

What Happens After Cholera?
An Examination of the Transition from Relief to Development:
A Collective Case Study in Uganda

by
Ned Morgan

A dissertation submitted in partial fulfillment
of the requirements for the award of the degree of
Master of Science
of Loughborough University

August 2012

Supervisor: Brian Reed, BSc (Hons), MSc, CEng, CEnv, CWEM, MICE, MCIWEM, FHEA

Water, Engineering and Development Centre
Department of Civil and Building Engineering

Dedicated to my parents
Thanks for putting up with me all these years

Acknowledgements

Considerable thanks go to:

Brian Reed for his continuous support and advice (the bits I could catch)

Sam Kayaga for his help in establishing contacts in Uganda

Dr. Henry Mwebesa for his invaluable assistance in Uganda

All those who housed and fed me during my field research

Table of Contents

1.0 Introduction.....	1
1.1 Process.....	1
1.2 Aims and Objectives.....	2
1.3 Summary and Use.....	3
2.0 Literature Review.....	4
2.1 Literature Search Methodology.....	4
2.2 Phases of Emergency/Disaster Management Cycle.....	7
2.3 Transition.....	9
2.3.1 Funding.....	9
2.3.2 Prevention/Risk Reduction.....	10
2.3.3 Coordination/Early Recovery.....	11
2.4 Cholera.....	13
2.4.1 Combating Cholera.....	15
2.4.2 Cholera Prevention.....	16
2.4.3 Prevention Programs.....	19
2.5 Conclusion.....	22
3.0 Methodology.....	24
3.1 Aim and Objectives.....	24
3.2 Study Design.....	25
3.2.1 Criteria for Selection of Cases.....	25
3.2.2 Selection.....	27
3.2.3 Boundaries.....	27
3.3 Data Collection.....	28
3.4 Data Analysis.....	30
3.5 Conclusion.....	31
4.0 Introduction.....	32
4.1 Decentralization and Local Government.....	32
4.2 Cholera in Uganda.....	34
4.3 Cholera Response in Uganda.....	36

4.4 Methods of Accessing Informants	38
5.0 Findings and Analysis	39
5.1 Theme Maps.....	39
5.2 Coordination	40
5.3 Resources.....	45
5.3.1 Financial.....	45
5.3.2 Decentralization	48
5.3.3 Human Resources	48
5.3.4 Transportation Resources	49
5.4 Response and Prevention	49
5.5 Development Partners.....	58
5.6 Summary	60
5.7 Weaknesses	61
6.0 Discussion	62
7.0 Conclusions and Recommendations.....	70
8.0 References	75
9.0 Appendixes.....	84

List of Figures

Figure 1: Disaster Cycle	8
Figure 2: Early Recovery	12
Figure 3: Cholera Transmission	14
Figure 4: Timeline of cholera and WASH interventions	22
Figure 5: Map of Uganda.....	32
Figure 6: Local Government Structure.....	33
Figure 7: Cholera in Uganda	34
Figure 8: Map of Selected Districts	35
Figure 9: Main Themes Map	39
Figure 10: Coordination Theme Map	40
Figure 11: Resources Theme Map.....	45
Figure 12: Process of Funds Transfer to Districts	47
Figure 13: Response and Prevention Theme Map	49
Figure 14: Map of Cholera Affected Areas.....	52
Figure 15: Red Cross Disaster Management Theme Cycle	54
Figure 16: Development Partners Theme Map.....	58

List of Tables

Table 1: Phases of Emergency	7
Table 2: Composition of Task Forces	66

List of Acronyms

BoU	Bank of Uganda
CAO	Chief Administrative Officer
CLTS	Community Led Total Sanitation
CWGER	Cluster Working Group for Early Recovery
DHI	District Health Inspector
DHO	District Health Officer
DINEPA	Direction Nationale de l'Eau Potable et de l'Assainissement
DRC	Democratic Republic of the Congo
DRRP	Disaster Risk Reduction and Prevention

DWO	District Water Officer
EC	European Commission
GAAC	Global Alliance Against Cholera
GDP	Gross Domestic Product
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
IASC	Inter Agency Standing Committee
IEC	Information, Education, Communication
IFRC	International Federation of the Red Cross
LC1	Local Council One
LC3	Local Council Three
LC5	Local Council Five
LRA	Lord's Resistance Army
MDGs	Millennium Development Goals
MLG	Ministry of Local Government
MoH	Ministry of Health
MSF	Medecins Sans Frontieres
MWE	Ministry of Water and Environment
NGO	Non-Governmental Organization
NRA	National Resistance Army
OCHA	Office for the Coordination of Humanitarian Affairs
OPM	Office of the Prime Minister
PHI	Public Health International
RDC	Resident District Commissioner
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNISDR	United Nations International Strategy for Disaster Reduction
UNOPS	United Nations Office for Project Services
WASH	Water, Sanitation and Hygiene
WEDC	Water, Engineering and Development Centre
WHO	World Health Organization

1.0 Introduction

Cholera, an acute diarrhoeal infection, is a global scourge and 1.4 billion people are estimated to be at risk for contracting the disease (Ali et al., 2012, p. 212). 589,854 cases were reported worldwide in 2011 representing an 85% increase over the total cases in 2010 (WHO, 2012, p.289). Cholera continually plagues endemic countries with outbreaks occurring on an annual or even intra-annual basis. It is widely acknowledged that water, sanitation and hygiene (WASH) are the best interventions to prevent cholera. The Global Alliance Against Cholera (GAAC) states that there is “total agreement within the relevant scientific and health care community that the most important factors in the elimination of cholera in endemic areas are sustainable access to potable water, effective community sanitation procedures and adoption of personal hygiene practices” (GAAC, 2011a, p. 1). Despite knowing the measures for prevention, the main approach to cholera globally is a reactive one in the form of emergency medical response. The longer-term preventative approach is widely ignored.

The different approaches to cholera - emergency relief and preventative development - comprise distinct phases of what is termed the disaster management cycle. This concept recognizes that disasters are not single events, but cyclical, with periods in between emergencies during which activities can be carried out to prevent, reduce risk and prepare for the reoccurrence of disasters. The transition between the phases of the disaster cycle has proven to be a challenge, in particular the transition between immediate relief activities of humanitarian agencies and the prevention and risk reduction programs implemented by development organizations. The United Nations (UN) reports that “a ‘gap’ exists between these phases” (UN, 2006, p. 5). This transition ‘gap’ impacts heavily upon the post-emergency phases of the disaster cycle, specifically the phases of prevention and risk reduction. The transition following a disaster lays the foundation for long-term development and is therefore of critical importance.

In the context of cholera, there is a failure to transition from the phase of emergency response to preventative WASH interventions. This failure has allowed cholera to persist and increase its presence globally. The focus of this study is to assess the issues which affect the transition from emergency cholera response to prevention.

1.1 Process

To help define the objectives and research questions for the study a literature review was conducted relating to the topics of phases of emergency, transition and cholera. Multiple methods, search engines and keywords were used to access a diverse range of academic and grey literature. The details of the search process and the resulting literature are discussed in chapter two. The documentation found during the review helped to develop the objectives and research questions for the study. Refer to the next section to read the objectives and research

questions. Following the establishment of objectives and questions for the research the methodology for the study was developed. A collective case study was selected as the project design to allow for an in-depth assessment of the transition following multiple cholera outbreaks. Multiple case studies were selected to allow for comparison. Criteria for the selection of specific cases for study were determined and the choice was made to select three separate cholera outbreaks in Uganda. Timing, stability, access and convenience played a role in Uganda's selection. Semi-structured interviews were the primary method of data collection used during the field research. Further details of the methodology used in the study, including methods of data collection and analysis, can be found in chapter three. Following the selection of Uganda as the location for the case studies, the objectives and research questions were further defined to suit the Ugandan context. More can be found on the situation in Uganda in chapter four. Field research was conducted in the month of June during which time the researcher collected and began to analyze the data. Upon returning to the UK the author continued to analyze the data and determine the findings of the research. Details of the findings can be found in chapter five. A discussion of the findings in relation to the research questions and literature reviewed for the study are contained in section six. Conclusions and recommendations are discussed in chapter seven.

1.2 Aims and Objectives

The aim and objectives that guided the study are presented below, as are the research questions which are listed under each objective.

Aim:

To assess the issues affecting the transition from emergency response to preventative interventions following cholera outbreaks in Uganda

Objectives:

1. To assess the local and national prioritization of cholera prevention activities following an outbreak
 - Is there national and local political prioritization for the prevention of cholera?
 - What prevention activities have been implemented after outbreaks?
2. To evaluate the capacity of district departments to identify, fund and implement prevention activities following an outbreak
 - What kinds of assessments/analyses are made during an outbreak to help target interventions?
 - What funding mechanisms exist to implement prevention activities?

3. To assess the functioning of national and local cholera task forces in the transition from emergency response to prevention following an outbreak
 - How do the cholera response coordination mechanisms transition following outbreaks?
 - How is each sector / government department involved in the task force?

4. To examine the relationship between the government and development partners during the transition period
 - How do the government and development partners communicate/coordinate during the transition period?

5. To make recommendations to improve the transition from relief to development in the post-outbreak period

1.3 Summary and Use

The objectives of the project were largely met with many of the research questions adequately addressed. Issues which were identified in the literature review such as the gap between relief and development, prioritization of prevention, and the funding and coordination of the transition period were themes which emerged in the findings. The potential use of the findings could be to develop new strategies, systems or structures for addressing the issues surrounding the transition from emergency response in Uganda. Although the findings are specific to Uganda, their correlation with the themes in the more general literature reviewed for this study suggest they could be more broadly considered.

2.0 Literature Review

The literature review intends to introduce and analyze the documentation relating to the disaster cycle, the transition from phases of relief to development and cholera prevention.

The first section will detail the methodology used for the review to inform the reader of the process and depth of the search for literature.

The second section will provide an overview of the disaster cycle, its evolution and general composition.

The third section will provide a more detailed inspection of the literature and thinking related to the period of transition between emergency response and recovery. This will attempt to expose the issues and gaps related to the transition and recovery phases. The ultimate aim of the section is to provide a clear picture of the situation and establish a foundation from which to enter into the context of cholera.

The fourth section will focus on cholera. A general summary of the disease will lead to a closer look at the issues surrounding the approach taken to cope with it and the gaps in that approach.

2.1 Literature Search Methodology

The methodology employed to search for literature is reviewed in the following sections.

Phases of Emergency / Disaster Management

The search for literature relating to phases of emergency and disaster management cycles began with documentation provided by informed individuals at the Water, Engineering and Development Centre (WEDC). From the literature obtained, the bibliographies were examined for additional documents. The literature on phases of emergency and disaster management cycles is not extensive and much of it very similar. Additionally, the need for documentation was not great, but only required to provide a general theory of disaster management.

Transition

The search for literature pertaining to the transition between emergency relief and development used multiple methods. Three search engines were used to look for literature. One was **Catalogue Plus** located on the Loughborough University library website which has access to a wide range of publishers, journals and digital materials. **Google** and **Google Scholar** were used as well. This mixture of search engines provided a spectrum of information from academic journals found mainly through Catalogue Plus to UN reports found via Google. Several different keywords were employed. *Transition, relief and development* were used together. Keywords

were interchanged such as replacing *relief* with *emergency* and *humanitarian*. Additionally *recovery* was substituted with *development*. *Linking* was another term used as a synonym for *transition*. Phrases or acronyms found in reviewed literature were also used. '*Linking relief, rehabilitation and development*' or *LRRD* were commonly found in documents and subsequently used as keywords. Scanning references for additional literature was also a method employed.

Cholera

The literature pertaining to cholera is vast and comes from numerous different fields of study. To adequately access and search for literature several databases were used through the Catalogue Plus system of Loughborough University. **Medline** which focuses on biomedical literature was searched. **Geobase**, a “multidisciplinary database supplying bibliographic information and abstracts for development studies, the Earth sciences, ecology, geomechanics, human geography, and oceanography” (Elsevier, 2012) was used. **Aqualine** was accessed which focuses on technical and scientific articles relating to water resources. **Web of Science** is a multidisciplinary database as is **ProQuest** and both were searched. **Google Scholar** was also employed to provide a slightly broader yet professional scope. Lastly **Google** was used as a search engine and was very helpful in finding grey literature such as UN, government and organizational reports.

The aim of the search on cholera was to identify post outbreak prevention programs involving water, sanitation and hygiene (WASH) interventions. A number of different keywords were used to conduct the search. The method of *wild carding* was employed by using an asterisk (*) to search for various endings to words. Keywords used during the search:

- ✓ *cholera and prevent**
- ✓ *cholera and eliminat**
- ✓ *cholera and recovery*
- ✓ *post-cholera*
- ✓ *cholera and inter-epidemic*
- ✓ *cholera and after*
- ✓ *cholera and target**
- ✓ *cholera and long term*
- ✓ *cholera and sustainable*
- ✓ *cholera and water*
- ✓ *cholera and sanita**
- ✓ *cholera and hygiene*
- ✓ *cholera and water, sanitation, hygiene*
- ✓ *cholera and WASH*

Acute watery diarrhoea (diarrh)*, as cholera is sometimes called, was interchanged with *cholera* as a keyword. Additionally, it was thought documentation might be more prevalent relating to larger cholera outbreaks so *Haiti, Peru, South Africa, and Zimbabwe* were used as keywords in combination with *cholera*.

To assess the relevancy of documents returned by the searches titles and abstracts were reviewed and in some cases the body of the document was read. The three main criteria for selection of articles was evidence of:

1. post outbreak or inter-epidemic projects
2. focus on long term prevention or elimination
3. water, sanitation and hygiene interventions

Other methods were employed during the search such as reviewing references cited by relevant articles. Additionally, when relevant literature was identified tools such as Scopus and Refworks were used to view articles which had cited the documents. Lastly, the names of authors of useful literature were searched to review all of their publications.

Relevant grey literature was also provided by members of WEDC and key informants. The WEDC resource centre was also a source of information. Additionally, informative interviews were conducted with members of Medecins Sans Frontieres who helped to guide the process.

An email detailing the aims of the research and requesting input, literature and opportunities for interviews was submitted to key informants and the WASH Cluster, a group comprised of UN agencies, the Red Cross/Crescent movement, international organizations and non-governmental organization (NGOs) which deal with water, sanitation and hygiene issues. A response from members of Action Contre La Faim and an individual from the Centers for Disease Control and Prevention guided the author towards specific documents.

Two systematic literature reviews were also examined. One review was conducted by the Environmental Health Group at the London School of Hygiene and Tropical Medicine entitled *Evaluation of the WASH Activities Undertaken to Prevent and Control Cholera Outbreaks in Guinea-Conakry and Guinea- Bissau & Systematic Literature Review* (Cairncross, Ensink and Kahawita, 2009). The systematic review searched for literature pertaining to WASH interventions against cholera in Africa. A second systematic review was also examined called *Water, Sanitation and Hygiene: Interventions and Diarrhoea: A Systematic Review and Meta Analysis* (Fewtrell and Colford, 2004). Although focusing on diarrhoea and not specifically cholera, the review was a search for documents relating to cholera interventions.

Search summary

The search for literature pertaining to phases of emergency, transition from relief to development and cholera returned a considerable amount of information. The documents found and reviewed are discussed in the following sections.

2.2 Phases of Emergency/Disaster Management Cycle

The concept of phases of emergency is a common one within the humanitarian and development fields. Davis and Lambert (1995, p. 2) separate an emergency into five phases whereas Wisner and Adams (2002, p.19) present six stages of disaster management (see table 1). Both are similar in terms of their identification of the initial emergency response and then progressive movement through stages of recovery and development. The early stages are aligned with humanitarian relief activities while recovery and later phases have been considered as part of the realm of development. What separates the models is that Davis and Lambert seem to view disaster response and recovery as a linear process which ends with *resolution* whilst Wisner and Adams think of a disaster as a cycle, requiring the need for later phases of *prevention and mitigation, preparedness* and *warning*. This is an important distinction; to recognize that disasters are not singular events, but recurrent, and opportunities exist following an emergency to prevent or mitigate the risk of future disasters. Therefore relief and development activities impact one another.

Table 1: Phases of Emergency

Davis and Lambert (1995)	Wisner and Adams (2002)
1) Immediate Emergency	1) Emergency Response
2) Stabilization	2) Ongoing Relief
3) Recovery	3) Recovery
4) Settlement	4) Disaster Prevention and Mitigation
5) Resolution	5) Disaster Preparedness
	6) Warning

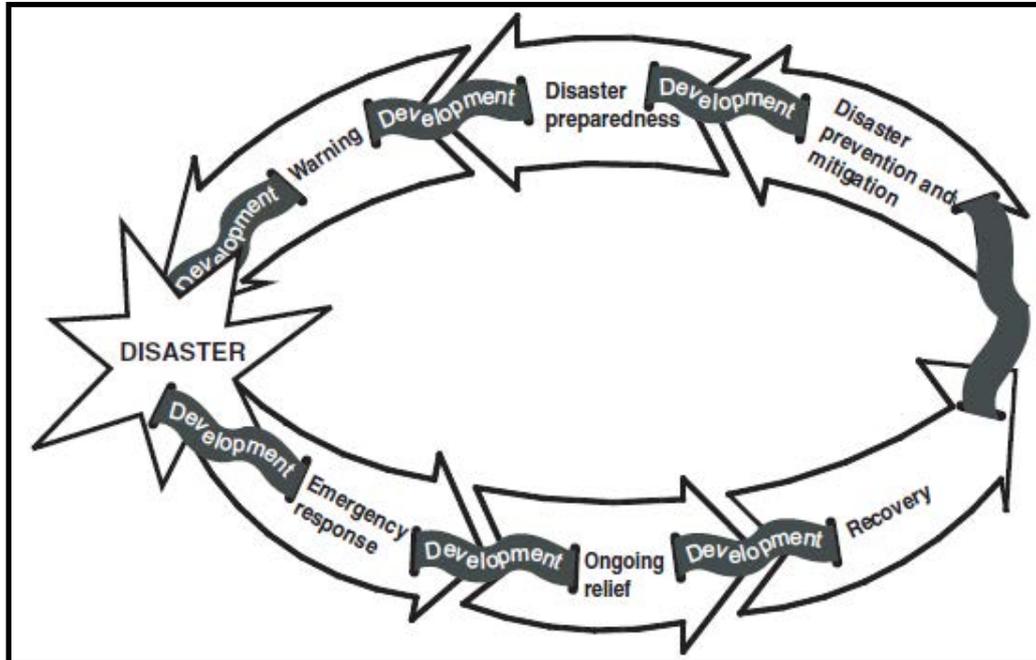
The approach to disaster management and the relationship between relief and development has evolved over the past few decades.

“From the 1960s into the 1980s, the standard approach to relief and development was a linear one, with both seen as distinct and essentially sequential types of effort. The concept of a ‘continuum’ in which the external response to an emergency moves from relief through reconstruction to development represented a useful conceptual innovation. However, the approach was still based on the notion that at each distinct

stage there would be specialized institutions to take and then pass on responsibility for discrete and phased programming. In the early 1990s the continuum concept gave way to more holistic thinking. As a result relief and development are no longer viewed as self-contained and mutually exclusive. Linkages can and must be made if reconstruction and development are to be sustainable and recurring relief avoided” (Smillie, 1998, p. xiii).

A report from the European Commission (EC) reaffirms that the concept of a “continuum fails to deal with the realities of many current emergency situations” and there is a need for a “more comprehensive and dynamic perspective, called the crisis cycle. This concept takes account of the cyclical fashion in which many crises evolve” (EC, no date, p.1). The plan put forward by Wisner and Adams (see Figure 1) reflects the thinking of disasters as cycles as well as the need for linkages, or transitions, between phases of relief and development. The conceptual recognition of the need for integrated transitions between the phases is a positive development, but the implementation is a different matter. The EC report states that “better development can reduce the need for emergency relief, better relief can contribute to development. Practical experience...has shown however that this concept seems difficult to apply” (EC, no date, p.2).

Figure 1: Disaster Cycle



Source: Wisner and Adams (2002)

2.3 Transition

The United Nations states that “‘transition’ refers to the period between the immediate aftermath of a crisis and the restoration of pre-crisis conditions (recovery), or their improvement to a satisfactory level (development)” (UN, 2006, p. 2). It is widely agreed that this transition period is critical in the disaster management cycle and affects the impact of development programs. A policy brief from InterAction claims “post-emergency transition and recovery efforts lay a critical foundation for stability and long term development” (InterAction, 2011, p. 1). The basis for prevention activities or risk reduction measures lie in the original relief efforts carried out in the response to a disaster. UN resolution 46/182 which reformed the UN approach to humanitarian assistance states:

“There is a clear relationship between emergency, rehabilitation and development. In order to ensure a smooth transition from relief to rehabilitation and development, emergency assistance should be provided in ways that will be supportive of recovery and long-term development. Thus emergency measures should be seen as a step towards long-term development” (UN, 1991, p. 3)

Many recognize the need for a strong transition between relief and development, but the reality appears to be different. “The relationship between relief and development seems to be so poorly understood on the ground. Making effective links within and among aid agencies carrying out one or another set of activities seems difficult” (Smillie, 1998, p. xxii). In the same vein Patinet comments “humanitarian and development agencies have interconnected know-how, but there is a lack of understanding between them” (Patinet, 2009, p. 29). Additionally a UN report on the transition from relief to development states:

“The architectures of relief and development assistance differ in many respects. Decisions are made based on different criteria, with survival paramount in the humanitarian phase and MDGs and national strategies in the development phase. A ‘gap’ exists between these phases” (UN, 2006, p. 5)

The gap between the phases of emergency relief and recovery/development is where an effective transition is needed. The following sections discuss some of the issues affecting the transition.

2.3.1 Funding

The funding of the transition from emergency relief to development has posed a challenge for stakeholders and one which has yet to be solved. “There is no consensus among donors

whether recovery should be funded from the humanitarian or development budgets” (Tsui, 2011, p. 22). There exists a separation of funding mechanisms for relief and for development which leaves the recovery from disasters in the balance. As Parkinson points out, “for most donors, ‘emergencies’ and ‘development’ remain totally disconnected and this may lead to absurd situations” (Parkinson, 2009, p. 36). A 2011 report from the UN on the efficiency of emergency response and the transition to recovery and long term development states that “funding tools tend to remain isolated, with no clear links between emergency response and development funds, so there is a gap between the approaches of field agencies and those financing bodies” (UN, 2011, p. 6). The segregated funding mechanisms for relief and development contribute to the transition gap and constrain the implementation of activities in the transition period.

2.3.2 Prevention/Risk Reduction

Disaster risk reduction came to the fore with the International Decade for Natural Disaster Reduction between 1990 and 1999. The Yokohama Strategy and Plan of Action for a Safer World, adopted in 1994 at the World Conference on Natural Disaster Reduction, states:

“disaster prevention, mitigation and preparedness are better than disaster response...Disaster response alone is not sufficient, as it yields only temporary results at a very high cost...Prevention contributes to lasting improvements in safety and is essential to integrated disaster management” (UNISDR, 1994, p. 2).

Prevention of disasters is obviously favorable compared to their occurrence and as the disaster cycle promoted by Wisner and Adams indicates, there is an opportunity after an emergency to implement programs to prevent and reduce the risk of future disasters. The Hyogo Framework for Action 2005 – 2015 developed during the World Conference on Disaster Reduction in 2005 claims that “the phases of relief, rehabilitation and reconstruction following a disaster are windows of opportunity” (UNISDR, 2005, p. 5). The Hyogo Framework goes on to state that it is critical to support

“disaster stricken states in the transition phase towards sustainable physical, social and economic recovery and to reducing future risks. This should include support for risk reduction activities in post-disaster recovery and rehabilitation processes” (UNISDR, 2005, p. 17).

As the Hyogo Framework points out there is an incredible opportunity to reduce the vulnerability to future disaster risks during the phases following a disaster. It is transitioning from the emergency response and focusing on recovery, prevention and risk reduction which is critical, but often this process is not enabled. Again the funding for activities seems to be the problem.

“Even with the increased attention and commitment after Hyogo, the resources provided remain meager and insufficient in comparison to the resources devoted to humanitarian response to disasters and emergencies. Funding for disaster reduction and preparedness has never had the allure, ‘urgency’ and the political support available to humanitarian assistance. Additionally, there is no agreement among donors on whether financial support for disaster reduction should come from humanitarian or development resources” (Tsui, 2011, p. 20)

There is clear agreement about the lack of funding for prevention and risk reduction programs. “Funding for prevention and preparedness is still a challenge however and there is consequently a gap in the funding” (UN, 2011, p. 5). Additionally, in the Hyogo Frameworks it is stated that there is a “scarcity of resources allocated specifically from development budgets for the realization of risk reduction objectives, either at the national or regional level or through international cooperation and financial mechanisms” (UNISDR, 2005, p. 2).

2.3.3 Coordination/Early Recovery

The problems with obtaining financing and the prioritization of prevention and risk reduction following a disaster have their foundation in a lack of coordination. There has been no structure to connect the coordination of humanitarian programs with development activities. A joint concept paper from UNDP, UNFPA, UNOPS and UNICEF states the need for a coherent coordination system between relief and development.

“It is important to ensure coherence between the planning of humanitarian assistance and longer term development. Uncoordinated, parallel planning and financing may result in competing objectives, contradictory priorities and strategic incoherence which will impede the transition to recovery and development” (UNDP et al., 2011, 2).

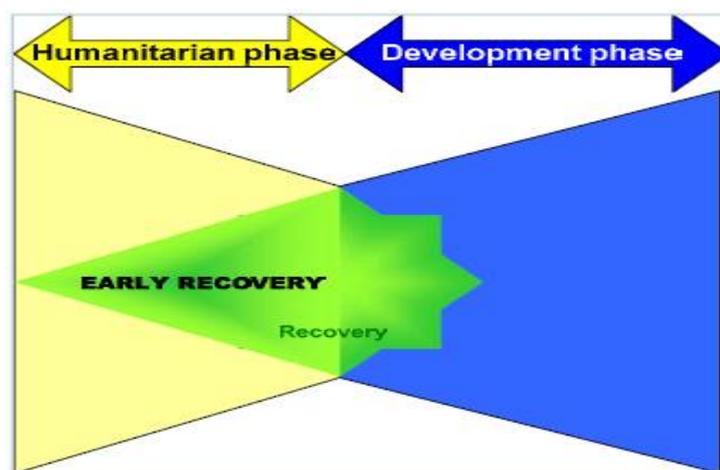
In 2005 the UN reformed humanitarian coordination when the Inter Agency Standing Committee (IASC) embraced the ‘lead organization concept’ to cover gaps in their response. This led to the creation of ‘clusters’ or groupings of UN agencies and NGOs involved in specific sectors, one of which is called the Early Recovery cluster (CWGER, 2008, p. 9).

“Early recovery, while not strictly core humanitarian business, was identified as a key cluster in recognition of the urgent need to develop coordinated recovery related interventions contributing to a smoother transition between emergency relief and development assistance, including a more efficient use of resources, and integrate

risk reduction measures at the very early stages of emergencies and beyond” (CWGER, 2006, p. 2).

