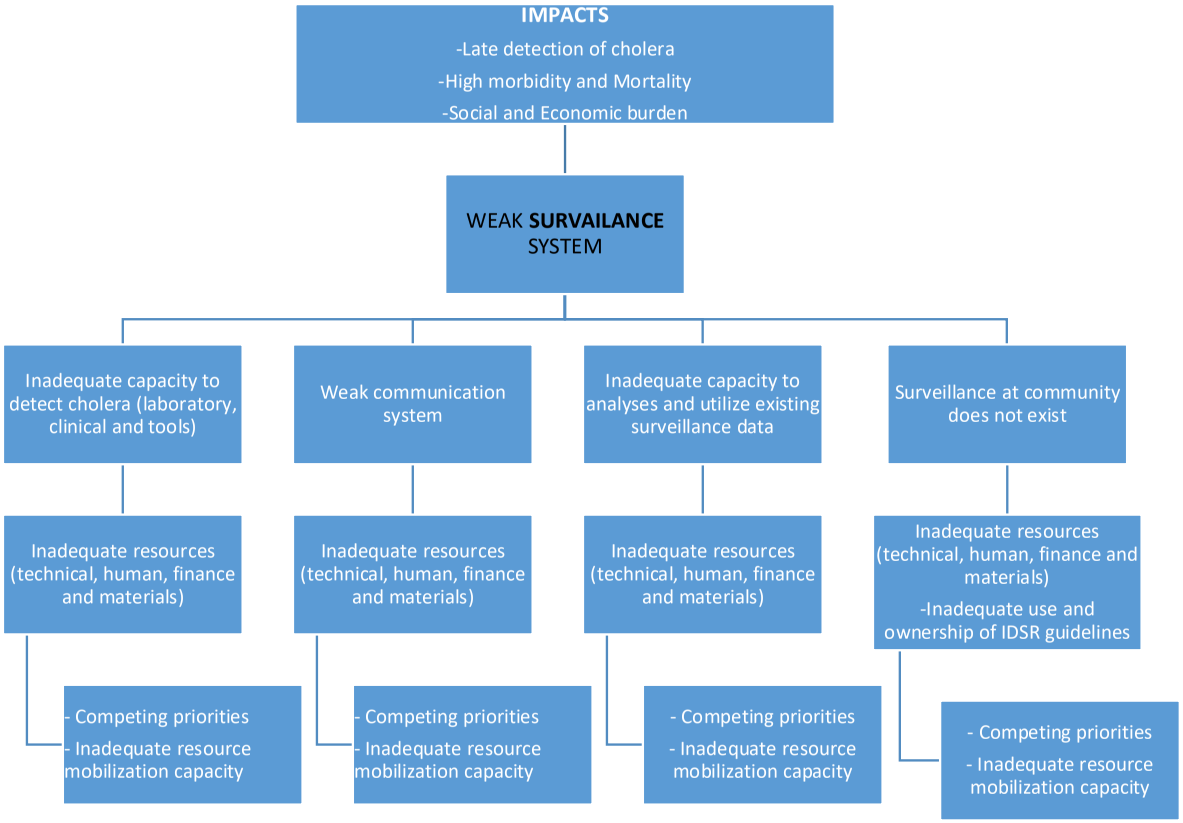
ENABLING ENVIRONMENT PROBLEM AND SOLUTION TREES

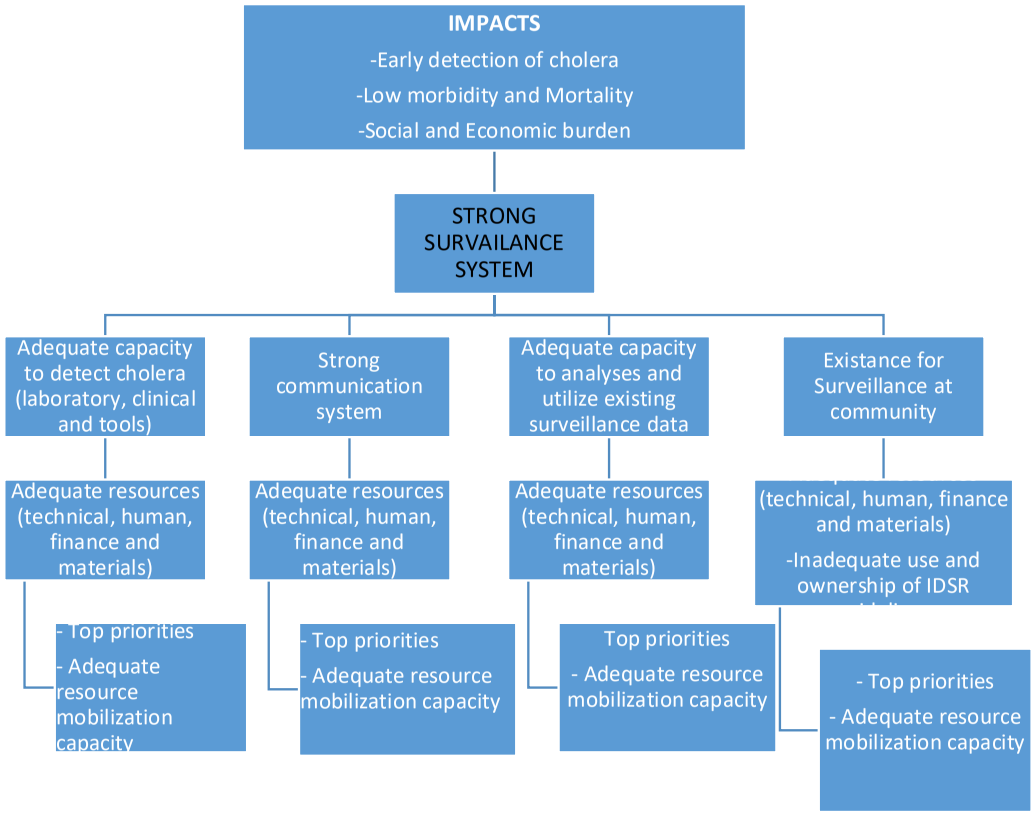
I. Key strategic area: multi-sectoral coordination



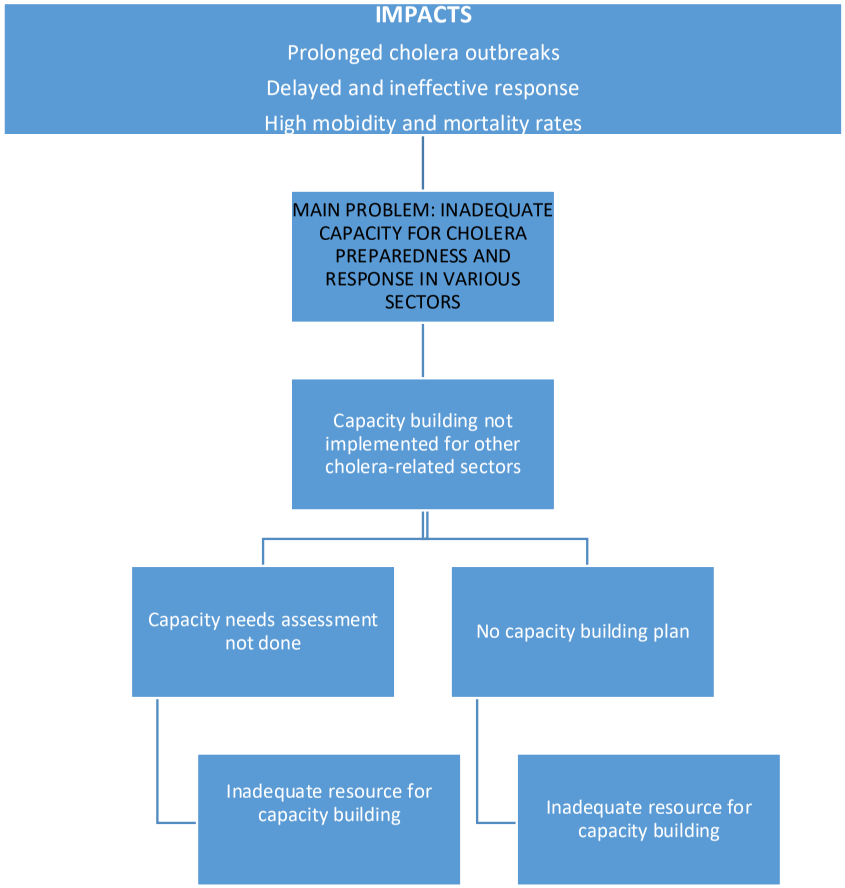

IMPACTS
-Good coverage of intervention
-Low case fatality rate
-No recurrent cholera outbreak
- equity in response
EXISTANCE OF MULTI-SECTORA COORDINATION
Coordinated implementation of interventions
Good defined roles and responsibilities in cholera preparedness
Sufficient resources
Existance of Multi-sectoral plan for cholera
Existance of cholera preparedness plan . Plans target response and preparedness
Top priorities
clear policy to coordinate multi-sectoral interventions
Strong advocacy on cholera epidemics in the country
Strong advocacy on cholera epidemics in the country

