Hygiene and Sanitation Promotion towards Cholera Prevention on District Level in Mozambique

- A communication analysis -

Authors:
Daniel Al-Ayoubi
Dorrit Booij

Tutors:
Gunilla Åkesson
Anders Nilsson

Thesis Seminar: June 5, 2015
Abstract

Cholera remains a threat to public health in many developing countries, including Mozambique. Although the disease is easily preventable by practices of hygiene and sanitation, cases are reported in the country every year, as for example in the Lago district in 2015. This qualitative research project set out to explore in what ways the promotion of hygiene and sanitation practices on district level in Mozambique is carried out. Therefore, actors, messages and channels involved in these communication processes were explored via a field study in Lago and a review of relevant literature. Subsequently, the results of the field study and literature review were analysed by applying the concepts of one-way and two-way communication which are part of public relations theory. This analytical framework allowed the researchers to fill a gap identified in the existing literature about hygiene and sanitation promotion, which did not seem to include communication theories linked to public relation practices when it came to hygiene and sanitation promotion in developing countries as a method to prevent cholera.

It has been found that the one-way communication approach towards the public was successful in handling the recent cholera outbreak of 2015, however, the approach is not substantial and should be improved into a two-way communication approach, which would allow the local population to express their needs in hygiene and sanitation, as well as their capabilities to implement change in these matters.

Simultaneously, a lack of resources within the district authorities involved in hygiene and sanitation promotion seems to encourage one-way communication towards the public from their side, as two-way communication would demand further resources for research into the above mentioned needs and capabilities of communities.

Keywords: Mozambique, the Lago district, cholera prevention, one-way communication, two-way communication, public relations theory
Acknowledgements

First, we would like to thank some people, without whom this research project would not have been possible to be carried out. We would like to thank all the people we met and worked with in Mozambique, especially in and around Metangula. They made us feel welcome and shared insights about their work and lives.

Also we would like to thank our tutors, Gunilla Åkesson and Kajsa Johansson, for guiding us through the research process in Mozambique. Thanks for answering all our questions and translating all the interviews. Also, a special thanks to Anders Nilsson who has been of great support after being back in Växjö and during our writing process. Moreover, we would like to express our gratitude to Thomas, our local translator, who was of great help during our interviews and to John, our driver, for taking us everywhere.

Last but not least, we would like to thank our fellow travellers in Mozambique, Jenny, Daria, Linn, Julianne, and of course John Johansson for being part of this unforgettable experience.
# Table of Contents

Abstract .................................................................................................................................................. 1
Acknowledgements ................................................................................................................................. 1
List of tables and figures ....................................................................................................................... 1
List of abbreviations .............................................................................................................................. 1

Chapter 1: Introduction .......................................................................................................................... 1
  1.1 Research Topic ............................................................................................................................. 1
  1.2 Research Objective ...................................................................................................................... 2
  1.3 Research Questions ....................................................................................................................... 2
  1.4 Methods ......................................................................................................................................... 3
  1.5 Structure ........................................................................................................................................ 3

Chapter 2: Methodology ......................................................................................................................... 4
  2.1 Field study .................................................................................................................................... 4
  2.2 Case study ..................................................................................................................................... 5
  2.3 Interviews .................................................................................................................................... 5
  2.4 Literature review ........................................................................................................................ 5
  2.5 Limitations ................................................................................................................................... 7
  2.6 Delimitations ............................................................................................................................... 7

Chapter 3: Background ........................................................................................................................... 8
  3.1 Mozambique and the Lago District .............................................................................................. 8
  3.3 Health system in Mozambique .................................................................................................... 10
    3.3.1 Overview .............................................................................................................................. 10
    3.3.2 The situation on hygiene and sanitation in Mozambique .................................................... 11

Chapter 4: Analytical Framework ......................................................................................................... 13
  4.1 Two-way communication/Grunig’s (1989) Four Public Relations Models .................................. 13

Chapter 5: Findings ............................................................................................................................... 15
  5.1 Community participation in hygiene and sanitation promotion ................................................ 15
    5.1.1 Limitations in Hygiene and Sanitation Promotion ............................................................... 16
  5.2 Hygiene and sanitation communication and projects in Mozambique .................................... 16
  5.3 Hygiene and Sanitation Situation in Lago .................................................................................. 19
    5.3.1 District capabilities and services in hygiene and sanitation of Lago ................................. 20
    5.3.2 Cholera Outbreak in Lago in 2015 .................................................................................... 21
  5.4 Impact of decentralisation on district health systems in Mozambique ...................................... 24
5.5 Actors, Content of Messages & Channels/Techniques ........................................ 25
  5.5.1 Actors ........................................................................................................... 25
  5.5.2 Channels/Techniques .................................................................................... 34

Chapter 6: Analysis ................................................................................................. 38
  6.1 Communication structures in hygiene and sanitation promotion .................. 38
  6.2 Communicating with the Public ....................................................................... 39
  6.3 Difficulties for two-way-communication ....................................................... 40
  6.4 Two-way communication flows for prevention of diseases ......................... 42
  6.5 Lack of resources as a reason for one-way communication ......................... 44

Chapter 7: Conclusions ......................................................................................... 46

References ............................................................................................................... 48

Appendices .............................................................................................................. 53
  Appendix 1: Maps ................................................................................................. 53
    Map 1: Mozambique ............................................................................................. 53
    Map 2: The Lago District ..................................................................................... 54
    Map 3: Cholera Infections as of 28 April 2015 ................................................. 55
  Appendix 2: List of interviews ............................................................................. 56
  Appendix 3: Pictures ............................................................................................. 62
List of tables and figures

Table 1: Four models of Public Relations

Graphic 1: Encountered one-way communication approach.

Graphic 2: Two-way communication as an improved approach towards hygiene and sanitation promotion.
### List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMCOW</td>
<td>African Minister’s Council on Water</td>
</tr>
<tr>
<td>AMETRAMO</td>
<td>Associação dos Médicos Tradicionais de Moçambique – Association of Traditional Medicine of Mozambique</td>
</tr>
<tr>
<td>DNA</td>
<td>Direcção Nacional de Água - National Directorate of Water</td>
</tr>
<tr>
<td>DPOPHRH</td>
<td>Provincial Directorate of Public Works and Housing</td>
</tr>
<tr>
<td>ENDE</td>
<td>Estrategia Nacional de Desenvolvimento - National Development Strategy</td>
</tr>
<tr>
<td>GoM</td>
<td>Government of Mozambique</td>
</tr>
<tr>
<td>GOTAS</td>
<td>Transparent Governing for Water, Sanitation and Health</td>
</tr>
<tr>
<td>ICS</td>
<td>Institute for Social Communication</td>
</tr>
<tr>
<td>IFRC</td>
<td>International Federation of Red Cross and Red Crescent Societies</td>
</tr>
<tr>
<td>INGC</td>
<td>Instituto Nacional de Gestão de Calamidades - National Disaster Management Institute</td>
</tr>
<tr>
<td>LOLE</td>
<td>Lei dos Orgãos Locais do Estado - Law on Local State Organs</td>
</tr>
<tr>
<td>MDG</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MSF</td>
<td>Médecins Sans Frontières - Doctors Without Borders</td>
</tr>
<tr>
<td>MT</td>
<td>Meticais, Mozambican national currency</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
</tr>
<tr>
<td>NHS</td>
<td>National Health System</td>
</tr>
<tr>
<td>PARP</td>
<td>Plano de Acção para Redução da Pobreza - Action Plan for Poverty Reduction</td>
</tr>
<tr>
<td>PHAST</td>
<td>Participatory Hygiene and Sanitation Transformation-approach</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary Health Care</td>
</tr>
<tr>
<td>PRONASAR</td>
<td>Programa Nacional de Abastecimento de Água e Saneamento Rural - National Programme for Water Supply and Rural Sanitation</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Name</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>ROADS</td>
<td>Rede de Organizações Ambientais e de Desenvolvimento Sustentável - Network of Environmental Organizations and Sustainable Development</td>
</tr>
<tr>
<td>RWSS</td>
<td>Rural Water Supply and Sanitation</td>
</tr>
<tr>
<td>SANTOLIC</td>
<td>Saneamento Total Liderado pela Comunidade - Community-Led Total Sanitation</td>
</tr>
<tr>
<td>SDC</td>
<td>Swiss Agency for Cooperation for Development</td>
</tr>
<tr>
<td>SDPI</td>
<td>Serviços Distritais de Planeamento e Infra-estruturas - District Services for Planning and Infrastructure</td>
</tr>
<tr>
<td>SNV</td>
<td>Stichting Nederlandse Vrijwilligers – Association of Dutch Volunteers</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>WASH</td>
<td>Water, Sanitation and Hygiene</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organisation</td>
</tr>
</tbody>
</table>
Chapter 1: Introduction

1.1 Research Topic

The importance of hygiene and sanitation practices for the health and well-being in a society are widely accepted, with global campaigns on hygiene and sanitation being implemented by international actors, often linked to water access and water usage, like the WASH (Water, Sanitation and Hygiene) campaign by the International Medical Corps (International Medical Corps, n.d.).

Raising awareness about these issues can lead to improved public health. This can have several positive effects on a country despite the general well-being of the society, as a healthy population for example brings with it a greater labour force, which can increase production, allowing for a more positive economic development of a country. Such awareness raising can occur via communication interventions, in form of promotion activities for certain kinds of behaviour among the public. The relation between communication and health has been pointed out by several authors, who explain that communication plays a crucial role in public health, concluding that the success or failure of public health initiatives depend on sufficient communication via appropriate means, meaning that the right messages are transmitted via the right channels to the right people (Institute of Medicine, 2002, Maibach et al., 2007).

A relevant and unfortunately constant threat to the health situation in many developing countries, such as Mozambique (see map 1 in appendix 1), is cholera. Cholera is an infectious disease leading to severe diarrhoea which can result in fatal dehydration. Cases of the disease are registered in Mozambique every year, with the country also having experienced very severe outbreaks causing many casualties (WHO, 2013). Such an outbreak occurred in the northern district of Lago (see map 2 in appendix 1) in 2015. Cholera outbreaks are usually linked to malpractice in hygiene and sanitation, which lead to the infection to occur and also its spreading. Such malpractices, however, can be tackled via communication campaigns which promote better practices in hygiene and sanitation. The question can therefore be asked: How
is communication used on district level in Mozambique to prevent cholera outbreaks from happening, and where might potential flaws in the communication be located?

Since cholera is an infectious disease that is rather easily preventable, there must be reasons for why prevention efforts by actors involved are not sufficient. The exploring of communication structures will allow to see what kind of communication processes are used to communicate to the public for the promotion of hygienic behaviour and sanitairiness. This research project can therefore contribute to the debate on how cholera can be avoided for developing societies.

1.2 Research Objective

The research objective of this research project is the following:
The research project aims to map out actors, messages and channels involved in hygiene and sanitation communication in the Lago district, Mozambique, which allows for a subsequent analysis of the health communication structures on district level that contributes to an understanding and evaluation of these communication structures in terms of their contribution towards the prevention of cholera.

1.3 Research Questions

The following research questions form the basis of this research project. Moreover, the research questions provide the research with a framework on which the structure of this research is based. The first set of questions is of descriptive nature, in order to provide information of the current situation:

1. What do the hygiene and sanitation communication structures in the Lago district look like?
   1.1 Who are the actors involved?
   1.2 What is the content of the messages?
   1.3 What channels are used to send these messages?
The answering of the above research questions allows for the following questions to be addressed. The following set of research questions are of analytical nature and will be answered in the ‘Analysis’ chapter (see p. 37).

2. How do the identified hygiene and sanitation communication structures contribute to prevent cholera?

3. How could the identified hygiene and sanitation communication structures be improved to prevent cholera in the future?

1.4 Methods

The data collection is carried out via an extensive review of relevant literature and through a five week qualitative field study in Mozambique, of which three weeks are carried out in the Lago district, Niassa province. Data is collected through interviews and observations in the field, including villages in rural areas and the district capital (for the full list of interviews, see Appendix 2) The data is analysed with the consideration of Grunig’s (1989, in Botan and Hazelton, 1989) four models of public relations. More elaborations on the methodology of this research project will be provided later in the text.

1.5 Structure

This research project is divided into seven chapters. The current chapter provides all the necessary background information and the context within which this report is written. This will be followed by an overview of the methodological considerations with regard to this research project. This includes a literature review to demonstrate where this study fits in with regard to the existing literature. This will be followed by the background chapter, which provides information from existing literature to provide the context of this research. The findings chapter will present all the findings regarding hygiene and sanitation communication in the Lago district, as well as the relevant findings from the literature, including practices of hygiene and sanitation promotion with community involvement and its limitations, the Mozambican health
sector, and more elaborated background information on hygiene and sanitation promotion in Mozambique. Therefore, that chapter comprises extensive background information from the literature, as well as the interview notes and several observations.

