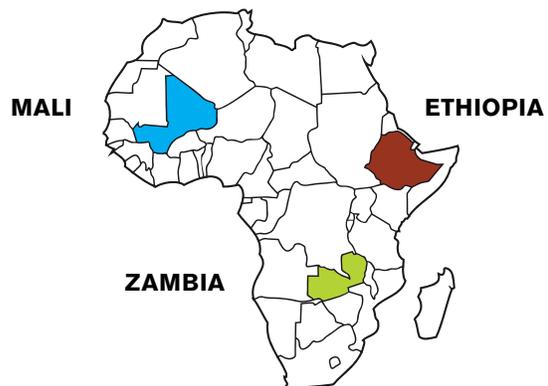




**DIARRHOEA DIALOGUES** **From Policies to Progress**  
A call for urgent action to prevent the biggest killer of children  
in sub-Saharan Africa



**tearfund**

**PATH**  
A catalyst for global health

*Written by*

**Stephanie Gill**

Tearfund

**Janie Hayes**

PATH

**Sue Coates**

WEDC

*Based on research undertaken by*

**Georges Mikhael** and **Dr Pippa Scott**

for the *Water, Engineering and Development Centre (WEDC)*,  
*Loughborough University*

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UNICEF Zambia

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PATH

**Laura Taylor**

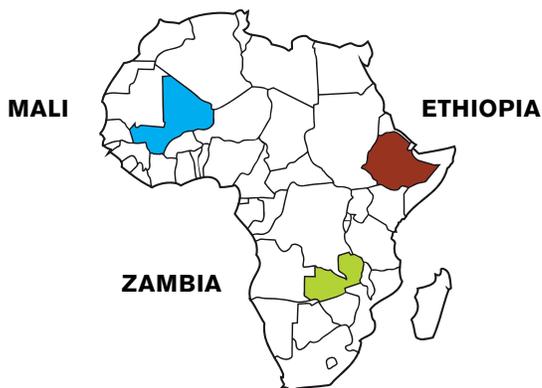
**Sue Yardley**

Tearfund



## DIARRHOEA DIALOGUES **From Policies to Progress**

A call for urgent action to prevent the biggest killer of children in sub-Saharan Africa



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## Foreword

Over the last half-century, the global community has learnt much about how to prevent deaths from common childhood illnesses. In the past two decades in particular, child mortality has dropped significantly, due in part to better diarrhoea control. Vital preventative measures have included: safe water, hygiene and sanitation; improved nutrition; new vaccines, and better treatment. In many countries, the fourth Millennium Development Goal (MDG 4), to reduce child mortality by two-thirds, is now within reach.

However, families and communities in sub-Saharan Africa still suffer disproportionately from diarrhoea, despite the existence of cost-effective solutions. As the leading cause of child mortality in sub-Saharan Africa, diarrhoea takes its toll on economies, livelihoods and, most importantly, child survival across Africa – in rural areas and urban, villages and slums, across countries large and small. The poor suffer the most, as they have least access to clean water and sanitation and fewer resources to be able to access healthcare when they need it most.

This review looks at the policy environment for diarrhoea control in three African countries, in order to glean lessons learnt about what more we can do to address this problem. While solutions are available to prevent and treat diarrhoea, the political will and health prioritisation are still lacking to make these solutions widely available to those who need them most. To accelerate progress in cutting mortality from diarrhoea, global and national decision-makers need to take urgent action.

In countries where the burden of diarrhoea is high, we believe that governments – along with donors, health and development agencies, advocates, the private sector and affected communities – must engage in a dialogue about diarrhoea, and determine what all the different parties acting together can do to save lives. We believe that this process should be a catalyst for change to ensure that no child dies from diarrhoea.

**Matthew Frost**

Chief Executive  
Tearfund

**Dr Ayo Ajayi**

Vice President of Field Programs  
PATH



## Executive Summary

**Diarrhoea kills one child about every 20 seconds. It is the second leading cause of child death in the world today, and the top killer of children less than five years old in sub-Saharan Africa.**

Simple, cost-effective solutions to prevent and treat diarrhoea exist, yet remain out of reach for the children and families most in need. This report begins to unpack why this paradox exists, and what government leaders and advocates can do to improve the situation.

In recent decades, enormous progress has been made in reducing child mortality. Much of the 30 per cent decline in child deaths globally over the last 20 years has been due to the attention and resources that have been focused on illnesses such as malaria and measles. Despite these significant advances, diarrhoea has remained a huge burden and responses to control it are fragmented. At the global level, little focus has been placed on diarrhoea since the 1980s, and this lack of emphasis has been reflected at the national level as well.

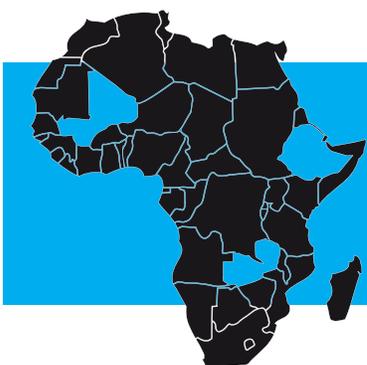
**In 2009, UNICEF and the World Health Organisation (WHO) issued global guidance in the form of a comprehensive '7-Point Plan' to address diarrhoea, focusing on both prevention and treatment: water, sanitation, hand-washing, vaccines, breastfeeding, zinc and oral rehydration solutions (ORS).** Kenya is the only country in sub-Saharan Africa with a comprehensive policy based on this plan and is already showing promising results. Elsewhere, adoption and dissemination of the plan are slow and implementation proves complex. The paradox between the availability of solutions and the burden of diarrhoea is due to many factors, including supply and demand, delivery capacity, training and education. Political prioritisation is also a crucial issue.

**This report contributes to the existing dialogue by investigating how three African countries are addressing diarrhoea: in Mali and Ethiopia, where diarrhoea is the leading cause of death in children less than five years old; and Zambia, where the burden is also high. It examines the policies and strategies that are in place both to prevent children getting diarrhoea and to stop children from dying once they have it. As well as highlighting the challenges each country faces in implementing diarrhoea control, it also looks at the existing opportunities in each country that could be developed to improve its response.**

Finally, this report draws out key lessons learnt. It determines that greater efforts are needed across all three countries and coordination of diarrhoea control should be strengthened at all levels, from the national down to the local level. Mali is the only country reviewed to have an explicit strategy for diarrhoea, and it only focuses on preventative hygiene behaviours. Neither Ethiopia nor Zambia has a framework for diarrhoea control. Lack of coordination can mean significant gaps in policies being overlooked, barriers to implementation being neglected and important opportunities, as identified in this review, being missed.

This report concludes with recommendations urging countries to undertake a comprehensive review of their existing policies relating to diarrhoea control and to develop a framework that will strengthen coordination. Policies and strategies in themselves are not sufficient without strong mechanisms in place for effective implementation and delivery of diarrhoea control at the local level, supported by adequate resources. The international community also has a key role to play in catalysing dialogue and political will to ensure that the high burden of diarrhoea is no longer a feature of the 21st century.

**THE AIM: to save each day the lives of the 4,000 children less than five years old who will otherwise die from diarrhoea and to consign this preventable situation to the history books.**



**Key recommendations for global stakeholders and governments to strengthen the national policy environment for diarrhoea control**

**1. The international community should use its influence to draw attention to diarrhoea and catalyse political will in countries where the burden is high.**

The international community, particularly UNICEF and WHO, should encourage the promotion and uptake of the guidelines in the UNICEF and WHO 7-Point Plan.

**2. Governments should undertake a review of all existing policies and strategies that incorporate elements of diarrhoea control at a country level.**

The Ministry of Health should coordinate a comprehensive review of the policies and strategies relating to diarrhoea control as laid out in the UNICEF and WHO 7-Point Plan. This review needs to ascertain: gaps in policies and programmes, areas of diarrhoea control that require urgent introduction or scale-up, and existing opportunities that could be built upon. Cross-sector alliances between the health, WASH and education sectors will be essential.

**3. Government stakeholders and partners should develop a national coordinating framework for diarrhoea control.**

Following on from this review, a coordinating framework should be established, outlining the responsibilities of all stakeholders in diarrhoea control, with accountability mechanisms in place. This could take the form of a policy, as in Kenya. The purpose of such a framework is to ensure maximum results stemming from coordination at the policy level down to implementation at district and community levels. Having comparable monitoring data across ministries is crucial to this coordination.

**Specific areas of focus relating to coordination and implementation that arose from this review:**

● **Community health workers need to be better supported to carry out their role.**

Community health workers require more support to enable them to reach rural populations. This involves health centres being sufficiently staffed to allow community workers to do their outreach work and efforts being taken to improve recruitment and retention.

● **Coordination between behaviour-change strategies need to be strengthened.**

At the district level, the roles of those involved in implementing behaviour-change programmes and strategies, such as Community Led Total Sanitation (CLTS) and Integrated Management of Childhood Illnesses (IMCI), need to be clearly defined, overlaps identified and efforts made to harmonise approaches. In this way, from the care-giver's point-of-view, messages are complementary and cover all the essential prevention and treatment messages necessary to control diarrhoea.

● **ORS, zinc and rotavirus vaccine coverage needs to increase.**

ORS sachets and zinc should be made more readily available locally, without the requirement of people having first to visit a health centre and pay for a medical consultation. Local manufacturers need to be identified and commissioned, and the registration process for zinc needs to be made shorter. Rotavirus vaccines should be introduced through national immunisation programmes in countries where the burden of diarrhoea is high.