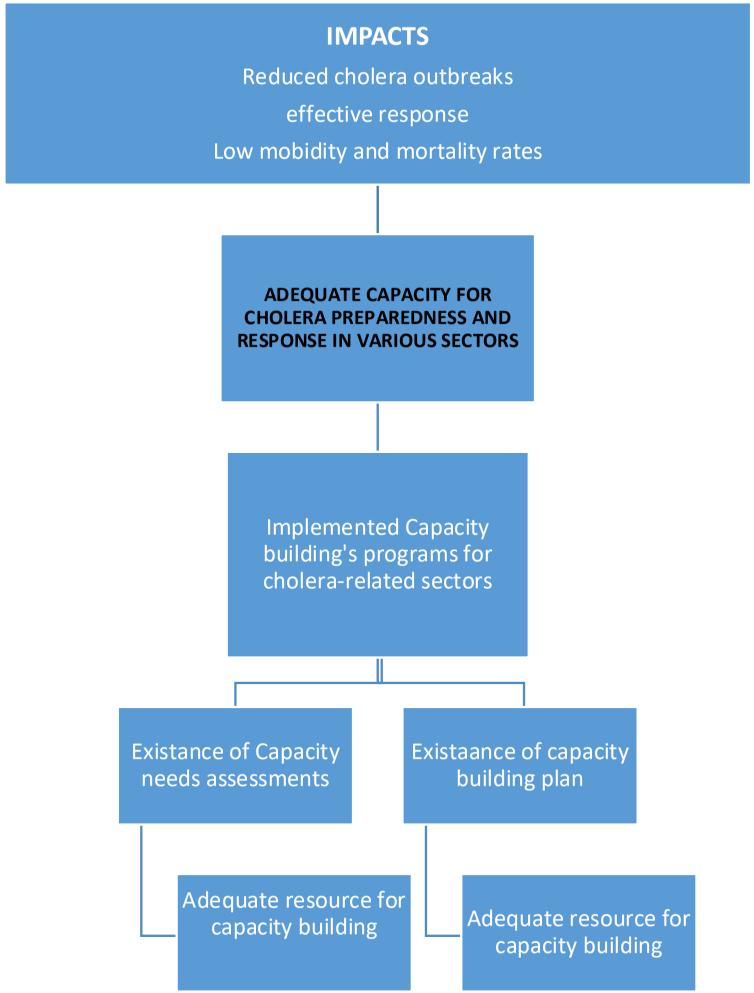
II. WEAK SURVAILANCE SYSTEM



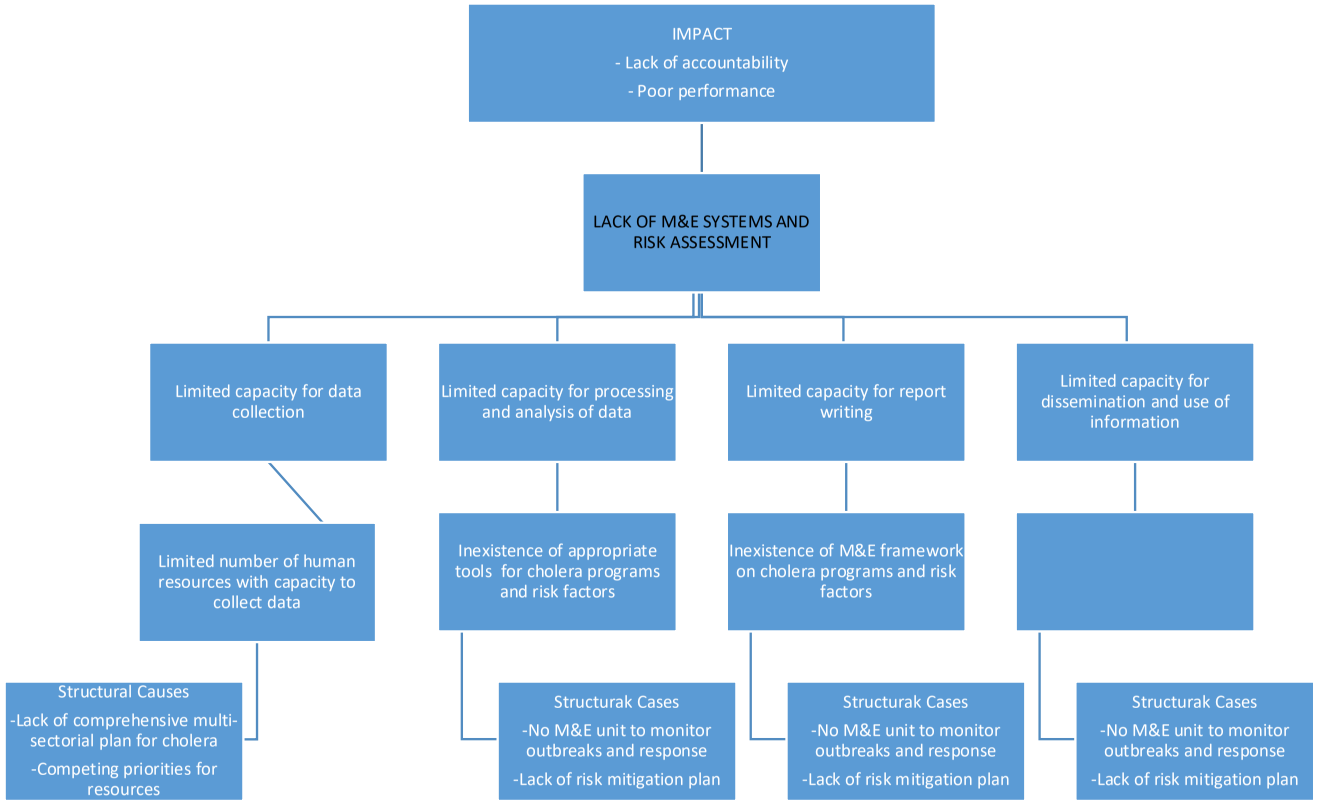

IMPACTS
-Early detection of cholera
-Low morbidity and Mortality
-Social and Economic burden
STRONG SURVAILANCE SYSTEM
Adequate capacity to detect cholera (laboratory, clinical and tools)
Strong communication system
Adequate capacity to analyses and utilize existing surveillance data
Existance for Surveillance at community
Adequate resources (technical, human, finance and materials)
Adequate resources (technical, human, finance and materials)
Adequate resources (technical, human, finance and materials)
(technical, human, finance and materials)
-Inadequate use and ownership of IDSR
- Top priorities
- Adequate resource mobilization capacity
- Top priorities
- Adequate resource mobilization capacity
Top priorities
- Adequate resource mobilization capacity
- Top priorities
- Adequate resource mobilization capacity