The penultimate chapter presents the analysis of the findings, and the second set of research questions will be answered. The final chapter provides the conclusions of this report. It summarises the findings and concludes the analysis to give a clear overview of the study.

Chapter 2: Methodology

In order to get an understanding about the nature of hygiene and sanitation promotion on district level in Mozambique, certain actors involved and their relationships will be investigated. This is done via research into communication structures both used by and between actors on the district level. Methodologically, the review of relevant literature will be accompanied by a field study at the Lago district in Mozambique, which has been recently hit by a cholera outbreak as explained before, indicating issues in hygiene and sanitation and making the purpose of this research project all the more relevant.

2.1 Field study

Data for this research project is gathered through a qualitative field study. A qualitative field study allows for gaining in-depth understanding of a social process (Creswell 2014, p. 4). In addition, a field study allows the researchers to undertake semi-structured interviews as well as more in-depth interviews with interviewees from different layers in society. Communication processes are a complex social process. To undertake a five-week field study in Mozambique, allows the researchers to gain a deeper insight in the communities and the communication towards and within those. Of those five weeks, three weeks are spent in the Lago district. The remaining time is spent in the Niassa province’s capital Lichinga, and in the capital of Mozambique, Maputo. This allows the researchers to gain an insight on local-, as well as provincial and national level.


2.2 Case study

This research project can be classified as a case study. In a case study, according to Creswell (2014, p. 14), researchers try to gain understanding about certain processes or activities. With trying to gain understanding about hygiene and sanitation communication in the Lago district in Mozambique, the researchers aim to create understanding and knowledge about communication structures for hygiene and sanitation promotion in the Lago district and its abilities to prevent cholera. One of the characteristics of a case study are the multiple methods for data collection (Creswell, 2014, p. 13), which in this research project means semi-structured as well as in-depth interviews, observations and the review of academic literature and other relevant publications.

2.3 Interviews

During this research project, several types of interviews are conducted. Both group and individual interviews play an important role during the field study. Generally, the researchers make use of semi-structured interviews, which allows, on the one hand, the researchers to prepare interviews in terms of topics and questions, in other words, creating an interview guide. On the other hand, there is room for follow up questions; depending on the directions the interview takes (Mikkelsen, 2005, pp. 169-171). During the fieldwork, 63 interviews were conducted. The interviewees were contacted through the personal and professional networks of the research supervisors due to their working experience in Mozambique. In addition, snowball sampling was used, for example to find families in the villages visited.

2.4 Literature review

The literature review will provide a context within which this research project can be placed. Examples of academic work and other relevant literature on health communication, hygiene and sanitation promotion, decentralisation, and country studies about Mozambique are presented in order to create this context. The work presented will in part also be used and further elaborated on the Findings chapter (see p. 15).
As early as 2001 studies on health communication in the Niassa province, to which the Lago district belongs, took place. Braa et al. (2001) explored the potential usage of information technology in health communication on provincial and district level in Mozambique, finding that health facilities do not have sufficient staff and lack capabilities and training to make use of the available technology for their work on these levels, perceiving them only as a vertical reporting system to higher authorities in the hierarchy of the Mozambican state-run health system. They describe the issue of a lack of training for staff in district health facilities (both management and treatment) and the resulting problems.

Concerning the mentioned lack of staff and capabilities, Lindelöw et al. (2004) in a study about health service delivery in Mozambique found in 2004 that the district services linked to health and sanitation seem to be understaffed, with existing staff often not being qualified for the tasks required from the district service.

Doing research into a similar topic as the above, Salomão (2010) mapped communication structures related to health in Mozambique by exploring data collection and monitoring processes from district to national level. His conclusions illustrate the vertical and one-way channels used by health authorities on all levels to send and receive such information. His analysis led to a proposed intervention on how to improve the encountered situation. However, his focus and proposed intervention are of much more technological nature and focus mainly on internal communication within government bodies, while disregarding external communication directed at the general public.

Adams & Wisner (2002) and Lever et al. (2007) on the one hand reviewed community participation efforts in health promotion in different African countries, on the other hand created guidelines which one might call ‘best practices’ in order to do so. Their insights allow for an evaluation of the present structures of hygiene and sanitation communication in Mozambique and their contribution towards the prevention of cholera. Lever et al. (2007) also provide a conclusion in which they state that further research in community involvement in health promotion is of relevance.

Concerning the decentralisation of the health sector in Mozambique, Ames et al. (2010) and Cuembelelo et al. (2013) both report of understaffed health facilities and health objectives which
are not aligned with provincial or district needs. Pendly & Obiols (2013), in a review of the ‘One Million Initiative’ and community participation on district level, add to this that objectives by the provincial or national levels of the health system cannot be implemented on district level. This research project sets out to fill a gap identified in the existing literature, by reconceptualising health communication on district level in Mozambique (in the form of hygiene and sanitation promotion) by analysing identified communication structures using models of public relations and the notions of one-way and two-way communication (for further elaborations see Chapter 4: Analytical Framework).

2.5 Limitations

One of the limitations that should be taken into consideration is that both the researchers do not speak the languages in Mozambique. Next to the official language Portuguese, many of the people in local communities in which the research is carried out speak Yao or Nyanja. This can result in that nearly all the interviews have to be translated either by one (Portuguese to English) or even two (local language to Portuguese to English) translators. In consequence, this may result in that some meanings may get lost in translations.

What should be considered as well, are the cultural differences. Both researchers are from Western-Europe, which may lead to certain cultural barriers or misunderstandings, both from the side of the interviewers or interviewees. In addition, another limitation is that interviewees may give answers of which they hope will work in their favour. Finally, it has to be taken into consideration that neither of the researchers has a background in health or hygiene and sanitation issues, therefore relying fully on adequate literature to gain background information and understanding.

2.6 Delimitations

In order to guard the scope of this research project, there are certain delimitations being set. This research project does not look into behavioural change in the communities researched. Furthermore, certain practices of hygiene and sanitation are promoted in developing countries like Mozambique, in the light of confining other diseases or epidemics, such as HIV/AIDS. However, the findings of this research project will only be linked to cholera prevention.
2.7 Ethical considerations

Ethical considerations were made in terms of protection of identity of interviewees. Unless permission is given by the interviewees, the names of the people interviewed are confidential as can be seen in the list of interviews in Appendix 2, in order to protect the interviewees (Creswell 2014, p. 92). However, the identities of more ‘public figures’ among the interviewees are disclosed.

Chapter 3: Background

The following chapter aims to contribute to a more contextual understanding of the topic of this research project, by presenting relevant background information on Mozambique and the district of the field study in general, the relevant policy environment, and the health system in Mozambique, including information about the hygiene and sanitation situation and the decentralisation efforts health sector of the country.

3.1 Mozambique and the Lago District

Becoming independent in 1975, Mozambique still remains as one of the poorest countries in the world, currently ranking on position 178 out of 187 countries on the UNDP’s Human Development Index (UNDP, 2015). Being located in Southeast Africa, Mozambique has an estimated population of around 25 million. Of those, 52 percent are women and 45.7 percent are under the age of 15 (Population and Housing Census, 2007, quoted in Water Aid, 2010, p. 18). The country consists of 10 provinces, 43 municipalities, and 128 districts, all with their own local governments, which differ in structure and tasks (AMCOW, 2011, p. 14).

The Lago district is a low populated area in the North-west of the Niassa province (see map 2, see Appendix 1). It borders Tanzania in the North, and Malawi to the West via Lake Niassa.

1 United Nations Development Programme
Sanga and Lichinga district are the bordering districts within the Niassa province (Instituto Nacional de Estatística, 2013b, p. 9). The total population of the Lago district is 104,470 as of 2013 (Instituto Nacional de Estatística, 2013b, p. 11). Concerning the health delivery infrastructure, the Lago district has three health centres (Centros de Saúde). One of them is located in Metangula, the district capital, where most of the field research took place. In addition, 11 health posts (Postos de Saúde) are located in Lago as well (Instituto Nacional de Estatística, 2013b, p. 24).

3.2 Policy environment

The overall government policy of development for Mozambique is called the Plano de Acção para Redução da Pobreza (PARP) which translates into Action Plan for Poverty Reduction. This policy has three main objectives and has been extended in its period of validity until the end of 2015. The first one is the increase output and productivity in the agriculture and fisheries sectors. The second is to promote employment, and the third to foster human and social development.

Besides outlining the development objectives of the country, the PARP encourages the promotion of hygiene practices throughout Mozambique, as especially the poor are vulnerable to diseases such as diarrhoea and cholera which are preventable via these practices (Ministry for Foreign Affairs of Finland, 2014, p. 5; Pendly & Obiols, 2013, p. 7).

Next to the PARP, the Mozambican government has adopted the Agenda 2025. It was adopted in 2003 but is currently under revision. This agenda includes wide scenarios for long-term development for Mozambique. In addition, a new national development strategy was approved in 2014, which is known under ENDE, Estrategia Nacional de Desenvolvimento 2015-2035 (Ministry for Foreign Affairs of Finland 2014, p. 7).

According to Water Aid (2010), a decentralisation process in Mozambique was set in motion in the mid-1990s by the government, which is about deconcentration at the level of budget execution, and not so much about the delegation of powers. Provincial and district capabilities are getting advanced in such a way so that they are able to better implement or execute national policy. Consequently, there is still a lot of power centralised on national level, for example on policy decisions and budget allocations. The decentralisation efforts included new regulations
for local government structures and obligations in 2003, called the Law on Local State Organs
(Lei dos Orgãos Locais do Estado, LOLE). This shaped the current administrative system on
district level and reintroduced traditional authorities in it, which take the roles consultants and
carry out tasks, such as the outreach to the local population, thereby creating links between
localities - as the bottom layer of the district administrative system - and the district
administration. (Åkesson & Nilsson, 2006; Water Aid, 2010).

The Health Sector Strategic Plan 2014-2019 emphasises the need for further decentralisation in
the health sector towards district health services (WHO, 2015). This is in line with remarks in
the PARP which point out that those health services on district levels which are not funded
rather straight by outside investors (NGOs or other donors) are still mainly financed directly
from central ministries, with little say of district services on what the money should be allocated
to. Further decentralisation in terms of budgetary allocations and decision making to the district
level is perceived in this government policy as beneficial for the provision of health services

3.3 Health system in Mozambique

3.3.1 Overview
Mozambique adopted the WHO’s model of Primary Health Care (PHC) in 1978, aiming to
make basic health care available for all its citizens, including rural regions (Braa et al., 2001,
p. 3). While this did not exclude or prevent the existing traditional health practitioners from
carrying out their work, it saw increased creation of health units in which contemporary
methods of treatment and disease prevention were used and advocated (Levers et al., 2007, p.
3). When it comes to covering the costs of the overall health care expenditures, Cuembelo et al.
(2013) explain that “more than 70% is financed by external aid.”

The National Health System (NHS) in Mozambique consists of the national, provincial and
district layers. The Ministry of Health (MoH) on national level is in the position to define
guidelines and policy and set national campaigns in motion. Such campaigns can for example
focus on the promotion of hygiene and sanitation, as will be elaborated upon later (see page
16). The health authorities on provincial level are able to adapt such national campaigns to the
needs of the province, while adhering to national policies and guidelines. On district level, the
health authorities are merged into the District Services of Health, Women and Social Affairs and are mainly responsible for implementing decisions that have been made on the layers of authority before, while also monitoring and reporting on the health situation in the district, in order for decisions about the district being made according to appropriate data. While health planning responsibilities are officially in the hands of provincial and district authorities due to the ongoing decentralisation of the health sector, budget allocations and the provision of other resources still take the route of national decision making and are therefore transmitted vertically downwards to the provincial and district levels (Pendly & Obiols, 2013, p. 8).

Besides the three layers of the NHS in Mozambique which are state-run, the country also has a private healthcare sector, including private clinics and more specialised medical practices, which are mainly to be found in larger cities. Furthermore, the activities of traditional doctors (curandeiros), traditional midwives (parteiras) and community health workers (agentes polivalentes elementares) are recognized as well, and regarded as a third pillar in the country’s health system after the public and the private health sector (Instituto Nacional de Estatística, 2013a, p. 9).

Besides traditional medicine (curandeiros and parteiras) and community health workers (agentes polivalentes elementares), the district population is covered by health units, which can be differentiated into health posts, health centres and district hospitals. The health posts (Postos de Saúde) are the most basic health facilities on district level and do not offer surgery facilities and are often not equipped with wards. The health centres (Centros de Saúde) are also limited in their capabilities but provide wards, e.g. for mothers and new-born children or cholera patients (WHO, 2015).