● **Improved access to sanitation needs to be a greater political priority.**

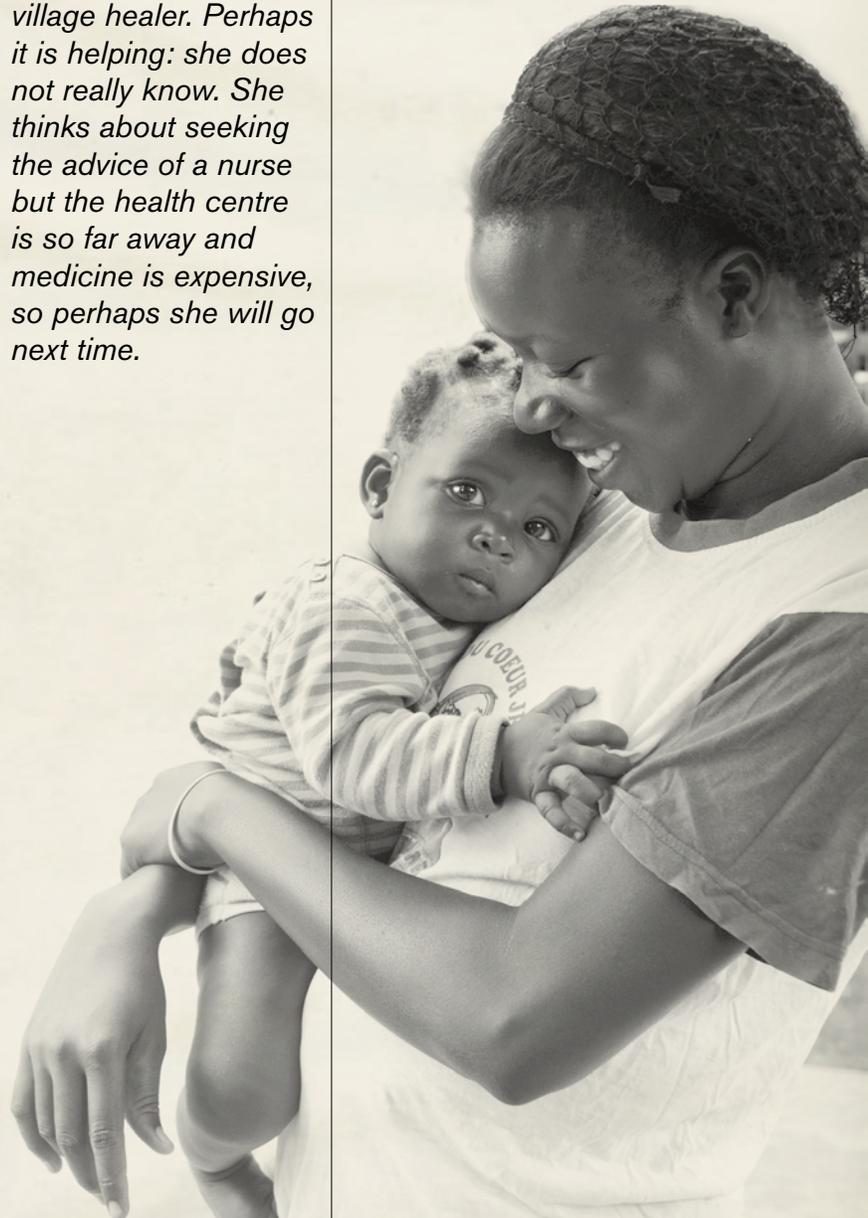
Access to basic sanitation, along with improved hygiene practices, is crucial to help control diarrhoea. Coverage is low across sub-Saharan African, coupled with poor access in many countries to the clean water which is essential for use with ORS. Increased funding to promote sanitation and hygiene at a country level is urgently needed.

## Diarrhoea Through the Generations

*Throughout her childhood, she has repeated episodes of diarrhoea, some lasting a day or so, some longer. She notices blood in her stools and has cramps in her belly. As she goes to school, she copes without help and sometimes stays home. She defecates in a nearby field at home, or uses a dirty latrine at school. When she is ill, the effort of going to the toilet is miserable and sometimes she does not make it in time. Hiding from sight, she hopes the smell and stains will not be noticed by her friends and siblings. She wonders if they suffer the same, but nobody talks about it.*

*As a first-time mother, she is eager to see her daughter grow and have a healthy life. She tries to breastfeed her baby and is proud of giving new life. She does not know if the watery stools are part of her child being an infant or if something is not quite right. She muddles through, giving her baby the tea provided by the village healer. Perhaps it is helping: she does not really know. She thinks about seeking the advice of a nurse but the health centre is so far away and medicine is expensive, so perhaps she will go next time.*

*As a grandmother, she listens to her daughter's concerns about hunger and the low weight of her children. The youngest has diarrhoea again. She recalls the unexplained loss of her own second child and hopes history will not repeat itself. She advises that the illness will pass as she scoops water from the bucket to make sweet tea for her baby granddaughter crying with pain under the bed net.*



## Introduction

Diarrhoea is an illness that everyone understands but its impact, especially on children, varies widely according to country and culture. Globally, it kills a child about every 20 seconds,<sup>1</sup> making it the second biggest cause of death in children less than five years old.<sup>2</sup>

In wealthy nations, diarrhoea tends to be no more than a nuisance. But 90 per cent of diarrhoea related deaths occur in developing countries,<sup>3</sup> and in sub-Saharan Africa it claims more young lives annually than any other illness.<sup>4</sup> However, diarrhoea's position on the scale of health priorities – both globally and within high burden countries – remains low, considering the toll it takes on communities and families.

Accessible solutions exist to address diarrhoea. Over the past century, an effective combination of prevention and treatment interventions – clean water, sanitation, hygiene, vaccines, breastfeeding, oral rehydration and zinc – has managed almost to eliminate deaths from diarrhoea in upper-income countries. Today, it is time these are made available to the countries that need them most. However, solutions must work at scale – across entire populations – to provide those caring for the sick (care-givers) with cost-effective simple interventions that can save lives.

Working at scale is challenging but achievable. Across Africa, national governments are responsible for leading country efforts to reduce childhood mortality by setting policy agendas, strategies and funding priorities for health. National policy-makers can provide critical political will to focus public attention on urgent issues, as has happened in many countries with health threats such as HIV and malaria.

However, there are many significant challenges facing governments' responses to diarrhoea. Lack of resources, lack of prioritisation and lack of coordination are three of the biggest barriers to overcome. Greater dialogue is required to share the lessons learnt and to inspire greater commitment for future action.

This policy report reviews national approaches to diarrhoea control in three sub-Saharan countries: **Ethiopia and Mali**, which rank globally as the top 5<sup>th</sup> and 14<sup>th</sup> countries respectively for child mortality from diarrhoea, and **Zambia**, another country with a high burden of diarrhoea.<sup>5</sup> Through country case studies that examine the enabling environment for diarrhoea control, the report investigates how diarrhoea is being tackled at the national level in these three countries. It examines diarrhoea control efforts from important perspectives such as the historical and socio-cultural context, policy and financing, and integration across sectors in order to glean insights, highlight challenges and pinpoint opportunities to prevent death and illness. Above all, the report intends to share lessons learnt and support calls for greater debate and urgent action in support of diarrhoea control. **The dialogue on diarrhoea must continue in earnest.**

**Accessible solutions exist to address diarrhoea... Today, it is time these are made available to the countries that need them most.**

## The Complexities of Diarrhoea



### DIARRHOEA DEFINED

Diarrhoea is the passage of three or more loose or liquid stools per day. Diarrhoea is not a disease itself but rather a symptom of other diseases,<sup>1</sup> most commonly intestinal infection transmitted through the faecal-oral route and spread by contaminated water, inadequate sanitation, unsafe food preparation and poor personal hygiene. There are three clinical types of diarrhoea: acute watery (including cholera), acute bloody (or dysentery) and persistent diarrhoea (lasting 14 days or more).<sup>6</sup> Rotavirus and *Escherichia coli* (*E.coli*) are the two most common causes of diarrhoea in developing countries, and 25 to 40 per cent of African children hospitalised with diarrhoea are infected with rotavirus.<sup>7</sup> While rehydration and zinc have been successful in shortening episodes and preventing dehydration, antibiotics have not proven as effective against diarrhoea as other common illnesses.

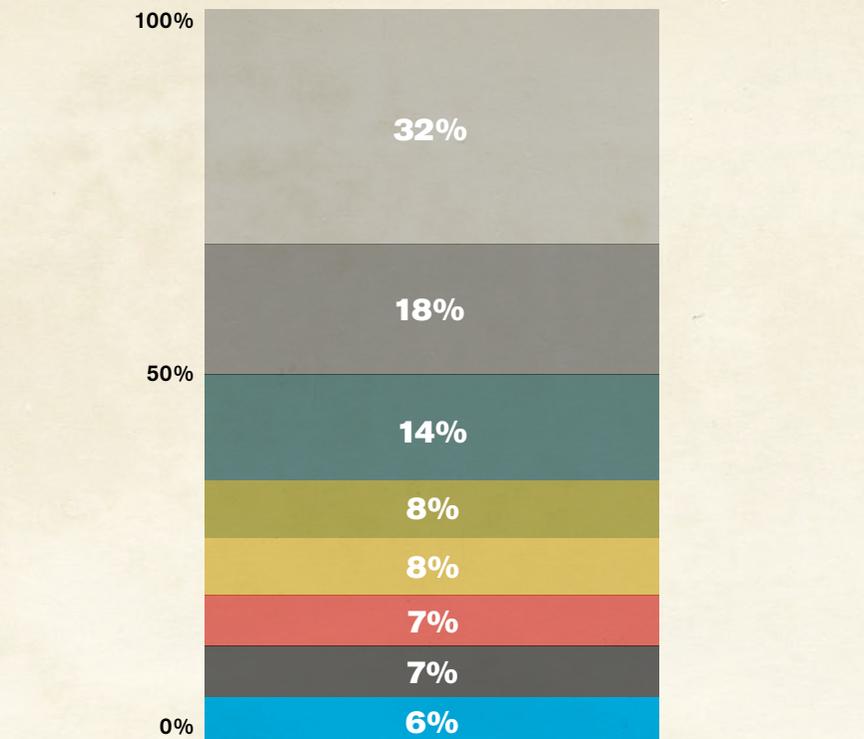
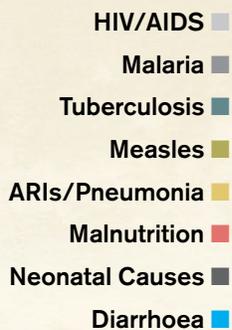
**Diarrhoea is a leading cause of malnutrition in children less than five years old.**

Diarrhoea is also associated with malaria and measles and is common among people living with impaired immunity.<sup>8</sup> Diarrhoea is a leading cause of malnutrition in children less than five years old. In the absence of diarrhoea, the nutritional status of undernourished children improves rapidly, with several studies finding virtually no severe malnutrition in children without diarrhoea.<sup>9</sup>

<sup>1</sup> Rather than use the term diarrhoeal diseases, this report uses the term diarrhoea throughout.