The creation of the early recovery cluster is an effort to bridge the divide between relief and development (see Figure 2) and is “guided by development principles that seek to build on humanitarian programmes and catalyze sustainable development opportunities” (CWGER, 2008, p. 6). Unfortunately early recovery seems not to be making the impact it is intended to have. A report released in 2012 entitled *The State of the Humanitarian System* describes the early recovery cluster as being consistently noted as less effective (ALNAP, 2012, p. 61). The Humanitarian Policy Group at the Overseas Development Institute writes in their policy brief on early recovery that “far from serving as a mechanism to achieve greater coherence, efforts to employ early recovery as a mid-way phase between relief and development reinforced existing tensions among the various actors involved” (Bailey and Pavanello, 2009, p. 4). Even the Cluster Working Group for Early Recovery (CWGER) admits difficulties: “the challenges of implementing early recovery are numerous. Most stakeholders pay little attention to early recovery...no procedures exist for immediate planning of early recovery...there are little or no human or other resources available for early recovery” (CWGER, 2008, p. 13). Similarly the Center for International Cooperation has noted three gaps in early recovery: strategy, capacity and financing (Chandran et al., 2008, p 7).

Figure 2: Early Recovery



Source: CWGER (2006)

An evaluation of the cluster approach stated that for early recovery to function well it “requires engaging development actors...and working more closely with government authorities and civil society” yet the same report goes on to point out that “the absence of NGO partners at the global level means that most of the organizations actually implementing relief and recovery operations have had little say in the normative work of the cluster and may not identify with its findings or methodologies” (Stoddard et al., 2007, p. 28). Additionally, another evaluation of the cluster

system done by Groupe U.R.D. and the Global Public Policy Institute in 2010 also identifies the lack of incorporation of national authorities and NGOs as a major problem. The report states:

“clusters can provide a clear point of contact and forum for linking international humanitarian actors to national and local authorities and civil society. To date however clusters have largely failed to integrate national and local actors appropriately and have thereby undermined national ownership...The relationship between clusters and relevant authorities and the participation of national and local NGOs therefore remain some of the biggest challenges for the implementation of the cluster approach” (Steets et al., 2010, p. 60).

Failing to engage national authorities contradicts what several UN agencies agrees is necessary for a successful transition: “A successful transition is one which shifts from providing direct life-saving services to working under the leadership of and in partnership with national authorities” (UNDP et al., 2011, p. 1). Despite the creation of the early recovery cluster as a way of linking relief and development it is clear there is still considerable work to be done to improve the coordination, financing, planning and inclusion of key stakeholders to ensure a smooth transition from relief to development.

2.4 Cholera

Cholera is an acute diarrhoeal infection which is caused by the bacterium *Vibrio cholerae*, specifically serogroups O1 or O139 (WHO, 2011a). Ingestion of the bacteria results in an infection of the intestines causing severe watery diarrhoea and the loss of large amounts of fluid which leads to rapid dehydration. If left untreated severe cholera kills approximately 50% of those infected (Sack et al., 2004, p. 223).

An estimated 1.4 billion people are at risk for cholera worldwide (Ali et al., 2012, p.212). The incidence of cholera has been steadily increasing since the beginning of the millennium with reported cases in 2010 representing a 130% rise over the cases recorded in 2000 (WHO, 2011b, p. 325). These figures don't even fully reflect the global situation as the WHO estimates that officially reported cases only comprise 5 – 10% of actual cases (Ali et al., 2012, p.209).

History

Cholera is thought to have originated from the Ganges delta in the Indian subcontinent. There have been seven pandemics; the first of which started in 1817 and was spread along the trade routes from India. The second pandemic which began in 1826 reached most of the major European cities for the first time (Sack et al., 2004, p. 223). The seventh pandemic is still ongoing (MSF, 2004, p. 11).

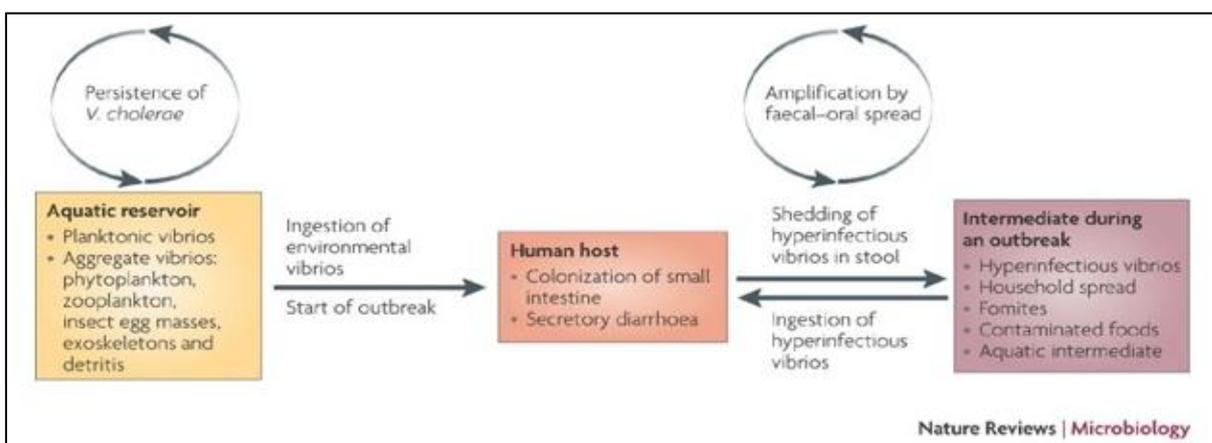
Reservoirs

Humans are one of the main reservoirs of cholera and “until the late 1970’s and early 1980’s, *Vibrio cholerae* was believed to be highly host-adapted and incapable of surviving longer than a few hours or days outside of the human intestine” (Colwell and Spira, 1992, p. 107). This thinking changed in 1982 when Dr. Rita Colwell and her colleagues were able to show that *Vibrio cholerae* was able enter a dormant stage in aquatic environments while maintaining viability and infectivity (Colwell and Huq, 2001, p. 141). This presented an additional reservoir for cholera bacteria which “inhabit seas, estuaries, brackish waters, rivers and ponds of coastal areas of the tropical world” (Emch et al., 2008, p. 2).

Transmission

In the 19th century cholera was thought to be spread by the *miasma*, a sort of fog, but the work of Dr. John Snow and the Reverend Henry Whitehead during the London cholera outbreak of 1854 led to the understanding that cholera can be spread via water (Sack et al., 2004, p. 223). Today much more is understood about the transmission of cholera. What is known as *primary transmission* occurs between cholera bacteria existing in environmental reservoirs and humans. “Primary transmission to humans is enabled by micro and macro level environmental factors such as temperature, salinity, nutrient concentrations, the number of available attachment sites (plankton), shellfish consumption and contact with water” (Emch et al., 2008, p. 2). Primary transmission mainly occurs through the ingestion of contaminated water and food. *Secondary transmission* occurs through the faecal-oral route of transmission due to direct human-human contact as well as contaminated food and water. “Several studies find that the severity of the secondary transmission is associated with local environmental variables, predominantly water sources for household consumption. People who use contaminated surface water for drinking, cooking or bathing are more likely to contract cholera” (Emch et al., 2008, p. 4).

Figure 3: Cholera Transmission



Source: Nelson et. al. (2009)

Climate and seasonality

In countries where cholera is endemic outbreaks occur frequently, even multiple times a year. Environmental factors and weather patterns are thought to play quite an influential role in the occurrence of cholera. “In higher latitudes in both hemispheres, cholera outbreaks exhibit seasonal patterns while seasonal patterns do not persist near the equator. Cholera outbreaks are also more common near the equator. These findings suggest that larger climatic factors may be at play in the appearance of *V. cholerae*” (Emch et al., 2008, p. 9). For example, on the Indian subcontinent where cholera has been a problem for centuries in the endemic estuarine areas such as Bengal and Madras there are two annual cholera seasons with a marked lull during the main monsoon. It is thought that the increased river discharge due to the monsoon rains creates an inhospitable environment for the pathogen. Increased water levels dilute the concentration of the bacteria and the altered salinity and pH of the waters also do not suit the pathogen (Pascual, Bouma and Dobson, 2002, pp. 241-242). As for countries near to the equator which experience outbreaks more often it is thought that the generally higher temperatures of this region play a part as Emch et al. (2008, p. 10) state “temperatures may influence the temporal fluctuations of cholera, potentially increasing the frequency and duration of outbreaks”. Pascual and colleagues also note it’s important to perceive “the role of climate not only in the seasonality of the disease, but also in its interannual variability, which can be pronounced” (Pascual, Bouma and Dobson, 2002, p. 238). Although the exact macro and micro environmental mechanisms for the outbreak of cholera are still not completely understood, what is apparent is that cholera is a constant looming threat for countries where it is endemic. Multiple outbreaks can occur within a year or on annual basis. How countries and local and international organizations deal with this threat will be examined in the next section.

2.4.1 Combating Cholera

Cholera gains attention whenever a large outbreak occurs. It is a highly infectious disease and can spread rapidly. An outbreak poses a significant and immediate health risk and requires a quick response to mitigate the spread of the disease. Humanitarian agencies are often quick to react, providing treatment to infected individuals, supplying clean water and conducting health education. The main focus of these interventions is typically to limit fatalities and the duration of the outbreak. Once the outbreak has ceased the emergency response efforts also tend to end. This reactive approach undoubtedly helps to save lives, but many argue it does little to prevent the disease from reoccurring. A report from the WHO African Region states “the current response to cholera in the WHO African Region tends to be reactive in the form of emergency response. Most often, this response lacks a coordinated and multisectoral approach, fails to prevent occurrence or reoccurrence of outbreaks and can result in many deaths” (WHO, 2007a, p. 1). An additional criticism of the response in Africa claims

“cholera epidemics in Africa represent an emblematic humanitarian emergency, in which most medical non-governmental organizations act only once the outbreak was already launched...Such reactive posture, even though it greatly limited the number of deaths when promptly and correctly applied, could not achieve a control of the cholera epidemics...Cholera has spread all over Sub-Saharan Africa and still provokes epidemics, despite hundreds of emergency programs implemented by NGOs” (Piarroux et al., 2009, p.69)

In the context of the disaster management cycle Wisner and Adams reflect the focus on a reactive approach; “Although the disaster management cycle can be entered at any point, many governments and institutions focus their attention on the steps to take when a disaster strikes” (Wisner and Adams, 2002, p.19). The reactive, emergency response to cholera does not seem to be working. It is a curative approach, often termed *fire-fighting*, which does little to prevent the cycle of cholera repeating itself. “Instead of constantly reacting to cholera outbreaks, it is suggested that proactive steps be taken to prevent future outbreaks” (Said et. al, 2011, p. 564).

2.4.2 Cholera Prevention

It is widely agreed that the best way of preventing and eliminating cholera is through the implementation of improved water, sanitation and hygiene interventions. Below is confirmation from multiple academic papers and organizational reports:

“There is however total agreement within the relevant scientific and health care community that the most important factors in the elimination of cholera, in endemic areas, are sustainable access to potable water, effective community sanitation procedures and adoption of personal hygiene practices” (GAAC, 2011a, p. 1).

“Supply of safe water, adequate environmental sanitation, and basic domestic and personal hygiene are critical measures for the prevention and control of cholera” (WHO, 2007a, p.6)

“Only major improvements of Haiti’s water and sanitation systems will provide durable solutions to the epidemic” (MSF, 2012, p. 2)

“Investments in water and sanitation infrastructure contributed to the virtual elimination of epidemic cholera from Central and South America” (Periago et. al, 2012, p. e12)

“After the earthquake that devastated Haiti international health experts have called for action to improve water and sanitation infrastructure to ensure that the cholera epidemic that followed the disaster is eliminated” (Gulland, 2012, p. 1)

“Supply of safe water, adequate sanitation, and basic domestic and personal hygiene are critical measures for the prevention and control of cholera” (Said et. al, 2011, p. 564)

“In order to eradicate cholera in Guinea-Bissau and Guinea-Conakry lasting improvements in the water supply and sanitation and hygiene situation at municipal level need to be implemented” (Cairncross, Ensink and Kahawita, 2009, p. 61)

“The long term prevention of cholera will require improved water and sanitation facilities” (Sack et. al, 2004, p. 230)

“Until improved water supply, sanitation and good hygiene practices are widespread it will be difficult to control the occurrence of cholera” (OXFAM-GB, 2008, p. 37)

“There is a need to shift the emphasis from response to prevention in order to avert outbreaks by expanding access to improved sources of drinking and improved sanitation, and by working with communities to encourage behavioural change” (WHO, 2011b, p.329)

It is clear that WASH programs are thought to be the best way to prevent cholera. The near universal water and sanitation infrastructure in industrialized countries has essentially eliminated cholera from their shores (Tauxe, Mintz and Quick, 1995, p. 141). The implementation of preventative programs not only makes sense in terms of health, but economics as well. The investment in water and sanitation comes with a significant return. The UN Development Programme claims;

“On any measure of efficiency, investments in water and sanitation have the potential to generate a high return. Every \$1 spent in the sector creates on average another \$8 in costs averted and productivity gained...Water and sanitation are among the most powerful preventive medicines available to governments to reduce infectious disease” (UNDP, 2006, p. 6).

A specific example comes from Lima, Peru which was struck by a large cholera outbreak in 1991. The “cholera epidemic in Lima cost the country \$460 million in exports and tourism. For the

equivalent amount, each of the million or so households in Lima could have been provided a high-level of in-house water supply and sanitation system” (Fry, 1992, p. 1). The investment in water and sanitation could have prevented the significant economic loss suffered by Peru at the hands of cholera. A perspective from Africa states that “cholera imposes substantial economic burden on countries of the African Region. That heavy burden underscores the urgent need for increased investments in the prevention and control of cholera” (Kirigia et. al, 2009, p. 8). Sijbesma and Christoffers (2009) argue that investment in hygiene promotion is even more cost-effective than constructing water and sanitation infrastructure. They state:

“In comparison with hardware investments, the costs of hygiene promotion are low. Hygiene promotion can avert the death of a child under the age of five at 4 - 6% of the unit cost of an improved water supply or sanitation facility...investing in hygiene promotion is thus highly cost-effective” (Sijbesma and Christoffers, 2009, p. 426).

Cairncross et al. also claim that “hygiene promotion is...several times more cost-effective than the promotion of oral rehydration therapy” (Cairncross et al., 2005, p. 2219). Oral rehydration therapy is one of the primary interventions used to treat cholera during outbreaks and its use could be negated by more cost-effective preventative hygiene promotion.

The widespread agreement of the health benefits, as well as economic sense of investing in water, sanitation and hygiene should clearly be reflected with the implementation of cholera prevention programs, but the reality is quite different. There exists very little documented evidence of targeted cholera prevention interventions. Considerable time and energy was spent searching for literature or reports of cholera prevention programs (as detailed in section 2.1), but the findings were minimal compared to the documentation relating to emergency response activities. A good example is the systematic literature review conducted by the Environmental Health Group at the London School of Hygiene and Tropical Medicine for WASH interventions in cholera preparedness and response programs. Their search was originally focused on West Africa, but due to the very limited initial findings the search was expanded to the whole of Africa. The criteria for selection were: 1) a clearly defined intervention, 2) a health indicator and 3) data pertaining to function and use of the intervention. The search produced 1,291 articles of which only 8 were selected, none of which actually met all of the criteria. Out of the eight articles, one was on a health education and hygiene study (see next section), while the remaining seven focused on water quality interventions. “No studies were identified that implemented an intervention that improved access to and the availability of drinking water or sanitation” (Cairncross, Ensink and Kahawita, 2009, p. 20). The focus on water quality indicates a greater focus on short term solutions used in emergency situations. The lack of any studies which aimed

to improve access to water and sanitation highlights the failure to focus on long term prevention measures.

The reliance on emergency response, instead of prevention, is reflected in the trends of cholera. Collins et. al (2006, p. 539) comment “government and emergency relief agency emergency responses have increasingly lowered cholera mortality, but morbidity has generally increased over these years”. Additionally a comment from the Global Alliance Against Cholera (GAAC) claims;

“That there continues to be epidemics which systematically result in the otherwise avoidable illness and death of many thousands...is an indication of the low funding and program priority given to its prevention or elimination by governmental and related international and non governmental organizations” (GAAC, 2011a, p. 1).

The prioritization of prevention programs is significantly lacking. The following section highlights the few programs which have been found to target cholera with the aim of preventing or eliminating it.

2.4.3 Prevention Programs

Veolia Environment Foundation in eastern Democratic Republic of Congo

The Veolia Environment Foundation and the Ministry of Public Health of the Democratic Republic of the Congo collaborated to develop the Strategic Plan for the Elimination of Cholera 2008 - 2012.

“The new strategy to eliminate cholera in the Democratic Republic of the Congo (DRC) and other affected countries, includes but goes far beyond the traditional emergency medical response to cholera epidemics. This proposed new paradigm will effectively eliminate cholera and other waterborne contagious diseases by analyzing, securing, and reinforcing access to potable water, health education, and effective sanitation services for at risk populations” (GAAC, 2011b, p. 5).

The plan aims to incorporate three strategies:

- 1) Assuring a full understanding of the disease and its patterns of diffusion to all health related providers
- 2) Determining the engineering needed to improve access to potable water, and to establish potable water and sanitation facilities in the designated high risk zones
- 3) Consolidating the previous two steps into a targeted health education plan that assures a sustainable and effective answer to the prevention of cholera (GAAC, 2011b, p. 5).

The program is primarily being implemented by the NGO Solidarites International in seven locations in eastern DRC.

Public Health International in Ecuador

Public Health International (PHI) implemented a project in Ecuador following the 1991 cholera outbreak that struck South America. The project report states that “the effort has eradicated cholera in the region and dramatically reduced the incidence of other diarrheal illnesses; it has constructed nearly 4,000 sanitary privies and 22 water systems” (Kalsen and Baker, 1998, p. 24).

International Medical Corps in Cameroon

The International Medical Corps carried out a long term cholera prevention project in Cameroon by rehabilitating and constructing water sources, conducting CLTS programs and training volunteer community health workers. Funding was received from the Bill and Melinda Gates Foundation in 2011 to continue the program (Tabue, 2012).

Medecins Sans Frontieres in Rwanda

Medecins Sans Frontieres (MSF) implemented a project in western Rwanda in four ‘hotspots’ along the shores of Lake Kivu. The definition of the project was “to reduce the incidence of cholera in the target area by reducing the risk factors for primary and secondary cholera transmission” (Maes, 2008). Five main activities were conducted:

- 1) Improve availability of potable water for the population
- 2) Improve water collection, transport and storage practices
- 3) Improve personal and environmental hygiene
- 4) Improve latrine coverage and usage
- 5) Have a collaborative coordination between stakeholders for the design, implementation and management of the project

It is reported that no cholera outbreaks have occurred in the areas where the project was implemented (Maes, 2008).

Philippines/Japan/WHO in the Philippines

A project was implemented in the Philippines to assess the impact of improved water supply and waste disposal against cholera infection. The program was implemented by the Joint Philippines/Japan/WHO El Tor Cholera Research Project. Four communities were selected for the study. The objectives were:

- 1) To compare cholera incidence in a community where safe water supply had been made available with incidence in a similar community where there was no such facility
- 2) To determine the cholera incidence in a community where waste disposal facilities were provided

- 3) To compare the cholera incidence in a community where both safe water and waste disposal facilities were provided with the incidence in a control community
- 4) To determine the effect of either safe water supply or waste disposal facilities or both in containing the spread of infection that has gained access to such communities

Various projects had been implemented in the communities to provide varying levels of water and sanitation provision for comparison for the study. “The data collected in this controlled field study carried out over a period of 4.5 years shows that the provision of sanitary facilities for human waste disposal can reduce the incidence of cholera by as much as 68%, while the provision of a safe water supply can reduce it by 73%. Where both toilets and water supplies are provided, the incidence can be reduced by as much as 76%” (Azurin and Alvaro, 1974).

Government of Mexico

Mexico launched a large scale prevention program when cholera emerged in Latin America in January 1991. Mexican authorities considered cholera a national security problem and actively put in place measures to prevent it. For example the number of municipalities with access to potable water increased from 55% to 85% between 1990 and 1991. “Two strategies that were particularly effective in the fight against disease outbreaks caused by consumption of contaminated water were: (1) the Project of Integral Sanitation in Rural Communities and (2) the Program of Clean Water at Home” (Sepulveda, Valdespino and Garcia-Garcia, 2006, p. 9).

Guinea-Bissau Ministry of Public Health

A health education program was conducted in Guinea-Bissau as a measure of prevention in response to the presence of cholera in neighboring Guinea-Conakry. Health messages were distributed through radio, TV, theater groups and songs sung by popular musicians. Posters were distributed in urban areas and rural health centers (Einarsdottir et al., 2001, p. 134).

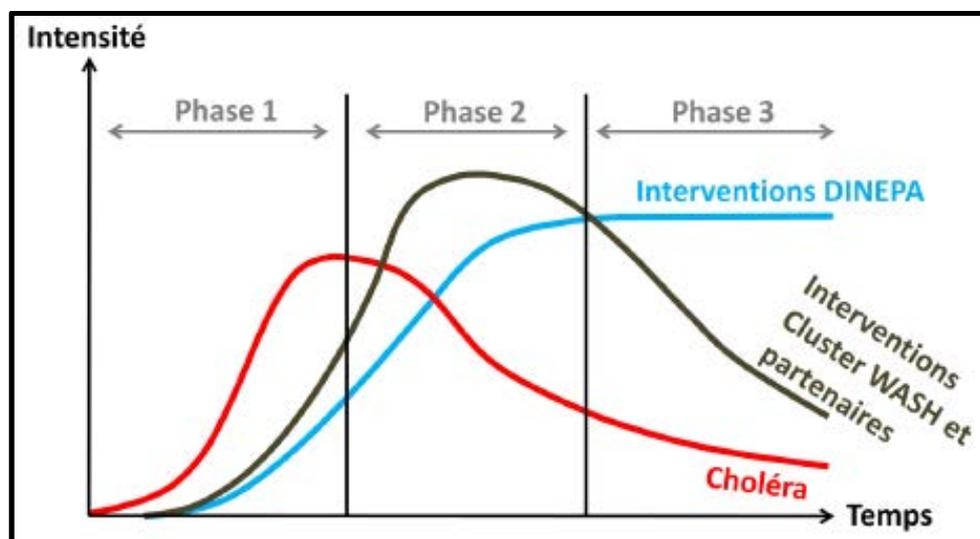
DINEPA in Haiti

The National Directorate for Water Supply and Sanitation (DINEPA) in Haiti developed The National Strategy for the Fight against Cholera in response to the massive cholera outbreak which occurred in 2010.

“The overall objective of the Sector Strategy is to prevent and limit the cholera epidemic whose development is the lack of public access to safe water and sanitation and in practices of inappropriate behavior in hygiene. These efforts, married to other sectors (such as Health, Education and Environment), should help eradicate cholera in the country” (DINEPA, 2010, p. 4)

The time frame for interventions was “from November 2010 to December 2011, the period of ‘recovery’ or post-emergency and development activities” (DINEPA, 2010, p. 5)

Figure 4: Timeline of cholera and WASH interventions



Source: DINEPA, (2010)

Some of the main results expected are:

- All public water systems in the country to serve the population with treated water
- The people who use river water will be prioritized for interventions to enable them to have sustainable access to drinking water
- 500,000 families living in rural and suburban areas will have and use a new toilet
- Sludge will be transported and processed in certified processing sites by DINEPA
- Each department will have a treatment site for excreta
- Coordination and control of all stakeholders involved is provided by DINEPA level throughout the country (DINEPA, 2010, p.5)

Summary

The evidence of cholera prevention interventions is extremely limited. An expert in the field was consulted and confirmed the significant lack in literature. They were aware of only a few examples of prevention programs and concurred with the author's search results.

2.5 Conclusion

The literature review has shown that the transition from emergency relief to development represents a considerable gap in the current management of disasters. There remains a distinct dichotomy between humanitarian relief and development. The response to disasters has improved over the years, but limited prioritization of prevention or risk reduction measures

following emergencies has allowed disasters to repeatedly rear their heads. The case of cholera is a good example of this. It is a preventable disease yet little is done in the aftermath of outbreaks to reduce the risks such as inadequate water and sanitation infrastructure and poor hygiene behavior. A disaster should act as a catalyst for development programs, and the transition from emergency response to appropriate development is a critical step when the foundations of prevention interventions can be laid. The funding and coordination of the transition are significant gaps that exist as well as the prioritization for prevention and risk reduction measures.

3.0 Methodology

The contents of this chapter describe the methodology used to carry out the study. First is a review of the aim, objectives and research questions which have a guiding role in the selection of methodology. The following section will discuss the study design, the criteria for the selection of cases and their boundaries. The chapter continues with a description of the methodology used for data collection. The last section will discuss how the analysis of the data was carried out.

3.1 Aim and Objectives

The aim and objectives of the study are presented below, as are the research questions which are listed under each objective.

Aim:

To assess the issues affecting the transition from emergency response to preventative interventions following cholera outbreaks in Uganda

Objectives and Research Questions:

1. To assess the local and national prioritization of cholera prevention activities following an outbreak
 - Is there national and local political prioritization for the prevention of cholera?
 - What prevention activities have been implemented after outbreaks?
2. To evaluate to the capacity of district departments to identify, fund and implement prevention activities following an outbreak
 - What kinds of assessments/analyses are made during an outbreak to help target interventions?
 - What funding mechanisms exist to implement prevention activities?
3. To assess the functioning of national and local cholera task forces in the transition from emergency response to prevention following an outbreak
 - How do the cholera response coordination mechanisms transition following outbreaks?
 - How is each sector / government department involved in the task force?
4. To examine the relationship between the government and development partners during the transition period
 - How do the government and development partners communicate/coordinate during the transition period?

5. To make recommendations to improve the transition from relief to development in the post-outbreak period

3.2 Study Design

The study design employed for the research has been a collective case study. As the research aim is to examine the issues affecting the transition from emergency cholera response to preventative interventions a collective case study approach is the optimal method to examine the topic. "The main benefit of using a case study approach is that the focus on one or a few instances allows the researcher to deal with the subtleties and intricacies of complex situations" (Denscombe, 2003 p. 38). The case study approach lends itself to the study of a topic in depth, which was useful when examining the period of transition and the plurality of factors that affect it. As Denscombe states:

"To understand one thing it is necessary to understand many others and, crucially, how the various parts are linked. The case study approach works well here because it offers more chance than the survey approach of going into sufficient detail to unravel the complexities of a given situation" (Denscombe, 2007, p. 36).

Other methods, such as the survey approach, are not suited to investigating a topic such as transition because of its complexity and the various factors affecting it. A case study approach has been selected as the study design because it can most ably achieve the aim and objectives of the research through in-depth, qualitative data collection and analysis.

3.2.1 Criteria for Selection of Cases

When determining a specific case for study the following criteria were used:

Timing

Due to the focus of the research on the transition period following the emergency response to cholera outbreaks the timing for the research to be conducted was important. Recent outbreaks were desired so that the transition period could be examined and that experiences and processes were still 'fresh' in the minds of key informants. Additionally, targeting recent outbreaks allows for the increased likelihood of finding key informants who were directly involved in the response and transition following the outbreak.