3.3.2 The situation on hygiene and sanitation in Mozambique
Water Aid (2010, p. 2) points out that water supply and sanitation coverage levels in Mozambique are among the lowest in Sub-Saharan Africa. Only 50 percent of the urban and

---

11

2 throughout this thesis the health authorities on district level will be referred to as the district services for health
51.8 percent of the rural population has access to clean water. Moreover, 40 percent of the rural population has access to sufficient sanitation.

According to AMCOW (2011, p. 14), the National Directorate of Water (DNA, Direcção Nacional de Água) is in charge of policy for water supply. The DNA is part of the Ministry of Public Works and Housing. This means that the DNA is responsible for the implementation of the Programa Nacional de Abastecimento de Água e Saneamento Rural (PRONASAR; National Programme for Water Supply and Rural Sanitation), which was launched in 2010.

PRONASAR has certain key-components: the increase of RWSS (Rural Water Supply and Sanitation) coverage, which shall be accompanied with appropriate training and actual establishment of management entities for water on the local level. Furthermore, and in line with the promotion of local water management, further decentralisation of water related tasks like monitoring, planning and financing are part of PRONASAR's key-components to be promoted. Appropriate communication and inclusion of people in communities is a necessity to guarantee successful local water management (Pendly & Obiols, 2013).

PRONASAR is a framework for the RWSS Strategic Plan 2006-2015. This plan was developed in order to work towards the Millennium Development Goals’ (MDGs) target of 70 percent coverage of rural water supply and 50 percent coverage of rural sanitation (Pendly & Obiols, 2013, p. 15).

In addition to the aforementioned three main objectives of PARP, this document also advocates for the development of health and hygiene. Moreover, a reduction in the incidence of diseases, such as cholera, is an objective of the PARP (Pendly & Obiols, 2013, p. 7). In general, the MoH but also local governments are involved in health promotion, according to the AMCOW (2011, p. 15).

In summary, the GoM is actively trying to increase the access of the public to water and at the same time promotes sanitation, both of which are issues in Mozambique and can therefore promote the spread of infectious and waterborne diseases like cholera. National policy and projects like PARP and PRONASAR advocate and support further decentralisation in the health sector, which is still organised very centrally. Decisions are taken on national level and subsequent obligations for the implementation of these decisions are handed down to provincial
and district level. On this last level, health practitioners both private and public, contemporary and traditional, cover the population and are supposed to guarantee PHC for the people.

Chapter 4: Analytical Framework

This research project embarks on a path of abductive inference. The prevention measures of cholera in a developing context are explored via communication research, concretely into the structure of hygiene and sanitation communication on district level in Mozambique. The subsequent analysis makes use of public relations theory, due to its applicability to evaluate communication campaigns (see below). Making use of this analytical framework to explore cholera prevention measures is an approach of abductive reconceptualization, as explained by Danermark et al. (2002).

4.1 Two-way communication/Grunig’s (1989) Four Public Relations Models

In general, Grunig’s (1998, in Botan and Hazelton, 1989) four public relation models make it possible to explore whether receivers of messages are also senders at the same time. This would show whether people on local level (receivers) have the possibility to give their opinions or express their complaints as well (sending), which would be two-way communication. Dozier et al. (in Rice & Atkin, 2001, p. 231) argue that public relation can be used for communication campaigns, since there exists a conceptual overlap. Hereby, Dozier et al. (in Rice & Atkin, 2001) stress that the concept of two-way communication is an effective orientation for public communication campaigns.
<table>
<thead>
<tr>
<th>Name of the model</th>
<th>Type of communication</th>
<th>Characteristics of the model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press agentry/publicity model</td>
<td>One-way communication</td>
<td>Persuasion and manipulation to influence people, in order to reach desired behaviour.</td>
</tr>
<tr>
<td>Public information model</td>
<td>One-way communication</td>
<td>Official statements (e.g. written or speeches) and other one-way communication techniques to spread information.</td>
</tr>
<tr>
<td>Two-way asymmetrical model</td>
<td>Two-way communication</td>
<td>Persuasion and manipulation to influence people, in order to reach desired behaviour. Makes use of research to identify out how best to persuade and reach people.</td>
</tr>
<tr>
<td>Two-way symmetrical model</td>
<td>Two-way communication</td>
<td>Communication to negotiate and discuss with the people, and promote mutual understanding and respect.</td>
</tr>
</tbody>
</table>

Table 1: Four models of public relations Source: Grunig (1989 in Botan and Hazelton, 1989)

Two-way communication implies that when a communicating agent receives a message, and therefore becomes a receiver, he or she automatically turns into a sender as well. Even when the receiver ignores the messages, this ignorance is still a message, and therefore the receiver becomes a sender and sends a message back to the original sender, who transforms into a receiver. Whereas the classic one-way communication implies that there is a possibility that the receiver is not, or does not become a sender at all.

According to Dozier et al. (1995), public communicators should treat communication as a two-way process. There are two types of two-way communication, asymmetrical and symmetrical (Dozier et al., 1995, p. 39). Two-way asymmetrical communication refers to the sender persuading the receiver, where the sender is more dominant. Two-way symmetrical communication refers to an equal dialogue between the sender and the receiver. Both the communicating agents then function as sender as well as a receiver. Two way communication opposes one-way communication, where the message only goes from one communicating agent to the other, which means they have a fixed ‘sender’ or ‘receiver’ role (Dozier et al. 1995, p.
40). In this, the receiver has no possibility to send feedback to the sender. This research project aims to explore the communication structures in the Lago district, in order to identify what kind of communication approaches are used.

**Chapter 5: Findings**

The following chapter will present the findings to the research question 1 (see Chapter 1.3), providing information on the topics of hygiene and sanitation communication, community participation, the decentralisation of the health sector in Mozambique (and its consequences for health on the district level), exemplified by the Lago district. Results from an extensive literature review are combined with interview and observation data from the field-study.

**5.1 Community participation in hygiene and sanitation promotion**

Hygiene and sanitation promotion, as defined by Adams & Wisner (2002), should be based on the actual living situation of people and their abilities to adapt to the proposed changes. This field of health communication focusses in particular on water usage and sources of people and their sanitation habits. Horizontal interventions and the participation of communities in their own health system are in general of great importance for successful implementations of health programmes (Levers et al., 2007, p. 16). For the case of hygiene and sanitation promotion it is essential to make use of local structures in the communities, including political, religious and other community leaders, and also of community health practitioners if those are present (Adams & Wisner, 2002, pp. 207-208). Levers et al. (2007) add to this that the inclusion of traditional doctors on community level is of benefit, as they often are of importance within the community structures and also for health delivery in general, which makes the people in the communities associate them with this topic. It would therefore come natural for a traditional healer to be involved in a health campaign, such as the promotion of hygiene and sanitation, also since the authors explain that interventions in this area have to consider strongly the local knowledge existing in the communities (p. 19).

It is concluded that national governments should facilitate the participation of citizens in the
health system of their districts via training of the district health authorities in these matters. Furthermore, “clear and open channels of communication” (Levers et al., 2007, p. 19) are necessary for the citizens to be heard on matters of health. A last conclusion urges governments to regard and include traditional medicine and its practitioners as partners in the aim for improved health delivery and prevention mechanisms (Levers et al., 2007, p. 19).

In a study to explore communication strategies for the awareness-creation of sanitation and hygiene behaviour, Sriram & Maheswari (2013) came to conclusions which point into a similar direction by finding that people in villages have to be included in the hygiene and sanitation work of their district, if possible take the responsibility for it themselves. Additionally, it is beneficial if local authorities and leaders take part in the initiatives to promote hygiene and sanitation practices (p. 54).

5.1.1 Limitations in Hygiene and Sanitation Promotion
Adams & Wisner (2002) describe various factors which may hinder community participation in disease prevention activities, in which the promotion of hygiene and sanitation would fall: people on the local level may not feel to be in the position to have their voice heard within their community and therefore may not participate in the communication processes. Moreover, they are not in the position within their community to carry out such a task, and especially not to tell others what to do. The ethnicity of the agent involved in hygiene and sanitation communication may hinder outreaching to all people in communities. What is more, people are engaged in work and other obligations within their social structures, which might also hinder them from taking on responsibility to be involved in hygiene and sanitation information spreading. A different limitation can be authorities which may hinder local participation, for example to be able to keep control of the messages spread or also of political reasons (Adams & Wisner, 2002, p. 207).

5.2 Hygiene and sanitation communication and projects in Mozambique

According to Montgomery et al. (2010, p. 1649) community mobilisation in hygiene and sanitation has been present in Mozambique as early as the time right after independence. With the adoption of PHC came mass buildings of latrines with the participation of the people.
A major national sanitation programme in Mozambique started in 1985, the Programa Nacional Saneamento Baixo Custo (PNSBC), which translates into national low-cost sanitation programme. It was mainly financed by the UNDP, and between 1985 and 1998 more than 230,000 latrines were built within this programme. This benefitted more than 1.3 million people (Colin, 2002, p. 1). However, according to Colin (2002), the actual promotion of hygiene and sanitation was not done well. Until 1994, people only learnt about the sanitation programme by word-of-mouth, or via local latrine production units. In 1994, therefore a year after the peace agreement after the civil war had been signed, the programme introduced promotion of hygiene and sanitation. This included 80 trained ‘community animators’, whose tasks it was to promote the programme, but also the promotion of hygienic behaviour within communities. The messages of the animators were about hand washing, water collection and treatment, garbage disposal and lastly use operation and maintenance of latrines. The programme was designed to respond to the local needs; it was, however, not adapted each time new to the communities the programme reached out to. The idea was to use different types of media and activities. However, only general posters were distributed, and the messages came from Maputo. Few other communication channels were used. On the other hand, next to Portuguese, the local languages were also used to reach the people in the communities. In the national sanitation programme, community participation played only a small role. There were few community based organisations who participated in the form on transporting latrine slabs or digging pits (Colin, 2002).

Not only the GoM is concerned about and involved in hygiene and sanitation promotion in Mozambique: Mirasse (2009, p. 1) explains that in 2007 UNICEF implemented a programme called the ‘One Million Initiative’ in Mozambique. This programme is concerned with rural water supply, sanitation and hygiene promotion and is funded by the Government of Mozambique, the Government of The Netherlands and UNICEF itself. This programme is not implemented in Niassa, but only in the provinces of Manica, Sofala and Tete. It is, however, an example of the efforts taken by the GoM in cooperation with partners to improve the hygiene and sanitation situation in the country. Due to lack of involvement of local leaders in this project, results were not satisfactory. Therefore UNICEF introduced ‘Community Lead Total Sanitation (CLTS) into the programme. In this approach, the local leaders have a leading role. It aims at achieving and sustaining open
defecation free (ODF) status (Mirasse, 2009, p. 2). Moreover, Mirasse (2009, p. 3) points out the importance of ‘natural leaders’. These are actually the people who spread messages and show people that there is a need to do something. These people can be volunteers too. Also UNICEF trained community leaders to inform and have discussions about hygiene and sanitation communication in the light of the eminent cholera thread (UNICEF, 2007, p. 3). With local leaders being involved in preventive health efforts, under which efforts to promote hygiene and sanitation can be categorized, the acceptance of the measures among communities seem to be much higher. However, in the case of Secretários de bairros3 being involved Montgomery et al. (2010) found that people felt even forced to be part of the preventive measures, as they then felt government imposed and acting accordingly as an act of abiding the law.

For the aspect of water management, so-called water committees are established around wells. The committees are in charge of the safety and maintenance around the well. In a test about the functionality of such water committees conducted by the International Federation of Red Cross and Red Crescent Societies (IFRC), water-committees were established in the north and south of Mozambique. Here, the IFRC (2012, p. 4) pointed out that even though traditionally women are in charge of water collection, the water committee almost exclusively consisted of men in the test carried out in the north of Mozambique. Women were left out of the management process. In addition, the fund collection here was not transparent. On the other hand, in the south, a test committee which was managed by women was more successful in these matters. Therefore, in consultation with the GoM it was decided that these committees would have a balance between male and female representation (IFRC, 2012, p. 4).

Concerning community participation in hygiene and sanitation promotion, the PARP states a specific objective regarding community participation, which is: “compile and disseminate good practices in food consumption and hygiene within the community” (IMF, 2011, p. 21). This goal is to be reached via providing training to local structures and organizations. In addition, community involvement via the participation of parteiras (traditional midwives) and agentes polivalentes elementares (community health workers) at the village level is an important

---

3Translates from Portuguese into “Secretary of the neighbourhood”, Part of the administrative structures which were introduced after independence in 1975. Nominated by FRELIMO (the independence-linked long term ruling party in Mozambique), but locally elected by the people of the village or neighbourhood that the secretary is responsible for.
principle for the national health system (Instituto Nacional de Estatística, 2013a, p. 8). USAID, which is also involved in WASH campaigns in rural areas in Mozambique, promotes local participation and further decentralisation of sensibilisation tasks (USAID, 2015).