**Figure 1.**  
Health issues that policy-makers and donors perceive to be the priorities of the global health community.<sup>10</sup>

**Source:** PATH Diarrheal Disease Advocacy: Findings from a *Scan of the Global Policy and Funding Landscape*, 2008.



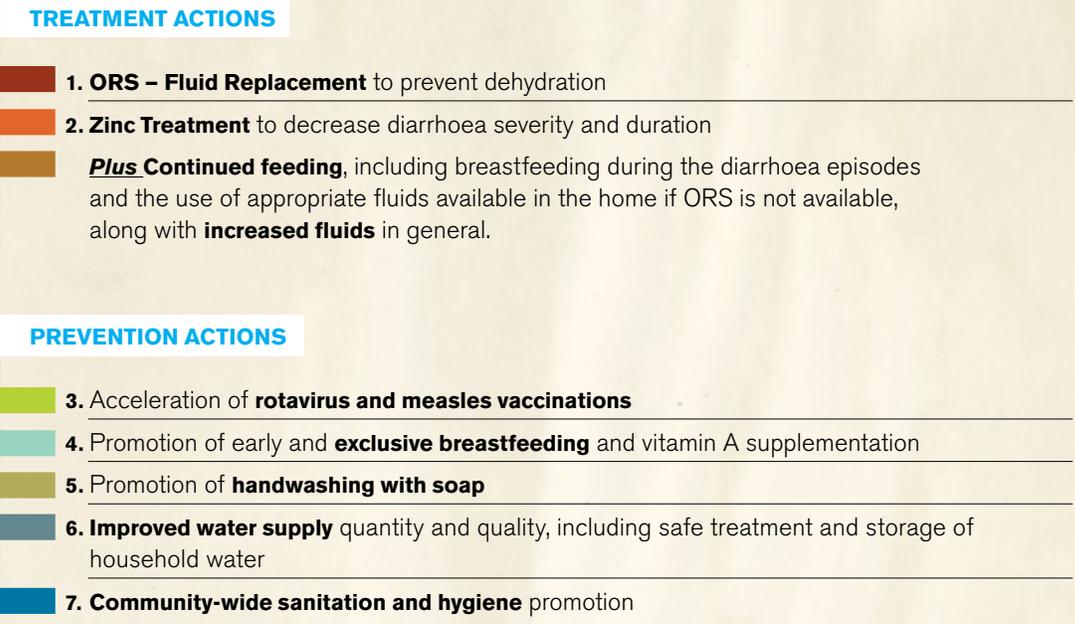
**Reducing child mortality does not necessarily require new techniques or interventions, but effective scale-up and the application of existing, cost-effective interventions.**

**IMPLEMENTING DIARRHOEA CONTROL: GLOBAL EFFORTS**

Reducing child mortality does not necessarily require new techniques or interventions, but effective scale-up and the application of existing, cost-effective interventions. In 1978, the Alma Alta declaration recognised the preventive role within primary healthcare, including sanitation, although this was not fully incorporated into implementing health priorities. In the 1980s, buoyed by the commitment of multilaterals such as UNICEF and the World Health Organisation (WHO), national diarrhoea-control programmes successfully raised awareness among policy-makers and care-givers. This led to increased access to and use of oral rehydration treatment (ORT). Financing for diarrhoea control increased, and within many countries national and donor-led programmes, specifically focused on diarrhoea, were established.

By the mid-1990s, however, priorities had shifted and reduced mortality rates led many stakeholders to believe that 'the job was done'. Over time, funding dropped, the impact diminished and important gains in oral rehydration solutions (ORS) coverage were lost. Shifting priorities within the health sector meant diarrhoea control became less of a priority. Community knowledge about diarrhoea control stood still and this, compounded by the lack of access to drinking water, sanitation and hygiene, led to an increase in the death toll. In 2008, global policy-makers and donors were asked to indicate, from a list of key health issues, what they perceived to be the priorities of the global health community. Revealingly, diarrhoea was considered to be the lowest priority (see **Figure 1** above).

**Figure 2.**  
**7-Point Plan for diarrhoea control**  
- treatment and prevention actions.<sup>12</sup>



**‘We know where children are dying of diarrhoea. We know what must be done to prevent those deaths. We must work with governments and partners to put this seven-point plan into action.’<sup>11</sup>**

– WHO Director-General  
Dr. Margaret Chan

- **Oral rehydration therapy (ORT)/oral rehydration solution (ORS).** Severe diarrhoea can lead to life-threatening dehydration. ORT and ORS involve rehydrating children by replacing fluids and electrolytes lost through diarrhoea. The broader intervention method, ORT, involves rehydrating children through increased appropriate and available fluids and continued feeding to prevent and treat diarrhoea-related dehydration. ORS is a specific way of implementing ORT. It is a simple mixture of sugar and salt added to clean water and can be administered at home. ORT and ORS are used interchangeably throughout this report.
- **Zinc treatment and other micronutrients.** Treatment of diarrhoea with zinc supplementation can reduce the severity and duration of diarrhoea episodes. It may also prevent future episodes for up to three months. Other micronutrients, particularly vitamin A, are also important in controlling severe episodes.
- **Vaccines.** The rotavirus vaccine helps protect children against the most common and lethal cause of diarrhoea. Measles vaccine helps to protect diarrhoea that can be related to complications from measles.
- **Exclusive breastfeeding and optimal complementary feeding.** Exclusive breastfeeding (no additional food and fluids) provides infants six months of age and younger with essential nutrients and immune factors that both protect them from diarrhoea and speed diarrhoea recovery when episodes occur. Optimal complementary feeding with continued breastfeeding for infants and young children aged six to 24 months is essential to ensure they are well nourished and better able to survive diarrhoea.
- **Safe water, improved sanitation, and good hygiene.** Dirty water and hands are two of the primary ways diarrhoea is spread and 88 per cent of cases of diarrhoea are due to poor water, sanitation and hygiene (WASH). Hand-washing with soap, the safe disposal of human and animal waste and clean drinking water all help to prevent the spread of diarrhoea.



**‘Kenya has reduced diarrhoea-related deaths before, but recent data indicates that we have work to do to improve the use of basic treatments like oral rehydration therapy. While many Kenyans have gained access to safe drinking water, the majority still lack access to proper sanitation. This updated policy to combat diarrhoeal disease builds on our achievements and lessons learned during the implementation of the previous policy formulated in the 1990s.’<sup>13</sup>**

– Beth Mugo MP,  
Minister for Public Health  
and Sanitation, Kenya

## In Focus: Diarrhoea control in Kenya

Diarrhoea is the leading cause of child death in Kenya.<sup>14</sup> A Kenyan government survey in 2006 found that for up to 21 per cent of those diagnosed with diarrhoea, it proved fatal.<sup>15</sup> In 2010, as part of its efforts to achieve the MDGs, Kenya’s government developed new policy guidelines with the objective of halving the number of deaths due to diarrhoea among children less than five years old by 2013.

This policy champions an integrated approach that promotes a range of interventions across the prevention-to-treatment spectrum, requiring cooperation across the child health, WASH and nutrition sectors.

One reason for developing new guidelines was that the country lacked a national policy statement on managing diarrhoea control. A key aspect of the strategy is the integration of national policy with strong and achievable grassroots approaches that embrace recent developments in the field, such as rotavirus vaccines and bundling of ORS and zinc. The policy also aims to improve not just the service available in clinics but also the quality of prevention and care that care-givers provide to their own children.

Over the last three years, a pilot programme to implement the policy approach in one province has seen strong results. In Bungoma district, mothers’ knowledge about ORS increased (from 67 per cent to 83 per cent) and about zinc (from 12 per cent to 26 per cent) over the course of the programme, and those who gave their children more fluids during diarrhoea episodes increased from 40 per cent to 67 per cent.

In addition, more than 50 ORT corners were revitalised. ORT corners are based in clinics and serve as distribution points for ORS and zinc. They are a place for care-givers to give children rehydration therapy, under medical supervision if necessary. ORT corners also enable health staff to educate care-givers about hygiene, sanitation and nutrition.<sup>16</sup> Availability of zinc and ORS has also increased, along with demand. A nurse at Lugulu Mission Hospital says of the mothers in her community: ‘As community members, once they get the education [at the ORT corners], they are able to teach other people, so that diarrhoea is also reduced by the community.’

Work is now continuing at a local level to build awareness of the integrated approach, to support the government’s efforts to sustain its commitments in the long term and to translate the lessons learnt from this project to a bigger scale in implementing the national policy.



In the last decade, amid a renewed emphasis on child health and a move towards integrated programming, global stakeholders have shown renewed interest in diarrhoea control. In 2009, WHO and UNICEF released global guidance for countries to implement a package of health, water, sanitation and hygiene interventions to control and prevent diarrhoea, echoing knowledge about effective programming for child survival. The report, called *Diarrhoea: Why Children are Dying and What Can Be Done*, has become known as the **7-Point Plan for Diarrhoea Control (Figure 2 – page 10)**, based on its recommendation for scale-up of seven evidence-based prevention and treatment interventions.

Deeper scrutiny of this 'comprehensive approach' reveals the complexities inherent in implementation and support for broad-based diarrhoea control. Neither prevention nor treatment alone is enough to control diarrhoea at scale sustainably. At the global level, funding and implementation mechanisms tend to be separated in a way that makes funding of comprehensive strategies challenging. For example, water, sanitation and hygiene (WASH) initiatives are rarely integrated with vaccines or treatment for diarrhoea, which traditionally have been seen as clinical in nature and the remit of the child-health community. Diarrhoea control can be funded through a jigsaw of inter-related but often unaligned interventions within wider primary healthcare initiatives, basic infrastructure development and sanitation and hygiene promotion campaigns.



## Community-Led Total Sanitation

Community-Led Total Sanitation (CLTS) has become a widely popular, demand-led approach to improving access to safe sanitation, through raising awareness of the harm caused by open defecation. The concept of CLTS is to enable communities to decide and achieve their own sanitation solutions once they have become committed to improving their collective sanitation practices. At the heart of CLTS is a shift away from subsidising toilet construction and towards changing the attitudes and behaviour of the whole community. A facilitator mobilises a community through a process called 'triggering', helping them to analyse the sanitation situation. Shock and disgust often result, spurring community-wide action to stop open defecation.<sup>17</sup>

**Diarrhoea control provides the opportunity for stakeholders to take a combined prevention-and-treatment approach with the potential to strengthen health systems, improve access to water, sanitation and hygiene (WASH), as well as reducing diarrhoea-related deaths.**

### VERTICAL VERSUS HORIZONTAL APPROACHES

Within the health sector, there is currently much debate over whether 'vertical' or 'horizontal' approaches to disease control are more appropriate. While disease-specific (or vertical) approaches and advocacy have brought attention, funding and accountability to a number of issues in recent years, the trend today is towards horizontal approaches that prioritise integration and tackling overall health problems and strengthen wider health systems on a long-term basis. However, caution still needs to be taken within horizontal approaches, to ensure that they have the strong coordination and accountability found in vertical responses. Diarrhoea control provides the opportunity for stakeholders to take a combined prevention-and-treatment approach with the potential to strengthen health systems, improve access to WASH, as well as reducing diarrhoea-related deaths.