III. INADEQUATE CAPACITY FOR CHOLERA PREPAREDNESS AND RESPONSE IN VARIOUS SECTORS

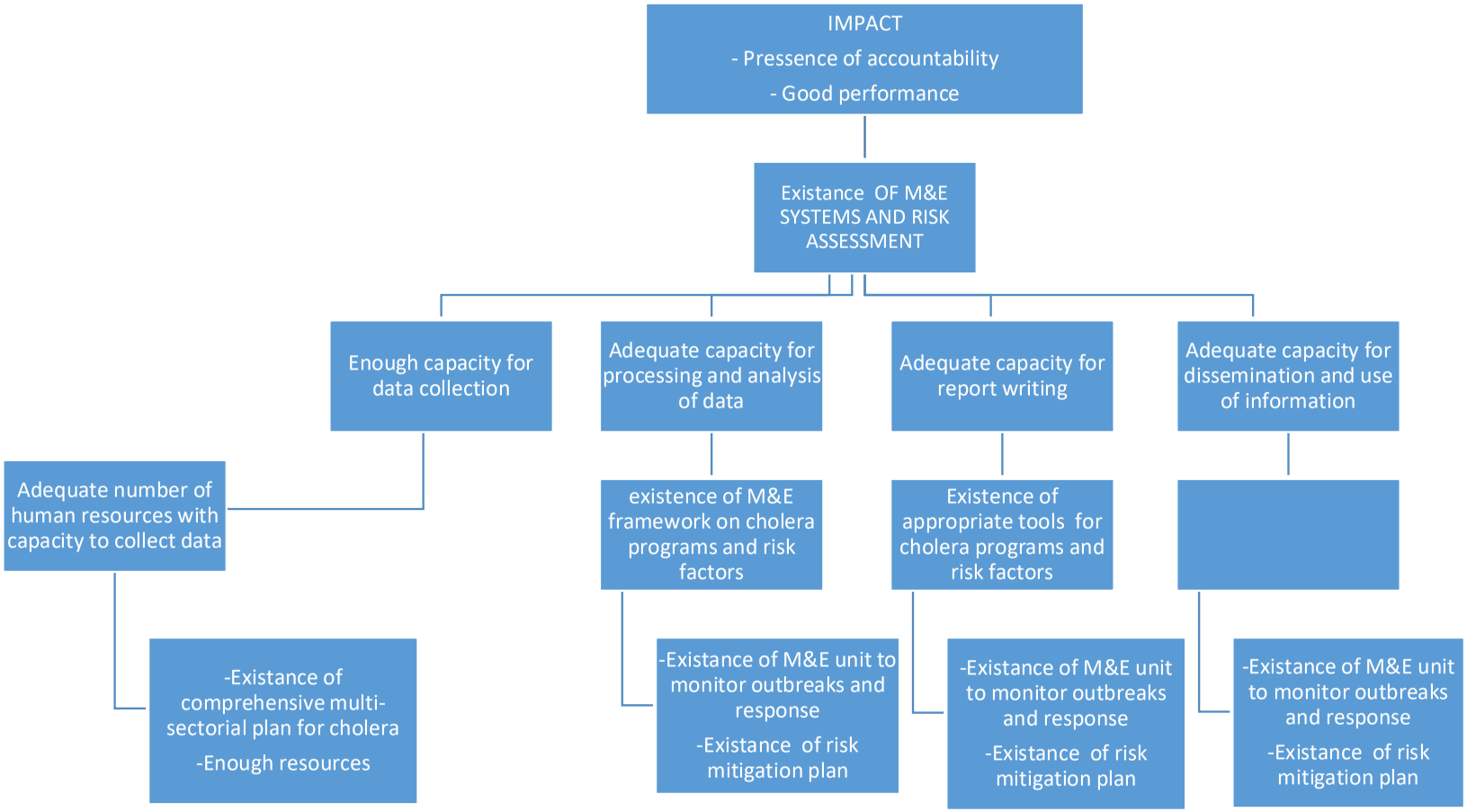



IMPACTS
Reduced cholera outbreaks
effective response
Low mobidity and mortality rates
ADEQUATE CAPACITY FOR CHOLERA PREPAREDNESS AND RESPONSE IN VARIOUS SECTORS
Implemented Capacity building's programs for cholera-related sectors
Existance of Capacity needs assessments
Existaance of capacity building plan
Adequate resource for capacity building
Adequate resource for capacity building