5.3 Hygiene and Sanitation Situation in Lago

The total number of household in Lago is 18,978. Of these, 35.8 percent use lake water as their main water source. Further 26.2 percent of the households make use of unprotected wells while other 33.1 percent of the households use water from protected wells. In addition, 1.7 percent use outdoor, and 0.2 percent use indoor pipes. Spring water is used by three percent of the households.

When it comes to the usage of latrines in Lago, only 11 percent of the households use a form of improved latrine (e.g. with a slab to stand on and some form of ventilation for the facility). 65.7 percent have a traditional latrine and 22.9 percent have no latrine at all. In addition, 0.5 percent of the households have a latrine with a septic tank (data from 2007, used in Instituto Nacional de Estatística, 2013b, p. 15).

An example of hygiene and sanitation communication is provided by the district government in their 2014 annual budget report: Both the district health services and the Mozambican NGO ESTAMOS were involved in spreading anti-open-defecation messages at the Posto Administrativo in Meluluca. Also, the messages were about the need for the washing of hands, and the hygiene in homes. These hygiene and sanitation promotion activities were accompanied by the building of 25 latrines (Governo do Distrito de Lago, 2015, p. 14). In addition, a UNICEF funded-SANTOLIC project (Saneamento Total Liderado pela Comunidade), has been implemented in Lago, and a total of 100 latrines have been built which was completed in 2014 (Governo do Distrito de Lago, 2015, p. 13). The annual balance report by the district government tells of 48 information lectures on how to build latrines took place in the Lago district in 2014 (Governo do Distrito de Lago, 2015, p. 46).

According to the Social Development-report for 2015, the SDPI (Serviços Distritais de

---

4 Administrative Post, administrative division of the districts in Mozambique, are in turn divided into ‘localities’

5 which translates from Portuguese into “Community-Led Total Sanitation”
Planeamento e Infra-estruturas will receive 200,000 MT in 2015 from GOTAS (Transparent Governing for Water, Sanitation and Health) to carry out hygiene and sanitation promotion campaigns. The SDPI will manufacture and construct 982 latrines slabs. This is supposed to be paid from internal funds as well as funds from GOTAS (Governo do Distrito de Lago, 2014, p. 14).

The act of delivering hygiene and sanitation messages to the people is locally called sensibilização. People involved in the work, and usually organised in groups, are called ‘sensibilisation groups’. Their task is to spread messages about good hygiene and sanitation practices via home visits, group meetings and in general discussions with local people (see Appendix 2, list of interviews, ref. no. 25) The forming of health groups in communities is facilitated by the district services for health, via staff from the health centre in Metangula or community health workers (agentes polivalentes elementares) (Ref. 31).

The district health centre explained that while hygiene and sanitation efforts were increased in the wake of the recent cholera outbreak, there also exists a continuous district committee under the umbrella of the district services for health which focusses on diarrhoea prevention and includes local leaders, religious leaders, and also economic leaders (Ref. 31).

### 5.3.1 District capabilities and services in hygiene and sanitation of Lago

Lindelöw et al. (2004), in a study about health service delivery in Mozambique, found that the district services linked to health and sanitation seem to be understaffed, with existing staff often not being qualified for the tasks required from the district service. A baseline study for the implementation of PRONASAR in Lago by the DNA provided a similar picture for that district in 2012, by for example pointing out that the SDPI only has two employees who are working on water and sanitation and, that there is no trained mechanic within Lago district who could repair broken mechanic water pumps (Direção Nacional de Água, 2012, p. 3). Due to the lack of resources and capabilities of the district services, Pendly & Obiols (2013) explain that certain objectives by the provincial or national levels of the health system cannot be implemented on

---

6 which translates from Portuguese into “District Services for Planning and Infrastructure”
7 Meticais, the national currency in Mozambique
8 which translates from Portuguese into “sensitisation”; however, in this report the term ‘sensibilisation’ will be used as it has been made use of before during the field research due to its closer resemblance to the Portuguese term
9 from here on out interview references will be provided in the form of “Ref. X”
district level. The lack of district capabilities health communication activates other actors in society by itself who then participate in that task, as seen with the community radio which shows initiative in creating health programmes for the people in Lago. Such an initiative was identified for the recent cholera outbreak which was accompanied by a 26 day electricity cut, caused by heavy rains and subsequent floods in other parts of the Niassa province. The community radio in this situation organised a generator by itself, including the costs, to spread important messages about hygienic behaviour and sanitation. However, when the district administration realised the radio was working again they included them in their centrally organised counter-measures against the cholera outbreak (this aspect is elaborated on in more detail in the following section 5.3.2 *Cholera Outbreak in Lago in 2015*), which meant for the radio to then send a centrally designed message (Ref. 41).

The district services for Health, Women and Social Affairs in Lago reach out to villages via a mobile health unit, which allows for quick testing of people and holding of speeches, as well as direct communication on site (Ref. 31). Diseases like malaria, cholera, diarrhoea, rabies and measles are monitored on a weekly basis by recording the cases registered at the health centre and health posts (if that information is available). The health authorities gather statistics and send them upwards to provincial level.

The health centre stays in contact with the health posts via phone. However, it was found that five health posts have bad or no cell phone reception. All five of them can still send their weekly statistics via text messages. Even though this can mean that health staff in the northern posts has to walk to a higher location and use the Tanzanian network. When there are more extensive reports to be send, a messenger has to travel to the health centre in Metangula with letters. These messengers can be anyone, including private and commercial travellers, who travel to Metangula for different purposes (Ref. 31).

### 5.3.2 Cholera Outbreak in Lago in 2015

Details about the cholera outbreak in Lago 2015 are presented in order to illustrate what consequences a flawed hygiene and sanitation situation can have. At the beginning of 2015, parts of the Lago district suffered from a cholera outbreak, which was predated by heavy rainfalls in the weeks before. Sewage water reaches the lake and other unprotected water sources directly, and the heavy rains increased the amount of sewage water being carried to
these water sources significantly, as latrines and other waste disposals were aggraded. Neither the district services nor the municipality of Metangula are in general able to provide the people with clean water, causing 6,790 households (account for 35.8% of households in Lago) to use lakes, as an example of an unprotected water source, as their main source for water (Ref. 31; Instituto Nacional de Estatística, 2013b, p. 15). Especially the Lago Niassa is used by many people for cleaning of clothes and other goods, to wash themselves and to fetch water to prepare food, which is why cholera has the potential to spread fast in the district in general (Ref. 31). This is the reason that due to the heavy rains the cholera outbreak was more or less predicted by health practitioners.

According to a representative of the Metangula health centre, 773 people got infected, and five people died, as of the day of the interview (Ref. 31). However, these five deaths are the ones that were officially registered. Some people might have died in remote villages, where the deaths have not been reported. Another possibility is that people have died of cholera, but it was not recognized as such and was therefore not reported by the family. During the outbreak, a quick response was implemented in the form of a large prevention campaign, decided upon by a crisis committee chaired by the district administrator and consisting of representatives of all district services and the administrative apparatus, as well as the municipality and representatives of the local population, such as religious leaders, régulos\textsuperscript{10}, and secretários de bairros. This crisis committee agreed on a coherent message about appropriate hygienic behaviour and sanitation measures for the population of Lago in this crisis situation. The people were asked to always boil water before using it, to apply the water treatment substitute Certeza (see appendix 3, picture 1) to their drinking water, and clean hands by washing them or using ashes.

In addition, the health centre in Metangula established a special cholera ward (see appendix 3, picture 2), which was fenced in order to avoid more infections via e.g. relatives visiting infected family members. Some hand-out material was available, but not in great quantities (Ref. 31).

\textsuperscript{10} Traditional chiefs with local legitimacy. Were strongly implemented in the Portuguese colonial system in Mozambique (hence the Portuguese word “régulo”, which can be translated as “local king”), then deprived of power after independence in 1975. However, they remained important leading figures within communities and experienced greater reintroduction into the governance system in the 2000s.
The cholera response was coordinated by the Provincial Directorate of Health (DPS), the Provincial Directorate of Public Works and Housing (DPOPHRH) and the Provincial Directorate of Environmental Action with support from UNICEF, WHO and MSF (Médecins Sans Frontières\textsuperscript{11}), The INGC (Instituto Nacional de Gestão de Calamidades\textsuperscript{12}), coordinated all disaster management and emergency response, cooperating closely with the already mentioned crisis committee. UNICEF points out that the current cholera outbreak continues to be a public health threat in Mozambique, including Lago. Intervention priorities are sanitation, real-time mapping, and social mobilisation campaigns. Social mobilisation on cholera prevention is done through radio, provision of information materials and mobile units. These priorities are agreed upon among UNICEF, WHO and MSF. In addition, UNICEF provides material and technical support for the cholera treatment centres in all affected districts, development of the cholera multi-sectorial plan, as well as provision of cholera medication (UNICEF, 2015, p. 3 & 4) In addition, UNICEF carried out WASH activities (UNICEF, 2015, p.1).

There is an issue of false information being spread by people, also during the latest outbreak. This can be caused by illiteracy or a lack of knowledge, causing for example the water treating with Certeza, which is “chlorine”-based, to sound like “cholera” to some people, which made them resent it. Furthermore, some people even believe that the government is actively spreading cholera, a believe, which is fuelled by such misunderstandings as described above. This happened in Lago for example when district and municipality service staff tried to directly hand Certeza to people who fetched water at the lake (Ref. 31).

Despite such misunderstandings, the INGC explains that there is a big difference between the recent cholera outbreak, and a severe one that occurred in 1999: The outbreak of 1999 still remains in the memory of the local population, and these memories together with the general promotion of hygiene and sanitation practices made a lot of people identify the disease quickly, either for themselves or in their surroundings, leading to many people seeking help at health facilities early. Furthermore, and as a very concrete preventive measure, in 2015 friends and relatives of the sick were not allowed to visit them in the hospital or bring for example food. That used to be possible in 1999, causing visitors to get infected at the treatment place. Another

\textsuperscript{11} translates from French into “Doctors Without Borders”

\textsuperscript{12} National Disasters Management Institute
difference, is that this year, all crisis communication actors came together early, in order to discuss strategy for fighting the cholera outbreak in form of the crisis committee (Ref. 70).

5.4 Impact of decentralisation on district health systems in Mozambique

While the impact of decentralisation of the health system in Mozambique is not a focal point of this study, it is relevant to look at its effects on the health systems on district level, as this can have direct consequences for the promotion activities of hygiene and sanitation and therefore the efforts to prevent cholera.

To facilitate the decentralisation process in Mozambique on which the country embarked in the middle of the 1900s, the GoM made efforts to decentralise certain financial resources, including some intended for health. While this gives district governments in principle more access to fiscal resources, it still “runs counter to the policy of allowing the local governments to link their budgets to their own economic and social plans” (Ames et al., 2010, p. 7), as e.g. for health it would still be the MoH in Maputo which decides on the budget allocations.

Included in the decentralisation of the health efforts over the last ten years, were increased efforts to cover rural and rather isolated districts, such as Lago in Niassa, with the already mentioned health posts and health centres. Cuembelo et al. (2013) explain that this did for example occur by improving and equipping health facilities of lower standard into health posts which would then have certain standards defined by the MoH, by for example adopting standardised treatment measures and receiving medical supplies from the central level. In Lago, this happened for example when several health facilities formerly owned and run by the Catholic Church were taken over by the government in recent years as the Church struggled financially due to the global financial crisis. These health facilities were then turned into health posts (Ref. 45).

The focus of the national health authorities to improve health coverage in rural areas level brought with it a large shift of responsibilities to the health authorities on district level. Their tasks now include the budgeting of needed health interventions, distribution of medicines and other supplies, the management of staff involved in the health system on district level, as well as monitoring the health situation in the district and reporting it further up in the hierarchy (Cuembelo et al., 2013, no pagination); things which have all been found in Lago as well (Ref.
However, according to Cuembele et al. (2013) the district services for health struggle with the execution of all these responsibilities as the budget allocated for it from the MoH is not sufficient and the staff is often not qualified enough to carry out the tasks in an adequate fashion. Concerning the keeping of records, Cuembele et al. (2013) conclude that “weak data collection systems and limited capacity to analyse data for district level decision making and planning” (no pagination) are visible on district level in Mozambique. A similar situation for the monitoring and keeping of records has been found in Lago and described earlier, with health posts often not being able to adequately provide the district health service, located at the health centre in Metangula, with information about the health situation in their locality, as they lack for example a direct line of communication via for example phones.