### IMPLEMENTING DIARRHOEA CONTROL: NATIONAL EFFORTS

In most sub-Saharan African countries, many of the interventions recommended in the 7-Point Plan are potentially accessible, with the exception of rotavirus vaccine, which is, however, now becoming available through national government-led vaccination programmes. Most government decision-makers recognise the need to reduce diarrhoea and in some countries efforts to integrate across sectors are showing progress. Overall, the health and the water and sanitation sectors are aware of the benefits of integrated responses.



## **Integrated Management of Childhood Illnesses**

Introduced globally by WHO in the mid-1990s, Integrated Management of Childhood Illnesses (IMCI) and also Community-based IMCI (C-IMCI) aim to prevent, detect and treat high-risk childhood diseases using the evidence base for the effectiveness of selected interventions. The approach recognises that more than one underlying cause often contributes to the illness of the child. While the management of childhood illness focuses on treatment, it also provides the opportunity to emphasise prevention of illness through education on immunisation and improved nutrition. In most countries, IMCI provides an umbrella under which all community health interventions can be delivered to the child via care-givers. This involves the promotion of ‘essential family health and hygiene practices’ known to reduce childhood mortality and morbidity. Community health workers are pivotal in getting these messages to households.<sup>18</sup>

However, there is a difference between recognising that something should happen and actually making it happen. Diarrhoea control can often be fragmented at the policy and strategy levels. Because diarrhoea remains a low political priority and health funding remains inadequate to meet the staggering needs within countries, governments often find themselves with limited capacity and financing to scale up the programmes which are shown to work. Unlike other health issues, ownership of diarrhoea control is often decentralised and spread across government ministries and departments. In many countries, the responsibility for diarrhoea control is shared between government, civil society, communities and households. Complicating the picture is the fact that funding streams for diarrhoea control interventions can rarely be disaggregated from the larger programme budgets from which that funding is drawn – such as water and sanitation, child health or nutrition. This situation therefore makes it extremely difficult to assess how financing for diarrhoea control falls relative to the burden of diarrhoea – and challenging to hold decision-makers to account for their support of diarrhoea control.

This complex situation presents challenges when scale comes into play. Many different institutions need to agree on policy, financing and strategy. Furthermore, there is an urgent need to increase the number of trained personnel – doctors, nurses, health workers, water engineers, community extension and development workers, teachers and social scientists, all of whom have an interface with communities and households. For example, in many countries the provision of trained health workers simply does not keep



**What needs to be determined is whether countries' current portfolio of diarrhoea-related policies – ranging from health to nutrition, to education and water – is sufficiently structured and adequately financed to deliver diarrhoea control effectively.**

pace with national targets for access to primary healthcare. Similar challenges are cited with regards to WASH, because responsibilities for this are divided among a number of government ministries, departments and utilities at national and local levels. The lead ministry for sanitation varies from country to country, with investment and political commitment seriously lagging behind progress on improved drinking water.

The three countries reviewed in this report have to deal with many of these challenges. However, two common public health approaches emerged as major opportunities for diarrhoea control at community level. Community-Led Total Sanitation (CLTS) and Integrated Management of Childhood Illnesses (IMCI) and related programmes are outlined in more detail above (see pages 13 and 14). These approaches are also implemented by a number of other countries across sub-Saharan Africa, to increase access to sanitation and improve child health.

What needs to be determined is whether countries' current portfolio of diarrhoea-related policies – ranging from health to nutrition, to education and water – is sufficiently structured and adequately financed to deliver diarrhoea control effectively. While none of the focus countries for this report has developed a comprehensive policy for diarrhoea control based on the UNICEF/WHO 7-Point Plan, it has happened elsewhere. For example, in 2010, Kenya's Ministry of Public Health and Sanitation launched a specific policy for the control of diarrhoea for children.

## THE REVIEW

Three qualitative country reviews took place in Mali, Ethiopia and Zambia with the goal of exploring different approaches towards diarrhoea control currently being undertaken in sub-Saharan African countries. Country selection was based on the burden of diarrhoea, stability of government, geographic representation, the spread of related activities on the ground and access to the relevant stakeholders. In each country, national- and sub-national-level interviews and perspectives were sought. Districts reporting 'successful' approaches were given greatest attention. UNICEF/WHO's 7-Point Plan was used as a tool to assess the diarrhoea control approaches used in each country.<sup>2 3</sup> In addition, the reviewers were particularly interested in learning about:

- the burden of diarrhoea

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- historical perspectives and lessons

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- political commitment

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- the policy environment and

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- strategies and implementation approaches

Across all three countries, more than 100 stakeholders were interviewed (**see Table 1**). These stakeholders represented national government line ministries (in health, water and sanitation, finance, and public works); donors and local implementation agencies; regional, state and provincial government officers, local government department officers and community health workers; and academics and capacity development specialists. The process involved facilitating roundtable meetings, semi-structured interviews and a document review based on a common data collection and analysis protocol. A desk-based literature review of global experiences prior to the country visits also supported the review. The information gathered helped to draw out similarities and differences in approaches taken to tackling diarrhoea control.

This review provides a snapshot of the key diarrhoea control policies and approaches across the three countries. It is not an exhaustive list, given the breadth and diversity of the different areas of diarrhoea control. Opportunities and challenges that emerged during the review may not be exclusive to that country. Access to data in some countries proved problematic, and in none of the countries was it possible to disaggregate diarrhoea control funding from larger programmes, such as child health, nutrition or water and sanitation. This situation makes it very difficult to assess current levels of funding, make recommendations about improved allocations or identify opportunities for getting more funding to diarrhoea interventions.

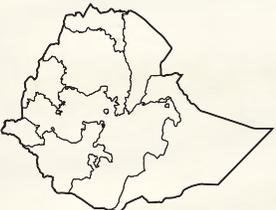
We acknowledge that there is a myriad of INGOs, national NGOs, donors, UN agencies and other institutions making valuable contributions to addressing the different elements of diarrhoea control. However, this research is focused primarily on the role of the government in terms of its policies and strategies, though we recognise that development partners have played a key role in this and in implementing policies.

The purpose of this review is to provide an overview of the opportunities and challenges in the control of diarrhoea, learn broader lessons from them and advance the dialogue about how diarrhoea can be better controlled in countries where the burden of diarrhoea is high.

<sup>2</sup> CLTS was the main approach used in the areas visited and therefore receives more focus in this review than other key approaches, such as the participatory hygiene and sanitation transformation (PHAST) approach.

<sup>3</sup> The data for ORT (which incorporates ORS and recommended home fluids), measles immunisation coverage, exclusive breastfeeding and vitamin A supplements is from the *WHO World Health Statistics 2011* report. The statistics used are from the period 2000-2010, with the exception of measles immunisation which is taken from 2009.

**Table 1**

	<b>Stakeholder</b>	<b>National</b>	<b>Sub-national/ regional</b>	<b>Local</b>
<b>MALI: 26 STAKEHOLDERS INTERVIEWED</b>				
	<b>Government</b>	National Directorate of Sanitation, Pollution and Nuisance Control (DNACPN) National Directorate of Health Direction Nationale de L'Hydraulique (DNH)	Regional Directorate of Sanitation, Pollution and Nuisance Control, Koulikoro Regional Public Health Directorate, Koulikoro	Reference Health Centre, Kolokani district Sanitation, Pollution and Nuisance Control, Kolokani district
	<b>Donor/ multilateral</b>	UNICEF – Mali USAID Health Program National Technical Assistance Plus		
	<b>Civil society</b>	WaterAid – Mali Organisme de Développement pour l'Espérance au Mali (ODES) Millennium Promise		Sebecoro Gouehzena village, Kolokani district
	<b>Academic/ research</b>	MDG Centre West & Central Africa		
<b>ETHIOPIA: 36 STAKEHOLDERS INTERVIEWED</b>				
	<b>Government</b>	Federal Ministry of Health Ministry of Water & Energy	Regional Health Bureau, SNNPR	Shebedino Woreda Health Office, SNNPR Woreda 6 Administrative office
	<b>Donor/ multilateral</b>	DFID UNICEF Ethiopia WSP – World Bank World Bank		
	<b>Civil society</b>	GOAL PATH Ramboll Tearfund – Ethiopia WaterAid – Ethiopia		
	<b>Academic/ research</b>	RIPPLE		
<b>ZAMBIA: 38 STAKEHOLDERS INTERVIEWED</b>				
	<b>Government</b>	Policy & Planning, Ministry of Health Rural Water Supply & Sanitation Unit, Ministry of Local Government & Housing		Choma District Council Choma District Medical Office Department of Water Affairs, Choma
	<b>Private sector/ utility</b>	Southern Water and Sewerage Company		
	<b>Donor/ multilateral</b>	German International Cooperation (GIZ) JICA Médecins Sans Frontières (MSF) WSP – World Bank DFID		
	<b>Civil society</b>	Africare Zambia CARE (WASH Plus)/CARE Zambia Churches Health Association of Zambia (CHAZ) Development Aid from People to People (DAPP) FHI (WASH Plus) Oxfam – Zambia PATH UNICEF – Zambia World Vision – Zambia		
<b>Academic/ research</b>	Centre for Global Health & Development (CGHD) Centre for Infectious Disease Research in Zambia (CIDRZ) Zambia Centre for Applied Health Research & Development (ZCHARD)			

## Country Profile: MALI



**Elements of diarrhoea control have featured on Mali's health agenda for at least three decades.**

### HEALTH STRUCTURE OVERVIEW

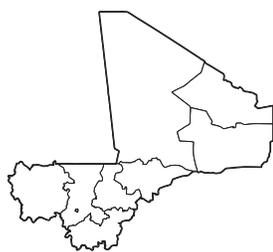
The Ministry of Health operates a decentralised health system, which includes a 'pyramid' structure for health clinics:<sup>19</sup> five tertiary care centres, six secondary care centres, 59 health reference centres and 1,043 primary health centres. The role of the primary health centres is to provide the minimum package of curative and preventative healthcare and health promotion. A critical link to extending healthcare into the community are community health agents, who provide treatment, and community health workers, who deliver health-related prevention messages.

### HISTORICAL REVIEW

Elements of diarrhoea control have featured on Mali's health agenda for at least three decades. During the 1980s and 1990s, Mali developed national health programmes to fight high rates of childhood mortality and morbidity. Diarrhoea was addressed primarily through ORT. As in other countries, however, ORT programmes waned after the 1990s and the incidence of diarrhoea in children less than five years old has continued to increase<sup>4</sup> and is currently the leading cause of death in children less than five years old,<sup>20</sup> as noted above. In the 1990s, Mali adopted an integrated approach called Accelerated Child Survival and Development, comprising of three programmes which included IMCI, although the main focus was health interventions, driven by the Ministry of Health.