History of Cholera

The locations which were to be studied would need to have a history of cholera and have incurred repeated outbreaks over several years. This was an important factor to consider as the study looked to assess the transition towards the implementation of measures seeking to prevent cholera from reoccurring.

Stability

Stability of a country or location was a criterion for selection. When studying a specific problem the fewer the variables the better. Identifying a location that was politically, socially and institutionally stable eliminated other issues which could impact the topic of study. The existence of established institutions allows the researcher to more closely examine the policies, processes and mechanisms within those institutions which impact the transition from emergency relief to development.

Accessibility

The size of an area and the road infrastructure are important considerations for the selection of a location for research. Improved accessibility ensures fewer problems will be encountered during the research. Additionally, the accessibility to informants and institutions is a critical issue to consider. In order to collect data, the sources of data must be accessible.

Size of outbreak

The size of the outbreak(s) for investigation did not need to be very large. In fact a large outbreak would prove a challenge to assess with the time and resources available to the researcher. An outbreak such as the ones in Haiti and Zimbabwe would be completely unmanageable for research. A target range of 250 – 2000 cases was sought so that national authorities and in-country development partners would be the primary responders.

Convenience

The selection of the sites was also made for reasons of convenience. The researcher speaks only English and desired an Anglophone country as the site of research. Additionally, a location in which contacts are established or can be made easily is another criterion for selection.

Risk

As a student at Loughborough University, the researcher was required to complete a risk assessment before conducting field research. Potential hazards had to be considered such as political insecurity and extreme weather. These hazards were assessed during the selection of cases studies.

3.2.2 Selection

When considering the first criterion of timing of cholera outbreaks several options emerged. Sierra Leone experienced an outbreak in January, 2012; Burundi had an outbreak starting in August, 2011; Uganda had experienced several separate outbreaks between October 2011 and May 2012; the Democratic Republic of the Congo had outbreaks in late 2011 and 2012. The options of recent cholera outbreaks for study were good, but when other criteria were applied to these cases the options quickly dwindled. Sierra Leone, the DRC and Burundi are all unstable for various social, political or institutional reasons. Accessibility is also an issue for the DRC which is massive in size with poor infrastructure. Sierra Leone and Burundi are both small countries, but questions remain about their road infrastructure. Additionally, both the DRC and Burundi are Francophone countries.

Uganda emerged as the best option for a collective case study for numerous reasons. It had experienced a number of outbreaks which had occurred in various locations across the country which provided several opportunities for research and comparison. Uganda is endemic for cholera and experiences outbreaks regularly, meeting the criterion for a history for cholera. It is also a stable country, with strong institutional structures and policies. Additionally, it is Anglophone and has good road infrastructure enabling relatively easy mobility between cholera stricken areas. Lastly, the researcher has previous experience working in Uganda, still maintains contacts there, and has a good knowledge of the governmental system. For these reasons Uganda was selected as the site for the case studies.

3.2.3 Boundaries

“Good case study research needs to contain a clear vision of the boundaries to the case and provide an explicit account of what they are” (Denscombe, 2007, p. 44). Boundaries help to define the research and must be realistic so that the research can be completed adequately. For the purposes of the research undertaken in this report the following boundaries have been established for the collective cases studies:

Geographic: Uganda – Districts

The district level of government is where the planning, implementation and management of programs primarily occur. Therefore, it was determined that the district local government was an adequate boundary for the cases. The need to extend down to the communities or specific sites of cholera outbreaks was deemed unnecessary. The areas which have been the focus of the case studies are five districts within Uganda:

Case Study One: Kasese District

Case Study Two: Mbale District

Case Study Three: Nebbi, Buliisa and Hoima Districts

Temporal: Post-outbreak / Inter-epidemic

The timing of the cases was important to suit the objectives of the research and was one of the main criteria for selection. The districts which were examined needed to have experienced cholera recently so that the period following the emergency response could be examined. The districts which were visited experienced cholera outbreaks during the following periods:

- Kasese: October 2011 – February 2012
- Mbale: February – May 2012
- Nebbi: March – June 2012
- Buliisa: March – June 2012
- Hoima: April – June 2012

Stakeholders: District and national government officials, development partners

Local government officials at the district administrative level, relevant ministerial officials and members of development partner organizations were the stakeholders selected to participate in the study. They are the main individuals responsible for the planning and implementation of cholera related programs. Sub-county and parish and community level government officials were not included due to their sheer number and decentralized locations. Community members were also not incorporated in the research due to their lack of involvement in planning and implementation of programs. Additionally, due to ethical and risk considerations cholera patients were not sought for interviews.

3.3 Data Collection**Semi-Structured Interviews**

Semi-structured interviews with key informants were the primary method of data collection. The rationale for using this method of data collection is that it allows for flexibility. Unlike a structured interview which is rigid in its design and conduct, a semi-structured interview enables the researcher to modify their approach in response to the informant's comments and pursue important topics or eliminate certain areas of questioning. The researcher remains in control of the semi-structured interview, having the option to probe in depth or change tactics as well as guiding the interview's course and length, unlike an unstructured interview which can lose focus. Additionally, conducting a semi-structured interview requires the researcher to remain highly engaged with their informant throughout the interview which will enhance their understanding of the issue, while structured or unstructured interviews may not require the same level of engagement.

All interviews were conducted on a one-to-one basis for several reasons. Firstly, one-to-one interviews are easier to arrange than focus groups or group interviews. Secondly, they are easier to manage because there is only one respondent. Thirdly, the informant will not be influenced by other participants and their opinions will therefore be more genuine. An example of interview questions can be found in Appendix 1.

Piloting

Before conducting any interviews for the research, a pilot interview was conducted to assess the questions and the process to be used by the researcher. The researcher was fortunate to find a Ugandan national with several years' experience working for a parastatal organization with whom the pilot interview was conducted. It was helpful to do so to rephrase questions as well as to alter the process of the interview.

Recording

It was the aim of the researcher to make digital audio recording all of the interviews so that the data could be easily stored, saved, retrieved, prepared and analyzed. Of the 30 semi-structured interviews which were conducted only one was not recorded. For this interview detailed notes were taken by the researcher.

Sampling

Non-probability sampling methods have been used to select key informants. More specifically, *purposive* sampling was employed to select participants for interviews. Members of the District Cholera Task Force as specified in the Republic of Uganda's Operational Guidelines for Prevention and Control of Cholera (Ministry of Health, 2007, p. 23) were sought for interviews. Local government officials such as the District Health Officer (DHO), the District Water Officer (DWO) as well as the Chief Administrative Officer (CAO) and the District Council Chairperson (LC5) were selected due to their involvement with the cholera task force. Additionally, officials from the Ministry of Health (MoH) and the Ministry of Water and Environment (MWE) were chosen because of their involvement with the National Cholera Task Force. Personnel from "development partners" such as WHO, UNICEF, the Red Cross and other NGOs, who sit on both district and national task forces, were also sought for interviews. Lastly, further individuals for interviewing were recommended by informants.

Document Collection

In addition to data collection through semi-structured interviews, documents were also requested and obtained for the purposes of research. Government documents, guidelines and statistics were sought as another source of information.

Validation

The credibility of the data collected has been validated by the process of data triangulation. Multiple informants with varying positions within government and non-governmental institutions have been used as a method of triangulation. Civil servants from different sectors, elected officials, and members of non-governmental organizations and UN agencies were interviewed in relation to the same subject matter. Each informant has different objectives in their respective positions and therefore different viewpoints and opinions are expressed, serving as a method of triangulation.

As for documents collected, they were received directly from government or agency officials and stated as authentic.

Ethics

An ethical checklist was completed prior to the commencement of field research and submitted to Civil and Building Engineering Department at Loughborough University. It ensured that no one would be harmed in any way by participating in the research. Verbal consent was asked of each informant prior to the audio recording of interviews. All but one respondent provided verbal consent for the interviews to be recorded. The names of informants have not been used in the study to protect their privacy.

3.4 Data Analysis

Data Preparation

Each interview conducted was digitally recorded, except for one, and downloaded onto a computer. The files were indexed according to name of informant, position, location and date of the interview. All files were immediately backed up online through the file sharing service Dropbox®. Detailed notes were taken using Microsoft Word for each interview. The notes were an informal transcription, seeking to capture the thoughts and opinions of the respondent and the main points of the interview. The notes also tracked the times at which points were said to enable the researcher to quickly refer back to the recordings in relation to any topic. An example of the notes taken on interviews can be found in Appendix 2.

Coding

Coding of the themes within the data was performed. In the notes taken of each interview, coding was done using separate colors to highlight different themes. Coding was refined throughout the course of the research and data analysis.

Constant Comparative Method

The constant comparative method was the primary technique employed to analyze the data. As the name suggests, the method requires the researcher to constantly compare the data which they collect. Interviews from key informants were continually reviewed and compared to search for trends or themes which then emerged as the foundation of analysis (Thomas, 2009, p. 198).

As themes were identified the notes from each interview were then reexamined to find additional comments relating to each theme and coded. Documents were compiled for each district with data organized according to each theme. This made it easier then again to compare and contrast the findings. Results from interviews were also compared with the documentation collected.

Theme Mapping

Theme mapping (Thomas, 2009, p.200) was also a technique used to visually display the themes identified in the data. The maps delineate the themes and sub-themes of the findings and show their interconnectedness. The maps provide both the author and reader a different way of interpreting the findings in addition to a written descriptive account.

3.5 Conclusion

The methodologies used to conduct and analyze the research for this study have been selected because they are thought to be the most adequate methods to achieve the aims and objectives of the research. A case study allows for an in-depth examination of a situation and the influencing issues. Other methods of research, such as a survey approach, are not designed to adequately investigate at depth. Similarly, the use of semi-structured interviews allows the author to control the progression of the interview and guide it towards pertinent issues or topics raised by informants. A structured interview does not allow for flexibility and as time was a constraint for data collection, the semi-structured interview is perfect for gearing the discussion towards important subjects without wasting time as unstructured interviews might. For the qualitative data collected the use of the constant comparative method and theme mapping provide complimentary methods of understanding the findings.

4.0 Introduction

Uganda is located in eastern Africa with an approximate population of 36 million people (CIA, 2012). It is a landlocked country surrounded by Kenya, Tanzania, Rwanda, the Democratic Republic of the Congo (DRC) and South Sudan. Uganda gained independence from Britain in 1962 and suffered regular political turmoil until 1986 when the National Resistance Army (NRA), led by Yoweri Museveni, overthrew the sitting government and assumed control of the country. Museveni has served as president since 1986, having been reelected several times, most recently in 2011. From the mid-1990s to the mid-2000s, government forces were engaged in a conflict in northern Uganda with a rebel

Figure 5: Map of Uganda



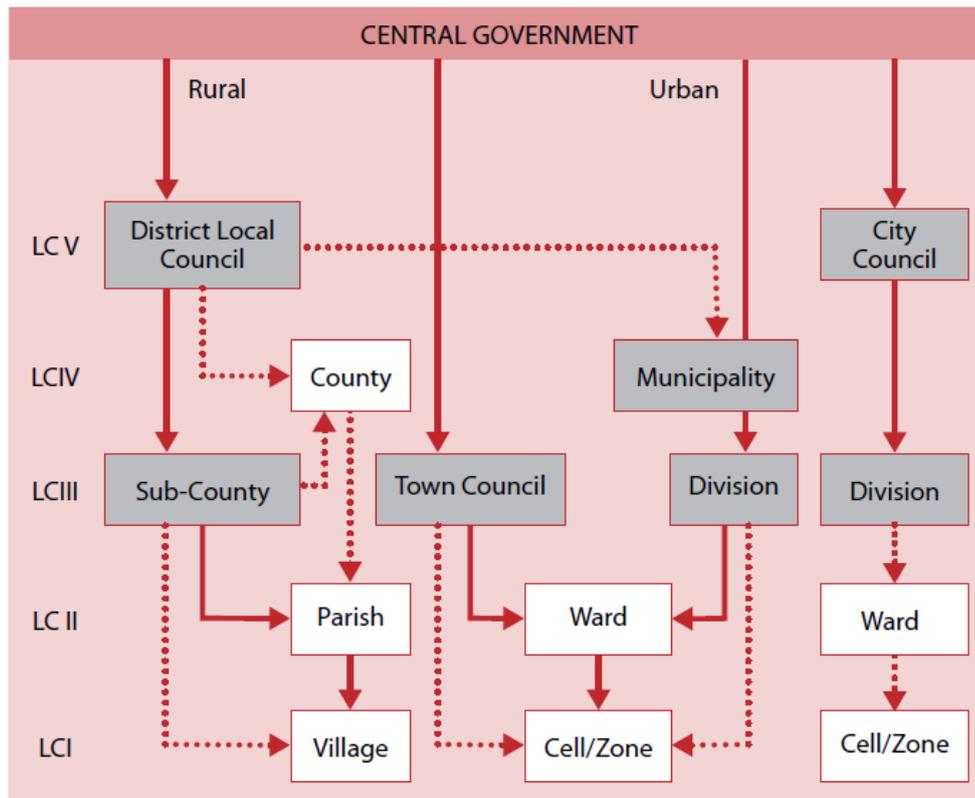
Source: CIA, (2012)

group called the Lord's Resistance Army (LRA). The trouble essentially closed off the north during this span of time, but eventually the LRA was driven out of Uganda into neighboring DRC and South Sudan in 2005 and has not returned (Economist, 2012, p.1). Despite the war, Museveni's rule has largely brought stability to Uganda. Economic and fiscal reforms in the late 1980s have seen the economy grow consistently since 1990. The period between 2000 and 2010 witnessed real GDP growth at an annual average rate of 5.3% (CIA, 2012). Governmental and institutional reforms have also been made in recent years.

4.1 Decentralization and Local Government

The decentralization and delegation of powers to more local levels were instituted with the Local Governments Act in 1997. The first objective of the act was to "to give full effect to the decentralization of functions, powers, responsibilities and services at all levels of local governments" (Republic of Uganda, 1997). The act also states that "the system of local government shall be based on the district as a unit under which there shall be lower local governments and administrative units" (ibid). Each level of local government is run by a local council comprised of elected officials. There are five levels of local government, starting at the village level, which is known as local council 1 (LC1), up to the district level, known as local council 5 (LC5). Per the legislation, "A council shall be the highest political authority within the area of jurisdiction of a local government and shall have legislative and executive powers" (ibid). The chairperson of each council is known by the abbreviation for the council; for example, the district local council chairperson is referred to as the LC5. The local council works with the district public service to manage and administer the plans of the district.

Figure 6: Local Government Structure



Source: Natamba et al., (2010)

The Local Governments Act stipulates that the district councils are responsible for certain functions and services that include, among others:

- Control of communicable diseases
- Control of the spread of disease in the district;
 - rural ambulance services;
 - primary health care services;
 - vector control;
 - environmental sanitation; and
 - health education.
- Water service: The provision and maintenance of water supplies in liaison with the Ministry responsible for natural resources, where applicable (ibid).

The provision of these services is the responsibility of the District Health Office and the District Water Office, who work with the leaders of the district administration and the local council. The public health clauses within the Local Government Act are bolstered by the related Public Health Act, passed in 1935, which states:

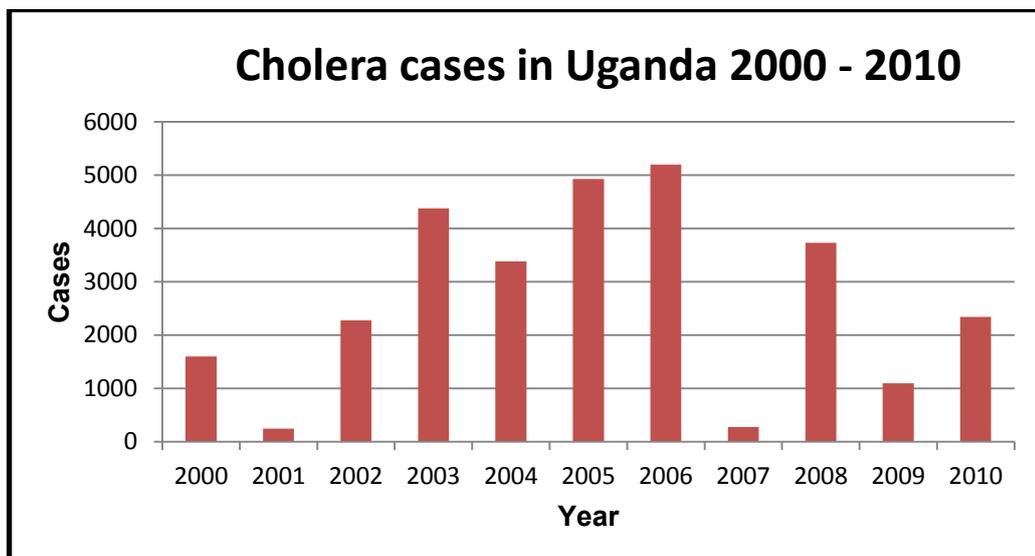
“Every local authority shall take all lawful, necessary and reasonably practicable measures for preventing the occurrence of, or for dealing with any outbreak or prevalence of, any infectious, communicable or preventable disease; to safeguard and promote the public health; and to exercise the powers and perform the duties in respect of the public health conferred or imposed by this Act or by any other law” (Republic of Uganda, 1935).

The Public Health Act places responsibility on the local authorities to prevent disease outbreaks. Both in times of cholera and in times of calm, it is the duty of the district local government to ensure that the above services are adequately provided. The district level of service provision was the focus of three cases examined for this study.

4.2 Cholera in Uganda

Cholera was first reported in Uganda on May 23, 1971, and a total of 757 cases were recorded by the end of the year (WHO, 1972, pp. 282-283). It is often erroneously reported that cholera first entered Uganda in 1979, when in fact it came during a wave of the seventh pandemic that struck Africa between 1970 and 1971 (WHO, 1972, pp. 282-283). The largest cholera epidemic in Uganda occurred in 1998 and affected almost every district in the country. 49,514 cases were recorded and it ranked as largest outbreak in the world that year (WHO, 1999, p. 259). Uganda was one of 18 countries in Africa to record cholera cases every year between 2000 and 2005 (Gaffga, Tauxe and Mintz, 2007, p. 708) and has recorded on average over 2,500 cases every year between 2006 and 2010 (WHO, 2007a, 2008, 2009, 2010, 2011b).

Figure 7: Cholera in Uganda

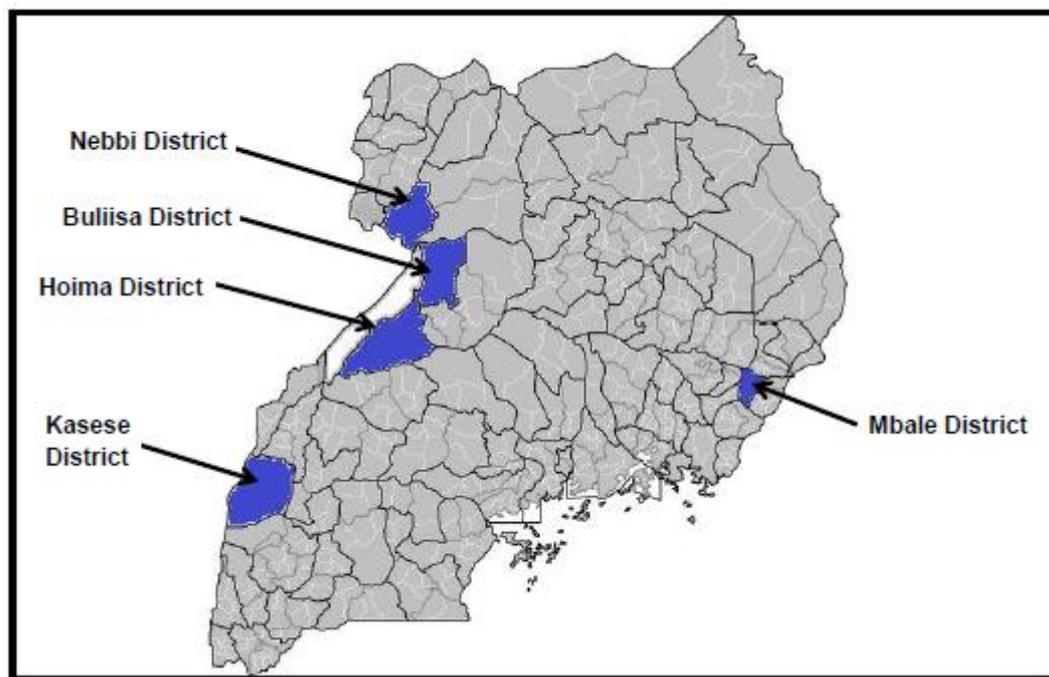


Data Source: WHO, *Weekly Epidemiological Record* (2001 -2011)

Cholera in Districts Selected for Study

Three cases studies were conducted in five districts in Uganda. One study was carried out in Mbale; another study was conducted in the three districts of Nebbi, Buliisa and Hoima. The third case study was carried out in Kasese district.

Figure 8: Map of Selected Districts



Source: Adapted from Mapsof.net

Mbale

Mbale district is located in eastern Uganda and has a population estimated to be 416,600 (Ministry of Water and Environment, 2011, p. 173). The district is home to Mbale municipality, one of the largest urban centers in Uganda. Mbale has suffered numerous cholera outbreaks over the past several decades and more recently had outbreaks in 2008 (Edyegu, 2008) and 2009 (Edyegu, 2009). The outbreak that is the focus of the case study started in February 2012 and continued into May, striking both the municipality and rural communities.

Nebbi, Buliisa and Hoima

These three neighboring districts all sit along the shores of Lake Albert in western Uganda. Nebbi is home to 537,200 residents, Buliisa to 76,900, and Hoima to 499,100. (Ministry of Water and Environment, 2011, pp. 273, 289, 303). The districts that border Lake Albert are known as 'endemic districts' (Alajo, Nakavuma, Erume, 2006, p. 93) due to the regular occurrence of cholera along the lake. Cholera has hit these three districts several times in recent years: 2005

(Odyek, 2005), 2006 (Ayebale 2011), 2007 (Namutebi, 2007), 2008 (Okello, 2008) and 2011 (Ayebale, 2011). The focus of the case study in these districts was an outbreak that began in Nebbi in February 2012 and then spread down the lake via fishing communities to Buliisa and Hoima.

Kasese

Kasese is located in the south-western part of the country and borders the Democratic Republic of the Congo. It has a population of 695,500 (Ministry of Water and Environment, 2011, p. 335). people and touches both Lake George and Lake Edward. Kasese suffers regular cholera outbreaks and was listed as a high-risk border district for disease threats at an inter-country meeting on disease surveillance and response in the Great Lakes region (WHO, 2004b, p. 24). Outbreaks occurred in 2004 (Nzinjah, 2004), 2009, 2010 (Masereka, 2009) and the latest epidemic beginning in October 2011 and extending into February 2012 was the focus of the study.

4.3 Cholera Response in Uganda

Uganda has a National Policy for Disaster Preparedness and Management that it references in times of disasters, such as cholera epidemics (Office of the Prime Minister, 2010, p. 11). “The overall policy goal is to promote national vulnerability assessment, risk mitigation, disaster prevention, preparedness, effective response and recovery in a manner that integrates disaster risk management with development planning and programming” (Office of the Prime Minister, 2010, p. xii). The document goes on to say that “the expected outcome of this policy is a minimum state of preparedness for the country so that in every agency that has relevance to disaster preparedness, response, mitigation and recovery there is ability and readiness to operate together in concert and harmony before, during and after a disaster event” (Office of the Prime Minister, 2010, p. 2). The policy recognizes the multiple phases of emergency and the need for the integration of risk reduction and prevention programming. As the document itself admits, this recognition is a step forwards from the past:

“the planning process did not take into account disaster preparedness and prevention. The focus was on emergency responses to disasters and when a disaster occurred the response was directed to the emergency needs of the affected. Communities under disaster distress were not seen as suitable targets for new develop initiatives” (Office of the Prime Minister, 2010, p. xi).

The current policy now calls for a focus not only on emergency response, but also preparedness and prevention within communities that have been affected. The Department for Relief, Disaster Preparedness and Management within the Office of the Prime Minister (OPM) is the:

“lead agency responsible for disaster preparedness and management. It shall coordinate risk reduction, prevention, preparedness, mitigation and response actions in the country in consultation with other line ministries, humanitarian and development partners, Local Governments and the Private sector” (Office of the Prime Minister, 2010, p. 47).

A national institutional framework (see Appendix 3) has been formed “to create and establish efficient institutional mechanisms for integrating disaster preparedness and management into the socio-economic development planning processes at national and local government levels” (Office of the Prime Minister, 2010, p. 28). There is also a district level institutional structure (see Appendix 4). Within both structures there exist policy committees and technical committees. The policy committees are comprised of political leaders, ministers at the national level and local councilors at the district level who are primarily tasked with developing policies in the event of a disaster and coordinating with the technical committees. Members of the technical committees are senior officials in line ministries or district departments, as well as NGOs and UN agencies.

“The day-to-day implementation of disaster preparedness and management activities will in many cases be carried out by sectoral ministries, departments and other public and private sector institutions” (Office of the Prime Minister, 2010, p. 47). The policy states that “the Ministry responsible for health should develop an integrated approach for managing health related disasters” (Office of the Prime Minister, 2010, p. 52). Cholera Task Forces exist at the national level, chaired by the Ministry of Health as the lead agency, as well as at the district level, chaired by the LC5. The Ministry of Health has published a document entitled *Prevention and Control of Cholera: Operational Guidelines for the District Health Workers and Planners*. It is the only set of guidelines related to cholera and focuses on case management and control of cholera outbreaks. A section of the document outlines the composition and responsibilities of the District Cholera Task Force or Coordination Committee whose aim is to “ensure full collaboration among the involved sectors and the rapid and efficient execution of control activities” (Ministry of Health, 2007, p. 22). The members of the task force include:

- District Council Chairperson (LC5)
- Chief Administrative Officer (CAO)
- Resident District Commissioner (RDC)
- District Health Officer (DHO)
- District Health Inspector (DHI)
- District Water Officer (DWO)

These officials, as members of the District Cholera Task Force, were targeted for interviews during the research due to their involvement in the planning of cholera-related activities.

4.4 Methods of Accessing Informants

Before travelling to Uganda the author met with Sam Kayaga, a lecturer at WEDC and a Ugandan, who provided the author with the contacts of an official within the Ugandan Ministry of Health. Upon arrival in Uganda the author met with the official who was incredibly helpful in providing access to local and national government officials. The official contacted all of the District Health Officers in the selected districts and informed them of the author's intention to conduct research. The official also provided the author with the contact information of each DHO who the author communicated with prior to arrival in the district to establish a place and time to meet. The DHOs also provided the author with a letter of introduction to take to other officials within the district.

Additionally, the author had personal contacts within Uganda who were able to secure the contact information for various officials within several of the districts, with whom meetings were arranged ahead of time. The author typically had several meetings pre-arranged before travelling to a district, although not all interviews conducted were planned. The author occasionally went directly to some district departmental offices without prior contact. Although an unpredictable method, the author had success finding officials or arranging meetings at a later time. This situation typically arose when informants were recommended to the author by other district officials.