5.5 Actors, Content of Messages & Channels/Techniques

To further illustrate the hygiene and sanitation communication landscape in Lago, actors involved, content of messages spread and channels or techniques used will be presented in the following (some of which might have already been touched upon in the findings presented above). These concepts are considered crucial when exploring communication structures. It has to be pointed out that the following chapter does not present all actors and all channels in the Lago district in Mozambique. However, an overview has been made about some of the most relevant of those involved in hygiene and sanitation communication, based on notes from the field study and relevant secondary sources. In accordance with the first set of research questions (see p. 15), this chapter starts with the section ‘Actors’.

5.5.1 Actors

5.5.1.1 Health authorities

In this section, an overview is given on the health authorities in the Lago district. Next to treating illnesses, the health authorities are concerned with the prevention of diseases, which they do, amongst other things, through hygiene and sanitation communication.

Health centre in Metangula

Next to providing health care, the health centre in Metangula is concerned with community health. It hosts the district services for health, which oversees and coordinates the health posts in the rest of the Lago district, by for example receiving standardised statistics from these health
posts about treatment activities and disease rates (Ref. 31). Such statistics can be used, after being compiled on district-, send to provincial-, and forwarded to the national level, to have specialised health campaigns created which fit the needs of the particular district (Ref. 53). What is more, employees of the health centre inform about health, sanitation and hygiene topics, either via public speeches, by going on-air at the community radio health programme, or via direct contact with patients, and they are further responsible to implement national health campaigns such as child vaccinations (Ref. 31). The forming of health groups in communities is facilitated by the district services for health, via staff from the health centre in Metangula, which then spread information about hygiene and sanitation in their community, with participation of local leaders (Ref. 31). According to the health technician at the health centre in Metangula, there are a three months and a weekly plan for outreach to the public in form of speeches. This plan would indicate at what times most people will be at the health centre and also which topic should be addressed. Staff from the health centre would also hold speeches in other parts of the city, but not as frequently as at the health centre site (Ref. 31). The District Services for Health, Women and Social Affairs reach out to villages via a mobile health unit, which allows for quick testing of people and holding of speeches, as well as direct communication on site (Ref. 31). Diseases like malaria, cholera, diarrhoea, rabies and measles are monitored on a weekly basis by recording the cases registered at the health centre and health posts (if that information is available). They gather statistics and send them upwards. Prevention work is hindered by geography of the region and that therefore people are hard to reach. Sometimes, staff even has to travel by boat to reach some communities. Prevention work is also hindered by lack of resources, e.g. transport and personnel to reach out to regions (Ref. 31).

**Health Posts**

In order to illustrate the work of health posts, this section will provide information from and about the health posts that have been visited during the fieldwork, which are in the villages of Meluluca, Maniamba, Messumba and Mechumwa. Besides treatment activities, the staff at health posts in Meluluca, Maniamba, Messumba and Mechumwa is mainly focussed on prevention work, including the education about diseases, sanitation and hygiene (Refs. 17, 26, 35, 49). While some just include the provision of such information when in contact with patients, others, such as the preventive health agent in Maniamba, specifically focus on this work by holding public speeches and doing home visits. These visits are usually not announced
beforehand, in order to prevent people cleaning just for the visits, which allows the health agent to get a real image of the hygiene and sanitation situation at the premise (Ref. 35). In Meluluca, the health post is perceived by local fishermen to be poorly equipped and therefore unable to help with outbreaks of diseases. This creates a feeling of underdevelopment among these fishermen interviewed in that village regarding health, while further explaining that the lake they are working with brings all kinds of diseases from various places (Ref. 10).

5.5.1.2 Agentes Polivalentes Elementares/Sensibilisation groups

*Agentes polivalentes elementares* are community health workers, who receive a training of four months (which is relatively short for official health training that includes treatment practices) and focuses on the treatment of malaria and diarrhoea, as well as respiratory diseases. According to the WHO, *agentes polivalentes elementares* are trained to increase basic health services at community level (WHO, 2015). A programme for *agentes polivalentes elementares* was officially launched in 2013, with funding from UNICEF.

According to the representative of the provincial health authorities, the agents are each responsible for about 2500 people in the rural areas they work in. 75 percent of their work is of preventative nature, therefore informing people about diseases, hygiene and sanitation. To facilitate their work, they are responsible to form the previously mentioned ‘sensibilisation groups’ (therefore people involved in sensitisation work) within communities which then also go out to peoples’ homes and check on latrines for example, discuss living conditions, and inform about hygiene and sanitation. While talking to representatives of such a sensitisation group in Mechumwa, it was further revealed that they also try to attend as many public meetings in the village as possible (which can be meetings for various other purposes, not specifically health-related), as they are able to reach a large group of people with their messages simultaneously. Furthermore, just as the *agente polivalente elementares* establishes these groups to forward sanitation and hygiene information, the sensibilisation groups themselves encourage people they visited or talked to pass on the information to neighbours. Additionally, sensibilisation groups also cooperate with local health posts and would also be approached via visits by the district services for health in the Lago district to inform about certain times for vaccinations and other national health campaigns (Refs. 25 & 31).
**Universidade Lúrio students**

*Universidade Lúrio* students spend one week per semester in families in the nearby communities to inform them about methods to be used in agriculture, but also to learn about traditional methods for agriculture. However, these visits are also used by the student to promote and discuss hygiene and sanitation practices (Ref. 55).

**5.5.1.3 Instituto Nacional de Gestão de Calamidades**

The INGC is a national organisation dealing with crisis prevention and crisis communication. The INGC coordinates the formation of crisis committees within communities, in order to be represented and have a permanent communication channel to these communities. The INGC has a district office in Metangula, and were also highly involved with communication during the cholera outbreak. According to the representative of the INGC in Lago, the main communication channel activated during the cholera outbreak, was face to face communication, therefore they approached all kinds of local leaders and institutions. Moreover it was claimed that help from Lichinga came faster compared to the outbreak in 1999, since now mobile phones were available to inform about the outbreak and ask for assistance. In addition, the radio sent health messages, which were prepared by the crisis committee. The INGC crisis committee had numerous tasks, which included sensibilisation work and mass distribution of Certeza. Illustrating the vast efforts taken in spreading hygiene and sanitation messages during the recent cholera outbreak, the representative of the INGC remarked the sensibilisation work was “nearly harassment” of the people in the communities, because the messages appear to have been repeated constantly and by various actors of the society (Ref. 51). The local representative stresses the importance of including the crisis committees in the work of the INGC. Also, the crisis committees should play a role when an outbreak is over. When the outbreak has been ended, the health authorities announce it. Then, the crisis committee should meet to evaluate their work during the outbreak. However, the representative in Metangula stresses that this has not happened yet (Ref. 51).

**5.5.1.4 Consultative Councils**

Consultative Councils (and also Party meetings) are the people's chance to bring forward needs, also regarding health. Consultative councils - reaching from neighbourhood to administrative post to district level – are a way for the district administration to be informed about health issues
and the current situation in various parts of the district. They were established via the Law on Local State Organs from 2003 (LOLE) which also set out to activate and include traditional leaders in the state tasks, in order for the government to create better linkages to the local population. One result of this LOLE objective were the consultative councils, in which representatives of communities get together to present and discuss relevant topics. Starting on neighbourhood (bairro) level, representatives move on to the consultative council on administrative-post level to present the topics. These were regarded as most relevant in the previous meeting on neighbourhood level to the other representatives from the same level, and including the posto administrativo. The last level is on the district and with the District Service for Planning and Social Development, in which the representatives from the four administrative posts can present their most urgent topics, which are then ranked by the attendees of the meeting. Topics which cannot be handled due to time or capacity reasons might become the focus point in another meeting on district level (Ref. 29).

5.5.1.5 Municipality
The President of the Municipality sees the quality of the health centre, the number of health posts and their reachability (distances) as main challenges concerning health, not only within the borders of the municipality but for the whole Lago district. The municipality, while generally not responsible for health tasks in Metangula, was involved in the health campaigns to tackle cholera. Staff from the municipality promoted for example the boiling of water, using Certeza, the usage of latrines and the washing of hands (see appendix 3, picture 3). They felt that their campaigning worked as cholera had been very well handled (Ref. 15).

5.5.1.6 Traditional leaders
In 2000, a law was introduced which officially recognises the traditional authorities in rural and semi-urban areas. They are recognized under the name ‘community authorities’ (Montgomery et al., 2010, p. 1649). Régulos, as part of the customary leadership sphere, also play an important role in the efforts to promote hygiene and sanitation practices. In general, health practitioners should pass by the régulo before they can actually go into the village to do work, such as house visits (Ref. 47). However, régulos themselves also seem involved in doing these house visits and educating people about health and hygiene. To illustrate, the régulo Chelombe in Metangula was informed by health authorities about cholera and invited to several meetings.
It is widely recognized that régulos have an influence on people. For example, they are invited to speak on the health programme on the radio, in order to inform people about hygiene and sanitation measures they have to take. Also the health centre in Metangula (Ref. 31) is concerned with forming of health groups with traditional leaders. The leaders are educated on how to prevent diseases, guard hygiene in the households and how to treat water before it is safe to drink. Régulo Chelombe explained that usually he stays in contact with families by actually going and visiting. This way, he can deliver information, but also receive it from them (Ref. 26 & 27). The head of ten households (Chefe de Circulo) is also an actor that is important on the most local levels. From them it is expected to transfer information to the ten households he is responsible for. In terms of hygiene and sanitation and the recent cholera outbreak in Lago, that meant the education of people about hygiene and sanitation around the houses and the distribution of Certeza.

5.5.1.7 Traditional doctors (Curandeiros) & Traditional midwives (Parteiras)
Another important actor in sending health messages are ‘witch doctors’ or ‘traditional doctors’ locally called: curandeiros. (Åkesson & Nilsson, 2006, p. 81) In Metangula, the local branch of the association of traditional doctors - AMETRAMO (Associação dos Médicos Tradicionais de Moçambique)\(^\text{13}\) works as a sensibilisation group in collaboration with the local health post. For traditional doctors it is easier to spread messages to the community, because they are better integrated and know the community better, than for example doctors from outside (Refs. 48 & 50). The traditional doctors also receive training via the local health posts (Ref. 48) in order to recognize and handle cholera. This way, the doctors were able to send patients to the health posts quickly. The established collaboration between traditional and contemporary health practitioners further consists of making the curandeiros aware about different diseases, treatments, and the importance of sending patients to the hospital in time.

The World Health Organisation is working on awareness raising of the importance of traditional medicine, also in Mozambique. Here, the African Traditional Medicine Day has been celebrated in Lichinga in 2013. Also the WHO played a role in the establishment of the Institute for Traditional Medicine, and policy development for regulation of traditional medical practitioners in the NHS (WHO, 2015). A representative of the district service for health confirmed the

\(^{13}\) translates from Portuguese into “Association of Traditional Healers of Mozambique”
increased cooperation with traditional doctors and also explained that occasionally health staff from the health centre in Metangula would visit the sites of the traditional doctors to address his patients and provide them with certain health information (Ref. 31).

Traditional midwives (parteiras) are still very active in Mozambique. Due to lack of human resources, they are sometimes granted access to health posts to carry out their work, which is seen as support to the local health staff, and is taking place in Lago in for example the health post in Meluluca (Ref. 49). For them the same goes as for the traditional doctors, meaning they are usually well integrated in their communities and often have strong connections to families as the personal and intimate nature of their work and services. Due to their involvement in health posts already, there are certain plans by the MoH to officially integrate traditional midwives in the national health system of the state (which would also include wage-payment obligations from the state) according to a representative of the health authorities on provincial level in Lichinga (Ref. 53).

5.5.1.8 Religious actors
It was found that both the Catholic Church (Ref. 45) and a Mosque in Metangula (Ref. 44) are spreading hygiene and sanitation information in their communities. The Priest of the Catholic Church in Metangula explained that they also work together with the health authorities, and they participate for example in lectures. He explains that it is important that the Church spreads messages about health, because the Church is perceived credible and legitimate by many people. Moreover, the Church also gives tips to the health authorities, for example to use the vaccination campaigns to spread other information as well (Ref. 45).

The interviewees at the Mosque visited explained that they would regularly organise meetings outside of the facility with their religious community, not only do discuss issues of health, but that can be a topic and specifically was during the recent cholera outbreak, in which representatives of the Mosque were also approached by the health authorities in the district in order for them to join the counter-measures against the outbreak (Ref. 44).