<sup>4</sup> Between 2004 and 2010, the incidence rate of diarrhoea for infants less than one increased from 79.12 to 89.14 per 1,000 (Direction Nationale de la Santé Annuaire SLIS 2004 and 2010)

**Diarrhoea remains the biggest killer of children less than five years old in Mali.**



MALI

### DIARRHOEA CONTROL IN MALI TODAY

Since the late-2000s, there has been a distinct shift. New policies have emphasised prevention messages and cross-sector collaboration between health and WASH. Diarrhoea control has also climbed up the health priority agenda. The messages are strong and there are some promising strategies. More recently, the Ministry of Health produced a strategic plan that targets an integrated approach to diarrhoea prevention.<sup>21</sup>

However, while promising policies and cross-sectoral frameworks are in place, diarrhoea remains the biggest killer of children less than five years old. It seems that the biggest challenges that Mali faces are those of implementation and successful cross-sector working at the local level, along with sufficient access to treatment and prevention (see **Figure 3**).

### Snapshot of Diarrhoea Control in Mali

#### 1. ORT/ORS: *Ministry of Health*

In Mali, 24 per cent of children less than five years old with diarrhoea receive ORT. ORS sachets are available through the government supply system and are purchased by users.

#### 2. Zinc: *Ministry of Health*

Zinc features on the government's list of 100 essential medicines but distribution and coverage are not yet universal. NGOs and bilateral organisations are working with the Ministry of Health to support zinc distribution. National data on zinc coverage is not available.

#### 3. Immunisations and vitamin A: *Ministry of Health*

Measles immunisation coverage among one-year-olds is 71 per cent and 72 per cent of children receive vitamin A supplements.<sup>22</sup> These messages are incorporated into IMCI. The rotavirus vaccine is targeted for implementation in 2012.

#### 4. Exclusive breastfeeding: *Ministry of Health*

In Mali, 34 per cent of infants are exclusively breastfed for the first six months of life.<sup>23</sup> Promoting exclusive breastfeeding is a key message under IMCI.

#### 5. Water supply: *Ministry of Energy and Water*

Access in rural areas stands at only 51 per cent and rises to 87 per cent in urban areas.<sup>24</sup> It is estimated that 34 per cent of hand-pumps are non-functioning.<sup>25</sup>

#### 6. Hand-washing with soap and 7. Community-wide sanitation:

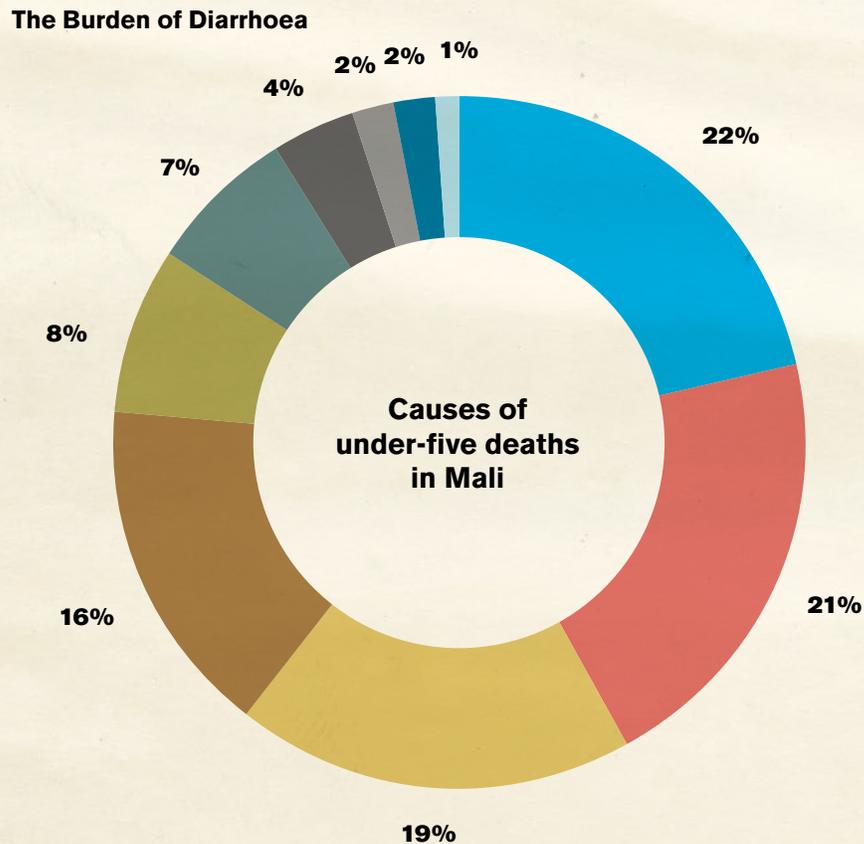
Coverage of sanitation is low, at 14 per cent in rural areas and 35 per cent in urban ones.<sup>26</sup>

- **Ministry of Health:** Three messages delivered through IMCI include WASH.
- **Ministry of Environment and Sanitation:** A new directorate has been formed for sanitation.
- **Cross-sectoral:** There is a multi-stakeholder strategy for diarrhoea control through hygiene practices. CLTS is being scaled up, led by the Ministry of Environment and Sanitation and in collaboration with the Ministry of Health. The 'WASH in schools' programme involves the Ministry of Education, Literacy and National Languages.

**Figure 3. The Burden of Diarrhoea**

Source: World Health Statistics 2011

- Diarrhoea ■
- Pneumonia ■
- Other Illnesses ■
- Malaria ■
- Prematurity ■
- Asphyxia ■
- Neonatal sepsis ■
- Congenital anomalies ■
- Injuries ■
- HIV/AIDS ■
- Measles ■



**Diarrhoea was recognised as one of the primary causes of childhood morbidity and mortality in the Ministry of Health’s first overarching ten-year Health and Social Development Programme (1998–2009).**

**OPPORTUNITIES FOR IMPROVED DIARRHOEA CONTROL**

- **Diarrhoea is an emerging national health priority**

Diarrhoea was recognised as one of the primary causes of childhood morbidity and mortality in the Ministry of Health’s first overarching ten-year Health and Social Development Programme (1998–2009). This has been significant in raising the profile of diarrhoea in Mali, leading to the Ministry of Health releasing a strategic plan (2011–2015) that specifically focuses on diarrhoea control through the promotion of hygiene practices.<sup>27</sup> Though there are delays in its implementation, and there is currently no monitoring framework in place, its objective is to ‘promote hygienic practices and environments for the greatest impact on the prevention of diarrhoeal diseases for children less than five years old through strengthening WASH practices.’<sup>28</sup> Under the guidance of the Ministry of Health, this strategy provides for cross-sector working, outlining the responsibilities across different stakeholders including: the Directorate of Sanitation, Pollution and Nuisance Control; the National Laboratory of Health; and the National Laboratory of Water Quality.

- **Prevention messages are reaching communities**

Prevention messages relating to diarrhoea control are reaching communities through a number of strategies and are buoyed by political support. Primarily, this is



through IMCI and the messages delivered at a local level by community health workers, six of which relate to diarrhoea control and three to WASH.<sup>5</sup>

CLTS was introduced in 2009. It is also providing a channel for connecting with communities on diarrhoea prevention, and is rapidly being scaled up nationally. Known locally as CLTS+, due to an additional emphasis on hand-washing, it is led by the Ministry of Environment and Sanitation and in collaboration with the Ministry of Health. An evaluation of this is currently underway, which is a promising development because it includes measuring rates of diarrhoea for children less than two and five years old, household health expenditures and water quality.<sup>6</sup>

Children are also being targeted through a school-based programme on hygiene, led by a multi-sectoral partnership between the Ministries of Education, Health, Water, Environment and Sanitation and development partners.

Political support is reflected in championing the celebration of 'global days'. Several politicians and high-level civil servants are helping to raise the profile of sanitation and hand-washing. In 2009, President Toumani Touré championed Global Handwashing Day and a number of public officials are included in signing off 'open defecation-free' villages following CLTS facilitation.

<sup>5</sup> These practices are: immunisations and vitamin A; medicine kit for treatment of fever and seeking care for children at health services; exclusive breastfeeding; improved water supply; sanitation and hand-washing.

<sup>6</sup> The evaluation of the impact of CLTS is taking place between May 2011 and October 2012.



**The percentage of children receiving ORT is low, at 24 per cent.**

- **Creation of a directorate to focus on sanitation**

The Ministry of Environment and Sanitation formed a new directorate with specific responsibility for sanitation – the National Directorate of Sanitation, Pollution and Nuisance Control. This move has helped demarcate between the different skills and approaches required for water supply and sanitation. Furthermore, this directorate is going through an important priority shift to balance engineering-driven interventions, such as building treatment plants and sewage networks, with hygiene promotion and community mobilisation for behaviour change.

#### **CHALLENGES FACING DIARRHOEA CONTROL**

- **Limited access to treatment**

The percentage of children receiving ORT is low, at 24 per cent. This could be due in part to the costs involved for the ORS sachets, medical consultation and travel, and how households prioritise such expenses within their spending.<sup>7</sup> Distance from a primary health centre is also a factor, as health service disparities exist

<sup>7</sup> In comparison, malaria drugs are distributed free to children less than five years old, due to vertical finance streams which subsidise the drugs. In 2006, the number of febrile children less than five years old using anti-malarials was 32 per cent (DHS 2006).

**Sanitation coverage is low, at just 14 per cent in rural areas and a little higher at 35 per cent in urban areas.**

between populations, depending on whether they live within or outside a 5km radius of a community-based clinic.<sup>29</sup> Although zinc tablets are available, their distribution and coverage are not yet universal.

- **Challenges facing community health workers**

At a district level, staff interviewed raised concerns about significant operational challenges facing community health workers: building the capacity of staff, keeping personnel in the districts, extending health services as needed and an overall shortage of community-level workers.<sup>8</sup> In addition, some traditional practices are hindering the adoption of certain elements of diarrhoea control, which presents a continual challenge for community health workers in their interaction with traditional healers. For example, in Koulikoro district,<sup>9</sup> community health workers and primary health centres reported that some care-givers would not practise breastfeeding for the first six months due to their traditional beliefs.

- **Low access to water and sanitation**

The sheer lack of access to clean and safe water and basic sanitation in many communities presents a barrier to reducing diarrhoea episodes. Sanitation coverage is low, at just 14 per cent in rural areas and a little higher at 35 per cent in urban areas. There is much greater divergence of coverage for access to improved water sources: in urban areas it is 87 per cent, compared to 51 per cent in rural areas.<sup>30</sup>

- **Diverging sanitation strategies**

Given that access to sanitation is low, it is a matter of concern that there are diverging opinions over the most appropriate methods of implementing sanitation and hygiene at a community level. At the national level, CLTS is recognised as an effective tool for behaviour change. However, though minimum standards for improved sanitation have been agreed across the ministries, at the regional and district levels, some Ministry of Health staff expressed concerns over the quality of the latrines as a result of CLTS facilitation and opinions are divided. The African Development Bank is rolling out a five-year sanitation programme which subsidises 90 per cent of the construction costs of latrines,<sup>31</sup> a strategy that directly opposes the principles of CLTS. Though few latrines have been built through this programme, it is one example of a wider problem in Mali where donor interventions do not always align with national priorities.