The official from the Ministry of Health also introduced the author to senior officials within the ministry who agreed to be interviewed. Contact information for officials within the World Health Organization and UNICEF were provided by another official within the Ministry of Health. The author was able to call and arrange meetings with these officials.

The author also had a letter of introduction from his supervisor at WEDC stating his affiliation with Loughborough University and his research intentions in Uganda. WEDC is well known to the water sector in Uganda and the introductory letter was helpful in gaining quick access to officials.

In total 30 semi-structured interviews were conducted for this study. Five districts were visited and 18 district officials interviewed. District Health Officers, District Health Inspectors (DHIs), District Water Officers, Chief Administrative Officers and District Chairpersons were among those interviewed. Five ministry officials were interviewed from the Health and Water and Environment ministries. Five staff members from NGOs such as the Red Cross and World Vision agreed to be interviewed. One official from UNICEF and one official from WHO also served as informants.

5.0 Findings and Analysis

This chapter describes the findings and provides analysis of the data collected during field research. Data was obtained through semi-structured interviews and documents acquired from informants. The information collected has been analysed via the constant comparative method and theme mapping.

5.1 Theme Maps

Four main thematic areas have been identified with sub-themes within each area. The four main themes are: Coordination, Resources, Response and Prevention, and Development Partners. Theme mapping has been employed as a method to depict the themes, sub-themes and their interrelatedness. The themes are not arranged in any hierarchical order. Below are the main themes and the subsequent sections will detail the sub-themes

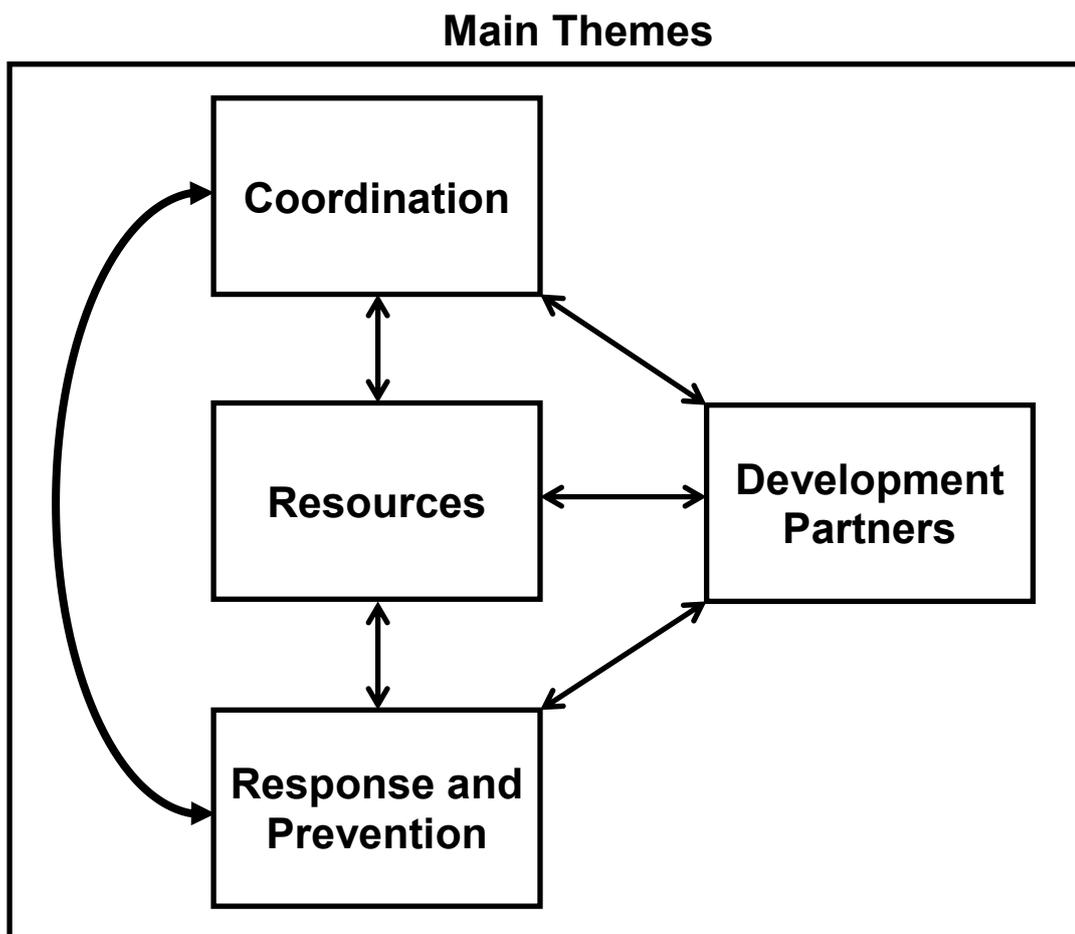


Figure 9: Main Themes Map

5.2 Coordination

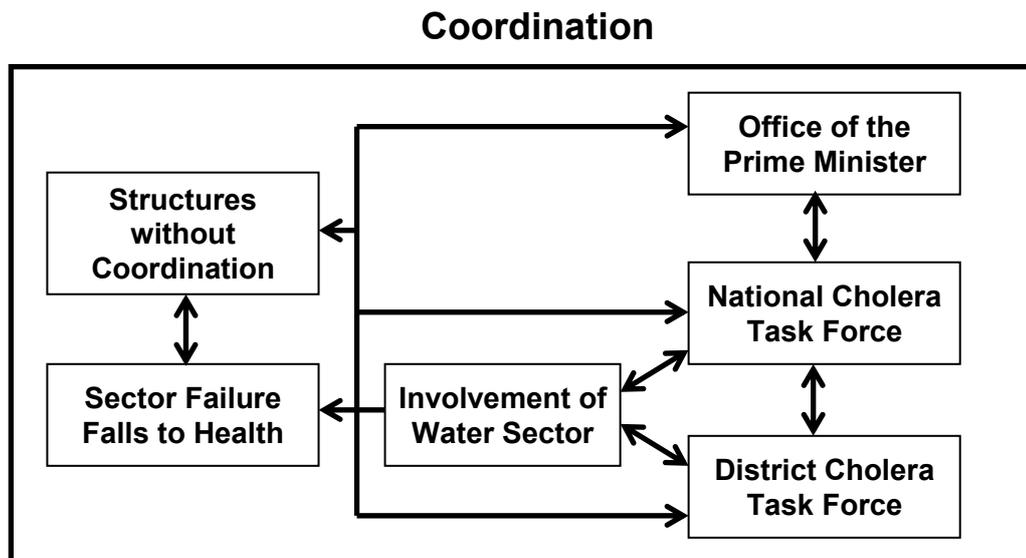


Figure 10: Coordination Theme Map

The coordination mechanisms for the response to cholera outbreaks and the subsequent transition were examined. The Office of the Prime Minister, and more specifically the Department of Relief, Disaster Preparedness and Management is responsible for the national coordination of the response and management of disasters. The National Cholera Task Force and District Cholera Task Force are the respective coordination mechanisms at the ministerial and district level. The task forces were examined in more detail because of the access to members of each mechanism while information concerning the OPMs involvement in coordination was gathered from district and ministerial informants.

Office of the Prime Minister

The Republic of Uganda National Policy for Disaster Preparedness and Management states “the Ministry responsible for Disaster Preparedness and Refugees in the Office of the Prime Minister will be the lead agency in co-ordinating all stakeholders on disaster preparedness and management in the country” (Office of the Prime Minister, 2010, p. 28). The MoH commissioner who chairs the national cholera task force was interviewed and asked about the involvement of the OPM in the event of cholera. He states:

“The response usually for cholera is limited to one or two districts, the Office of the Prime Minister does not really have a big role...the OPM comes in when there is a magnitude of disasters and other sectors need to come in, but for cholera we handle it with the district...so the Office of the Prime Minister does not very much come in.”

It appears from his comments that the OPM does not play a major role in the coordination of the response to cholera outbreaks. An official from the World Health Organization, which is the co-chair of the national cholera task force along with the Ministry of Health, states that when there is a health emergency or epidemic the OPM tends to leave the coordination to the line ministry which negates the multisectoral coordination of the response. He says:

“The problem is if there is a health emergency, the Office of the Prime Minister tends to leave the coordination of that emergency to the line ministry, that is the Ministry of Health. The moment you leave it to the Ministry of Health you abdicate this overarching role of coordinating the other sectors because Ministry of Health is not going to coordinate water, it cannot coordinate environment, it cannot coordinate labour. That is where there is a problem. If during a cholera outbreak the Office of the Prime Minister holds onto that coordination role then they would be in position to bring all these other sectors...They (the OPM) tell us ‘you go ahead, that is a health emergency you go ahead’, then they send one low level representative, a technical person. Some of these things need policy makers, now the policy makers are not part of our national task force. Then we call ‘we need water, we need education’, but it stops, that is where the problem is”.

The problem is that one ministry cannot instruct other ministries to carry out any programs. That coordination role must come from a higher level, which is supposed to be the OPM in the event of a disaster, such as a cholera epidemic. The WHO official states that ministries are separate entities and do not report to each other, but are required to report to the OPM. Without the OPM playing a role, coordination goes out the window.

National Cholera Task Force

The lack of involvement of the OPM in response to cholera leaves the national cholera task force as the highest level functioning coordination mechanism. The task force is headed by the Ministry of Health as the lead agency and is co-chaired by WHO. Development partners such as UNICEF, Red Cross, MSF and World Vision are members as well as other ministries such as the Ministry of Water and Environment, and the Ministry of Local Government (MLG). The main theme which emerged from interviews relating to the national task force is the lack of involvement of sectors other than health. The chairman of the task force, a commissioner in the MoH, comments that the Ministry of Water and Environment and Ministry of Local Government are usually not in attendance at task force meetings. He interestingly says “if we invited them they’d obviously be there”. This comment indicates that the task force does not strongly seek to have additional sectors in attendance. A commissioner from Ministry of Water and Environment states that the task force has not pushed MWE to do much and that the immediate response by the task

force is to treat the sick, so MWEs involvement is not great. A WHO official confirms the absence of other sectors as part of the task force, namely MWE. The lack of participation or coordination of multiple sectors is recognized. The WHO official admits “the problem is really coordination, we know the problem, but it’s difficult.” Additionally the MoH commissioner says that the task force needs to improve its coordination by “bringing people on board, making sure they attend regularly”. The coordination, or lack thereof, amongst the national task force members still seems to reflect an emergency medical focus in terms of an approach towards cholera.

District Cholera Task Force

The opinion of the district cholera task force as a coordination mechanism is mixed. One district CAO described the task force as a “recreational committee,” but the majority of informants believe the district cholera task force is a good coordinating mechanism. Its weakness is the failure to meet following the end of an outbreak. There was widespread admittance among district officials that the task force only meets when the outbreak is at its height. As the cases of cholera begin to dwindle so does the functioning of the task force. One official stated “that is our problem” when referring to the lack of a continued focus by the task force following an outbreak. A Red Cross official stated that the “task force works very well, but unfortunately they keep on relaxing when the thing [outbreak] is reducing, that is the most unfortunate part.” A second Red Cross official in another district had the same conclusion. An official with WHO commented that “at district level, when there are no epidemics, the functioning of the district cholera task force almost comes to an end. They wait until there is another epidemic and then you try to wake them up.” The official discussed an assessment that was made of the response to cholera in three districts which found a varied level of functionality of the task forces. In one district it was fairly functional, while in another the task force was non-existent in the middle of an outbreak, and the last task force was somewhat functional. A manager from World Vision, which sits on both the national and district task forces, states that the coordination and in particular the documentation of the cholera outbreaks is poor, which makes it difficult to convince donor agencies to support the response. A Regional Disease Surveillance Officer, who is responsible for surveillance in 12 districts, argues that the district task force could be a good coordination mechanism, but it needs guidance from a higher level. “There should be more linkages between MoH and the people who are actually in the field tackling the epidemic.” He goes on to say there is a need to engage the district task forces more, to follow up with other sectors and to lobby them to participate. Essentially there is a need for guidance and coordination at a higher level.

Structures without Coordination

An issue that a number of respondents touched upon was that appropriate structures and policies exist, but the coordination and operationalization of those structures and policies is not occurring. A WHO official stated that the structures and systems are there, but it is actually utilizing the

structures and systems which needs to be done. One CAO commented that “our country has a lot of structures, but the issue has been the effectiveness of their use...I think if they were well coordinated we would be able to eradicate [cholera]...coordination in my view is the missing link, otherwise we have the structures.” Additionally, a manager from a Red Cross branch commented “there are lots of government policies, a lot, lots of policies and laws and if they were strictly followed and operationalized we wouldn’t be having these epidemic outbreaks...The issue of operationalizing these policies and laws is the biggest problem.” The inefficient use of existing structures, systems and policies has allowed epidemics like cholera to continue.

Involvement of Water Sector

From the interviews conducted it appears that the water sector has little involvement in the response to cholera outbreaks and the recovery. At the national level the involvement of the Ministry of Water and Environment is poor. An official from the MoH in reference to MWE attendance in task force meetings states that “they are not very regular”. An official from WHO, the co-chair of the national task force, says that MWE does not appear for meetings even though they are members of the task force. The chairman of the national task force also stated that MWE has not been attending meetings. When a departmental commissioner within the Ministry of Water and Environment was asked if the ministry participated in cholera task force meetings he gave a slow unconvincing ‘yes.’ The commissioner later commented that the cholera task force is too emergency based and that it should be given more of a mandate. It should be brought out of the idea of only responding to outbreaks and looking at the phases before and after outbreaks. This is interesting because the official from WHO explains that MWE’s absence is due to their developmental approach. He says “for us we’re talking about emergencies; for them, it is developmental”. The dichotomy between emergency relief and development has presented itself amongst the ministries and national task force.

Of the five district water officers that were interviewed, none had a good understanding of the functioning of the cholera task force. One DWO was not sure who the chairman of the task force was because he sends a representative to attend the meetings. Other DWOs had little knowledge of the guidelines for the task force and cholera response, while one was not aware of any guidelines. Many other district officials identified the absence or lack of involvement of the water department in the task force activities. One DHO commented that the water office was not very involved and the DWO of the same district admitted that “we have left it to the health department because we feel they can now handle [the outbreak].” A DHI in another district commented that the water department had not been doing anything in terms of the response. It was also interesting to note that when district officials were asked to identify the members of the cholera task force, the water department was often not mentioned. In fact, a recent document from the Ministry of Health entitled *A Report on the Assessment of Cholera Outbreak Response*

in Hoima District does not mention the District Water Office as a member of the district task force and later recommends their inclusion (Wamala et al., 2012). The water sector appears to be largely absent from the coordination mechanisms dealing with cholera.

Sector Failure Falls to Health

An issue which seemed to be frustrating to health personnel was that the health sector is largely responsible for dealing with cholera when the disease's persistence and reoccurrence are due to other sectors failing to take care of their responsibilities. An official with the World Health Organization states:

“Response to cholera was largely left to the health sector. An epidemic of cholera is largely viewed as a health problem and it stops there. And yet it is a health problem because other sectors didn't do their part. We are getting cholera because there is no safe water and provision of water is not our mandate. We are getting cholera because there are no proper latrines and in Uganda the ministries are divided in such a way that water and sanitation does not entirely belong to the health sector, belongs to the water sector, which is a different ministry completely. So we are getting this cholera epidemic because other sectors have not done their role. But when the epidemic is there, then it is viewed as our problem and therefore we need to respond to it. So that was a big problem.”

A DHO commented very similarly:

“We have dissected the real causes which lie greatly outside the health sector, so if you are going to prevent it then you need to improve water supply, that is the responsibility of national water. If we are going to improve sanitation, especially in the municipality, we shall need again the municipal local government to do that...If we are going to improve again safe water in the rural areas and sanitation again we are going to ask the community department to do social mobilization for people to have latrines and so on, and we ask the section of water in the district to ensure that their planning is for improving gravity flow schemes in the district, provision of boreholes in the district so that people can naturally access the safe water.”

The health sector is burdened by the lack of preventative measures implemented by other departments that perhaps has its roots in the lack of multisectoral coordination.

5.3 Resources

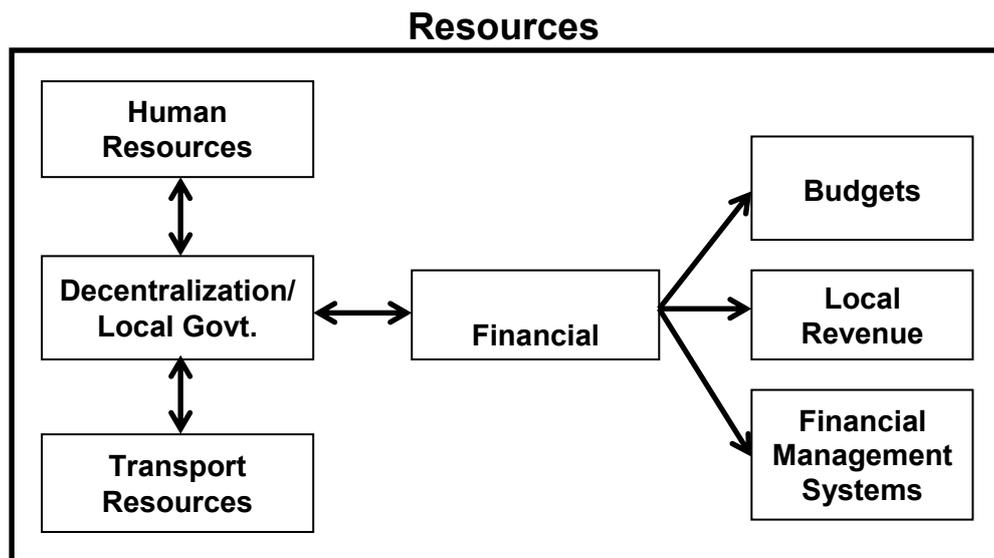


Figure 11: Resources Theme Map

A theme which emerged during the data collection process was that of the availability of resources. Financial, human and transportation resources were issues that were raised in the great majority of interviews. Additionally the decentralization of powers to the local government level and the creation of new districts has strained and stretched the resources available to local government. These issues are discussed further in the following sections.

5.3.1 Financial

Budgets

A very prominent theme throughout data collection was the lack of funding to implement any programs in terms of response or recovery. When informants were asked about budgets for emergencies or recovery at the ministerial level, there were varying responses. A regional disease surveillance officer claimed there is no epidemic response fund within the MoH. A commissioner within the Ministry of Water and Environment (MWE) stated that both the MWE and MoH do not have funds for emergencies or recovery; these are covered by general funds. The commissioner said that "cholera outbreaks are not one of the factors we consider when allocating funds" and that there is no budget line for emergencies. Alternatively, a departmental commissioner in the MoH claimed there is an emergency budget within the ministry, but that it is small. He mentions that the Minister for Health has argued for more funds for emergencies because the MoH has to deal with many epidemics which are unexpected, but nothing has been done. He points out that national funds for disasters sit with the Department for Relief, Disaster Preparedness and Management within the Office of the Prime Minister. The commissioner from MWE says that a disaster must be declared for any funds to be released, which has not

happened in the case of cholera outbreaks. The ministries are usually instructed to reallocate funds from within their existing budgets, but such action can take two to three weeks to get approval from auditors and other officials.

At the district level there is complete agreement that there is no budget whatsoever for disasters, epidemics or recovery. A senior district health official stated “the funding is grossly inadequate”. A DHO asserted that “funding is not only limited for epidemics, but it is limited across the board for even usual days activities.” A DHO in a separate district claimed that out of the Primary Health Care funds they are sent, 6% is supposed to be set aside for epidemics, but he decries the futility of this when resources are so tight. He provides the following example. In a quarter, he receives 30 million shillings (approx.. £7,700) with which he has to run 40 government health facilities and the district health office. He ends up giving a health centre 200,000 shillings (approx. £51) to operate for three months. It is “not practical” that he should set aside 6% of his budget when there are some many pressing issues. He suggests that if they were to deal with epidemics adequately, a special account should be created. The money could not be touched unless an epidemic occurred and if nothing happened then the money is returned at the end of the year. A DHI in another district stated that “unless they create a fund for environmental health the problems will continue.”

The Vice Chairperson in one district talked about the District Disaster Management Committee which is functional and has prepared plans, but he says “where there are no resources, those plans become useless”. There is no budget for the committee or disaster response. The LC5 of another district claims that because cholera is unexpected it is not budgeted for. He mentions that ministries and the national government also do not have the budgetary capacity to respond and that is why they seek help from development partners. The Chief Administrative Officer (CAO) of one district commented about the limited funding “they’re also crying (ministry), we’re also crying, the sub county also cries, the community cries...it’s like you cascade a problem”. Just as the ministries are told by the OPM to reallocate the funding they have, the districts are told by the ministries to do the same.

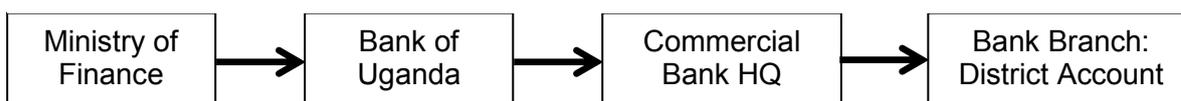
A small minority of informants claimed that funding was not a problem, but due to their lack of evidence and the overwhelming data to the contrary, their statements do not carry much weight.

Financial Management System:

Another theme which emerged was the slow movement of money through the financial management systems used by the government. The Integrated Financial Management System (IFMS) is used by the central government and the majority of districts to transfer and account for funds. A senior health official in one district described the IFMS as a “disaster”. The context of

the discussion was related to funding sent by UNICEF to the district to assist with social mobilization in response to the outbreak. Twenty-seven million shillings (approx. £6,920) was sent to the district, but took over three weeks to arrive within the district's account. The official detailed the process: money goes into the Consolidated Fund Account within the Bank of Uganda (BoU). The BoU needs approval from the Ministry of Finance (MoF) to release the funds that it then sends through commercial banks to the district.

Figure 12: Process of Funds Transfer to Districts



The official reiterated that “using that system is just a disaster” and that the bureaucracy is too much. A departmental commissioner in MWE stated that “by the time that money comes the emergency will be over.” He goes on to say that “government procedures are so bureaucratic”. He discussed the need to be able to respond quickly in the event of disasters and to bypass the standard procedures. “I should be able to get money today...I should be able to access funds without going through the process.” In relation to sending supplies he also comments “I should not have to go through the 10 or 20 steps of procurement of government, it will take you three months”.

Local Revenue

The lack of funding led many district administrators to bemoan the issue of local revenue. The CAO of one district stated that they are reliant on the central government for 97% of their funding. He stated that “if you don’t have your own resources at hand and you are just waiting, it doesn’t help much.” Another CAO stated that the local revenue which they generate is less than 1% of their annual budget. They are entirely dependent on the central government for their operating funds. The Vice Chairperson of another district reiterated this issue stating that the local government generates approximately 120 million shillings in revenue while they received 6 billion shillings from the central government. That means only 2% of their budget is generated locally. The Vice Chairperson added that they had requested 11 billion shillings from the central government, but were only sent 6 billion. He stated that the situation requires “intense thinking” about how to mobilize local revenue. The point all the administrators were making is that if they were able to generate more revenue locally, they would be able to respond more quickly to outbreaks and plan interventions afterwards. But when they are entirely reliant on the central government, their hands are tied and they have little ability to plan or act independently. Several administrators spoke about the graduated tax that was eliminated in 2000. One CAO mentioned that when the graduated tax was in place the district generated about 20% of their annual budget.

Another CAO agreed the graduated tax raised more revenue, but cited the difficulties associated with it. The graduated tax required every able-bodied person to pay tax. Getting a subsistence farmer in a village to pay was very difficult. When asked what other measures could raise local revenue, he said the decentralization policy needed to be amended. He commented that “decentralization is not fully decentralized,” meaning that revenue or tax collection is still centralized and bypasses the districts.

5.3.2 Decentralization

The decentralization of responsibilities for planning and service provision to local levels of government is a process that was instituted with the Local Governments Act of 1997. The process continues today as more and more districts are created to bring services closer to the people. The issue of decentralization arose in several interviews with district officials as well as with NGOs. A Red Cross branch manager claimed that decentralization had improved some sectors such as job creation, but had not improved service provision. Additionally a district CAO stated that “decentralization has spread resources thin, the staffing thin, and increased administrative costs.” Another CAO in a separate district commented that “the challenge is that the administrative units tend to expand faster than the skilled labor”. A WHO official affirmed the CAO’s comments when he said that the creation of new districts as part of decentralization has reduced the strength and capacity of staff. A senior health official who has worked before and after the implementation of decentralization claims decentralization has caused a reduction in funding and staff and has left the district unable to finance health activities adequately. He continues by saying that since the start of decentralization, there has been less money for environmental health programs because more than 90% of funding goes towards clinical services. As funding becomes more stretched by the increase in districts, certain programs have lost out to activities deemed more of a priority.

5.3.3 Human Resources

As mentioned in the previous section, decentralization has had an impact on human resources. A senior health officer in one district stated that the current staffing level in health facilities was 30%. This figure was confirmed by the DWO in the same district who put the staffing level at 31%. In Buliisa district there are currently only two health inspectors and two health assistants in the whole district. That equates to approximately one public health official per 19,200 people. In another district, a senior health official stated that in a level three health center there are supposed to be 19 staff members, but on average they have 5. A manager from World Vision agreed that manpower at the district level is usually lacking.

In contrast, two officials stated that they believed staffing levels were adequate and not a problem. This may be a specific case as both officials were working within the same department in the same district. The majority opinion from interviews conducted was that human resources is a significant problem.

5.3.4 Transportation Resources

Transportation was an issue which informants mentioned alongside human resource levels. They claimed that even for the staff that are present the ability to move to the field is limited. A senior health official in one district complained that the health department had no vehicle. They last received a vehicle in 1996 and that the District Health Officer now uses his own car. There is very little money for fuel and he finds himself using his own money to pay for petrol for his motorbike. Another senior health official confirmed that transportation is a constraint at the district and sub county level. He said they needed vehicles and motorbikes to move to the field to conduct their work properly. A DHO complained about not having enough money for fuel as the constraint for moving to the field.