5.5.1.9 Community Radio
The community radio in Metangula was established in 2002 by UNESCO, but the project ended in 2006, which leaves the community radio currently in a difficult situation, in terms of financial problems (Ref. 13). These problems lead to the situation that air time is limited, due to the fact
that the association of the community radio does not have the financial resources to pay for the electricity bills. All the staff of the radio works there voluntarily. This means, that whenever a paid job comes along, the staff has to leave the radio in order to provide themselves and their families an income. Due to these problems the coordinator of the radio, estimates that they only work on 50 percent of their capacity. Despite the difficulties, the community radio airs programmes in three languages. This included the national language, Portuguese and two local languages, Yao and Nyanja. Moreover the community radio aims to keep variety in their programmes. This also includes health. Health practitioners appear on radio health programmes to spread information. In addition, régulos are invited to talk as well about health occasionally, as people listen to them for them being customary authorities. The frequency with which régulos would appear on the radio increased during the cholera outbreak due to the urgency of the matter. However, during the outbreak and caused by the heavy rains there was a 26 day electricity cut, which hindered the radio to spread hygiene and sanitation messages for some time before they were able to organise a generator. Them being involved in this task had both been their own initiative but also officially requested by the previously mentioned crisis committee whose task it was to organise the counter-measures against the cholera outbreak (Refs. 13, 32, 41).

5.5.1.10 NGOs/Projects

Estamos

Estamos is a Mozambican NGO founded in 1996 in the wake of the civil war with offices in both Maputo and Lichinga. The main focus of their work used to be based on training communities in water supply, and providing them with latrines, therefore issues in hygiene and sanitation. They aimed to reach communities via traditional leaders, radio, music videos and theatre. This means, communication is a major part of the work they were doing. However, Estamos also puts a strong focus into monitoring the health authorities from national to district level. The NGO believes that the government has enough resources to help the country on its feet, but just needs to be monitored, in order to be able to tackle corruption. The government has a very small budget on water and sanitation, while this is an important issue in the country. Estamos wants to exercise pressure on the government in actually using money for water and sanitation, and therefore improving the health situation for many people. The CEO of Estamos explained that the cholera outbreaks basically started in Maputo due to the bad governance.
Next to that, Estamos aims to do social audits. With this is meant that they show laws and rights to people, in order to make them aware of their rights. Estamos creates a platform and opportunities for people to complain or claim their rights. People find it difficult to inform themselves, or are scared to actually talk to a district administrator. When Estamos provides a platform, it is easier for people to participate and become an active citizen. With this, Estamos wants to reach greater empowerment amongst people in communities (Ref. 61).

**ROADS**

The NGO ROADS (*Rede de Organizações Ambientais e de Desenvolvimento Sustentável*)\(^{14}\) which is based in Lichinga but also active in the Lago district tries to promote hygienic behaviour. According to them, only a healthy population is able to adapt to climate change, which is also one of their main focus areas. It has been observed that in Lago the NGO hung papers in the streets of Metangula which very strictly address people who litter to stop, telling them they should be ashamed of themselves for harming the community with their actions.

**N’Weti**

N’Weti is a Mozambican NGO which is concerned with health communication and promotion in some areas of Mozambique. N’Weti explains that health is not just the task of the according Ministry (e.g.), but part of other spheres of society (e.g. the traditional structures of power). N’Weti works according to four pillars (Ref. 62), which are: research, multimedia, mobilisation and advocacy. With mobilisation it is meant that they try to mobilise people in local communities through community meetings. Advocacy refers to influencing policies on a higher level and aim at change. The aim for N’Weti is to follow up on government initiatives, and push for transparency. Moreover, N’Weti wants people to feel heard and empowered, because this will lead to behavioural change. N’Weti tries to align their messages with the messages that other NGOs spread as well, in order to avoid confusion. This is also the reason why they have a tight relationship with the government. When the messages between N’Weti and the government differ, N’Weti puts pressure on the government with the aim that they change their message, so they align with each other. According to N’Weti, the channels to reach people with health messages should be a mix, so they can complement each other. This means both oral

---

\(^{14}\) translates from Portuguese into “Network of Environmental Organizations and Sustainable Development”
messages and for example posters. The latter are necessary to remind people of the message (Ref. 62).

GOTAS
The GOTAS is a four-year project and was launched in February 2014 in Lichinga. It will be implemented in the districts of Lago, Chimbonila and Sanga. GOTAS aims to “improve the livelihoods of the rural population through the effective decentralisation of water and rural sanitation services, as well as improving health promotion through active citizen participation in decision-making processes” (SNV, 2014, no pagination). The project was launched in cooperation with the Swiss Agency for Cooperation for Development (SDC), the Provincial Government of Niassa and the SNV (Stichting Nederlandse Vrijwilligers; Netherlands Development Organisation). The SDPI receives 200.000 MT in 2015 from GOTAS to carry out hygiene and sanitation promotion campaigns (Governo do Distrito de Lago, 2014, p. 14). The SDPI will manufacture and construct 982 latrines slabs. This will be paid from internal funds as well as funds from GOTAS (Governo do Distrito de Lago, 2014, p. 14). In addition, GOTAS is included in the budget for social development of the Lago district in several ways: They will invest in capacity building of water committees, including the training of mechanics who are able to repair pumps. Furthermore, they will fund the training of community leaders and Chefe de Postos on matters of water and sanitation. Last but not least, similar training and capacity building will be provided for the SDPI (this objective receives by far the most funds from GOTAS with 711.290 Meticais allocated in the budget) (Governo do Distrito de Lago, 2014, p. 14).

5.5.2 Channels/Techniques
In the following, the channels and techniques used by the actors identified to be involved in hygiene and sanitation communication to get their messages across are presented.

5.5.2.1 Clarification of misinformation
The goal for many of the actors is to clarify misinformation or eliminate rumours. During several interviews is has become clear that some people receive or rely on misinformation, or that rumours are easily spread in the communities. For example, people find it hard to believe

---

15 Government official who is the head of an Posto Administrativo, overseeing for example the local administration, police, health, taxation and statistics
that they can get sick from water that their ancestors have been drinking for a long time. To them, it is exactly the same water. Also, examples have been provided that community members have become violent (Ref. 53). Even though this was not in Lago, there was an incident that community members set fire to the house of their community leader. The leader was working together with the authorities to fight infection of cholera, however, the people thought they were working together to spread the diseases. Another problem that has been explained before is the issue around the misunderstanding of the words ‘cholera’ and ‘chlorine’.

5.5.2.2 Constant repetition of messages
To counter the cholera outbreak of 2015 central messages generated by the crisis committee about appropriate hygienic behaviour and sanitariness were sent out by several actors of society, including sensibilisation groups, staff of the district services and municipality of Metangula, water committees (GOTAS), both the Anglican and Catholic Church, associates of Mosques, traditional leaders, secretários de bairros, curandeiros and parteiras. These messages concerning hygiene and sanitation were very consistent, promoting the same practices such as cleaning hands with water or ash, building improved latrines and keeping them clean, keep food preparation areas hygienic, treating water before using it for cooking or consumption by using Certeza or boiling it, and refrain from open defecation. Many local people who were interviewed during the field study sent or received such information about hygiene and sanitation. People were aware of the recent cholera outbreak, and were aware of the prevention measures to be undertaken.

5.5.2.3 Group meetings
Consultative Councils - reaching from neighbourhood to administrative post to district level – are a way for the district administration to be informed about health issues and the current situation in various parts of the district. The district administrator added that also party meetings of the long-term governing political party FRELIMO, which also reach down to the regular population, are sometimes used by the attendees to address health topics. Furthermore, various other meetings which take place in communities are used by actors involved in sensibilisation work to spread their messages.

5.5.2.4 Health programmes on radio
Both independent community radio stations and radio stations under the umbrella of the national Institute for Social Communication (ICS) provide health programmes on their
channels, and a university radio station considered it to be a good idea to create such a programme in the future, with the possibility to invite staff from the local health post to interview and provide health information, something which is already common with the initially mentioned radio stations.

5.5.2.5 Mouth-to-mouth
The direct transmission of messages mouth-to-mouth, either via dialogue or public speeches, appears to be an important tool when reaching out to people and inform them about issues or news in general. When it came to health communication, this has been found both with official health staff (both in the health centre in Metangula as well as in health posts) who explain about hygiene and sanitation whenever they approach patients, with *agentes polivalentes elementares* who reach out to villages by visiting and explaining about these topics, and basically with all other actors involved in sensibilisation work, governmental and non-governmental. Not one actor interviewed, neither on national, provincial, nor district level, solely relies on a distant- or indirect communication channel for the spreading of health information, not even the radio.

5.5.2.6 Mobile phones
Since 1997, mobile phones are part of the telecommunications market in Mozambique. With the state-operated mobile telecommunication provider *Mcel* being the first company to introduce the technology on the national market, two more providers followed - *Vodacom* in 2002 and *Movitel* in 2012 - and numbers of subscriptions to the services kept rising in general due to the greater competition. It is especially Movitel which brought mobile phone services to rural areas of Mozambique, including Lago (Movitel Mozambique, 2013).

The researchers of this project experienced show that Movitel has a good coverage in the Lago district, for reception as well as internet access. The improvement of coverage is still going on, as can be seen in Messumba, where a new receiver is currently being built, despite the difficulties of reaching the village in order to execute the building works. The president of the municipality of Metangula (Ref. 15) and the *Chefe de Posto* in Maniamba (Ref. 33) also confirm the observations. They both explain that they do not have to complain about the mobile phone networks as Mcel, Movitel and Vodacom provide coverage for their region.
However, the health centre in Metangula explained that there are several health units in the Lago district with bad or no cell phone coverage. In order to reach these units, a messenger has to be send with a letter. For some units it is possible to walk up to a higher position, and send a text via a Tanzanian network. Concerning the cholera outbreak of 2015 it was explained that support from the provincial level was being organised quickly also due to the cell phone infrastructure, as all relevant decision makers own a private cell phone and were able to get in contact directly with each other (Ref. 31).

5.5.2.7 Print materials
Illustrated booklets are used in order to bring messages and information across was found to be very common, and used by various actors for different purposes. A large, calendar-like booklet, shown to the researchers by the health agent in Maniamba, teaches mothers about improved nutrition. N’Weti uses a similar approach to address the issue of e.g. gender based violence. However, several interviewees pointed out that there are not enough educational or promotional materials to hand out to people in the communities (Ref. 31). Other problems are that the materials arrive to late or in an unsuitable language for the community. Large parts of communities do not speak Portuguese, but materials are nearly always spread in this language (Ref. 25). Which contrasts information that Colin (2002, p. 5) presents, which implies that local languages are used a lot in promotional materials.
Chapter 6: Analysis

The following first part of the analysis will provide an understanding of the communication structures within hygiene and sanitation communication in Lago. The analysis of these structures aims to contribute to an understanding of one-way and two-way communication approaches in hygiene and sanitation promotion on district level in Mozambique, based on Grunig’s (1989, in Botan and Hazelton, 1989) four models of public relations. Also, this analysis explores how either one-way or two-way communication can contribute to the promotion of hygiene and sanitation and therefore the avoidance of cholera infections in the future.

6.1 Communication structures in hygiene and sanitation promotion

Many different interviewees, at different locations and in different levels of society were aware of the recent cholera outbreak, and seemed to have received the same information, even though from different actors. There is a high coherence in hygiene and sanitation messages among different actors.

The idea to pass on health information to more people seems to be appearing a lot among actors involved in hygiene and sanitation communication, as seen with sensibilisation groups and young people in Maniamba, who explained they would reach out with new health information to the elders in their communities to discuss and inform and improve the community.

As 70 percent of the national health budget in Mozambique is still financed by outside actors such as donor-countries or NGOs, the assumption can be made that specific health-linked objectives by these donors go along with the donation of money. A consequence then could be that the different objectives also lead to different communication approaches, or messages about health being send out, which may contradict each other and, therefore, might create a rather confusing situation for the intended recipients of such efforts, which is the Mozambican population. However, this research did not confirm such assumptions, as the messages encountered on district level about hygiene and sanitation did not vary in content, but were very much aligned and consistent. On the other hand, despite the activities and the dedication of many sensibilisation groups and health committees, there were also people who have never had a house visit to talk about hygiene and sanitation (Ref. 39). Also, there appeared to be people
in the communities who receive information, and know who they are supposed to receive it from, but they miss information that is actually relevant for them (Ref. 40). An example for this was specified as some interviewees on local level wanted information about development and financial issues from the head of ten households. However, the head of ten households was only helping with social issues within the households and the community.