- **Difficulties with district-level coordination**

Questions are also raised around conflict and the duplication of roles with respect to sanitation and health extension officers. At the district level, these differences of opinion are even more prominent and the roles more segregated. Although an atmosphere of collaboration is maintained, these tensions need to be addressed to ensure all diarrhoea control approaches are as effective as possible. In addition, the messages from health workers and those implementing sanitation strategies, such as CLTS, need to be coordinated and complementary.

<sup>8</sup> In 2007, there were 2.7 workers per 10,000 population (Childinfo.org).

<sup>9</sup> A region of Mali which contains areas known for preserving traditional practices.

## Country Profile: ETHIOPIA



**Diarrhoea remains the biggest killer of children less than five years old in Ethiopia.**

### HEALTH STRUCTURE OVERVIEW

Ethiopia has a decentralised healthcare system, and the responsibility for developing and implementing the health system is shared between the Federal Ministry of Health, the Regional Health Bureaux and the District Health Offices. Ethiopia has a three-tier health delivery system: primary healthcare units (a network of health centres, local health posts and district hospitals), referral hospitals and specialised hospitals.<sup>32</sup> It is through this system that the acclaimed Health Extension Programme (HEP) is delivered.

The HEP is Ethiopia's flagship programme to deliver primary healthcare at the community level and is based on expanding physical health infrastructure and deploying health extension workers (HEWs) who provide promotion and preventative messages, alongside basic curative health services. Two female HEWs are assigned to a health post in each village and are recommended to spend about 75 to 80 per cent of their time on outreach activities in communities. Each HEW is responsible for 500 to 1,000 families.<sup>33</sup> To assist with this outreach, HEWs train and support volunteer community health workers who are also there to demonstrate good health practices.



ETHIOPIA

### DIARRHOEA CONTROL IN ETHIOPIA TODAY

Today, the HEP is successfully achieving progress in providing higher numbers of trained health workers to deliver crucial messages. Importantly, there is now a focus on reaching rural areas. These developments show the recognised need for balanced promotive, preventive and selected curative healthcare services. There have also been promising developments in cross-sector collaboration for improved public health and WASH.

However, diarrhoea remains the biggest killer of children less than five years old. Access to treatment is low and water and sanitation coverage rates in rural areas urgently need to be addressed. Workers also face challenges implementing health and WASH strategies at a local level (see **Figure 4**).

### Snapshot of Diarrhoea Control in Ethiopia

#### 1. ORT/ORS: *Federal Ministry of Health*

In Ethiopia, 32 per cent of children less than five years old with diarrhoea receive ORT.<sup>36</sup> ORS is a registered medicine so access is dependent on visiting health services.<sup>11</sup>

#### 2. Zinc: *Federal Ministry of Health*

Zinc is registered as a treatment but is pending production or importation agreements. It is incorporated into Integrated Management of Neonatal and Childhood Illnesses (IMNCI) guidelines and mentioned as an indicator in the most recent Health Sector Development Programme 2010/2011 to 2014/2015 (HSDP-IV). National data on zinc coverage is not available.

#### 3. Immunisations and vitamin A: *Federal Ministry of Health*

Measles immunisation coverage among one-year-olds is 75 per cent and is a key message delivered through the HEP. Vitamin A supplements are received by 46 per cent of children.<sup>37</sup> There has been high visibility of measles immunisation campaigns at both a national and sub-national level which include vitamin A. The rotavirus vaccine is targeted for implementation in 2012.

#### 4. Exclusive breastfeeding: *Federal Ministry of Health*

In Ethiopia, 49 per cent of infants are exclusively breastfed for the first six months of life.<sup>38</sup> The HSDP-IV has a focus on nutrition which incorporates exclusive breastfeeding.

#### 5. Water supply: *Federal Ministry of Water and Energy*

There are large disparities between urban and rural areas, where access stands at 97 per cent and 34 per cent respectively.<sup>39</sup> It is estimated that 35 per cent of hand-pumps are non-functioning.<sup>40</sup> The Universal Access Plan has been extended until 2015.

#### 6. Hand-washing with soap and 7. Community-wide sanitation:

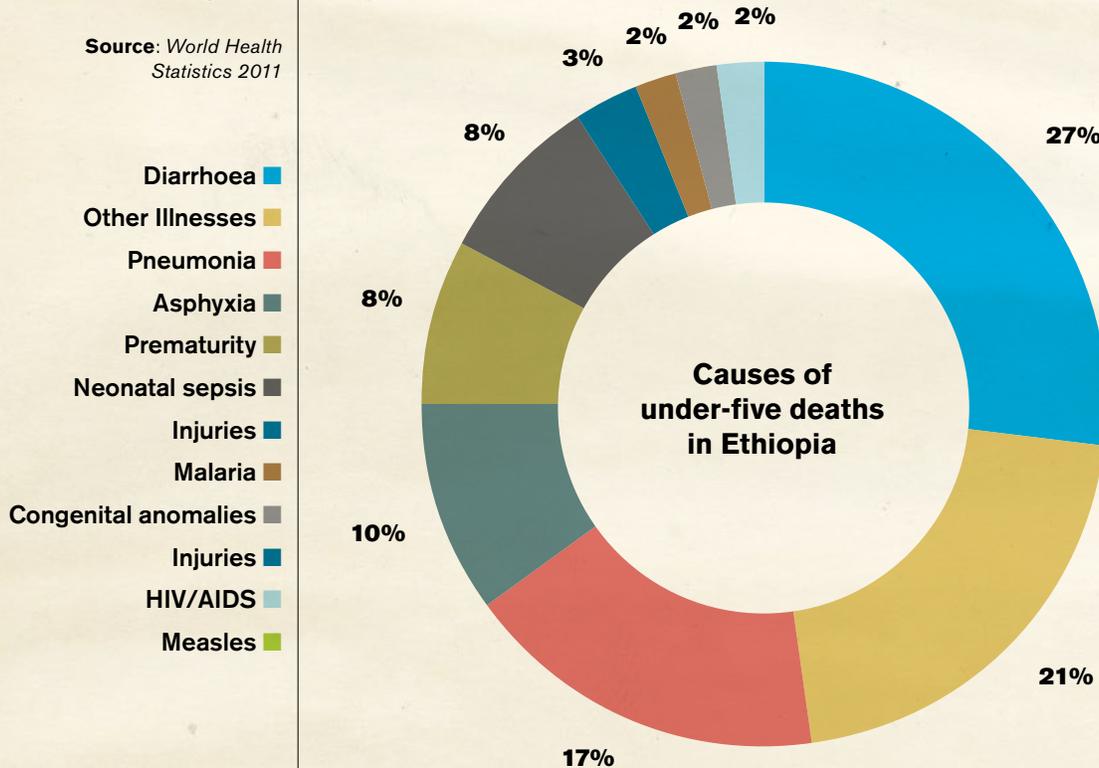
Coverage is low, standing at 29 per cent in urban areas and just 19 per cent in rural areas.<sup>41</sup>

- **Federal Ministry of Health:** CLTS with a hygiene component is being scaled up. The HSDP-IV contains a focus on hygiene and environmental health, and three messages delivered through the HEP include WASH.
- **Cross-sectoral:** There is a memorandum of understanding across ministries to increase coordination of WASH. The National Hygiene and Sanitation Taskforce has produced a hygiene and sanitation strategy, and the National Hand-Washing Strategy targets school children.

<sup>11</sup> ORS is available in trials for Integrated Management of Neonatal and Childhood Illness (IMNCI).

**Figure 4. The Burden of Diarrhoea**

Source: World Health Statistics 2011



**HISTORICAL REVIEW**

In the late-1990s, health services in federal Ethiopia were largely urban and facility-based, relying on curative interventions delivered by too few, poorly trained health workers. The country needed a means of reaching some 68 million people living in the rural areas<sup>34</sup> at a time when the health, WASH and education sectors worked independently. In 1993, a health policy was developed to strike more of a balance between the curative and the preventive healthcare services. Since the launch of this policy by the then Transitional Federal Government of Ethiopia, four Health Sector Development Programmes have been developed, each covering a five-year period. In 2003, the Ministry of Health launched the Accelerated Expansion of Primary Health Coverage<sup>10</sup> through the Health Extension Programme.

IMCI had been considered too technical for health workers, including HEWs, and did not take into account neonatal illnesses. In 2007, the new Integrated Management of Neonatal and Childhood Illness (IMNCI) was launched by the Federal Ministry of Health and other development partners, and is being incorporated into the training of HEWs.<sup>35</sup>

<sup>10</sup> This is part of the Programme of Accelerated and Sustainable Development to End Poverty (PASDEP) – Ethiopia’s Poverty Reduction Strategy Paper (PRSP).



**The most recent Health Sector Development Programme acknowledges diarrhoea as one of the leading causes of death in children, although it is not specifically targeted in the same way as malaria, HIV or TB.**

#### **OPPORTUNITIES FOR IMPROVED DIARRHOEA CONTROL**

- **Prevention messages are reaching communities**

Politically, the existence of the HEP is probably the biggest visible commitment made to improving public health. As part of the HEP, communities are exposed to at least five messages relating to diarrhoea control communicated through health extension workers, three of which include WASH.<sup>12</sup> Progress is being made in providing higher numbers of trained health workers to reach mothers and children in rural areas. Provision has been made for the salaries of health workers, the construction of health facilities and the basic operational costs associated with the HEP to be financed mainly by sub-national health authorities.

The most recent Health Sector Development Programme (HSDP-IV) acknowledges diarrhoea as one of the leading causes of death in children, although it is not specifically targeted in the same way as malaria, HIV or TB. There is, however, a notable focus on nutrition which encompasses breastfeeding, and on hygiene and environmental health which place a strong focus on WASH.<sup>42</sup>

Communities are also being exposed to behaviour-change messages through the scale-up of CLTS, known locally as CLTSH, due to the addition of hygiene. This is led by the Federal Ministry of Health, which has the ambitious target of attaining open defecation-free status

<sup>12</sup> These messages are related to maternal and child health, immunisation, personal hygiene, water supply and sanitary latrines.



across 80 per cent of all villages by 2015.<sup>43</sup> However, as in Mali, concerns were expressed over the quality of latrines made as a result of this process.