5.4 Response and Prevention

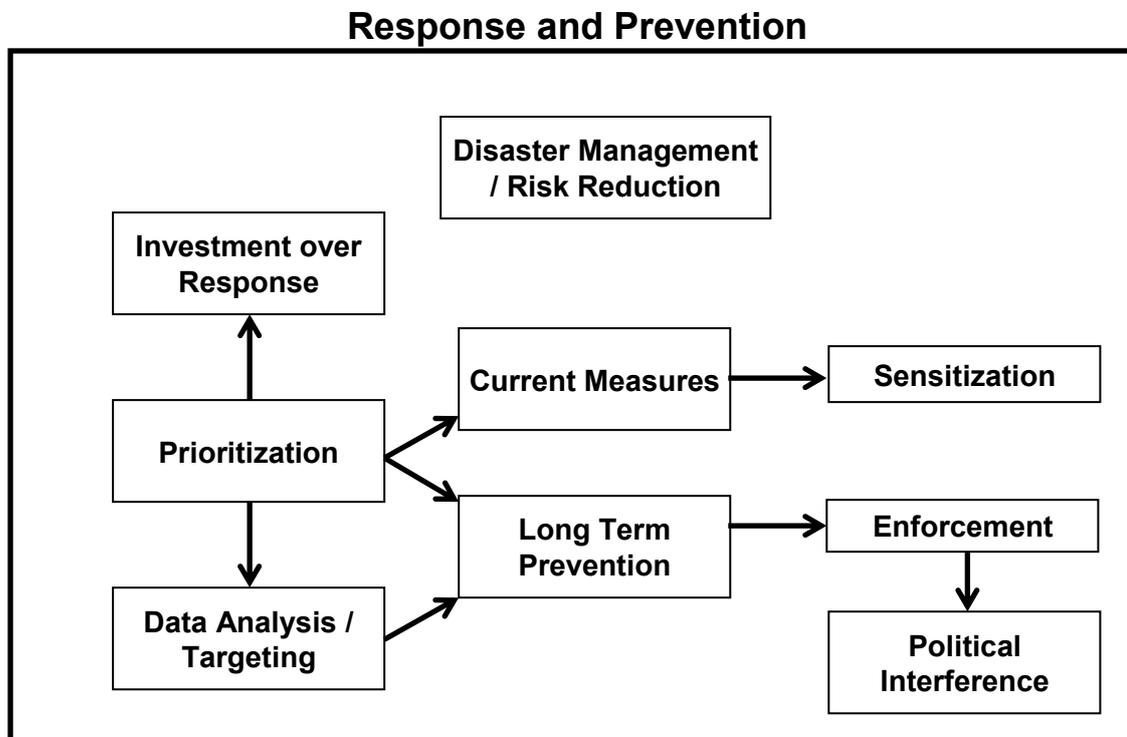


Figure 13: Response and Prevention Theme Map

Several themes exist in relation to the response to cholera and the transition to preventative measures. The prioritization of prevention is examined, as is the use of data collected during

outbreaks. Current preventative measures and those recommended by informants are discussed, along with the challenges of their implementation. The findings relating to the knowledge and use of disaster management plans/cycle and the incorporation of risk reduction is also reviewed in the section.

Prioritization/Political Will

An objective of the research was to assess the prioritization of cholera prevention at the local and national level. Informants had a lot to say on the issue and widely agreed that cholera prevention is not a priority. A DHO commented that he had not seen much input on cholera prevention from the national or local government and was not aware of anyone making prevention a focus. The Vice Chairperson in one district states that “government has put much emphasis on health, but specifically for cholera there is not much of a priority. That’s why you run to the ministry [of health] and they tell you there’s no money.” He adds that the government does not think they will have cholera. As much as they talk about it, it is never mentioned or reflected in the national development plan. A CAO from another district remarked during a discussion about funding that “if the person who is supposed to give you support does not see it [cholera] as a priority it will remain underfunded”. He went on to observe that he feels the government sees health as a priority, but that within health there are different priorities. A Red Cross branch manager commented that health is not taken as a priority at the local and national level. A different Red Cross manager noted “unfortunately I think people are not putting much emphasis on environment, especially health environment, even I think the government is planning very little for it”. A regional disease surveillance officer said that “when it comes to long term interventions...there’s really nothing.” He continues to say that there is no focus on the long term and that there has not been any targeting of communities or areas for interventions after outbreaks. Similarly a DWO stated that after an outbreak they revert to their normal activities and there is no focus on communities particularly hit by cholera. A WHO official stated that the focus on post outbreak preventative interventions is “very minimal” and that actions are not taken following an outbreak due to a lack of political will. He continued to say that “if you don’t look at it [cholera] as a priority then you’re not going to put your little resources on it at all and that aggravates the problem.” He told an anecdote about a meeting of the National Cholera Task Force. He shared a story he had seen in the news about Kenya aiming to be open defecation free by 2013. He praised their boldness to commit to such a preventative health measure and said that the need was great to do the same thing in Uganda. He expected a response from the members of the task force, but he received no feedback and that indicated to him the orientation of the task force. There is no will or prioritization to prevent cholera. He also explained WHO’s efforts to advocate for the prevention of cholera and raise the profile of the disease, but these measures have not worked. He claims people do not take them seriously.

Several informants spoke about the lack of prioritization of sanitation as a prevention measure. A DHI commented that there is verbal prioritization of sanitation at the national level, but that implementation is an entirely different matter. An official from the World Health Organization comments similarly, saying that the Kampala Declaration on Sanitation in 1997 was a major commitment made to improving sanitation, but he sees nothing having to do with it now. He says that funding and personnel constraints exist, but that it is prioritization which is the problem. Additionally, a commissioner from MWE stated that “when it comes to sanitation, which is talking about prevention, it takes a very, very, very low place in that list of priorities.”

Overall the prioritization of long term, preventative measures against cholera seems to be completely lacking at both the local and national level.

Data Analysis/Targeting

A regional disease surveillance officer stated that the districts collect a lot of raw data during the outbreaks, but they do nothing with it. He comments, “I’ve found that districts get a lot of this raw data, but they don’t try to use this data, they don’t interpret it, they do not even disseminate it.” The reason he cites is a lack of prioritization on the part of officials at the district level, although he points out that they have several other competing responsibilities. Additionally, an official from WHO involved with disease surveillance said he was surprised by the lack of analysis done at the district level and blames it on a want of will. He does not fault a lack of resources or knowledge, but purely a lack of prioritization.

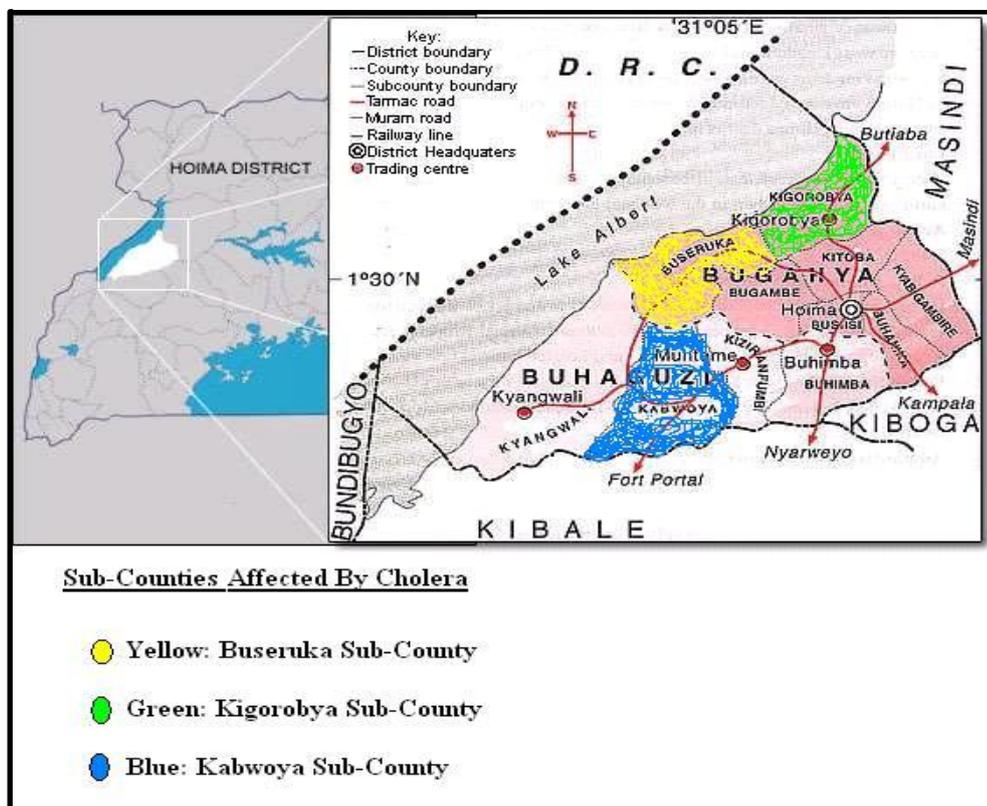
Two district disease surveillance focal persons were interviewed and both described the data they collect which includes age, sex, village, sub-county and date of onset. This information is fed into what is called a ‘line list’ (see appendix 5) where all cases are tracked. Both officials were able to provide the line lists, but when asked for further documentation, such as maps, one officer said they made maps, but he was unable to produce any. The WHO official commented that the district personnel are trained and have the capacity to do mapping of the outbreaks, but that it is not being done. The regional disease surveillance officer who oversees surveillance activities in 12 districts states that “mapping [of recent outbreaks] was not as effective as it should have been.” He admitted that he has difficulty finding maps which he can use. “I wish to say that when it comes to mapping, I think because of our setting here, we do little in that respect. Even in my work I have few maps in my office and on my computer, and even to get the district map for Hoima it was a bit of a difficult thing for me to get it and plot it there, it was a bit of process.” He goes on to comment that when he analyzes data, the smallest geographic area of focus is the sub-county, which he admits is too large a focus area (see map at end of section) and that the detail of analysis should be increased. He says increasing the detail of analysis “would even help us to focus resources better, for like if we were working in the sub county we would again get

smaller areas to work.” The WHO official also believes doing simple epidemiological analysis will help to direct interventions. He comments;

“When you line list these cases then you need to do some basic epidemiological analysis that should try to describe that epidemic; who are the people who are most affected? What age group? Where are they coming from? Then that helps you in directing the interventions...that component of basic epidemiological data analysis was lacking...it’s quite important in guiding the interventions.”

Both officers agree that there is room for improvement in terms of data analysis and for the improved targeting of resources and interventions following cholera outbreaks.

Figure 14: Map of Cholera Affected Areas



Source: Personal Communication (Interview)

Disaster Management Cycle / Risk Reduction

During the semi-structured interviews, questions were asked to assess the use and incorporation of the disaster management cycle and risk reduction strategies. It was found that the concepts were not used at the district level and national level. A DWO in one district was not aware of any disaster management cycle approach. A senior DHI who had chaired meetings of the district task force commented that there was no management plan or cycle. The Vice CAO in the same district commented that they do not use the national disaster management plan because they had

developed a district disaster management plan, but it was not in use and a copy could not be found. Interestingly the Red Cross branch manager in that district commented that they attend the meetings of the District Disaster Management Committee and that the Red Cross is constantly pushing the committee to develop a disaster plan, but he says it is never done. The concept of a disaster management cycle and its associated phases seemed largely unknown to district officials. Disaster management seemed to be understood as solely the phase of emergency response.

At the national level, a MoH commissioner who chairs the national cholera task force was asked if there was a focus on disaster risk reduction, and he replied “we usually don’t go into that.” In response to the same question a commissioner from MWE said the focus was “not so strong”. Additionally, an official from WHO said disaster risk reduction is “more of a paper...putting the things into practice is difficult.” All the answers of national level officials were very short, which potentially points to the fact that they know little about the topic.

The only informants who had a good knowledge of the disaster management cycle and risk reduction were members of the Uganda Red Cross Society. They were well versed on the topic and had a disaster management policy based on the disaster cycle which strongly incorporated risk reduction strategies. The policy states;

“The Uganda Red Cross Society has been equipping itself with its manpower and structures for a nation-wide disaster management as a continuous and dynamic multi-sectoral, multi-disciplinary process of policy, planning and intervention which seeks by the systematic study and analysis of disasters, to improve measures related to the prediction, prevention, mitigation, preparedness, emergency response and post disaster recovery” (Uganda Red Cross Society, 2011, p. 4).

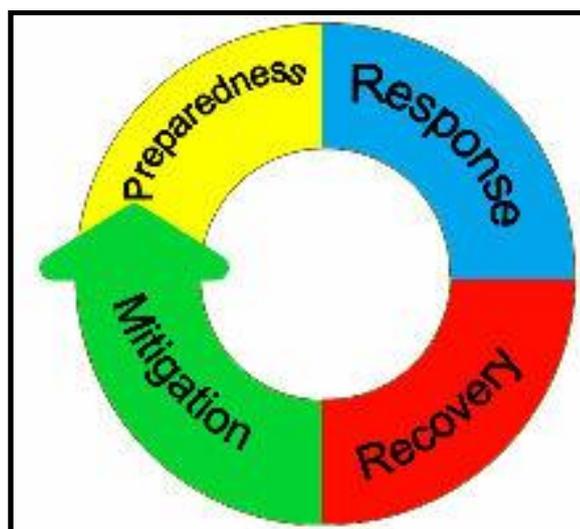
The policy outlines the components of the disaster cycle:

“The policy considers all the components of the disaster management cycle and incorporates:

- Disaster response
- Preparedness and mitigation
- Post disaster recovery preparedness

Disaster risk reduction will be the main thrust of these components” (ibid)

Figure 15: Red Cross Disaster Management Theme Cycle



Source: Uganda Red Cross (2011)

The document goes on to state that “this policy has been developed through a highly consultative process and is aligned to the IFRC strategy 2020, the Uganda National Disaster Policy, the Hyogo Framework for Action and supported by key strategies” (ibid). It is interesting to note that the Red Cross policy is aligned with the Uganda National Disaster Policy, and that both policies have a focus on the Hyogo Framework for Action, but the knowledge of such policies is much stronger within the Red Cross than within the Uganda government. One of the Red Cross branch managers commented that “for us in Red Cross we are putting up disaster risk reduction and we are saying it should be the first priority”. Another Red Cross member emphatically stated;

“even after the cholera has stopped, we should continue with our sensitizations because that is part of our activities for disaster preparedness and response, we should continue after so that after we mitigate the long term effects so that tomorrow we don’t come back to this situation.”

A third Red Cross manager said that “we have a fully-fledged disaster risk reduction program, manned by a programme manager at the center. We do have a disaster risk reduction strategy that clearly spells out our mandate and the risk reduction that we shall engage in.” He added that alongside the disaster policy they develop contingency plans every year for various disasters/epidemics. The disaster risk reduction program identifies risks and then designs an intervention to address them and develop resilience within the communities.

Current Measures

The field research sought to investigate the current measures being conducted in the post outbreak period. The overwhelming reply from informants was that health education/sensitizations are the measures implemented following an outbreak. The vice chairperson of one district said that health assistants remain and continue sensitizing people following an outbreak. Their focus is to make sure every homestead has good hygiene practices. A DHO also confirmed that health education is maintained following an outbreak. A Red Cross manager said that sensitizations are the focus of the mitigation phase of their disaster management cycle. Additionally, a DHI stated that environmental health staff pursue sensitizations during the outbreak response. An MoH official claimed that routine sensitization activities are carried out following an outbreak. He said the only difference between the activities during inter-epidemic periods and in response to outbreaks is that the activities are “ramped up” during an outbreak. A commissioner from MoH who is the chair of the national cholera task force did not even mention the continuation of sensitizations, but said they conduct surveillance following an outbreak. Sensitizations comprise the main prevention activity of the recovery period, likely due to the ease of implementation. They require little coordination or resources compared to the implementation of water and sanitation infrastructure.

Prevention Recommendations

Although sensitizations are the primary prevention activity conducted in the recovery phase following cholera outbreak, the research sought to examine what informants thought was necessary to prevent cholera from reoccurring. There was a varied response. The call for continued sensitizations was repeated, but very interestingly, it was officials from the water sector who largely recommended this course of action. One DWO said behaviour change was needed which required constant health education. Another DWO in a separate district reiterated this point saying “of course cholera is preventable, we can prevent it only, according to me, only if the communities are sensitized continuously.” A commissioner in MWE stated that water provision is an intervention which is needed, but that they will not be able to provide adequate coverage in cholera hotspots any time soon. He then commented that “if we are to stop cholera in this country we need to intensify those health messages that can go throughout the year”. Another DWO recommended community education, specifically water source maintenance and hygiene. Only one DWO said improving sanitation and safe water coverage was needed for the long term prevention of cholera.

The vice chairperson of one district said there needs to be improved physical planning of communities, especially at fishing communities along lake shores. A Red Cross manager cited the provision of safe water as a priority for the prevention of cholera. Echoing that sentiment was an MoH official who claimed that long term prevention of cholera involves the provision of safe

water. The disease surveillance focal person in one district also argued for safe water provision in addition to improving sanitation coverage. A CAO thought sanitation was the priority as well. A Red Cross manager called for sinking more boreholes and conducting health education to change peoples' attitudes towards hygiene and sanitation. The DHO in one district said that long term prevention requires an "inter-relationship between the Ministry of Health, the ministry responsible for water and environment and the Ministry of Works, working together with this local government because the real prevention of future cholera outbreaks is a *big* project which calls for everyone to play a role." His vision for a multisectoral project would involve health education and the construction of water and sanitation infrastructure. One Red Cross branch is taking it a step further and is in the planning stages of a pilot water and sanitation project in two sub counties affected by cholera. An intensive field study will be carried out to assess the water and sanitation problems in communities and the topographical nature of the areas to see if they have an influence on disease spread and the behaviours of the community members. The recommendations for the long term prevention of cholera by the majority of respondents reflect the thinking that improved water, sanitation and hygiene are the best ways to prevent the disease from reoccurring.

Investment over Response

On the topic of prevention, a number of informants indicated that the immediate investment in the necessary programs would save money in the long run. A WHO official stated that "if you look at the resources we spend to respond to these emergencies in the long run it's much more expensive than if we are to put some investment in preventative interventions. That's where we really get it wrong." An MoH official believes it is wiser to invest in safe water, sanitation and drainage than responding to outbreaks constantly. He observes that "people usually don't see the relationship very quickly, but it is cheaper...because the money that which goes in the forms of drugs is not seen as money which would be saved in the long run, but that is the way to go...the investment in that kind of infrastructure is the way to go." Additionally, a DWO stated "we can save a lot of money if we tackle the causes and we handle it once and for all."

Enforcement of Public Health Laws

In addition to the above mentioned interventions, several informants also called for the enforcement of the Public Health Act as a way to prevent cholera from returning. An MoH commissioner said enforcement of the law was needed to ensure people have latrines and hand-washing facilities. A district disease surveillance focal person said the laws should be administered so that peoples' homesteads meet the standards required. A DHI stated "the enforcement of the public health regulations would go a long way in preventing the epidemics," but he goes on to admit that "we have had problems with enforcement". Many officials admitted that prosecution of the law is very weak and that it is local authorities who are responsible for

implementing it. A district disease surveillance focal person said that local governments need to improve the enforcement of the act and that LC1s (village leaders) should play a big role. District health inspectors are the primary people who are supposed to oversee the adherence to the public health laws. A DHI from one district who has served in his post since the 1970s says that communities are part of the problem as they are very resistant to public health measures. He told the author that he has had guns pulled on him, a member of his staff had a sigiri (small charcoal stove) poured on his head, and that during the recent cholera outbreak in the main district town residents threw stones at health inspectors. The DHI recalled that people used not to behave in such a way, but that a culture of lawlessness was created during the reign of Idi Amin during the 1970s. The enforcement of the Public Health Act is not only resisted by communities, it is hampered by local politicians.

Political Interference

Several informants mentioned the issue of political interference in the enforcement of public health measures. The banning of the sale of cold food on the streets, the closing of restaurants with improper hygiene standards, and the fining of those without latrines are unpopular measures and politicians often try to prevent health personnel from carrying out their duties. Politicians are fearful that they will lose votes if people are forced to adhere to public health standards. A DHI commented that “a political leader, say an LC3 or an LC1, feels that when you are enforcing the law, they fear that they will lose votes.” A CAO describes a situation during the response to cholera;

“You know the politician is thinking about votes, and for us the technical people we want results and the suppression of the cholera. Actually we had a lot of problems because we will say ‘let us close the eating places, but the politician will say ‘but this man survives on selling, if you close the business how will he survive’? But we are saying ‘which is better? For people to die? Do you want dead voters’? They say ‘no, no, no. Let us try to modify’”.

A branch manager of the Red Cross stated that “we should not take the issue of votes at the betterment of health.” Another Red Cross manager said “you know politicians, somebody will want a vote at the same time you want your community to do well. How to harmonize the two is always the problem and that is the challenge we are facing as a country.”

5.5 Development Partners



Figure 16: Development Partners Theme Map

Development partners are part of the humanitarian and developmental sectors within Uganda. They are involved in the response to cholera as members of both the district and national cholera task forces. The findings related to their involvement are shared in the following section.

Short term involvement

Development partners are involved with cholera response at both the national and district level. Organizations such as WHO, UNICEF, Red Cross, MSF and World Vision were consistently mentioned as members of the national and district task forces. All government informants were appreciative of their assistance during cholera outbreaks. Development partners were able to respond quickly while the local and national governments were mobilizing their resources. The emergency response was handled well, but the field research sought to examine the involvement of development partners in the transitional period and recovery following an outbreak. Several informants had very interesting comments related to this topic. A commissioner from the MoH provided his opinion on development partners. He said:

“Development partners do not go into long term issues of an epidemic for two reasons; the first reason is that development partners want quick results, they want quick results, they want to show we have come in and helped you. They do not want a long term engagement. So because they want quick results they are very happy to come in for cholera because they know it is either during that season, it is within a month, they see results, people improve and the cholera ends. That’s why we have not got many development partners coming in for Nodding disease [a brain disease which causes seizures and physical and mental stunting (IRIN, 2009)]. Because it is not acute, it is long term. That’s why we have not seen very many development partners coming in for yellow fever because it is not *acute*. But very many development partners come in when there is ebola, will come in when there is cholera. So for one thing they want quick results, but two,

they don't want to spend a lot of resources on something that will not end soon. That's why they don't go into the prevention of cholera, because it involves socio-economic transformation, which won't take one or two years, it will take many years, they leave that to government."

He continues by saying

"Development partners do not want to go into long term prevention because they want quick results but also they don't want to commit so much resources. And secondly prevention is the prerogative of the government because it involves addressing some socio-economic issues like, for example, construction of latrines, hand washing, that you expect a sitting government to be able to address. Provision of safe water, that is a sitting government, and no development partner is going to educate people about how to wash hands, they want to address an issue, help you address your cholera and go and then they stay relevant also, that when you have a problem you call them."

The commissioner's comments about 'staying relevant' is interesting in that he is suggesting that by coming in at times of acute need the development partners stay relevant, stay needed. Another official within the MoH commented that development partners do not put money towards long term programs, instead they just focus on treatment. They usually have a three month plan where they stop the outbreak, but they do not have continuous plans after that. An official from World Vision stated "the money you have is for emergencies. When it is over you can't go for development interventions." A Red Cross branch manager also complained that the funds they receive to combat cholera are only for emergencies and last for approximately two months. The continuation of interventions relies on the local branch to mobilize funds from membership fees, donations and rent from buildings let out. He states that "due to lack of funding we can't do much" in terms of post-intervention activities, despite their disaster management cycle policy. They rely on their volunteers to conduct health education, but the funds have limited them to reaching only 40% of the communities affected by cholera.

A district disease surveillance focal person spoke at length about the frustrations the district has with their development partners:

"Most times they focus on the outbreak and the urgency because it is affecting their work. And you find after, when it keeps on, it is stressing their resources and many of them tend to be not so close. Sometimes we invite them for meetings and it's a bit difficult. So we keep struggling...We feel they should continuously do it [conduct interventions] and empower and also build the capacity, while others can promise

and don't give anything, while others they can come, they can get the data and they never come back and we never get feedback...As the district continues to struggle to get resources here and there they need really support from their partners, because we see that when we have a lot of partners and they're not coming in, yet the disease is still continuing, it is stressing to the programs all over.”

A DHO commented that development partners do not have a focus on cholera prevention after outbreaks. They have come to the district to focus on HIV/AIDS or malaria, so cholera comes as an interference to their programs. A UNICEF official stated that they can move to any district in the country to respond to emergencies, but when it comes to long term interventions they have 'focal districts' in which they work and if the affected area is not one of their focal districts then UNICEF does not continue programs there. Additionally, a WHO official stated that they are not an implementing agency and therefore do not conduct interventions. They are mainly a back-up to the Ministry of Health in terms of technical, financial and logistical support.

A CAO in one district said that development partners respond to emergencies the same way the government does. They come in very quickly, but also leave quickly once it is finished. A Red Cross branch manager added that “most of the time government looks at 'where do we go to get immediate results'. They hardly want to go to places that are challenging.” This opinion brings the conversation back to the MoH commissioner's comments about development partners wanting quick results. If the government is also in for immediate results and yet “prevention is the prerogative of the government,” as he states, then there is a gap in terms of the commitment to long term prevention.

5.6 Summary

The findings from the field research have returned numerous results and themes related to the topic of study. The interconnectedness of these has been displayed through theme mapping. The findings themselves have drawn a picture of the situation within Uganda relating to the transition from emergency relief to recovery and prevention of cholera. The coordination of the response undoubtedly has an impact upon the resources available and the subsequent actions taken by local and national governments. Development partners are involved throughout and have an effect on all themes. The findings will be discussed more thoroughly in the following section and compared to the research questions and literature reviewed in chapter two.

5.7 Weaknesses

Analytical Methodology

- As with any qualitative study, the presentation of the findings will undoubtedly be influenced by the author's own biases and opinions. An attempt has been made to present the findings as objectively as possible.
- There are some gaps between the literature review and the findings. Themes emerged within the findings which were not considered as literature was reviewed. These gaps will be addressed in the discussion section with additional documentation.

Research Methodology

- Some documentation obtained in the latter stages of field research, specifically the National Policy for Disaster Preparedness and Management, as well as the Prevention and Control of Cholera Operational Guidelines for the District Health Workers and Planners would have been useful to obtain prior to conducting interviews for the purpose of formulating questions based on the policies and guidelines. Although the documents were obtained with difficulty after numerous requests, more time could have been contributed to their retrieval at the start of field research.
- The method of data collection was almost entirely based on semi-structured interviews. Additional methods could have been employed to provide further triangulation of the data.
- As an outsider asking questions about governmental or organizational activities and procedures the author's presence may have caused some informants to be guarded in their response to questions.

6.0 Discussion

The discussion chapter is based around the research questions developed for this study and compares the findings from Uganda with the literature reviewed in chapter two. In some instances there are gaps between the findings and reviewed literature and additional documentation has been found to address those gaps.

Is there national and local political prioritization for the prevention of cholera?

The prioritization of cholera prevention activities is almost completely non-existent at both a local and national level in Uganda, as well as internationally. The research findings found that both the national and district level cholera task forces do not focus on prevention following an outbreak. The World Health Organization is a co-chair of the Uganda national task force and a WHO official stated that focus on prevention is “very minimal”. Additionally, a district health officer commented that he had not seen much input on cholera prevention from both the local and national government. The priority of the task forces is solely on emergency response and nothing beyond that. This reactive approach correlates with the theme found in literature relating to cholera response globally. A report from the WHO Africa Region office states that “the current response to cholera tends to be reactive in the form of emergency response. Most often this response lacks a coordinated and multisectoral approach, fails to prevent occurrence or reoccurrence of outbreaks and can result in many deaths” (WHO, 2007b, p.1). It is felt that prioritization is solely given to emergency response due to the consequence of a cholera outbreak that is not controlled: many deaths. It is an immediate threat and governments and humanitarian organizations look ineffective if they are unable to control the outbreak. In inter-epidemic periods cholera is out of sight and out of mind and the same pressure to do something does not exist. “Disaster reduction and preparedness has never had the allure, ‘urgency’ and the political support available to humanitarian assistance” (Tsui, 2011, p.20). The pressure on politicians to act is not present as the communities that are usually affected are poor and powerless. Without local or international pressure to prevent cholera, governments will not prioritize it.