6.2 Communicating with the Public

As mentioned previously, Grunig (1989, in Botan and Hazelton, 1989) has developed four models of public relations. The characteristics of these models can be seen in the matrix in the ‘Analytical Framework’ (see p. 13) section of this research report. In Lago, it appeared that even though there are many actors sending messages ‘down’, it is difficult for the people in the communities to send messages ‘up’ again. The process of reversing roles in a two-way communication process in this context is a very problematic one. Health authorities complain about the difficulties in reaching villages, or cannot remain in constant contact due to poor cell phone coverage in remote areas. Even though, two-way communication would be ideal in a public health communication campaign, in practice in Lago that is difficult.

In addition, people in poor communities have limited resources to send messages. Not everybody has a cell phone, or means for transportation to make their message known to health authorities. So, a coherent message on hygiene and sanitation is sent out, but not questioned by or discussed with the people in communities. The health authorities rather just send out messages, even though through different channels and via different techniques but the people in the communities do not get the chance to reply to these messages. Consequently, there is an identified need for increased two-way communication processes by the local level. There could be questions, complaints or comments that people in the community want to express, but simply do not have the chance to do so. An example for why people may not adapt to promoted practices of health and sanitation is that they misunderstand (e.g. “chlorine” sounding like “cholera”), or want to stick to certain traditions (using the same water source as ancestors). In order for the intervention planning bodies, e.g. the district health services, to be aware about these things it would be necessary for them to engage in dialogue with these people in the communities, via which they can learn about the matters. They would be able to learn about the need of the people to stick to certain traditions related to water, and could also become aware
of certain misunderstandings or difficulties in understanding health messages in that community. Via such a two-way communication process, the hygiene and sanitation promotion by the district services for health could be adapted to the local needs and circumstances and would therefore be more sustainable.

Another problem that was encountered in various situations is that printed materials are not provided in the language that the people speak. Generally, materials are written in Portuguese, and are to be translated by staff who delivers those materials in the villages. However, the need was expressed by sensibilisation groups that it would be convenient for people to take these materials home, so they have something tangible that can remind them of the information that was received earlier. This means, that materials would have to be presented also in local languages, in order to meet the needs of the people. Research into how the people can be best reached, being a part of a two-way asymmetrical approach, would be a measure that can be undertaken in order to improve this situation. For this matter, it should, however, also be noted that the district services may lack the capabilities to even print material which could be handed out in larger quantities.

6.3 Difficulties for two-way-communication

Even though the theory suggests there would be a two-way communication process regardless of what the receiver does with it, in practice, it does not work that way in the Lago district. The government is aiming to spread information. This process can be called ‘public information model’ through ‘one way communication’. However, public relations publishers generally favour a two-way communication process, either a-symmetrical or symmetrical. These allow for the sender to adapt the message to the receiver more accurately, and for the receivers to give some kind of feedback. This way, there would be a higher chance that people in communities understand the message, and act accordingly.

An example of an unused possibility for two-way communication lies with the crisis committee of the INGC. The local representative explained that even though the cholera outbreak has come to an end already, the crisis committee which consisted of contemporary and customary authorities (e.g. district administration, municipality, traditional leaders) did not meet yet to evaluate their work, and although this would be necessary according to him in order to report
and define ‘lessons learned’ the has not even been planned. This evaluation meeting would come close to a two-way communication approach, where the crisis committee can make their experiences about working in the communities known to the INGC, and therefore to the respective authorities on higher levels.

Processes identified that can be called two-way symmetric communication concerning hygiene and sanitation communication over the course of the field study were limited. However, during the ‘One Student One Family’ project of the Universidade de Lúrio students engage with local families in order to learn from each other. Concerning health, the students can learn about traditional ways of medicine, and teach the local families about hygiene and sanitation in the households. There is room for dialogue, discussion and feedback. However, this is not an initiative from the district government in Lago, but part of the curriculum at Unilúrio in the Sanga district.

Another process which showed usage of a two-way communication approach were Consultative Councils. This body allows for discussion of district authorities with representatives of the communities, who can bring up needs and local problems, in order for these messages to be sent further to relevant district services. This is one of the few examples encountered in Lago where two-way communication approaches are implied.

Another aspect identified in Lago is that receivers of hygiene and sanitation messages in certain cases become senders. However, these receivers are not sending their message back again to the source in some form of feedback, but only forward it. Even though the receiver here becomes a sender, this is not two-way communication, because there is no message going back to the original sender. This process has been observed with district health authorities who give out information to be forwarded by community health workers. The agentes polivalentes elementares then pass these messages on to people in local communities. In a two-way communication process, the local population would send feedback through the agentes polivalentes elementares to the district health authorities, but that is not something that was identified. Examples of information flowing back from the local population could be whether or not the promoted hygiene and sanitation practices are applicable to the situation of the people in the particular community, as they may demand certain resources unavailable to them (for example firewood for boiling water, or material to build improved latrines), or that the practices
may run counter to certain traditions. The situation encountered within communities reflects a rather vertical line of information-passing and therefore one-way communication processes. What consequences this lack of two-way-communication processes in the case of hygiene and sanitation messages might imply for the prevention of diseases will be explored in the following.

6.4 Two-way communication flows for prevention of diseases

It appears that the main obstacle for good results of the flow of information, in operational terms, is that one-way communication is the way the authorities reach out for the public when it comes to hygiene and sanitation communication. So, in order to prevent diseases, like cholera, there should be a two-way communication approach. If the nature of the messages is taken into account, where people are to be educated or persuaded to improve on hygiene, a two-way asymmetrical approach seems most appropriate. This means investing in research on the audience in order to identify in what way messages should be delivered to the communities, also based on capabilities and needs.

[graphic of one-way communication]

Graphic 1: Encountered one-way communication approach.
Source: Graphic by authors (2015)

The communication approach of the NGO ROADS is an example of one-way communication. When it comes to hygiene and sanitation promotion, they spread promotional posters throughout Metangula. In contrast, N’Weti applies a more two-way communication approach. They have a general strategy of doing research in a community, thereby identifying problems and only then start to prepare an intervention or create materials. This allows them to adjust
their messages to the needs of the people. Where the government only engages in one way communication, religious actors like the Catholic Church and the Mosque in Metangula try to adopt a more two-way communication approach by discussing issues like hygiene and sanitation with their congregation. However, unlike the government, the Church and the Mosque have little decision making power, and therefore can bring about less change, at least in cases where the solutions regarded best in hygiene and sanitation for the people have for example a financial dimension to it (e.g. building of latrines).

The consequence of the current rather one-way shaped promotion of hygiene and sanitation practices seems to be that, as identified for the outbreak of 2015, people are confronted with messages on how to behave and handle the outbreak en masse, but they do not have the chance during or after these processes to discuss to what extent these practices should become part of an everyday routine when it is not a time of crisis. The people might therefore return to their old practices of hygiene, as the measures taken during the cholera outbreak also demanded greater efforts by and resources from the people, e.g. by always boiling water before usage which takes time and requires larger amounts of firewood; aspects which also both have a financial dimension to them, as there is lesser time for work and more money to be spend on wood.

Two-way-communication processes for the promotion of hygiene and sanitation would be beneficial in the long run for the communities as they allow for discussions and what measures are really necessary for the particular community, based on their current hygiene and sanitation situation, habits and needs. This way, future outbreak of preventable diseases like cholera could be avoided.
6.5 Lack of resources as a reason for one-way communication

Another aspect which might foster the existing one-way communication structures is visible when viewing the participation of communities in their own hygiene and sanitation promotion, for example seen by sensibilisation groups active in Lago, in the light of a lack of resources by the district health authorities to fully cover the obligation of hygiene and sanitation promotion themselves. As illustrated in the findings chapter, literature about district capabilities, on health in Mozambique indicate a general lack of certain resources, mainly in financial and human resource matters. This situation has been identified for Lago as well, where the SDPI lacks staff to improve water management, health posts are perceived to not be well-equipped and lack treatment options, and large areas do not have a health facility nearby. In order for the district authorities for health to fulfil its obligation of promoting (and thereby improving) hygienic behaviour and sanitariness, they may need to include more actors of society in this task. The presence of more groups in society being involved in hygiene and sanitation communication is clearly identified in Lago, as involvement of sensibilisation groups, water committees (GOTAS), both the Anglican and Catholic Church, associates of Mosques, traditional leaders, secretários de bairros, curandeiros and parteiras, have been observed or were reported about
to be involved in it. In order for these different groups to send out a coherent message, the act of one-way communication might be necessary from the side of the district health services, as only in that way coherence is guaranteed. If all these actors were engaged in two-way communication processes, and therefore discussions on ‘eye-level’, messages might get distorted and start to differ from one another, ultimately leading to confusion of the general public as the intended recipients, as the messages, while all aiming for an improved hygiene and sanitation situation, put stronger focus on different aspects of hygienic behaviour or sanitariness. Furthermore, the situation that was found in Lago concerning hygiene and sanitation communication was still strongly shaped by the recent cholera outbreak, in which more actors on the ground level were activated in order to tackle the crisis. The urgency of the matter made coordination of messages centrally important, as an evaluation of different communities’ needs would have taken too much time. However, it is not possible to ultimately conclude that the communication landscape of hygiene and sanitation promotion in Lago is shaped by one-way communication processes which resulted out of a lack of resources by the district authorities in charge of hygiene and sanitation promotion, but aspects like a lack of staff to carry out the task and financial difficulties in financing the efforts (as reflected by the budget planning for 2015 including GOTAS as the financing agent for the promotion efforts or the fact that sensibilisation groups within communities are not enumerated) slightly hint in that direction. The one-way communication processes initiated by the district health authorities may also ensure that health messages send out by other actors are in line with national policy and guidelines for the promotion of health and sanitation.

It seems to be the case, however, that the district authorities use the opportunity of including more actors in the promotion efforts to create greater links with these actors in society. The curandeiros reported of strong ties which have been established with the district authorities via these collaborations. At the same time, the district health services perceive these ties as beneficial as they allow greater access to the traditional sphere of medicine and even some form of control over actors and practices there. Furthermore, the inclusion of traditional leaders in these efforts goes in line with the attempts of the GoM to strengthen the ties with these important actors of society, as having them included and be part of the promotion efforts (or any other aspect of governance) gives the messages, interventions or regulations more legitimacy in the communities.
Chapter 7: Conclusions

It has been found that the lack of financing and staff negatively affects the possibilities of the district for improved hygiene and sanitation promotion, a situation which greater agency by the district services about the allocation of money could improve. At the moment, district services are still relying on the higher levels of the hierarchy within the NHS for approval of planned health interventions, and are supposed to implement national policy and objectives. This is why they are subject to one-way communication and vertical decision making.

However, certain aspects of well-organised community participation in hygiene and sanitation promotion had been identified in Lago. Both authorities and NGOs active on the ground level explained that it is important to make use of local structures when it comes to work with and transmit messages into communities. This is found to be reflected by the usage of traditional and social authorities when it came to spreading information within communities in general, but also health in particular.

Despite the best intentions and efforts taken to reach all the people in local communities in Lago, there remain people who still feel uninformed or not reached by the right information. Most of the actors are engaged in a one-way communication process towards the people in the communities. This leads to the fact that authorities simply cannot know if people understand the information let alone whether they follow up on it. This can be improved by aiming for a two-way approach in the public communication campaigns. If the health authorities would do more research in the communities, and therefore allow for a two-way communication approach, people in local communities would have a chance to participate in discussions, and questions or give feedback.

Even though there are some difficulties to be observed, the content of the messages seem to be aligned with each other, which is very positive. With many actors having different objectives and making use of different channels one might think this can lead to confusion among the people, but the opposite seems to be present: people receive consistent messages. However, the coherence of the message seemed to have been owed to the urgency of the cholera crisis and its handling via central decision making by the crisis committee in Metangula, which forwarded specific messages concerning hygiene and sanitation to local leaders, influential people and the radio.
Even though the recent cholera outbreak seemed to be handled well, still the authorities were not able to prevent the infections from happening altogether. As has been touched upon before, cholera is an infectious disease that is easily preventable. The authorities in general seem to lack resources and appropriate communication structures to educate people on how to prevent cholera infections via better hygiene and sanitation practices. Communication processes can be improved in order to reach the public, and therefore avoid infections, by adopting two-way communication processes, as these allow learning about the needs of the vulnerable people as well as their current and desired situation in relation to hygiene and sanitation. Interventions can therefore be designed much more based on the actual situation of the people, which raises chances of a better adoption of the practices promoted, as it has been found that some people refrain from adapting promising hygiene and sanitation practices because they run counter to what they believe is correct or counter to their own traditions in these matters.