These community-led approaches are supported by high-profile events promoting hand-washing to have a wider reach. For example, in 2011, national athletes and celebrities joined the government in launching Global Handwashing Day, with a segment on *Ethiopian Idol* entitled *Hand-washing Idol* – a national talent competition aimed at promoting hand-washing practices.<sup>44</sup>

- **Cross-sectoral collaboration for WASH is increasing**

At a national level, there has been a notable increase in cross-sector collaboration to increase the efficiency and coordination of WASH services delivery, a significant step for diarrhoea control. A memorandum of understanding (MoU) now exists between the Federal Ministry of Health, Ministry of Water and Energy and the Ministry of Education to increase cooperation and coordination in the delivery of WASH services. A revised version of the MoU proposes the Ministry of Finance and Economic Development as the overseeing body.

This has paved the way for innovative WASH strategies, such as the National Hygiene and Sanitation Taskforce<sup>13</sup> and the National WASH Inventory. The Taskforce has developed

<sup>13</sup> This is a multi-agency body and is chaired by the Ministry of Health. It is responsible for overall coordination of WASH as it relates to public health.

**ORS is a registered medicine, meaning that access to it is dependent upon people going to a health centre. This may be a contributing factor to its low usage – only 32 per cent of children with diarrhoea access ORT.**

**Improved sanitation coverage overall is also low, at 21 per cent.**

a National Hygiene and Sanitation Strategic Action Plan, and a National Hand-Washing Strategy with a campaign targeting school children. The National WASH Inventory will provide new data on urban and rural water supply schemes, sanitation and hygiene practices in households and the status of water supply and sanitation facilities in health institutions and schools. The government has also launched the Universal Access Program<sup>45</sup> which has the ambitious target of providing 100 per cent water and sanitation coverage by 2012 – now extended to 2015. This is reflective of the increasing prominence that WASH has within government strategies.

### **CHALLENGES FACING DIARRHOEA CONTROL**

Despite these many positive signs, Ethiopia is still in the top 15 countries in the world for childhood deaths from diarrhoea and it remains the leading cause of death in children less than five years old. This review highlights some significant barriers still to be overcome:

- **Limited access to treatment**

ORS is a registered medicine, meaning that access to it is dependent upon people going to a health centre. This may be a contributing factor to its low usage – only 32 per cent of children with diarrhoea access ORT. Zinc treatment use is also low, despite its being registered as a treatment. One of the main barriers to both these treatments is the challenge of sourcing local manufacturers that meet the regulatory requirements of the country.<sup>14</sup> NGOs and bilateral organisations are, however, working with the Ministry of Health to support zinc distribution, and training health extension workers and district-level staff about the importance of zinc treatment for diarrhoea.<sup>46</sup>

- **Low access to and monitoring of water and sanitation**

Despite promising cross-sector WASH initiatives, access to improved water supply remains low, at 44 per cent. There are large disparities between urban and rural areas, with 97 per cent of those living in urban areas having access to improved water supply, and just 34 per cent in rural areas. Improved sanitation coverage overall is also low, at 21 per cent, though access has improved in rural areas from just eight per cent in 2008 to 19 per cent in 2010. Coverage in urban areas during this period has remained low at 29 per cent.<sup>47</sup> Though there are promising developments in this area, much progress is needed, and resources are urgently required to scale this up rapidly.

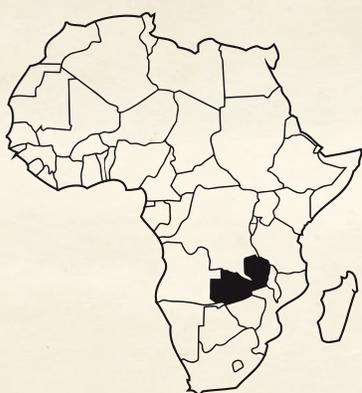
- **Difficulties implementing health and WASH strategies**

As with Mali, while there are clear health and WASH frameworks at a national level, implementing policies and strategies at a local level presents challenges, especially when it comes to targeting vulnerable groups. For example, while it is encouraging that the HSDP-IV recognises the importance of reaching pastoralist communities with HEP, further guidance and resources are required for both the health and WASH strategies to reach vulnerable groups such as those with disabilities, the elderly and people living in remote communities.

Health extension workers also lack evidence-based guidance on how to identify the most prevalent illness in their areas and therefore face challenges in assessing the priorities and health messages most pertinent to their communities. This could hinder messages of diarrhoea control being delivered in areas where this is a high burden.

<sup>14</sup> ORS was available in trials for the Integrated Management of Neonatal and Childhood Illness (IMNCI), and zinc has been adopted by the Ministry of Health and incorporated into the Child Survival Strategy and Community IMNCI.

## Country Profile: ZAMBIA



**ORS coverage is increasing and is freely available, and access to water and sanitation is notably higher than in Mali and Ethiopia.**

### HEALTH STRUCTURE OVERVIEW

Decentralisation of government started in the 1990s and was formalised in 2003 with the launch of the National Decentralisation Policy. At the district level, the responsibility for health lies with the District Health Management Teams who report to provincial health offices which in turn report to the Ministry of Health. While still relatively weak, provincial health offices are gradually increasing their influence and role as the decentralisation process progresses slowly. At the community level, the Ministry of Health is represented by community health workers selected by the community and trained to provide Community-based Integrated Management of Childhood Illnesses (C-IMCI).

### DIARRHOEA CONTROL IN ZAMBIA TODAY

Zambia has made promising progress on aspects of diarrhoea control. ORS coverage is increasing and is freely available, and access to water and sanitation is notably higher than in Mali and Ethiopia. CLTS is scaling up rapidly, and a trial of the rotavirus vaccine is being rolled out in the capital, Lusaka, however, it is still one of the main causes of child deaths (see **Figure 5**).

However, despite support from a cross-sector working group, incomplete decentralisation remains a challenge and has led to fragmented policies and strategies. Rural communities face difficulties accessing basic services and community health workers struggle to reach communities due to staff shortages at health facilities and little transport infrastructure.



ZAMBIA

**Significant progress has been made with exclusive breastfeeding, a message delivered by community health workers through C-IMCI.**

## Snapshot of Diarrhoea Control in Zambia

### 1. **ORT/ORS:** *Ministry of Health*

In Zambia, 67 per cent of children less than five years old with diarrhoea receive ORT.<sup>48</sup> ORS is freely available at all health facilities and in some cases in pharmacies.

### 2. **Zinc:** *Ministry of Health*

Zinc has not yet been made available by the government.

### 3. **Immunisations and vitamin A:** *Ministry of Health*

Measles immunisation coverage among one-year-olds is 85 per cent and 60 per cent of children receive vitamin A supplements.<sup>49</sup> In January 2012, an NGO-government partnership piloted the introduction of the rotavirus vaccine in the capital, Lusaka, with the nationwide roll-out planned for 2013.

### 4. **Exclusive breastfeeding:** *Ministry of Health*

In Zambia, 61 per cent of infants are exclusively breastfed for the first six months of life.<sup>50</sup> It is one of the key messages delivered under IMCI.

### 5. **Improved water supply:** *Ministry of Local Government and Housing*

Urban coverage is 87 per cent and rural coverage is 46 per cent.<sup>51</sup> It is estimated that 32 per cent of hand-pumps are non-functioning.<sup>52</sup> The government aims to meet the improved drinking water MDG target by 2015 and universal access by 2030, though progress is not on target.

### 6. **Hand-washing with soap and 7. Community-wide sanitation:**

Coverage stands at 43 per cent for rural areas and 57 per cent in urban areas.<sup>53</sup>

- **Ministry of Health:** One of the key messages of community-based IMCI is disposing of faeces and hand-washing. CLTS is being scaled up in the majority of Zambia's districts.
- **Ministry of Local Government and Housing:** The National Rural Water Supply and Sanitation Programme (2006 to 2015) aims to halve the number of people without access to adequate sanitation by 2015 and to achieve universal coverage by 2030. In 2009, it introduced a sanitation and hygiene component which places a high priority on schools.
- **Cross-sectoral:** Multi-stakeholder committees work to ensure joint decision-making and coordination around WASH and mobilisation at both a national and sub-national level.

## OPPORTUNITIES FOR IMPROVED DIARRHOEA CONTROL

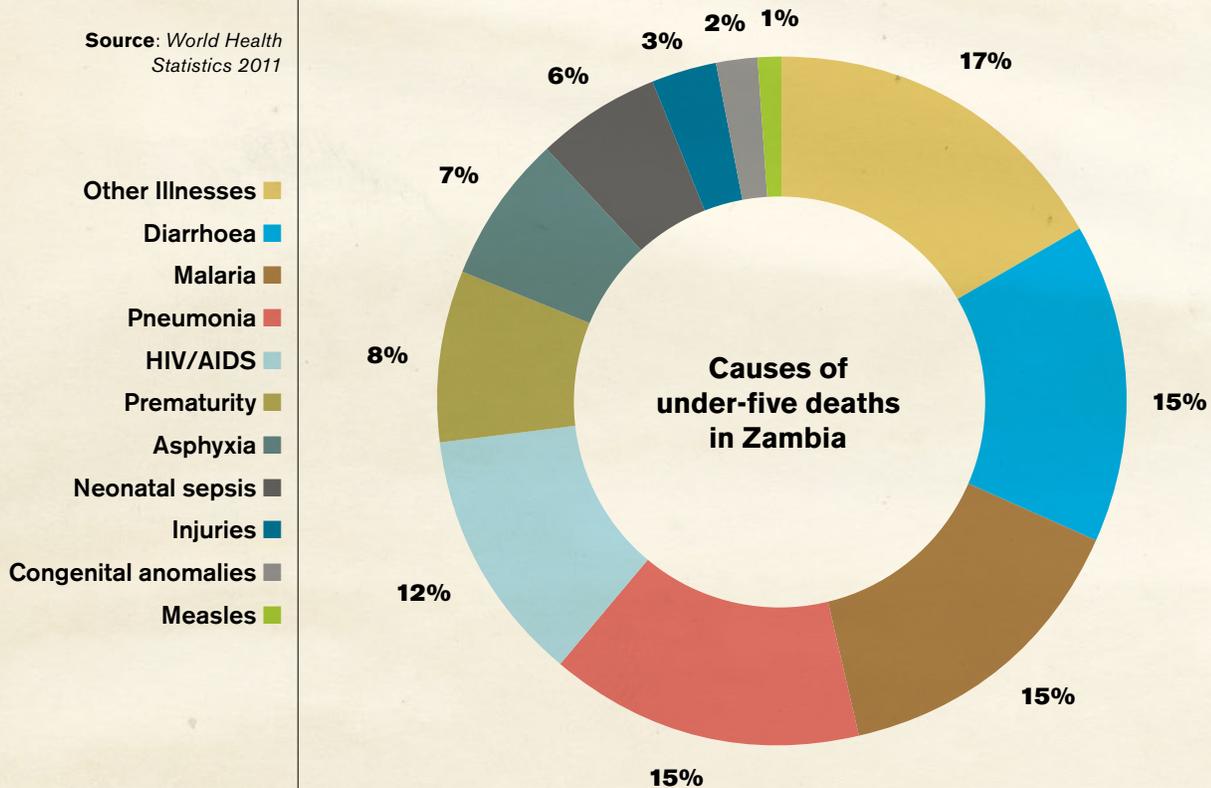
### ● **Community access to treatment and prevention**

The percentage of children with diarrhoea receiving ORT is high, at 67 per cent. Unlike in Ethiopia and Mali, ORS is freely available to all ages at health facilities and, in some cases, pharmacies. Recently, other approaches to increase uptake have been piloted, including packaging ORS sachets for sale through private-sector distribution networks.<sup>54</sup> Significant progress has been made with exclusive breastfeeding, a message delivered by community health workers through C-IMCI. Out of 16 messages delivered through this strategy, four messages link directly to diarrhoea control.<sup>15</sup>

<sup>15</sup> These are: exclusive breastfeeding for children less than six months old; immunisation; disposing of faeces and hand-washing; and increasing fluids and breast milk.