What prevention activities have been implemented after outbreaks?

The activities conducted following cholera outbreaks in Uganda are limited, with the majority of development partners ending interventions and the government losing focus. Of the activities conducted, they were almost entirely health education/hygiene sensitizations. An official from the MoH stated that following an outbreak the districts carry on with their ‘routine activities’, namely sensitizations. A district health inspector claimed the same, saying that environmental health staff continued with sensitizations. A DHO also confirmed that health education is conducted. The Red Cross, the only organization to follow a disaster cycle management plan, primarily institutes health education as their risk mitigation phase. Apart from the Red Cross, the continued sensitizations conducted by the government did not appear targeted, but as the MoH official

described, just 'routine activities'. Health education is part of the normal work of the district health department. It could be argued that the sensitizations should not even be considered prevention activities. The evidence of health education as a preventative intervention for cholera is extremely limited; in fact, only one example could be found. A health education program was conducted in rural Guinea-Bissau as a measure of prevention in response to the presence of cholera in neighboring Guinea-Conakry. Health messages were distributed through radio, TV, posters, theater groups and songs sung by popular musicians (Einarsdottir et al., 2001, p. 134). There is evidence that improved hygiene practices, such as handwashing, can reduce diarrheal diseases like cholera. Curtis and Cairncross claim that handwashing with soap can reduce diarrhoeal disease by 42-47% (2003, p. 275). The impact of improved health and hygiene practices can be considerable, but it seems not to be making much of an impact in Uganda as cholera continues to return and behaviors remain largely unchanged. The author asked about the methods used for health education. All respondents stated that IEC (information, education, communication) materials were used. The IEC method has been employed throughout the world, but there is growing recognition that IEC is a flawed method. A UNICEF document on behavior change communication states:

“Information alone, using IEC materials, is not enough to influence sustainably health behaviours and to create a supportive social environment...If your strategy is dominated by one-way information dissemination, it may result in increased awareness, but may have limited impact on improving behavioral and social norms” (UNICEF, 2006, p. 39).

Val Curtis and colleagues also comment:

“The standard approach to hygiene promotion, whether through schools, clinics or health outreach programmes has until recently been educational. However, knowledge about possible long-term health effect does not necessarily translate into practice. There is little proof that such educational approaches are effective” (Curtis et al., 2011, p. 316).

The author asked informants during field research if they felt IEC was working as a method and most replied that it was. One DHI commented that health education is like the gospel and needs to be repeated and repeated as it is in church on Sunday. Other district officials agreed that health education merely needs more repetition. A UNICEF official was asked about the effectiveness of IEC materials and he said “IEC may not be changing the practices, but it gives people a starting point to know”. He appeared not to be concerned that it was not changing practices and overall it seemed that there is little thought put towards the effectiveness of the

methods of health promotion. The laxity about the effectiveness of health education again relates to the lack of prioritization of prevention measures.

What kinds of assessments/analyses are made during an outbreak to help target interventions?

The collection of data during the outbreaks is a strong point for the district local governments. The age, sex, village, sub-county and the date of onset of symptoms for each patient are collected at all treatment centers. Unfortunately, the subsequent analysis of this raw data is a weak point. The field findings revealed that the use of data collected during the outbreaks is poor. A regional disease surveillance officer commented that districts do not “try to use this data, they don’t interpret it, they do not even disseminate it”. Additionally, a WHO official claimed that the “component of basic epidemiological data analysis was lacking” and that “it’s quite important in guiding the interventions”. The failure to use the data collected during outbreaks indicates that any interventions to be planned in the aftermath will have little direction. Luquero et al. mention the “importance of descriptive epidemiology in cholera epidemics, emphasizing the importance of ‘place’ or the consideration of space, to target prevention and control activities”. They go on to add that “as resources are limited when responding to cholera outbreaks, knowledge about where to orient interventions is crucial” (2011, p. e19005). Additionally, Fernandez et al. recommend that identifying a “clear spatial pattern could guide public health action in order to advocate for improving water and sanitation conditions and specific cholera preparedness measures in the most affected areas” (2010, p. 38). The importance of data analysis and spatial analysis for targeting interventions is tremendous, but the district level surveillance personnel in Uganda are not making the effort to do such analysis. They claim they produce maps, but none were seen and the regional disease surveillance officer admitted that “mapping was not as effective as it should have been”. The mapping that was done only narrowed down the focus to sub-county administrative areas, which is not helpful in identifying high risk communities. The failure to use the data collected during outbreaks to identify high-risk areas is a reason why cholera continues to persist. If cholera prevention strategies are ever going to be implemented the use of data at the district level will need to improve, with a particular focus placed on mapping.

What funding mechanisms exist to implement prevention activities?

Funds for disaster management sit within the Office of the Prime Minister and they are under their authority to disburse. In relation to the Disaster Preparedness and Management Fund, the national disaster policy states;

“This policy urges the Ministry of Finance Planning and Economic Development in liaison with the Office of the Prime Minister to develop and present to cabinet and Parliament; a National Disaster Preparedness and Management Fund Bill. The bill

should amongst others provide for annual allocation of a minimum of 1.5 % of the annual approved budget to the National Disaster Preparedness and Management Fund. The fund will be used for Disaster Preparedness and Management in the country. International and other National Development partners should be encouraged to contribute to the fund. A transparent mechanism of accessing resources from the fund should be worked out.” (Office of the Prime Minister, 2010, p. 71)

The last sentence of the quotation is particularly interesting in that it recommends that a mechanism for accessing funds “should be worked out”. This statement directly suggests that a mechanism does not currently exist for accessing resources for disaster management. The author was unable to address this issue during field research, but the findings from semi-structured interviews indicate that both national ministries and district local governments did not receive any funding from the Office of the Prime Minister for the response to cholera outbreaks or activities afterwards. They were both instructed to reallocate their existing budgets. Additionally district departments did not receive funds from their parent ministry. The OPM’s limited involvement in the coordination of the cholera response indicates their lack of prioritization for addressing it. The situation explained by numerous district officials is that without external support there is no money to contribute towards prevention. Local revenue, which could serve as a source of funds for district-level activities, is also at a minimum. The funds for prevention, in essence, are non-existent. The dichotomy between emergency and development funding discussed in the literature review is not really applicable in this situation because there is no standard mechanism allocating resources to cholera for response or prevention. Without the prioritization of cholera prevention within the OPM, the possibility of funding for interventions appears bleak.

How do the cholera response coordination mechanisms transition following outbreaks?

The local and national cholera task forces in Uganda do not transition from the emergency response to cholera outbreaks. Instead, they function purely as emergency response mechanisms and when the emergency is over they conclude their activities. Informants, both government and development partner officials, admitted that the functioning of district task forces relaxes as the cases of cholera reduce. The cholera task forces are standing committees, yet they do not have guidance for the transition period or prevention phases. The guidelines issued by the MoH for the response to cholera outbreaks, which outline activities for the district task force, only call for a summary report to be compiled following the outbreak. Such reports were not found at the district level or at least not provided to the author upon request. The National Policy for Disaster Preparedness and Management, although it mentions the different phases of disasters such as recovery and prevention, does not outline a specific management plan or cycle.

There is no guidance for the different phases or the transition between them. Without clear guidance of what steps to take beyond emergency response, there is little hope for additional actions. It is believed that the lack of a transition to recovery and prevention stages of disaster management has its roots in the lack of prioritization of prevention. Additionally, there is no coordination mechanism, such as the early recovery cluster discussed in chapter two, to help serve the purpose of transition. Although the humanitarian cluster system was not employed in response to the outbreaks studied, the comparison serves to show the lack of a coordinating body for the transition from emergency relief to recovery and later phases. Without any guidance for existing structures and no specific mechanism for transition, there is a large gap in the management of disasters in Uganda.

How is each sector / government department involved in the task force?

The Uganda National Policy for Disaster Preparedness and Management lists the institutions responsible at the national level for the response to epidemics. The Prevention and Control of Cholera Operational Guidelines for the District Health Workers and Planners, which is distributed by the Ministry of Health as the lead agency for epidemic disasters, lists the members that should comprise the district cholera task force. They are;

Table 2: Composition of Task Forces

National Task Force	District Task Force
<ul style="list-style-type: none"> • Ministry of Health (lead Institution) • Ministry of Agriculture, Animal Industry and Fisheries • Ministry of Local Government • Uganda Virus Research Institute • Joint Clinical Research Institute • Office of the Prime Minister – Department of Disaster Preparedness and Management • Ministry of Water and Environment • UN Agencies, Private Sector and NGOs 	<ul style="list-style-type: none"> • District Council Chairperson (LC5) • District Health Officer • District Health Inspector • District Health Educator • District Nursing Officer • District Health Visitor • Medical Superintendent of nearby Hospital • Chief Administrative Officer • Resident District Commissioner • District Community Development Officer • District Water Officer • District Education Officer • District Engineer • Municipalities and towns – the Mayor • Medical Officer of the Municipality

The list of members for each committee is an attempt to have multisectoral input on the actions needed for the management of cholera. The findings from field research in Uganda indicate that although the task forces are supposed to engage multiple sectors, the health sector tends to dominate while others fail to provide input. The Ministry for Water and Environment was found to be largely absent from national task force meetings. There are several reasons for this absence. First of all it seems that the health sector does not deem the water sector a necessary participant at meetings. The chairman of the national cholera task force, a commissioner from the Ministry of Health, made an interesting comment when asked about the involvement of the MWE on the task force. He said “if we invited them they’d obviously be there”. This statement indicates that there is a subjective selection of the actual participants of the task force. Additionally, a commissioner within the MWE stated that the focus of the task force is too emergency-based and on treating the sick. The comments from both commissioners suggest that the view taken by the MoH is that cholera is purely an emergency health issue and does not require the involvement of other sectors. The reactive approach to cholera in the country confirms this kind of thinking. Furthermore, an official from the WHO spoke about the relationship between the task force and the MWE. He said “for us we’re talking about emergencies, for them it is developmental”. This concept is supported by comments made by the commissioner from MWE when he suggested that the task force should be looking at the phases before and after a cholera outbreak. The separation between the emergency focus of the MoH and national task force, and the MWE and its developmental approach highlight the dichotomy of relief and development within disaster management. This ties into the discussion of the transition gap in chapter two and the differing architectures of relief and development. “Decisions are made based on different criteria, with survival paramount in the humanitarian phase and MDGs and national strategies in the development phase. A ‘gap’ exists between these phases” (UN, 2006, p.5). A gap clearly exists between the MoH and the MWE.

How do the government and development partners communicate/coordinate?

In times of cholera the government and their development partners communicate via the national or district task force. The majority of development partners consider the task forces a good coordinating mechanism for the response to outbreaks, but indicate that they fall short when it comes to the coordination of the transition to recovery and development. Nearly all respondents admitted that as cholera cases reduce, the functioning of the task forces diminishes as do the activities of the government and development partners. A commissioner from the MoH stated that development partners only want “quick results” and do not want to become involved in long-term programs. He asserts that by only responding to acute emergencies the development partners “stay relevant”. The commissioner is suggesting that by only coming to help in hours of acute need the development partners remain important, whereas they would not receive the same level of attention if involved in long-term development programs. The results in

emergencies can be quick, whereas development can be a drawn-out process without clear and concise results. The author believes that the desire for quick results by the development partners is driven by the culture of aid and its obsession with statistics. All donors want to see numbers indicating progress to show they are investing their money wisely while aid agencies want good news to report so that they can gain more funding. Governments share the same frame of mind. Politicians want to show their constituents that they are effective leaders. A Red Cross branch manager commented that “most of the time government looks at ‘where do we get immediate results?’”. This desire by both the government and development partners to get quick results begins to explain the reactive response typically taken in relation to cholera. The emergency medical response provides statistics such as the case fatality rate, which, if good, can then be touted as a success. As stated in the literature reviewed in chapter two, “cholera epidemics in Africa represent an emblematic humanitarian emergency” (Piarroux et al., 2009, p. 69). An immediate opportunity to get quick results. The outbreak and the humanitarian response validate the existence of development partners, yet if cholera was to be prevented, the partners would lose their ability to quickly promote themselves. It is this mentality that supports the continued reactive approach to cholera worldwide. Therefore, it is felt that due to the reactive approach taken by the Ugandan government and their development partners, a gap is created following the outbreaks where the coordination mechanisms begin to fail. They do not have a vision beyond the emergency response and therefore the transition to prevention and risk reduction does not occur. The only organization to use a disaster cycle management plan, the Red Cross, continues independently. To repeat what one manager stated, “most of the time government looks at ‘where do we get immediate results?’”. They hardly want to go places that are challenging. This is one of the reasons why these places have continued to remain poor and somehow remote, because of that kind of attitude and thinking”.

Summary

The field research has provided findings relating to all of the research questions. It has been determined that the prioritization for prevention of cholera in Uganda is essentially non-existent, believed mainly to be due to the fact that no pressure is put on politicians from the local or international level. This leads directly into the second research question and the findings that health promotion constitutes the main preventative measure implemented following the outbreaks. The targeting of the interventions is called into question by the author as well as the effectiveness of IEC methods of health promotion. Additionally the targeting of interventions was in issue relating to data analysis at the district level. Little analysis was found to be done and the importance of mapping as a method of targeting is a particular weak point. The authors feel the improvement in mapping capabilities is a major step that needs to be taken to improve prevention measures. The mechanism for accessing resources from the national fund for disasters is in a questionable state of functionality. What the author feels is due to a lack of prioritization, funding

was not allocated towards cholera response and prevention creating a gap in overall cholera management. The coordination of the transition is lacking in guidance as the national policies and guidelines primarily focus on response and treatment, not prevention or risk reduction. The author believes the lack of guidance also contributes to the transition gap. The involvement of different sectors in the cholera task forces, or lack thereof, highlights the different thinking between ministries and represents the greater dichotomy between relief and development. The dichotomy manifested within the cholera task force exacerbates the transition gap. Lastly, it was found that the transition to prevention is again neglected due to development partners and the governments' desire for quick results. It is the easy option and suits both their purposes to look obtain quick approval from their constituents or funders. In summation the findings have answered the research questions and shown that significant challenges exist in relation to the transition to prevention following cholera outbreaks. Some the issues have been highlighted by the literature reviewed in chapter two while other themes have arisen which were not addressed by the literature and the author has tried to fill that gap with additional documentation.

7.0 Conclusions and Recommendations

This final chapter seeks to bring the discussion full circle. How do the findings from Uganda reflect on the bigger picture? In the authors opinion the findings from the field research have largely confirmed many of the gaps and issues identified in the literature review. The difficulties in the transition period at the local and national level in Uganda are analogous to the wider picture presented by the literature. In the following sections the main issues are discussed and recommendations are made to address the transition gap between relief and development at the national and international level.

Gap between Relief and Development

The gap between relief and development was found to exist in Uganda. It was manifested in the functioning of the cholera task forces. The health sector, as the lead agency, has focused on emergency response and made little attempt to include other sectors such as water. The water sector has been largely absent from the response to cholera outbreaks and criticizes the national task force for being too emergency focused without thinking about phases before and after the emergency. As stated by a UN report on the transition from relief to development, “decisions are made based on different criteria, with survival paramount in the humanitarian phase and MDGs and national strategies in the development phase. A ‘gap’ exists between the phases” (UN, 2006, p. 5). The health sector in Uganda is focused on survival during cholera outbreaks and the water sector is more focused on development. Based on these findings it can be concluded that dichotomy between relief and development is a major contributor to the transition gap in Uganda.

Transition Gap

The difficulties found in Uganda relating to the transition to recovery and the implementation of prevention programs are very similar to those experienced by the early recovery cluster. A report by the Cluster Working Group for Early Recovery describes the challenges it meets; “most stakeholders pay little attention to early recovery...no procedures exist for immediate planning of early recovery...there are little or no human or other resources available for early recovery” (CWGER, 2008, p. 13).

The stakeholders in Uganda - the government and development partners – exhibit little priority for transition to the recovery stage following an outbreak. The functioning of the task forces ends with the outbreaks and both the government and development partners largely return to their usual activities. A WHO official commented on this topic and claimed that the focus on preventative activities is “very minimal”. The reactive response by the stakeholders neglects the transition following an outbreak.

The procedures for planning for recovery or prevention also do not exist in Uganda. Although the National Policy for Disaster Preparedness and Management states its “overall policy goal is to promote national vulnerability assessment, risk mitigation, disaster prevention, preparedness, effective response and recovery in a manner that integrates disaster risk management with development planning and programming” it does not provide guidance for the planning of those phases of disaster management. It only suggests broad policy actions to be taken in relation to different types of disasters. Similarly, the guidelines for cholera prevention and control do not provide guidance for the recovery, but merely actions to be taken in the immediate response.

The human resources and financial resources are also lacking in Uganda. District officials widely stated the financial resources were seriously constrained. Ministerial and departmental budgets had to be reallocated to fund the response to outbreaks, taking resources away from other activities and leaving nothing for recovery or prevention. Extremely limited sources of local revenue keep districts dependent on the national government and their priorities. Additionally, the staffing levels in the majority of districts visited were well below an adequate capacity.

The constraints found to exist in Uganda relating to the transition following cholera outbreaks match those found by the early recovery cluster in the transition from humanitarian emergencies. Although the scale of disasters in which the UN cluster system becomes engaged is on a greater scale than the outbreaks studied in the Uganda, the challenges of transition largely remain the same. The prioritization, guidance and resources for the transition from relief to recovery and development are absent. These problems have a negative impact on the coordination of the transition they are issues which need to be addressed at local, national and international levels.

Disaster Cycle

Knowledge of the concepts of the phases of emergency and the disaster cycle was found to be poor in Uganda among government informants. This does not reflect necessarily on the concepts themselves, but more on the dissemination of policies, specifically the Uganda National Policy for Disaster Preparedness and Management. It mentions the phases of emergency which comprise the disaster cycle, but it does little else to illustrate the concept of disasters as a cycle. Relating back to the previous section, the guidance for activities following an outbreak does not exist and local government officials cannot necessarily be blamed for their lack of action. The reactive approach to cholera adopted by the government, and in particular the health ministry, only focuses on emergency response and leaves a void in the aftermath of an outbreak. The literature review showed this to be a trend worldwide. The neglect for the transition to the later phases of the disaster cycle is a global issue. The author believes that the concept of the disaster cycle and the need for the incorporation risk reduction strategies and prevention is sound and is a model

which should be promoted. It is the 'gap' between relief and development and its contributing causes that needs to be addressed.

Recommendations

How is the gap between relief and development to be dealt with? The findings from Uganda largely correspond with the difficulties encountered by the early recovery cluster. Prioritization, planning and guidance, and resources all impact the coordination of transition. The cluster was put forward as way to address these issues, but continues to experience difficulties. The problem with early recovery is that it has essentially been instituted as a 'plug' between relief and development. Neither fully part of the humanitarian sector nor the development side, the early recovery cluster exists in a grey area and is poorly defined and lacks boundaries. The lack of clarity surrounding early recovery is a major reason why it has failed to effectively link relief and development. Instead of trying to 'plug' the gap with early recovery, it is suggested that an attempt be made to 'close' the gap by bringing development actions closer to relief activities. It is recommended that a disaster risk reduction/prevention (DRRP) cluster replaces that of early recovery. Concurrently, at the national level, such as in the case of Uganda, a DRRP department to be established within the office or ministry responsible for disaster management. The objectives of risk reduction and prevention are more clearly defined than that of early recovery and the fact that international strategies have been developed, such as the Yokohama Strategy and Plan for Action and the Hyogo Framework for Action, give risk reduction and prevention a firmer footing from which to start. Strongly rooted in the realm of development risk reduction and prevention should be integrated into the response to disasters as a way of 'closing the gap'. As the humanitarian actors focus on response, the DRRP cluster/department can begin to engage, advocate, mobilize and plan for the implementation of activities following the response phase. Representatives from the DRRP cluster should sit on all other clusters' meetings during the emergency response phase and collect information on their activities and challenges and elicit recommendations for post-emergency actions. This would allow the process of risk reduction and prevention planning to begin while the response is being carried out by humanitarian actors. The same can be done when the cluster system is not involved. Taking Uganda as an example, DRRP committees at the ministerial and district level could be formed to engage with the cholera task forces during the response and begin to plan for the recovery and prevention phases. One could argue that creating another department or structure creates more bureaucracy and costs, which is true, but the counter argument is that investing in risk reduction and prevention will have returns as risks are mitigated and disasters, such as cholera, reduced or eliminated.

One of the criticisms of the cluster system is that it has "largely failed to integrate national or local actors" (Steets et al., 2010, p. 60). Due to the focus of clusters on specific issues they are very *intra*-sectoral groups and do not reach out to other actors. The same was found with the cholera

task forces in Uganda. The committees are dominated by health personnel who consider cholera a primarily a health issue and excluded other sectors from being involved in the response. The primary goal of the DRRP cluster and department should be to involve as many stakeholders as possible and be truly *inter*-sectoral. Development organizations have traditionally been more inclusive in their approach than humanitarian actors and as a development focused cluster or department the DRRP groups should seek to bring government, civil society, communities and all relevant stakeholders on board. The lack of inter-sectoral cooperation and coordination in Uganda has allowed the risk factors for cholera to persist.

The argument could be made that the challenges which plague the early recovery cluster as well as the transition phase in Uganda would again trouble the DRRP cluster/department. It is believed that if a DRRP cluster was to be created it would bring greater attention to the issue and the same with a DRRP department in national structures. It is also felt that the attention paid to DRRP is already greater than that towards early recovery thanks to the International Decade for Natural Disaster Reduction, the Yokohama strategy and the Hyogo frameworks for action. Additionally, the strategies and frameworks provide greater guidance than currently exists for early recovery and transition in general. The clearer focus and objectives of DRRP would improve the execution of transition from response to recovery. The resources to be committed to DRRP will be the greatest challenge. As stated in the literature review “there is no agreement among donors on whether financial support for disaster reduction should come from humanitarian or development resources” (Tsui, 2011, p. 20). It is the author’s opinion that DRRP should firmly plant itself on the side of development and try to bring development funding closer in on the heels of disasters. As mentioned before, the DRRP cluster or national department should be integrated with the emergency response coordinating groups and begin to plan and mobilize resources while the emergency response is still being carried out. Additionally, the national DRRP departments should have budgets allocated to the separately than the disaster response budget. The priority for inter-sectoral cooperation and the inclusion of all stakeholders in the process will also help to broaden support and mobilize resources.

In summation, the gap between relief and development must not be ‘plugged’ by an ill-defined concept of early recovery, but the gap should be ‘closed’ by bringing relief and development closer together with the integration of disaster risk reduction and prevention into the phase of emergency response. The creation of a DRRP cluster within the UN cluster system as well as the establishment of a DRRP department within national structures will improve the prioritization, guidance and resource allocation of the transition from relief to development.

Summary of recommendations

- Creation of DRRP cluster within UN cluster system
- Creation of DRRP department within national disaster management structure
- Integration in emergency response by sitting on other clusters or national and local coordinating groups
- Priority on inter-sectoral coordination and stakeholder participation

Recommendations for Future Research

Further research could add to the findings of this project. The transition from relief to development in the context of cholera was found to be essentially non-existent during this study. It would be interesting to assess an actual transition from cholera relief to prevention interventions. The manager at one branch of the Uganda Red Cross mentioned their plan to conduct a pilot project to target the risk factors for cholera. This could be a potential opportunity for research from the development partner angle. A case study of the transition coordinated by a national government would be very useful as well. Additionally, further research regarding the incorporation of risk reduction and prevention into disaster response would be of use.

8.0 References

ALAJO, S., NAKAVUMA, J. and ERUME, J., 2006. Cholera in endemic districts in Uganda during El Niño rains: 2002 – 2003. *African Health Sciences* **6**(1), 93 - 97

ALI, M. et al., 2012. The Global Burden of Cholera. *Bulletin of the World Health Organization*. **90**, 209 – 218A

ALNAP, 2012. *The State of the Humanitarian System*. London: Overseas Development Institute

AYEBALE, D., 2011. Cholera Breaks Out in Hoima District. *New Vision*, 8 June. [online] [viewed 22 May 2012]

Available from: <http://www.monitor.co.ug/News/National/-/688334/1176788/-/c0u3glz/-/index.html>

AZURIN, J.C. and ALVERO, M., 1974. Field Evaluation of Environmental Sanitation Measures Against Cholera. *Bulletin of the World Health Organization* **51**, 19 -26

BAILEY, S. and PAVANELLO, S., 2009. *HPG Policy Brief 38: Untangling Early Recovery*. London: Overseas Development Institute

CAIRNCROSS, S. et al., 2005. What Causes Sustainable Changes in Hygiene Behaviour? A Cross-sectional Study from Kerala, India. *Social Science & Medicine* **61**, 2212 - 2220

CAIRNCROSS, S., ENSINK, J. and KAHAWITA, T., 2009. *Evaluation of the WASH Activities Undertaken to Prevent and Control Cholera Outbreaks in Guinea-Conakry and Guinea-Bissau & Systematic Literature Review*. London: London School of Hygiene and Tropical Medicine

CHANDRAN, R. et al., 2008. *Recovering from War: Gaps in Early Action*. New York: Center on International Cooperation

CIA, 2012. *CIA Factbook: Uganda*. US Central Intelligence Agency. [online] [viewed 30 July 2012] Available from:

<https://www.cia.gov/library/publications/the-world-factbook/geos/ug.html#top>

COLLINS, A.E. et al., 2006. Socio-Economic and Environmental Origins of Cholera Epidemics in Mozambique: Guidelines for Tackling Uncertainty in Infectious Disease Prevention and Control. *International Journal of Environmental Studies* **63**(5), 537 – 549.