It is not enough for the district authorities to overcome these issues by including local leaders or influential people in the promotion act in general in order to give the interventions greater legitimacy. This approach, shaped by one-way communication, seemed to have worked in the crisis situation that was the cholera outbreak of 2015, but at that time the influential people also focused much more in this task due to its urgency. A two-way communication method within communities allows for more substantial promotion of improved hygiene and sanitation practices which can prevent cholera outbreaks from the beginning.
References


Appendices

Appendix 1: Maps

Map 1: Mozambique

Map 2: The Lago District

Map 3: Cholera Infections as of 28 April 2015

### Appendix 2: List of interviews

<table>
<thead>
<tr>
<th>Ref. no.</th>
<th>Date</th>
<th>Organisation</th>
<th>Name</th>
<th>Position</th>
<th>Participants (Male/Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>31-03</td>
<td>Provincial Administration - Lichinga</td>
<td>Rodrigues Artur Ussene</td>
<td>Permanent Secretary Niassa Province</td>
<td>1M</td>
</tr>
<tr>
<td>2</td>
<td>31-03</td>
<td>We Effect - Lichinga</td>
<td>Edgar Basilio Ussene</td>
<td>Agriculture officer/Acting Programme Coordinator</td>
<td>1M</td>
</tr>
<tr>
<td>3</td>
<td>01-04</td>
<td>Pedagogical sector - Lichinga</td>
<td>-Teodor de Assunção</td>
<td>-Chefe do Departamento de Ensino Geral</td>
<td>5M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Leonardo Uarcone</td>
<td>-Chefe da Repartição do Ensino Secundário</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-António Francisco</td>
<td>-Chefe do Desporto e Saúde Escolar</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Pedro Aisse</td>
<td>-Chefe da Educação Especial</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>01-04</td>
<td>Institute for Social Communication</td>
<td>-Faustinho Nhone</td>
<td>-Delegado Provincial -Planificador</td>
<td>2M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>– Lichinga</td>
<td>- Alfredo Josê</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>01-04</td>
<td></td>
<td>Mark van Koevering</td>
<td>Bishop</td>
<td>1M</td>
</tr>
<tr>
<td>6</td>
<td>02-04</td>
<td>UCA – Farmers Association - Lichinga</td>
<td></td>
<td>Members of the association</td>
<td>8M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1M</td>
</tr>
<tr>
<td>7</td>
<td>02-04</td>
<td>Faisca - Lichinga</td>
<td>Suizane Rafaël</td>
<td>Journalist and editor</td>
<td>1M</td>
</tr>
<tr>
<td>8</td>
<td>02-04</td>
<td>ROADS</td>
<td>-Felicidade Namagoa</td>
<td>-monitoring and evaluation officer</td>
<td>2M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Delco Mbota</td>
<td>-programme officer</td>
<td>2F</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Jaime Namagoa</td>
<td>-financial officer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Erica Maria Siqueio</td>
<td>-gender officer</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>02-04</td>
<td>Provincial Administration</td>
<td>Arlindo Goncalo Chilundo</td>
<td>Provincial Governor</td>
<td>1M</td>
</tr>
<tr>
<td>10</td>
<td>04-04</td>
<td>Association of fisher folks - Meluluca</td>
<td></td>
<td></td>
<td>7M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3F</td>
</tr>
<tr>
<td>11</td>
<td>06-04</td>
<td>District Administration Metangula</td>
<td>Abilio Moura Jorge</td>
<td>District administrator</td>
<td>1M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>06-04</td>
<td>District services for Economic Activities – Metangula</td>
<td>Castro Joaquim Roque</td>
<td>Manager</td>
<td>1M</td>
</tr>
<tr>
<td>13</td>
<td>06-04</td>
<td>Community radio - Metangula</td>
<td>-Damião Silvestre -Barnabe José -Tomé Ernesto</td>
<td>-Coordinator -Editor in chief -Technician</td>
<td>3M</td>
</tr>
<tr>
<td>14</td>
<td>08-04</td>
<td>District services for Education, Youth and Technology</td>
<td>-Miguel Francisco Muzawanga -Manuel Sirage M’Pemba</td>
<td>-District Director -Head of Department for General Education</td>
<td>2M</td>
</tr>
<tr>
<td>15</td>
<td>08-04</td>
<td></td>
<td>-Sara Mustafa -Paulo Ossiko</td>
<td>-Head of municipality -Vereador de Economia</td>
<td>1F 1M</td>
</tr>
<tr>
<td>16</td>
<td>08-04</td>
<td></td>
<td>Pedro Matias Meze</td>
<td>Régulo Chelombe of Metangula</td>
<td>1M</td>
</tr>
<tr>
<td>17</td>
<td>08-04</td>
<td>Health post of Messumba</td>
<td></td>
<td>Mother and Child care staff</td>
<td>2F 1M</td>
</tr>
<tr>
<td>18</td>
<td>08-04</td>
<td>Anglican Church</td>
<td>-Bonifácio Finiasse -Maurício Simao Souso</td>
<td>-Priest -Retired priest</td>
<td>2M</td>
</tr>
<tr>
<td>19</td>
<td>09-04</td>
<td>Primary school Messumba</td>
<td>Genésio Goimo</td>
<td>Director of Primary School and ZIP coordinator</td>
<td>1M</td>
</tr>
<tr>
<td>20</td>
<td>09-04</td>
<td></td>
<td>Lucas</td>
<td>Extensionist</td>
<td>1M</td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Description</td>
<td>Name(s)</td>
<td>Gender(s)</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>-------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>10-04</td>
<td>Women group of Messumba</td>
<td></td>
<td>15F</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>10-04</td>
<td>Mill owners – Messumba</td>
<td></td>
<td>2M</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>11-04</td>
<td>Sensibilisation group - Mechumwa</td>
<td>-Adolfo Amisse Fazir -Ernesto Entuálo -Régulo -Secretary of bairro Of Mechumwa</td>
<td>2M</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>11-04</td>
<td>- Alicia Renesto -Jacobo Kadali</td>
<td>-Vice president -member</td>
<td>1F</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>11-04</td>
<td>Health post - Mechumwa</td>
<td></td>
<td>1M 1F</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>11-04</td>
<td>Family interview - Mechumwa</td>
<td></td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>13-04</td>
<td>District Administration - Metangula</td>
<td>Iassine Alabe</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>13-04</td>
<td>District service for Planning and Local Development</td>
<td>Árabe Fernando Aualo</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>13-04</td>
<td>SDAE</td>
<td>-Nélito Antónoi -Cândido João -Emílio -Extensionists Agriculture and animal breeding</td>
<td>3M</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>14-04</td>
<td>Health centre - Metangula</td>
<td>Abílio Sofiane</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>14-04</td>
<td>Community radio association - Metangula</td>
<td>-João Franco Ussene -Lourenço Lázaro -Amado Alexandre Fote -president -secretary -management committee</td>
<td>3M</td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>15-04</td>
<td>Posto Administrativo - Maniamba</td>
<td>Jaime Catungue</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>15-04</td>
<td>Posto Administrativo - Maniamba</td>
<td></td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>15-04</td>
<td>Health post - Maniamba</td>
<td>Paxão Pedro</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>16-04</td>
<td>Local leaders - Maniamba</td>
<td>-Assumine Imede -Samuel Cambuzi -Isabel Musta -Ernesto António -Jacinto Caisse -Stambuli Loco -João Chisalanga Ndala -Queen -Régulo -Induna -Secretary -Induna -Secretary x5 -Induna -Secretary x 4</td>
<td>27M 2F</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>16-04</td>
<td></td>
<td>Young people in Maniamba</td>
</tr>
<tr>
<td>38</td>
<td>17-04</td>
<td></td>
<td>Family interview - Maniamba</td>
</tr>
<tr>
<td>39</td>
<td>17-04</td>
<td></td>
<td>Family interview - Maniamba</td>
</tr>
<tr>
<td>40</td>
<td>17-04</td>
<td></td>
<td>Family interview - Maniamba</td>
</tr>
<tr>
<td>41</td>
<td>18-04</td>
<td>Community radio – Metangula</td>
<td>Radio volunteers</td>
</tr>
<tr>
<td>42</td>
<td>20-04</td>
<td>District Administration - Metangula</td>
<td>Iassine Alabe</td>
</tr>
<tr>
<td>43</td>
<td>20-04</td>
<td>District service for Planning and Local Development - Metangula</td>
<td>Árabe Fernando Aualo</td>
</tr>
</tbody>
</table>
| 44 | 20-04 | Mosque - Metangula | - Saíde Salimo
- Xavier Assane Saíde
- Yussufo Saíde
- Jassine Aquimo | 4M |
<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Organization/Position</th>
<th>Name/Role</th>
<th>Gender(s)</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>45</td>
<td>20-04</td>
<td>Catholic Church - Metangula</td>
<td>- Lourenço Niqueias - Maria Celeste Paulo - Priest - Nun</td>
<td>1M 1F</td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>21-04</td>
<td>Posto Administrativo - Meluluca</td>
<td>Macabeo Momade - Chefe de posto</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>21-04</td>
<td>- Rainha of Meluluca - Brother of Rainha</td>
<td>- Female - Male</td>
<td>1F 1M</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>21-04</td>
<td>Curandeiro - Meluluca</td>
<td>Hamado Cassimo - Witch Doctor</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>21-04</td>
<td>GOTAS - Meluluca</td>
<td>António Saíde - Activist/Representative</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>22-04</td>
<td>Ametramo - Metangula</td>
<td>- Mbonde Rashid - Raimundo Demosse - Fernando Saide - Fatima Saide - Anna Aidão - Representative in district - Secretary - Two traditional doctors - Traditional midwife</td>
<td>3M 2F</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>22-04</td>
<td>INGC – Metangula</td>
<td>Vitor Salmo - Delegate/representative of INGC in Lago</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>23-04</td>
<td>District Administration - Metangula</td>
<td>Abilio Moura Jorge - District Administrator</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>23-04</td>
<td>Provincial Health Authorities - Lichinga</td>
<td>Liason Daniel - Head of doctors – Medico Chefe Provincial</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>24-04</td>
<td>Universidade de Lúrio - Sanga</td>
<td>- Domingos Madane - Fátima Ismael - João Teijas - Luís Perreira - Juan Tejas - Dionício Vele - Paulo Guilherme - René Hernandez - Director da Universidade - Director Departamento Pedagógico - Adjunto departamento pedagógico - Coordinator Forestry Engineering - Scientific Council - Coordinator Rural Development Programme - 2 teachers</td>
<td>7M 1F</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>24-04</td>
<td>University Radio - Universidade de Lúrio - Sanga</td>
<td>Paulo Guilherme - Teacher, and in charge of the University Radio</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>24-04</td>
<td>Green Resources - Lichinga</td>
<td>Inocêncio Sotomane - Director Green Resources Niassa</td>
<td>1M</td>
<td></td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Organization</td>
<td>Name(s)</td>
<td>Position(s)</td>
<td>Gender</td>
</tr>
<tr>
<td>-----</td>
<td>----------</td>
<td>--------------------------------</td>
<td>----------------------------------</td>
<td>-------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>57</td>
<td>27-04</td>
<td>Agrarian Institute - Lichinga</td>
<td>-Jeremias Adisse</td>
<td>-Director</td>
<td>4M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-João Saíde</td>
<td>-Adjunto Pedagógico</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Armando António</td>
<td>-Director Adjunto</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-Paulino Sabite</td>
<td>-Teacher</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>27-04</td>
<td>Agrarian Institute - Lichinga</td>
<td></td>
<td>Students</td>
<td>2M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>27-04</td>
<td>SIMA – Market Information</td>
<td>Mauro Henriques</td>
<td>Provincial department of economics</td>
<td>1M</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Systems - Lichinga</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>27-04</td>
<td>We-effect office, Seminar/Presentation - Lichinga</td>
<td>Feliciano dos Santos</td>
<td>CEO</td>
<td>1M</td>
</tr>
<tr>
<td>61</td>
<td>27-04</td>
<td>Estamos - Lichinga</td>
<td>Feliciano dos Santos</td>
<td>CEO</td>
<td>1M</td>
</tr>
<tr>
<td>62</td>
<td>29-04</td>
<td>N’Weti - Maputo</td>
<td>Ilundi de Menezes</td>
<td>Multimedia coordinator</td>
<td>1F</td>
</tr>
<tr>
<td>63</td>
<td>30-04</td>
<td>FORCOM - Maputo</td>
<td>Luisa Banze</td>
<td>-Training officer and content development</td>
<td>1M</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Naldo Chivete</td>
<td></td>
<td>1F</td>
</tr>
</tbody>
</table>

**Other contacted people**

Damanioa Silvestre – Radio coordinator and local reporter for Faisca – Could not meet us

IBIS (Danish NGO) – Meetings were planned twice, but both cancelled by IBIS
Appendix 3: Pictures

Picture 1: Certeza, water treatment agent. Source: Authors

Picture 2: Separate cholera ward at the health centre in Metangula, Lago district. Source: Authors
Picture 3: Poster promoting hand washing. Source: Authors