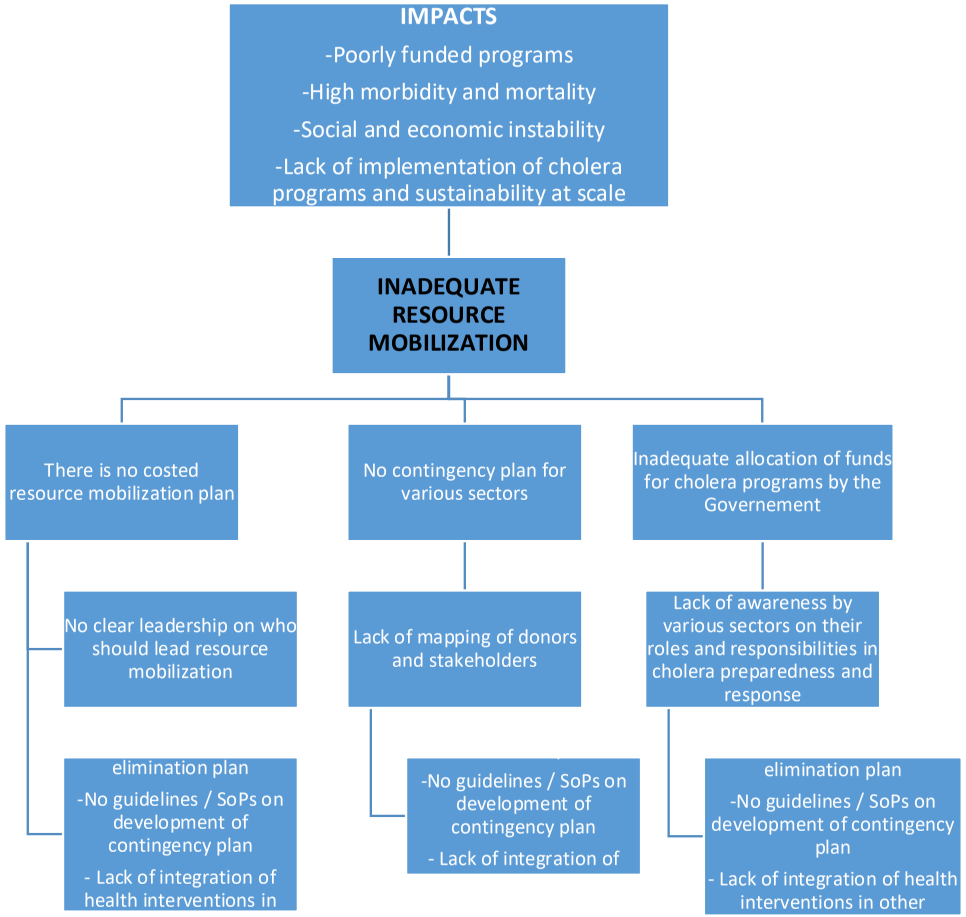
IV. M&E AND RISK ASSESSMENT



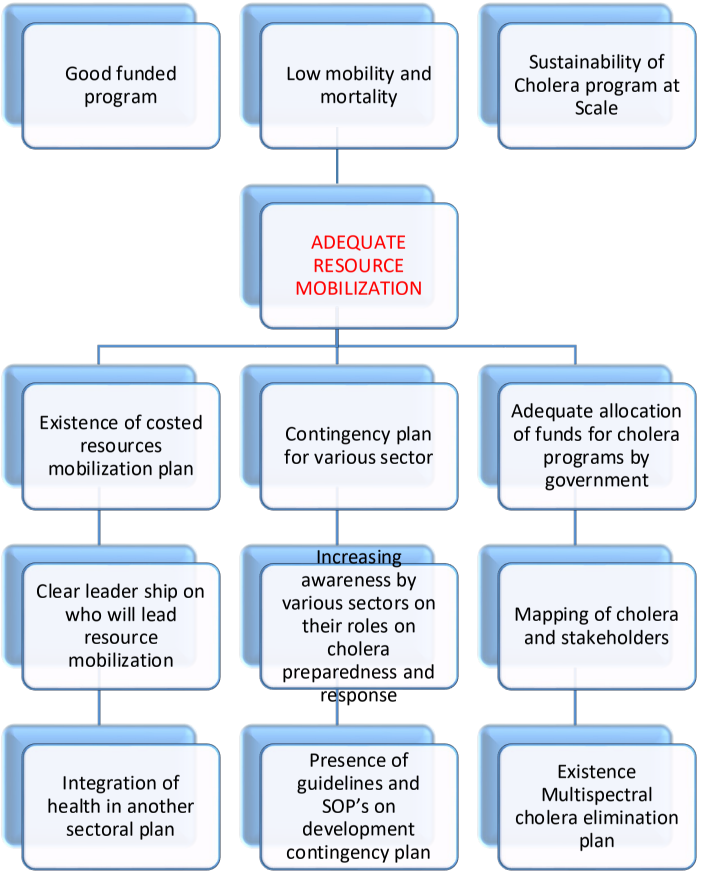
SOLUTION


IMPACT
- Pressence of accountability
- Good performance
Existance OF M&E SYSTEMS AND RISK ASSESSMENT
Enough capacity for data collection
Adequate capacity for processing and analysis of data
Adequate capacity for report writing
Adequate capacity for dissemination and use of information
Adequate number of human resources with capacity to collect data
existence of M&E framework on cholera programs and risk factors
Existence of appropriate tools for cholera programs and risk factors
-Existance of comprehensive multi-sectorial plan for cholera
-Enough resources
-Existance of M&E unit to monitor outbreaks and response
-Existance of risk mitigation plan
-Existance of M&E unit to monitor outbreaks and response
-Existance of risk mitigation plan
-Existance of M&E unit to monitor outbreaks and response
-Existance of risk mitigation plan

V. RESOURCE MOBILIZATION: PROBLEM



SOLUTION:


Good funded program
Low mobility and mortality
Sustainability of Cholera program at Scale
ADEQUATE RESOURCE MOBILIZATION
Existence of costed resources mobilization plan
Contingency plan for various sector
Adequate allocation of funds for cholera programs by government
Clear leader ship on who will lead resource mobilization
Increasing awareness by various sectors on their roles on cholera preparedness and response
Mapping of cholera and stakeholders
Integration of health in another sectoral plan
Presence of guidelines and SOP's on development contingency plan
Existence Multispectral cholera elimination plan