- COLWELL, R. and SPIRA, W., 1992. *The Ecology of Vibrio Cholerae*. In: BARUA, D., and GREENOUGH, W. (eds), *Cholera*. New York. Plenum Publishing Corporation
- COLWELL, R. and HUQ, A., 2001. Marine Ecosystems and Cholera. *Hydrobiologia* **460**, 141 – 145.
- CURTIS, V. and CAIRNCROSS, S., 2003. Effect of Washing Hands with Soap on Diarrhoea Risk in the Community: A Systematic Review. *The Lancet* **3(5)**, 275 – 281
- CURTIS, V. et al., 2011. Hygiene: New Hopes, New Horizons. *Lancet Infectious Diseases*, **11**, 312 - 321
- CWGER, 2006. *Implementing Early Recovery*. Geneva: Cluster Working Group on Early Recovery
- CWGER, 2008. *Guidance Note on Early Recovery*. Geneva: Cluster Working Group on Early Recovery
- DAVIS, J., and LAMBERT, R., 1995. *Engineering in Emergencies: A Practical Guide for Relief Workers*. London: Intermediate Technology Publications
- DENSCOMBE, M., 2003. *The Good Research Guide for Small-Scale Social Research*. Maidenhead, England: Open University Press
- DINEPA, 2010. *Stratégie Nationale de Réponses à l'Epidémie de Choléra*. Direction Nationale de l'Eau Potable et de l'Assainissement, République D'Haiti
- EC, no date. *Linking Relief, Rehabilitation and Development: Ideas for Action*. Brussels: European Commission, Director General for Development
- ECONOMIST, 2012. The Lord's Resistance Army: It Hasn't Gone Away. *The Economist*, 19 May. [online] [viewed 31 July 2012]
Available from: <http://www.economist.com/node/21555614>
- EDYEGU, D., 2008. Eastern Region Fights Cholera. *New Vision*, 22 Sept. [online] [viewed 22 May 2012] Available from: <http://www.newvision.co.ug/PA/8/17/644581>

EDYEGU, D. 2009. Mbale to Close Dirty Village Water Scheme. *New Vision*, 19 May. [online] [viewed 22 May 2012] Available from: <http://www.newvision.co.ug/PA/8/17/681801>

EINARSDOTTIR, J. et al., 2001. Health Education and Cholera in Rural Guinea-Bissau. *International Journal of Infectious Diseases* **5**, 133 - 138

ELSEVIER, 2012. Geobase page. Elsevier. [online] [viewed 18 May 2012] Available from: http://www.elsevier.com/wps/find/bibliographicdatabasedescription.cws_home/422597/description#description

EMCH, M. et al., 2008. Seasonality of Cholera from 1974 to 2005. A Review of Global Patterns. *International Journal of Health Geographics* **7**(31)

FERNANDEZ, M. et al., 2010. Descriptive Spatial Analysis of the Cholera Epidemic 2008-2009 in Harare Zimbabwe: A Secondary Data Analysis. *Transactions of the Royal Society of Tropical Medicine and Hygiene*, **105**, 38 - 45

FEWTRELL, L. and COLFORD, J., 2004. *Water, Sanitation and Hygiene: Interventions and Diarrhoea. A Systematic Review and Meta-Analysis*. Washington, DC: The International Bank for Reconstruction and Development / The World Bank

FRY, S., 1992. *Cholera Prevention and Control: Guidelines for Assessing the Options in Water supply, Sanitation and Hygiene Education*. Washington: United States Agency for International Development

GAAC, 2011a. *Procedural Guidance to Eliminate Cholera in the Democratic Republic of Congo and Beyond*. France: Global Alliance Against Cholera

GAAC, 2011b. *A Conceptual Design of a New Paradigm for the Elimination of Cholera: Case Study for the Democratic Republic of Congo*. France. Global Alliance Against Cholera

GAFFGA, N., TAUXE, R. and MINTZ, E., 2007. Cholera: A New Homeland in Africa? *American Journal of Tropical Medicine and Hygiene* **77**(4), 705 – 713

GULLAND, A., 2012. Building Hygiene Infrastructure is key to Ending Haitian Cholera Epidemic, Agree Agencies. *British Medical Journal* **344**, 395

INTERACTION, 2011. *Policy Brief: The Transition from Emergency Relief to Development*. Washington DC: InterAction

IRIN, 2009. *Nodding Disease of 'River Epilepsy'?* IRIN. [online] [viewed 8 August 2012]
Available from: <http://www.irinnews.org/Report/85646/UGANDA-Nodding-disease-or-river-epilepsy>

KALSON, D. and BAKER, R., 1998. Fighting Cholera in Ecuador: Building a Public Health System that Works. *Journal of Environmental Health* **60**(6), 24 – 26.

KIRIGIA, J. et al., 2009. Economic Burden of Cholera in the WHO African Region. *BMC International Health and Human Rights*, **9**(8)

LUQUERO, F. et al., 2011. Cholera Epidemic in Guinea-Bissau (2008): The Importance of 'Place'. *PLoS ONE* **6**(5), e19005

MAES, P., 2008. *Water, Hygiene and Sanitation Activities for Cholera Prevention in Communities Living Adjacent to Lake Kivu or Rusizi River. Cyangugu Province, Rwanda*. Presented at the WHO & UNICEF Cholera Conference, Dakar, Senegal 2008. [online] [viewed March 22, 2012]
Available from: http://www.unicef.org/wcaro/04-04_Case_Study_Rwanda_MSF.pdf

MASEREKA, B., 2009. Cholera Deaths Increase in Kasese. *New Vision*, 3 June. [online] [viewed 22 May 2012] Available from: <http://www.newvision.co.ug/D/8/30/683542>

MINISTRY OF HEALTH, 2007. *Prevention and Control of Cholera: Operational Guidelines for District Health Workers and Planners*. Kampala: Ministry of Health, Republic of Uganda

MSF, 2004. *Cholera Guidelines*. Medecins Sans Frontieres.

MSF, 2012. *Haiti Unprepared in the Face of Resurgent Cholera*. Medecins Sans Frontieres [online] [viewed 14 May 2012] Available from:
<http://www.doctorswithoutborders.org/press/release.cfm?cat=press-release&id=5990>

Ministry of Water and Environment, 2011. *Water Supply Atlas 2010*. Kampala, Uganda. Ministry of Water and Environment, Republic of Uganda.

NAMUTEBI, J., 2007. Otafire Warns Hoima, Buliisa on Latrines. *New Vision*, 9 Dec. [online] [viewed 22 May 2012] Available from: <http://www.newvision.co.ug/PA/8/18/601137>

NATAMBA, E. et al., 2010. *Local Government Councils Performance and the Quality of Service Delivery in Uganda: Ntungamo District Council Scorecard 2008/2009*. Kampala, Uganda: ACODE

NELSON, E.J., et. al, 2009. Cholera transmission: the host, pathogen and bacteriophage dynamic. *Nature Reviews Microbiology*, **7**(10), 693-702

NYAMOGOBA, H.D.N., OBALA, A.A., and KAKAI, R., 2002. Combating Cholera Epidemics by Targeting Reservoirs of Infection and Transmission Routes: A Review. *East African Medical Journal* **79**(3), 150 – 155.

NZINJAH, J., 2004. Uganda: Kasese Cholera Toll Hits 6. *All Africa* [online] [viewed 22 May 2012] Available from: <http://allafrica.com/stories/200411300841.html>

ODYEK, J., 2005. Cholera Strikes in 8 Districts. *New Vision*, 23 Sept. [online] [viewed 22 May 2012] Available from: <http://www.newvision.co.ug/PA/8/13/457370>

OFFICE of the PRIME MINISTER, 2010. *The National Policy for Disaster Preparedness and Management*. Kampala: Republic of Uganda

OKELLO, W., 2008. Cholera Kills 4, 55 Admitted. *Daily Monitor*, 11 Jan. [online] [viewed 22 May 2012] Available from: <http://www.monitor.co.ug/News/National/-/688334/725162/-/vw1xfr/-/index.html>

OXFAM-GB, 2008. *Regional Policy Implications and Responding to Acute Watery Diarrhoea & Cholera in the Horn, Central & Eastern Africa: Learning from Experiences; Improving for the Future, Part 1 – Main Report*. Oxford, UK: OXFAM

PARKINSON, J., 2009. *A Review of the Evidence Base for WASH Interventions in Emergency Responses / Relief Operations*. London: Atkins

PASCUAL, M., BOUMA, M. and DOBSON, A., 2002. Cholera and Climate: Revisiting the Quantitative Evidence. *Microbes and Infection* **4**, 237 – 245.

PATINET, J., 2009. Water and Sanitation in Post-Crisis Situations: Between Relief and Development. *Humanitarian Aid on the Move* **4**, 29 - 31

PERIAGO, M.R., et al., 2012. Elimination of Cholera Transmission in Haiti and the Dominican Republic. *The Lancet* **379**, e12 – e13.

PIARROUX, R. et al., 2009. From Research to Field Action: Example of the Fight Against Cholera in the Democratic Republic of Congo. *Field Actions Science Report* **2**, 69 – 77.

REPUBLIC OF UGANDA, 1935. Public Health Act (c. 281). Kampala, Uganda: Government of Uganda. [online] [viewed 1 August 2012] Available from:
http://www.vertic.org/media/National%20Legislation/Uganda/UG_Public_Health_Act_1935.pdf

REPUBLIC OF UGANDA, 1997: *Local Governments Act 1997* (c. 243). Kampala, Uganda: Government of Uganda. [online] [viewed 31 July 2012]
Available from: <http://www.ulii.org/ug/legislation/consolidated-act/243>

SACK D. et al., 2004. Seminar: Cholera. *The Lancet* **363**, 223 – 233.

SAID, M.D., et al. 2011. The Case for Cholera Preparedness, Response and Prevention in the SADC Region: A Need for Proactive and Multi-level Communication and Co-ordination. *South African Water Research Commission* **37**(4), 559 – 566.

SEPULVEDA, J., VALDESPINO, J. and GARCIA-GARCIA, L., 2006. Cholera in Mexico: The Paradoxical Benefits of the Last Pandemic. *International Journal of Infectious Diseases* **10**, 4 - 13

SIJBESMA, C. and CHRISTOFFERS, T., 2009. The Value of Hygiene Promotion: Cost-Effectiveness Analysis of Interventions in Developing Countries. *Health Policy and Planning* **24**, 418 – 427.

SMILLIE, I., 1998. *Relief and Development: The Struggle for Synergy*. Providence, US: Thomas J. Watson Jr. Institute for International Studies, Brown University

STEETS, J. et al., 2010. *Cluster Approach Evaluation 2: Synthesis Report*. Groupe U.R.D. and Global Public Policy Institute

STODDARD, A. et al., 2007. *Cluster Approach Evaluation*. Dublin: Humanitarian Outcomes

TABUE, A., 2012. *Water Points Transform Cameroonian Villages, Prevent Spread of Cholera*. Cameroon: International Medical Corps. [online] [viewed 20 March 2012]

Available from: <http://internationalmedicalcorps.org/page.aspx?pid=2301>

TAUXE, R., MINTZ, E., and QUICK, R., 1995. Epidemic Cholera in the New World: Translating Field Epidemiology into New Prevention Measures. *Emerging Infectious Diseases* 1(4), 141 – 146.

THOMAS, G., 2009. *How to do Your Research Project*. London: Sage Publications Ltd.

TSUI, E., 2011. *Analysis of the Normative Developments in Humanitarian Resolutions since the Adoption of 46/182*. United Nations Office for the Coordination of Humanitarian Affairs

UGANDA RED CROSS SOCIETY, 2011. *Disaster Management Policy – 2011*. Kampala: Uganda Red Cross Society

UN, 1991. *General Assembly Resolution 46/182: Strengthening the Coordination of Humanitarian Emergency Assistance of the United Nations*. New York: United Nations

UN, 2006. *Transition from Relief to Development: Key Issues Related to Humanitarian and Recovery/Transition Programmes*. Rome: United Nations

UN, 2011. *Efficiency of Emergency Response and the Transition to Recovery and Long-Term Development: Lessons Learned*. New York: United Nations

UNDP, 2006. *Human Development Report. Beyond Scarcity: Power, Poverty, and the Global Water Crisis*. New York: United Nations Development Programme

UNDP et al., 2011. *Making the Transition or Emergency to Recovery and Development: Special Focus on South Sudan*. UNDP, UNFPA, UNOPS, UNICEF

UNICEF, 2006. *Behaviour Change Communication in Emergencies: A Toolkit*. Kathmandu: United Nations Children's Fund, Regional Office for South Asia

UNISDR, 1994. *The Yokohama Strategy and Plan of Action for a Safer World*. Geneva: United Nations Office for Disaster Risk Reduction

UNISDR, 2005. *Hyogo Framework for Action 2005 – 2015: Building Resilience of Nations and Communities to Disasters*. Geneva: United Nations Office for Disaster Risk Reduction

- WAMALA, J. et al., 2012. *A Report on the Assessment of Cholera Outbreak Response in Hoima District*. Kampala: Uganda Ministry of Health
- WHO, 1972. Cholera in 1971. *Weekly Epidemiological Record* **47**(30), 281 – 292
- WHO, 1999. Cholera: 1998. *Weekly Epidemiological Record* **74**(31), 257 – 264
- WHO, 2001. Cholera, 2000. *Weekly Epidemiological Record* **76**(31), 233 – 240
- WHO, 2002. Cholera, 2001. *Weekly Epidemiological Record* **77**(31), 257 - 268
- WHO, 2003. Cholera, 2002. *Weekly Epidemiological Record* **78**(31), 269 - 276
- WHO, 2004a. Cholera, 2003. *Weekly Epidemiological Record* **79**(31), 281 – 288
- WHO, 2004b. *Report of a Cross-border Inter-country Meeting on Disease Surveillance and Response in the Great Lakes Region*. Geneva: World Health Organization
- WHO, 2005. Cholera, 2004. *Weekly Epidemiological Record* **80**(31), 261 - 268
- WHO, 2006. Cholera, 2005. *Weekly Epidemiological Record* **81**(31), 297 - 308
- WHO, 2007a. *Recurrence of Cholera in the WHO African Region: Current Situation and Way Forward*. Regional Office for Africa, World Health Organization
- WHO, 2007b. Cholera, 2006. *Weekly Epidemiological Record* **82**(31), 273 - 284
- WHO, 2008. Cholera, 2007. *Weekly Epidemiological Record* **83**(31), 261 - 284
- WHO, 2009. Cholera: Global Surveillance Study, 2008. *Weekly Epidemiological Record* **84**(31), 309 - 324
- WHO, 2010. Cholera, 2009. *Weekly Epidemiological Record* **85**(31), 293 - 308
- WHO, 2011a. *Cholera Fact Sheet*. World Health Organization. [online] [viewed 14 January 2012] Available from: <http://www.who.int/mediacentre/factsheets/fs107/en/index.html>
- WHO, 2011b. Cholera 2010. *Weekly Epidemiological Record* **86**(31), 325 – 340

WHO, 2012. Cholera 2011. *Weekly Epidemiological Record* **87**(31-32), 289 - 304

WISNER B., and ADAMS, J. (eds), 2002. *Environmental Health in Emergencies and Disaster: A Practical Guide*. Geneva: World Health Organization

9.0 Appendixes

Appendix 1: Example of interview questions

Template for Interview with District Health Officer

Protocol

- How to be referred to?
- Permission to record?

Interview Questions

- History of cholera in the district?
 - Causes of the recent outbreak?
- Who leads the effort against cholera in the district?
 - Health department's role?
- Who are the members of the district cholera task force?
 - Who is the lead/chairperson?
 - What external groups/development partners involved?
- Are there guidelines for the task force?
 - What activities are carried out by the task force?
 - Use of epidemics/disaster management plan or cycle?
 - How long does task force continue to function following and outbreak?
 - Good coordinating mechanism?
- Where does the funding come from for the response to outbreaks?
 - Local or national funds?
 - Emergency/disaster funds?
 - Funding after an outbreak?
- Involvement of development partners?
 - Presence in the district before or after outbreak?
 - Communication with local government?
 - Are they helpful?
- What happens following the end of an outbreak?
 - Focus on prevention/risk reduction?
 - Targeting of intervention?
 - Any political pressure to act?
- What needs to be done to prevent cholera from occurring again?
 - Who needs to be involved?
 - Capacity to implement prevention programs?

Appendix 2: Examples of notes taken on interviews

Meeting with [REDACTED], Nebbi, June 18

- 00:26 – 2:15: Up to 2007 Nebbi experienced cholera almost every year, but between 2008 and 2012 there was no cholera which is attributed to vigorous action by parish and sub county governments. Minister of Local Government sent a letter instructing the district authorities to improve sanitation and reach 100% latrine coverage. In 2007 latrine coverage was 58%, but efforts made at the parish level, district level and the latrine coverage rate increased to 78% within a space of six months.
- 2:20 – 3:34: Poor sanitation is the main cause of cholera, food handling as well.
- 3:38 – 5:18: Most of the areas affected by cholera have water problems, particularly along the Nile where most of the people like to take water from the river or Lake Albert. Woman and children and often in the water, bathing, washing clothes, collecting water. The attitude of the people towards drinking safe water is about palatability and that is why they go down the river.
- 5:24 – 9:35: Cholera started around March 12. The area where the cholera started is rocky and it is difficult to dig latrines. Also cholera was occurring in the Congo before it came to Nebbi and Congolese came seeking treatment in Uganda. Difficult to identify whether people are from Congo or Uganda.
- 9:49 – 11:25 Communicated with the Congolese at the political level. The District Task Force agreed that there should be cross border meetings, but the Congolese failed to show up or cooperate. Task force then wrote through the Congolese embassy in Kampala because Congolese authorities need to hear from Kinshasa before doing anything.
- 11:48 – 15:54: Officials in Nebbi were shocked by the high incidence rate of the outbreak. By the second week there were already 200 cases. Over 1000 people affected during the first phase of the outbreak. The only good thing was the low fatality rate due to good treatment. A second phase coincided with the outbreak in Buliisa. There is a big market which occurs in Panyimur which attracts large amounts of people. This helped to sparked the second phase which started in the second week of May. This has largely affected Nebbi town with over 200 cases.
- 15:56 – 17:58: The District task force is a multidisciplinary team. It is chaired by the LCV, other members are the RDC, DISO, DPC, community development, health sector, church based partners, Red Cross, Afard. The sub county chiefs and LC3 of the affected sub counties are also brought on board.
- 18:15 – 19:09: When asked about guidelines for the task force he says people were trained on epidemic preparedness and response, but does not mention any documents.
- 19:37 – 21:18: Task force was very active when during the height of the outbreak, but the task force relaxed when cases began to reduce. MSF withdrew their technical support although remained in contact. As the epidemic wound down people relaxed. There was a resolution to continue activities after the outbreak, but people complained about a lack of resources.
- 21:40 – 23:05: The efforts implemented during the peak of the outbreak cannot be sustained and that is one of the reasons which is responsible the resurgence of the disease. Also the outbreak is only being fought in Uganda, but not Congo which complicates things. The sub county task force was unable to sustain their response and that is why they faded away. VHTs say they cannot work for a long time as if they are employed without some support.
- 23:10 – 29:56: The vehicles of transmission for the outbreak is poor sanitation/open defecation. The town council does not have adequate sanitation facilities. They should provide public latrines and manage them well so that people use them. Sanitation promotion together with enforcement of public health regulations would go a long way in preventing disease outbreaks. Also the sale of food in the roads also helps to spread disease. People must obtain licenses to sell food and their facilities must be inspected by the district health inspector to ensure they are up to standard. This is not done because now people can just start a restaurant without properly obtaining the authority to do so. Any business must be inspected and public health measures must be recommended. The local council must regulate any business and inspections must be done and any business that is not up to proper public health standards should have their license revoked. “We have had problems with enforcement”. Mobilization moving along side enforcement of public health regulations will go a long way in increasing latrine

coverage and improving the situation. Also mobilizing people to drink water from safe water and educating people about practicing safe water chain.

- 30:00 – 36:05: Laxity in law enforcement prevents several long term public actions from being enforced. Political interference can hamper enforcement because politicians fear they will lose votes if their people are forced to adhere to public health standards. Lawlessness created during the military regime of Idi Adim eliminated the law abiding culture which had existed previously and now makes implementing public health standards very difficult. Someone can pull a gun on you. A health inspector had a sigiri poured on his head. Even during the response to the recent epidemic in Nebbi town, people threw stones at people trying to implement the laws. Health assistants and health inspectors need to be facilitated so that they can move to the necessary areas.
- 36: 25 – 38:55: “The funding is grossly inadequate”. For the financial year the health department received 86% of their funding requested which prohibits them from implementing the necessary programs. “The funding in general for the health sector is not adequate, far from adequate and the funding is just almost static although the population is increasing. The staff are also burned out. In a health center three there are supposed to be 19 people, on average we have five people. So those people will be limited to doing worked at the health facility, they can’t do outreach.” “Sanitation promotion which is a bigger reason for why we are having epidemics, the funding is equally low, we get in a year for sanitation promotion we simply receive 10 million shillings”
- 39:44 – 40:05: There is only a verbal prioritization of sanitation at the national level. “We know that much of the burden of diseases in this country and indeed in this district is related to poor sanitation and hygiene.”
- 41:17 – 43:02: There is no funding which comes to the district to help with the response. Primary Health Funds are used to respond to the outbreak because no additional funds were provided. Funds essentially paid for fuel, not even allowances.
- 43:06 – 43:45: MoH provided technical support and they provided medical supplies. Other than that they gave nothing.
- 43:58 – 46:24: MSF helped set up cholera treatment centers, with tents beds, fluids. They also provided technical support. Officers were in the district for around three weeks and helped fill human resource gaps. Red Cross has their volunteers who go out into the community. They also supported the task force, providing some facilitation for the meetings.
- 46:25 – 47:59: UNICEF provided 27 million shillings for social mobilization, but the money has been delayed due to the financial system. The Integrated Financial Management System is a “disaster”. You make a request for money and receive after one month. Money gets stuck at the Ministry of Finance.
- 48:18 – 48:22: There is no management plan or cycle used for dealing with epidemics.
- 48:58 – 52:00: Been dealing with cholera since 1979 and cholera usually comes before the onset of the rainy season. Knowing the timing of cholera, the district was able to stock emergency supplies and respond quickly, but the system of procurement for medicines and supplies changed and has affected the abilities of the district. All the funds for medicines have to go to National Medical Stores now. Before the system changed the district has 30% of the funding for medicine and supplies so they were able to respond very quickly, but now that has changed. Very often the response to epidemics has slowed down. Even confirmation of cases is slow. It took the national public health laboratories 3 weeks to confirm the sample sent to them was cholera.
- 52:20 – 52:50: Because funds now have to go to the national medical stores it takes longer to obtain supplies than if the district had the funds to purchase medical supplies. “If we had the funds with us here we would quickly respond”
- 53:20 – 55:04: The integrated financial management system has a prerequisite that when money comes into the district is has to go the general fund account. The bureaucracy is too long. The district can complete it’s part for funds requisition in one or two days, but then that goes to the ministry of finance and that is where the problem is. The money goes to the ministry of finance, then it goes to Bank of Uganda, who then sends it to Stanbic Bank HQ which then instructs their branch to release the money to the district. This is where the problem is.
- 55:53 – 56:14: UNICEF sent 27 million shillings over three weeks ago yet it still has not been used because of the financial system

- 57:20 – 57:38: Referring to the financial system; “Using that system is just a disaster”. It’s crazy that you have to wait for funds like that when you have an epidemic.
- 1:00:50 – 1:04:28: Last training in epidemic preparedness and response more than 10 years ago. The sub county task forces need training. Some training on how to use water quality testing kits is needed. Logistics is also a need at the district and sub county level. Vehicles and motorbikes are needed.

- 00:05 – 2:14: They know the hot spots and when cholera is likely to come. One of the interventions is safe water, but achieving 100% water coverage in hot spot areas is unlikely to happen soon. To stop cholera in Uganda they need to intensify the health messages throughout the year. They can predict most of the time when cholera is going to come and they should intensify health messages then. Also they should have emergency interventions in relation to water supply, such as household water treatment, but they need to be introduced before the outbreaks so people know how to use them. These measures could help break the cycle of cholera, while the long term interventions make progress.
- 2:16 – 5:12: Sanitation is the biggest challenge. The Sanitation Working Group and environmental health experts could do more in relation to sanitation. They should use more coercion. Coercion was used in the 60s and 70s, but in the 80s people said they should stop using coercion and just talk to people, but coercion seemed to work. “In these hot spots we need to really use the stick”.
- 5:32 – 9:28: Sanitation in Uganda is divided into three ministries. Health has the overall mandate for sanitation in homes, while water is responsible for sanitation around water sources, and education is responsible for sanitation at schools. It is “not working very well”. The MoH has the mandate to provide a coordinating role for sanitation, but “the weak link about ministry of health is that there are too many priorities to the extent that when it comes to sanitation, which is talking about prevention, it takes a very, very, very low place in that list of priorities”. Commissioner says his job is to supply water and he is assessed mainly by how much water he can provide. He mainly talks about water. There is no voice for sanitation in the country.
- 9:40 – 13:56: When asked if the MWE sits of the national cholera task force the commish gives a slow, unconvincing yes. He says MWE has come a long way in trying to work in emergencies. They had WEDC prepare an emergency response plan, but it hasn’t been operationalized. The immediate response by the task force is to treat the sick, so water’s involvement is not great. They have water bowsers and emergency water treatment systems which they can send in. He says they don’t have the budget, because the money for emergencies is held in the Ministry of Finance. There is not a budget line for emergencies. “By the time that money comes the emergency will be over”.
- 14:00 – 16:20: Emergency funds sit with the OPM. They have a whole department for disaster management. The law regarding disasters is that a situation has to be declared a disaster, but cholera has not been declared such. Governments are not very keen to declare disasters. The MWE is usually instructed to reallocate the funds that they have to deal with emergencies.
- 16:34 – 17:12: In emergencies the district water offices try to use the funds they have at their disposal, but the ministry will send a team and if certain resources are needed the ministry will send them.
- 19:46 – 21:05: MoH and MWE do not have funds for emergencies. Ideally they should get a budget from the OPM, but that is only if a situation is declared a disaster. Additionally there are no funds for recovery after outbreaks. The general funding which exists would have to cover any activities.
- 21:23 – 22:05: There is not much of a focus on post outbreak prevention or risk reduction measures. They try to make sure people receive messages, but there is not much done after outbreaks.
- 22:24 – 23:34: MWE does not have many targeted programs because they have such a large scope for provision of water nationally. “Cholera outbreaks are not one of the factors we consider when allocating funds”. They have formulas for allocating funds to districts and diseases or cholera are not part of that. Access is the main issue they look at, as well as cost of technology which is needed in certain areas.
- 23:50 – 24:39: If there were enough resources cholera could be wiped out. If someone said they don’t want cholera in the country and provided the resources for it they could make it happen, but it’s not one of the priorities.
- 27:24 – 32:31: The cholera task force should be given more mandate. They should be looking at the phase before and the phase after. The task force has not pushed the MWE to do much. For a body that is formed in response to an emergency, there should be body above it to coordinate. If the task force could be brought out of just the idea of response that would be beneficial. The task force is too emergency based. It would be better if there was a working group which focused on things like cholera.

- 32:39 – 33:35: Doesn't know if there are ToR for the cholera task force. He doesn't know who from MWE sits on the task force.
- 33:50 – 37:12: The main things that needs to be dealt with in terms of emergencies is the procedures. The government is so bureaucratic. He should be able to access funds immediately and send supplies without going through the lengthy procurement procedures. It will take three months. To reallocate funds from within his budget can take two to three weeks as he gets approval from auditors, etc...

First Recording

- 00:40 – 1:02: Outbreaks in previous years in Mbale; 1997, 2000, 2007, 2009, 2012
- 1:08 – 1:18: Varies from community to community, but mostly affects Mbale Municipality
- 1:25 – 2:08: In 2012 it came during the dry season, yet it has previously come in the rainy season. This time there was no water so people resorted to drinking dirty water. Also sanitation is a big challenge, especially in the slums. That's how cholera comes in.
- 2:12 – 2:35: Highest level of cholera was in Mbale Municipality and Namengo
- 2:45 – 3:16: When outbreak started Red Cross started working with the district to make household visits, trained RC volunteers, RC Action Team, and village health teams. Worked with them to try and stop the spread of cholera.
- 3:35 – 3:58: As the outbreak has reduced whenever a case comes up RC runs to sensitize the community and raise awareness.
- 4:15 – 4:28: RC is auxiliary to the government and during the task force meetings they identify the gaps in the response and then agree to address them

Second Recording

- 0:00 – 1:58: Train village health teams, conduct radio talk shows, radio spots, massive sensitization of communities about cholera, house to house. Also distributed AquaSafe and Water Guard which was given by MSF to the district. Also distributed posters as well as spraying households
- 2:14 – 3:00 The challenge is about sanitation, the locations where cholera occurred has very poor sanitation. Another challenge is water. These are the reasons for the cholera outbreak in both the municipality and rural areas.
- 3:07 – 3:30: Funding came from HQ
- 3:30 – 4:18: Cholera activities are continuing. Volunteers are in communities, distributing small jerry can for building tippy taps, water purification tablets, and a jerry can for collecting/storing water
- 4:20 – 5:30: There is minimum funding for the continuation of programs. The money received was for emergency response and lasted approximately two months. But the funding for the continuation of activities relies on the local branch which mainly gains funds from membership, rent, donations, and HQ support.
- 5:35 – 7:00: Documents guiding activities are; Emergency Epidemic Control Procedure, Emergency Response Protocol, Volunteer Policy. Also Red Cross Action team is trained to respond to any kind of disasters and carry out assessments
- 8:25 – 9:04: Worked closely with the health department, municipal offices, village health teams and MSF. MSF came to support, but they went early, but the good thing they did was to train volunteers and the health workers
- 9:10 – 9:43: “The Task Force works very well, but unfortunately they keep on relaxing when the thing is reducing, that is the most unfortunate part”. The normal emergency procedures require the task force to supposedly work three months before and after the outbreak to keep on tracking the trends. When cholera is too high, everybody is concerned, when it is too low to don't focus. But overall the task force functions very well
- 9:55 – 10:45: Red Cross focuses on Disaster Risk Reduction as the first priority. So in the places they have identified RC has gone back to talk about sanitation. They are emphasizing on hygiene and sanitation so that all people have toilets, washing their hands with soap, boiling their water, treating their water and thereby reducing their risk. But the problem is a lack funding and RC is not able to do much.
- 10:50 – 11:53: RC only organization going back to conduct post-outbreak activities. When cholera happens RC looks to go back and see where the problem is. They do a small investigation or risk assessment. The latrines are a real problem so RC has gone back with their volunteers to focus on the sanitation aspects and go to the households and inform them of the need for sanitation.

- 11:55 – 13:05: The only challenge they have is the funding. They should be conducting activities before during and after the outbreak. RC's disaster management cycle is; DRR, Preparedness, Response and Recovery. Currently in the recovery phase.
- 13:05 - 13:30: "Unfortunately I think people are not putting much emphasis on environment, especially health environment, even I think the government is planning *very little*, for it. If it done and it is fully supported it is the best"
- 13:36 - 14:23: The health team from the district is supposed to go back and work in the affected communities, but they have not. Even RC will have to pull out soon because of a lack of funding. They have only been able to reach about 40% of the communities in which a death due to cholera occurred. Still a lot to do.
- 14:30 – 14:44: RC has enough personnel/volunteers to do the job, but it is the funding which is the problem.
- 15:50 – 17:00: Cholera cycle is Pre-During-After. Pre phase involves talking about many things mainly related to disaster risk reduction; hygiene, sanitation, environmental issues, ensuring people have everything. The during phase looks to make sure the CTC and drugs are in place. The after phase, essentially is the pre phase, re-emphasize what was the problem. If it was latrines, you go back to talk about sanitation.
- 17:04 - 17:20: The pre/after phase(s) is supposed to occur every day, but again the funding is low.
- 18:20 – 20:22: Reasons for task force relaxing: funding for facilitation is low, and when the disease is not there people go back to their normal activities. Funding, community attitude and enforcement are problems. The public toilet bill is there, but the enforcement is not done. Food vendors are not regulated. Public Health laws are supposed to be enforced by the health inspector but it's not happening.
- 20:45 – 22:00: The biggest issue preventing cholera from being prevented is funding for environmental/public health. The budgeting for it is not enough.

Meeting with [REDACTED], Regional Disease Surveillance Officer, June 21

- 00:16 – 00:55: Cover 12 districts in the [REDACTED] region.
- 00:57 – 1:34: Main activities involves support and supervision for surveillance, as well as offering on site technical support, sharing best practices and coordinating surveillance activities within the region, as well as liaising between the districts and the ministry of health
- 1:42 – 2:59: Job is mostly surveillance, but the aspect of epidemiology cannot be ignored. He tries to analyze data which he receives from the districts and make sense out of it in relation to epidemiology. Districts collect a lot of raw data but they do not try to use the data, analyze the data, interpret it or disseminate it. He tries to analyze and share the information with a bigger audience such as the districts and responsible surveillance officer at the MoH.
- 3:13 – 4:56: When asked about source of outbreak he mentions deficiencies in peoples' behavior, personal and community hygiene, also there was favorable weather which helped cholera emerge. There also sanitation gaps and poor personal hygiene.
- 5:18 – 7:22: In the districts he find raw data which has been collected and as stipulated by the guidelines, but that is all. District surveillance focal persons has other tasks which keep them busy and they may have little time to devote to analysis and interpretation. There is the aspect of time and the aspect of prioritization. When Dr. analyzes the data and shows it to them they really like it, so he wonders why they do not do it in the first place. It is common in other disease programmes that analysis and dissemination always has gaps. It is an issue of prioritization and an issue of what's the use. There are some knowledge gaps, the area of surveillance is wide and you need to educate and update yourself.
- 7:30 – 8:20: There are guidelines for disease surveillance and specifically for cholera
- 8:38 – 12:09: Most cases are below 10 years of age. Majority between 1 and 10 years. As age advances there a fewer cases. There have been multiple peaks along the epidemiological curve meaning that transmission is occurring. Cholera started around the lake and then spread to neighboring sub counties. Lakeside is a hard to reach area with few health facilities and few health workers. Heard from colleagues that areas where Ecosans had been constructed did not have cholera. Leadership in the areas is poor because LCs may move around to other areas due to the migratory nature of the fishing communities.
- 12:22 – 14:32: The areas around Lake Albert have always had problems with cholera. He talks about other districts affected. Cholera could seem like it is increasing because surveillance and reporting are improving.
- 15:42 – 16:46: When it comes to interventions he's a bit handicapped. "In my opinion we have done little in terms of interventions and probably it can explain why this epidemic has gone on and on". For example they were working in one sub county while there was cholera in two other sub counties. The reason for that is that one of the partners, Red Cross, was working in that one sub county. Difficult to command them to go to this or that area.
- 16:55 – 19:22: The district health systems do not have adequate resources. One positive thing is that emergency medical supplies have been available, but "when it comes to longer term interventions, when you look at sanitation in general there's really nothing. There's really not much they can do, they say they do not have resources. When it comes to arranging field visits they've told me they've got challenges here and there. When it comes to supporting the health workers, giving them a token here and there like a kind of motivation they report problems, they haven't been able to do it. So in that light I would say they are constrained by resources. They couldn't even do a routine refresher course for health workers, they couldn't do that. So all that points to a lack of resources". The constraints are mainly financial but also include transportation and facilitation. "One would argue that if we were more prepared we would have put this in place, but when you look at the competing requirements it looks out of the ordinary to expect them to put resources waiting there, that these are for dealing with epidemics, we always find we have to firefight here".
- 19:28 – 19:47: There is no epidemics response fund. They usually have to reallocate funds from within their budget

- 19:58 – 20:56: No focus on long term focus. He expected some boreholes or latrines to be built but nothing like that has been done. There has not even been aggressive health education taking place. People in Hoima town were not even aware that cholera was going on near to their vicinity.
- 21:10 – 22:17: In the long term he thinks we need to look at the epidemic preparedness committees and engage them more. The cholera task force at the district needs to involve more stakeholders. Not enough has been done to reach out the church leaders, the kingdom, development partners and civil society organizations. The level of mobilization has been poor. They should have regular meetings and more engagements to show them the reality that a crisis is at hand.
- 22:30 – 23:35: The district cholera task force could be an effective mechanism, but it needs guidance from a higher level, an oversight role from the disease surveillance side and from the ministry of health. Working at the local level limits the level of exposure and someone should come in with an independent mind to tell them what is expected, this has been done in other areas. People’s thinking needs to be broadened, in the meetings they focus on only a few areas and leave out others. For instance no one focuses on the approach to individuals and families in the areas and people don’t appreciate how important it is. There needs to be an oversight role.
- 23:40 – 24:45: MoH is constrained and it takes them time to respond sometimes. “There should be more linkages between the Ministry of Health and the people who are actually in the field tackling the epidemic”. Since the MoH team left three weeks back there has been no follow up meeting and that is a gap he has noticed.
- 24:50 – 25:20: The attitude exists that once the outbreak is over it is forgotten about until the next outbreak. It is not just with cholera, but with other epidemics. Gives the example of meningitis 3 years ago after which nothing has been done.
- 25:55 – 26:29: To help improve the transition from emergency response to long term prevention measures he feels there needs to be better oversight from MoH. To engage district committees, follow up with other sectors to see what activities they’re doing or to lobby them. Essentially someone to coordinate things better at wider level.
- 26:46 – 28:55: He tries to indicate which sub counties are affected and which communities are affected, but very little mapping is done. He has few maps in his office and on his computer. There has not been any targeting of communities or areas for interventions after the outbreaks. They consider sub counties which is too large of a focus area. “The mapping was not as effective as it should have been”. Increasing the detail of analysis would help to focus resources better. Should focus on smaller areas.

Meeting with [REDACTED], DWO, [REDACTED], June 19

- 00:00 – 1:18: Brief history of cholera in the district. Last outbreak in 2008. Origin from Congo.
- 1:20 – 2:25: Mentions members of the task force. Low sanitation coverage in the areas where cholera came up. DWO distributed chlorine which was given to them by UNICEF and repaired a borehole at a health center. They also sensitized communities about hygiene and sanitation with other departments
- 2:28 – 3:03: NGOs which came were MSF and Afard which is located in the district. The MoH provided medical supplies.
- 3:05 – 3:50: Says the District Health Officer leads the district cholera task force, but has delegated the chair to the DHI. Then corrects himself to say the LCV is the chairperson, but the DHO is the technical lead. At the sub country level the LC3 is the chairperson and the s/c chief is the technical lead.
- 5:00 – 6:15: Sanitation coverage is not too bad as it stands at 78%, but the problem is handwashing and now that is the focus after the outbreak. People follow hygiene standards which are recommended during the outbreak, but afterwards, when the cholera has dissipated, people go back to their old ways. Communities do not really follow what they are told. The district continues to promote handwashing and sanitation.
- 6:24 – 7:15: DWO annual plan has not changed in response to cholera. Chlorine which was given out which was provided to them previously by UNICEF to respond to flooding and the pipes used to rehab the borehole had not been stipulated for another project
- 7:30 – 9:44: Water in the district tends to be salty and people don't like it. They say they cannot even use it for cooking beans, so people prefer going to the Nile for water. Also due to the community based management system people prefer not to pay, but just go to the Nile which is free. There is not much that can be done about the salty boreholes.
- 9:48 – 10:02: Says there are guidelines for the cholera task force, but knows little about them. Refers me to the DHO.
- 10:12 – 10:52: Task force is not part of the district disaster management team. When an outbreak begins the task force is formed, but the members of the task force are the same as the district disaster management team.
- 11:00 – 12:18: The approaches to different disasters are not very different. Sometimes the issue is funding. There is not a disaster office in the district. When there is an outbreak it is expected that the MoH or OPM will come into assist. But while the district waits for the national bodies to respond, they look for local resources to respond quickly. The main problem is the funds to respond quickly.
- 12:28 – 13:00: No guidance from the MoWE during outbreaks. District reports to the Technical Support Unit, but there is no funding which comes from the ministry. Also the same when there was flooding, no assistance from the ministry. They perhaps coordinate at a higher level and then other partners come in like UNICEF.
- 13:12 – 13:43: Doesn't think OPM was involved in the response to the outbreak, but there was a big team from the MoH. But OPM coordinates because most of the funding for response comes from OPM.
- 13:45 – 14:10: Not aware of any disaster management cycle approach
- 14:18 – 17:03: Cholera is preventable and it can only be prevented if communities are continuously sensitized. The district and other NGOs must follow up after initial sensitizations and reinforce the messages, because after sensitizing communities they are usually left alone and practices relax. Must be a regular follow up in communities which requires funding to help teams move to the field. There is also a lack of transport means.
- 17:09 – 17:47: The task force only meets regularly when the outbreak is high, otherwise there are not many meetings. When the disease reduces so does the task force activities. "That is our problem".
- 17:50 – 19:18: DWO thinks the task force should continue. There should a target of a meeting every two weeks. Getting reports from the sub counties and looking at best practices could help in the future. But the problem is inadequate staffing levels because when there are constant meetings it takes away from other activities. The task force has not thought of having meetings regularly. At target

should be set to meet every two weeks whether the disease is there or not, but this would require some funding which is lacking.

- 19:28 – 20:00: There is a long term plan to sensitize people and monitoring it, but the problem is that it is not being implemented.
- 20:02 – 20:18: The task force comes up with strategies and then tasks the sub counties to implement them.
- 20:20 – 22:30: Spread of the disease not so much due to water, but was transmitted mainly via human-human. Health sector tested the water and it was not infected.

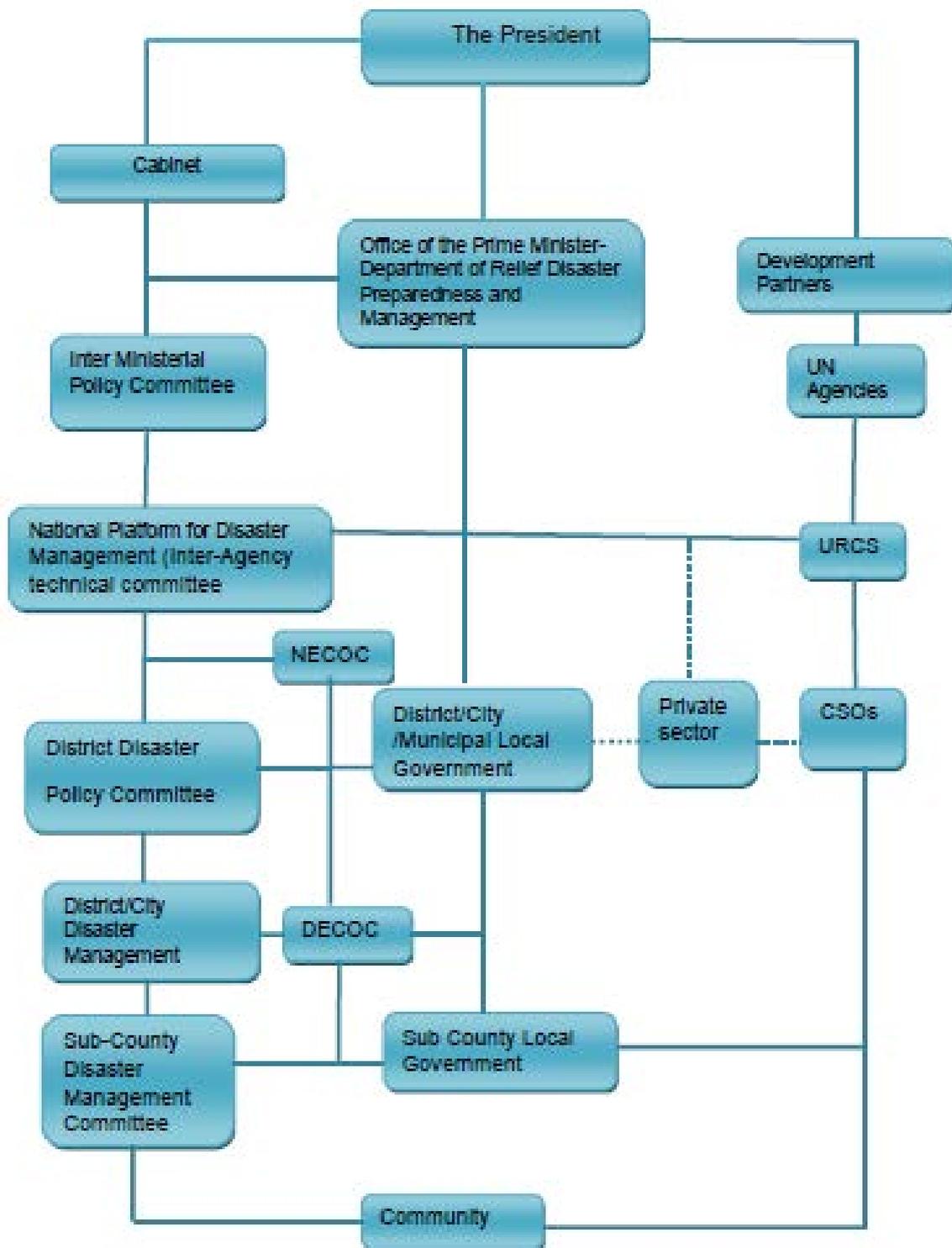
Meeting with [REDACTED], CAO, [REDACTED] District, June 19

- 00:12 – The outbreak occurred unusually in the dry season in February and March.
- 1:00 – 2:13: The task force was formed when the disease outbreak started at both the district and sub county level. Informed UNICEF and MSF. Established a treatment center along the border with Congo.
- 2:17 – 3:35: MSF is based in Arua and UNICEF based in Gulu were able to respond quickly, a bit faster than the government was able to do. They primarily provided drugs and supplies. UNICEF originally gave supplies, but more recently provided some money to help with operations/sensitizations.
- 3:38 – 3:48: When the incidence of cases reduced to roughly one a week MSF left
- 4:20 – 4:49: Members of the task force are CAO's office, RDC, LCV, DHO, MSF, UNICEF. Sometimes CAO is the chair or the RDC will do it.
- 5:12 – 6:10: When asked about guidelines for the task force the CAO says it is formed due to demand on the ground and seeing who can address it. He says policies are there, but seems not to know much about them. Ministry of health was in Nebbi for about one week.
- 6:15 – 6:41: Overall the Office of the PM handles disasters, but they did not come in to assist with the outbreak. Ministry of health was able to handle it.
- 6:42 – 6:50: MoH provided drugs to help respond to the outbreak.
- 8:03 – 8:44: Held a meeting with colleagues from Congo because it is believed that cholera came from Congo.
- 8:55 – 10:55: Fishing communities are very difficult to deal with. There are no toilets at the landing sites. Sensitizations will continue at these sites. Houses or businesses will be closed if they do not have a latrine. Also the sale of cold food will be stopped. These are the long term measures they are taking. Those people without latrines will be registered and possible prosecuted.
- 10:58 – 11:30: These long term program will continue as long as cholera is still there and even after it has passed. The disaster committee which the CAO chairs will continue to talk about cholera after it is over.
- 11:36 – 11:48: CAO says the cholera task force usually meets monthly, and during the outbreaks they meet weekly.
- 11:54 – 12:14: Cholera task force is specific while the district disaster committee deals with all committees
- 13:55 – 14:38: Local leaders like LC1s and sub country chiefs are responsible for enforcing sanitation and hygiene standards. VHTs also help quite a lot. Uganda has a lot of structures but the issue is effectiveness of their use. If the structures were well coordinated then they would be able to eradicate some diseases.
- 14:47 - 15:48: Coordination is the missing link because otherwise the structures are there. To improve coordination there needs to be clear guidelines for working together. LC1s and VHTs cannot be working in the same community and yet be distributing different messages
- 15:56 – 16:18: The cholera task force only comes when there is an outbreak. Once it has been reduced nobody seems to think about the task force any more very seriously
- 16:32 – 17:49: The politician thinks about votes while technical people think about results. There is a contrast when technical people want to close eating places in town, but politicians say they are going to eliminate people's income and they fight against the measure. Politicians think drugs are the solution, but the whole thing is hygiene
- 18:00 – 19:13: There are a lot of capacity gaps. To sensitize the community properly you need to be with them continuously, but they lack funding to afford the fuel to move to the necessary places. The budget is constrained as is the staffing level. Health staff are lacking
- 19:20 – 20:28: Sometime you are forced to squeeze the district budget and forego certain programs to respond to the emergency. Sometimes they have to appeal to their partners like MSF, UNICEF and the national government although the response can be slow from the government. It took three weeks for supplies to arrive following the start of the outbreak. "If you don't have your own resources at hand,

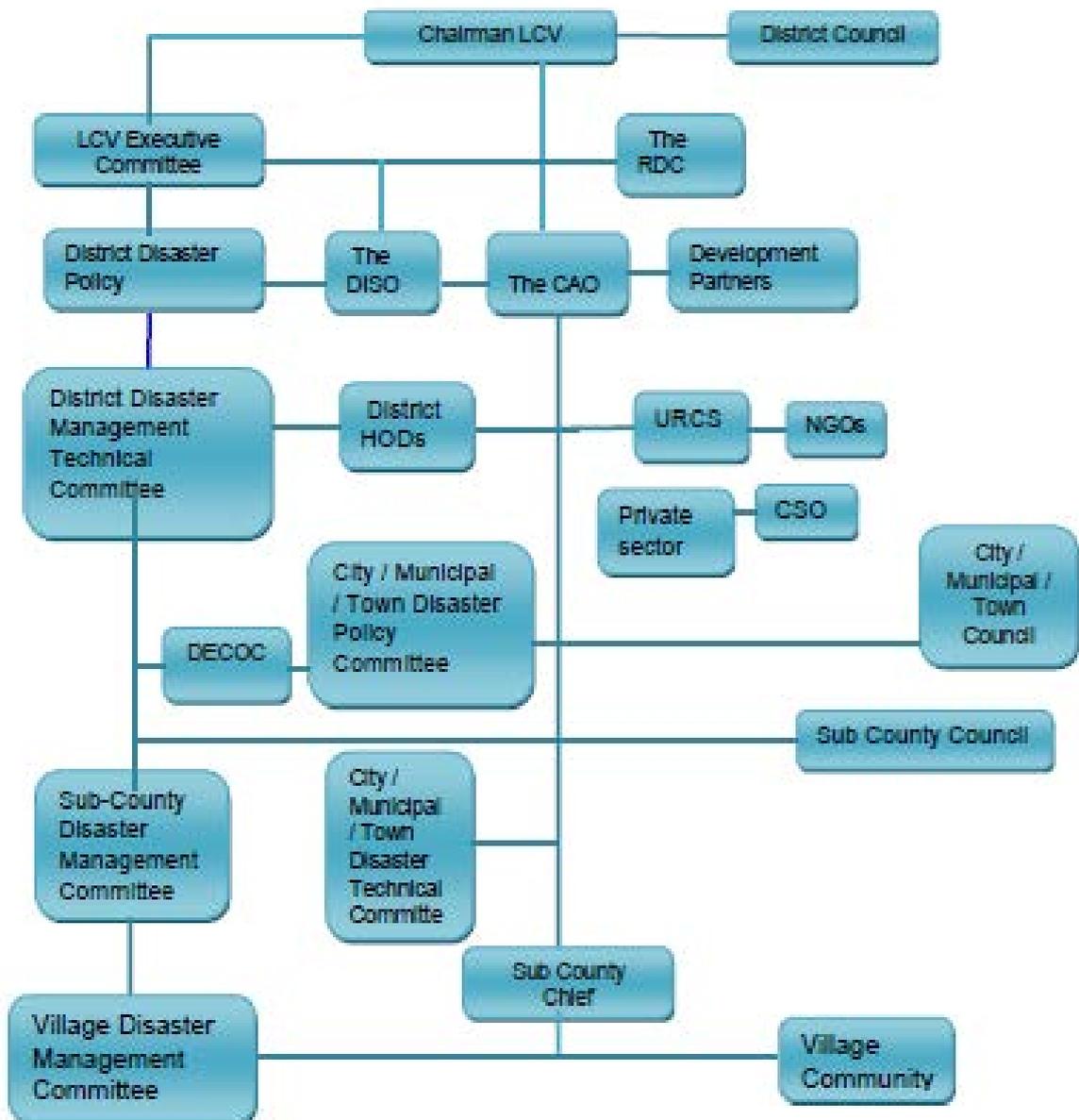
and you are just waiting it doesn't help much". That is the problem cholera task force and disaster committee have

- 20:30 – 21:32: Local governments do not generate a lot of local revenue. Used to have graduated tax, but it was eliminated and it has stopped a good source of revenue for local governments. Local revenue base which could be used to respond to outbreaks is no longer there
- 21:54 The national government sends money to the districts but it is not enough
- 23:40 – 24:30: District is reliant on national government for about 97% of their budget. Only about 3% comes from local revenue. When the graduated tax was in place the district may have generated about 20% of their budget.
- 24:38 – 25:12: Decentralization and the creation of so many districts has stretch resources thin. "Decentralization has spread resources thin, the staffing thin, and increased administrative costs"

Appendix 3: Uganda National Institutional Framework for Disaster Management



Appendix 4: District Level Institutional Framework for Disaster Management



Appendix 5: Line List of Data Collected during Cholera Outbreak

Name	Sex	Age	Village	Parish	S/County	Symptoms and signs	Date of onset	Clinically confirmed (Y/N)	Lab	Imm Y/N/U	Status
██████████	F	20	Kaiso	Toonya	Buseruka	Diarhoea vomiting	04/03/2012	Y			Recovered
██████████	F	22	Kaiso	Toonya	Buseruka	“	04/03/2012	Y	Yes		Recovered
██████████	M	6	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	F	2	Kaiso	Toonya	Buseruka	“	04/04/2012	Y			Recovered
██████████	M	52	Kaiso	Toonya	Buseruka	“	04/04/2012	Y			Recovered
██████████	M	27	Kaiso	Toonya	Buseruka	“	04/04/2012	Y	Yes		Recovered
██████████	F	2	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	F	28	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	F	15	Kaiso	Toonya	Buseruka	“	04/02/2012	Y			Recovered
██████████	M	15 M.	Kaiso	Toonya	Buseruka	“	04/04/2012	Y			Recovered
██████████	F	5	Kaiso	Toonya	Buseruka	“	04/03/2012	Y	Yes		Recovered
██████████	M	3	Kaiso	Toonya	Buseruka	“	04/05/2012	Y			Recovered
██████████	M	3	Kaiso	Toonya	Buseruka	“	04/05/2012	Y			Recovered
██████████	M	47	Kaiso	Toonya	Buseruka	“	04/05/2012	Y			Recovered
██████████	F	14 M.	Kaiso	Toonya	Buseruka	“	04/05/2012	Y			Recovered
██████████	M	22	Kaiso	Toonya	Buseruka	“	04/05/2012	Y			Recovered
██████████	F	Ad	Kaiso	Toonya	Buseruka	“	04/05/2012	Y			Recovered
██████████	M	Ad	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	M	3	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	M	Ad	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	F	6	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	M	6	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered
██████████	M	6	Kaiso	Toonya	Buseruka	“	04/03/2012	Y			Recovered