**Figure 5. The Burden of Diarrhoea**

Source: World Health Statistics 2011



Measles immunisation coverage is far-reaching, at 85 per cent. This is supported by the intervention called Child Health Week which takes place twice each year and which, among other things, provides an opportunity for children to receive a measles vaccine and vitamin A supplements. Distribution of rotavirus vaccine is also currently being piloted in Lusaka – within the context of a broader programme of prevention and treatment that includes hygiene, ORS and zinc – in advance of a national roll-out of the vaccine, planned for 2013.<sup>55</sup>

● **Improving coordination of health policies**

Under the Ministry of Health, there are a range of policies with elements relating to diarrhoea control, covering areas which include nutrition, WASH and school health. In response to the challenges of incomplete decentralisation and fragmented policies, the National Health Strategic Plan (2011 to 2015) is a follow-up to the first five-year plan introduced in 2006, to harmonise existing policies and legislation and incorporate new ones, including:

- The National Food and Nutrition Policy 2002 identifies the link between water, sanitation and malnutrition, with specific policy measures regarding breastfeeding and nutrient supplements.
- The National School Health and Nutrition Policy 2006 commits the government and other stakeholders to improving the health and nutrition of students,

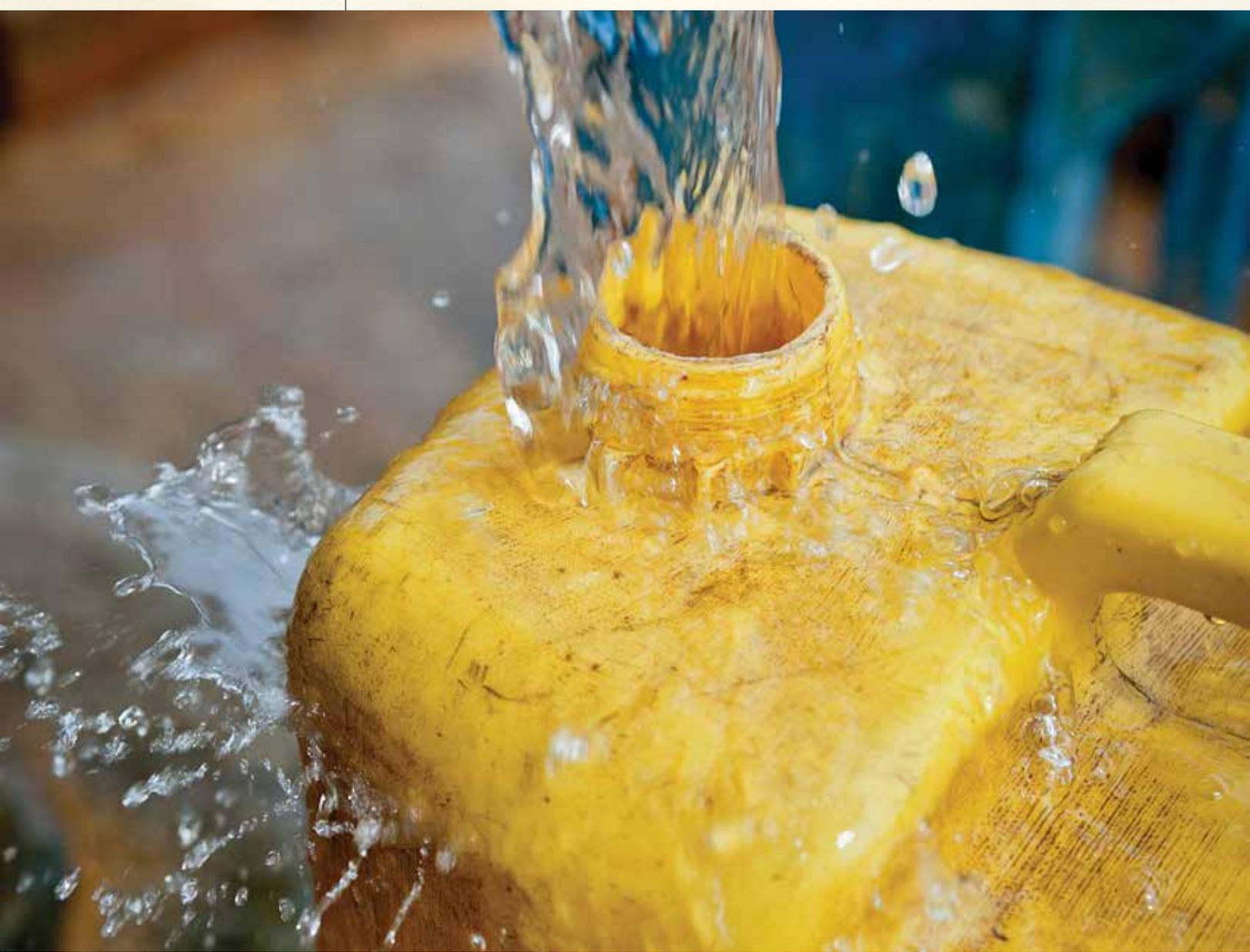


thereby increasing enrolment, retention and achievement. The policy includes statements regarding adequate clean and safe water, appropriate sanitation, immunisation and nutrition.

- **Improving coordination of WASH programmes**

At both a national and sub-national level, inter-sectoral committees assist with some level of decision-making over WASH resources. At the national level, the National Sanitation Working Group is chaired by the Ministry of Local Government and Housing and includes representatives from Education and Health, as well as development partners. Its purpose is to coordinate and, where possible, integrate WASH and health activities.<sup>56</sup>

At the district level, district water, sanitation and health education committees (D-WASHE) and development partners have been established and are chaired by the district council. These committees play an important role in supporting the district councils and local authorities by coordinating projects being implemented by the different groups represented on the committee. In addition, Neighbourhood Health Committees support the formal work of community health workers.



**The power held by the chiefs, individually and collectively, is perceived as critical to increasing household sanitation and the success of CLTS.**

- **Community focus for rural WASH access**

Following a successful pilot of CLTS in 2007, where sanitation coverage increased within two months from 23 per cent to 88 per cent, the Ministry of Health has chosen to roll out the approach nationally.<sup>57</sup> At a local level, CLTS has been supported by village chiefs. One in particular, Chief Macha, even received a Presidential Commendation in 2011 for his support on sanitation, which also highlights political support at a national level for sanitation. The power held by the chiefs, individually and collectively, is perceived as critical to increasing household sanitation and the success of CLTS.

**The 2011 Ministry of Health Action Plan concedes that only 19 per cent of community health workers are actually available to provide outreach into communities.**

## CHALLENGES FACING DIARRHOEA CONTROL

### ● **Incomplete decentralisation**

Despite efforts to improve coordination of health and WASH policies and programmes, incomplete decentralisation compromises the effectiveness of local authorities in both the health and WASH sectors. As in many developing countries, the situation risks district officials shouldering responsibility for the facilitation of community-based health services, with no authority to control resources or make timely decisions.

### ● **Limited reach into rural communities by community health workers**

The 2011 Ministry of Health Action Plan concedes that only 19 per cent of community health workers are actually available to provide outreach into communities.<sup>58</sup> As evidence for this, several interviewees commented on community health workers having to spend more of their time based in health facilities rather than being in the communities, due to staff shortages at health facilities.

Rural populations are further disadvantaged by poor road infrastructure and transport, hindering access to health facilities. Less than 50 per cent of the rural population live within 5km of a health facility. Although plans exist to reach more rural areas, they do not include these most geographically challenging areas.<sup>59</sup>

Community health workers face the difficulty of divided accountability as they are recruited and remunerated by district councils, but are supervised by and report to the Ministry of Health. Also, there are no guidelines on how hygiene promotion by both community health workers and those delivering rural water supply and sanitation should coordinate.

### ● **CLTS enforcement**

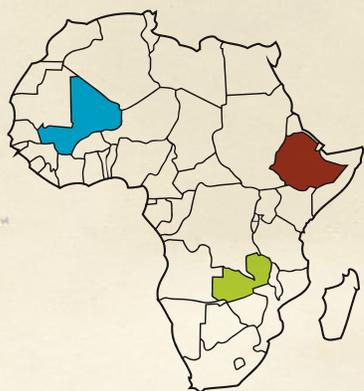
It has been widely recognised that village chiefs have played a significant role in promoting sanitation, contributing to the rapid success of CLTS implementation.<sup>60</sup> However, in some instances, latrine building and latrine use are enforced through the courts through the traditional social structure – a process that could be considered at odds with the ethos of CLTS.

### ● **Challenges with coordination between monitoring systems**

As in many countries, the Ministry of Health and the Ministry of Local Government and Housing use different monitoring systems.<sup>16</sup> The Ministry of Health collects information from primary-level health facilities and includes disease morbidity and mortality, maternal and child health services and service delivery.<sup>61</sup> Data is collected according to the estimated catchment area of each health facility. The Ministry of Local Government and Housing, however, collects data based on the geographical boundaries of each district and includes water, sanitation and some cross-sector indicators such as HIV.<sup>62</sup> Corroborating this data could prove beneficial to monitoring diarrhoea control. However, the use of different monitoring systems and catchment areas makes this extremely challenging.

<sup>16</sup> The Ministry of Health uses a Health Management Information System and the Ministry of Local Government and Housing uses an Information Management and Monitoring and Evaluation System.

## Analysis and Conclusions

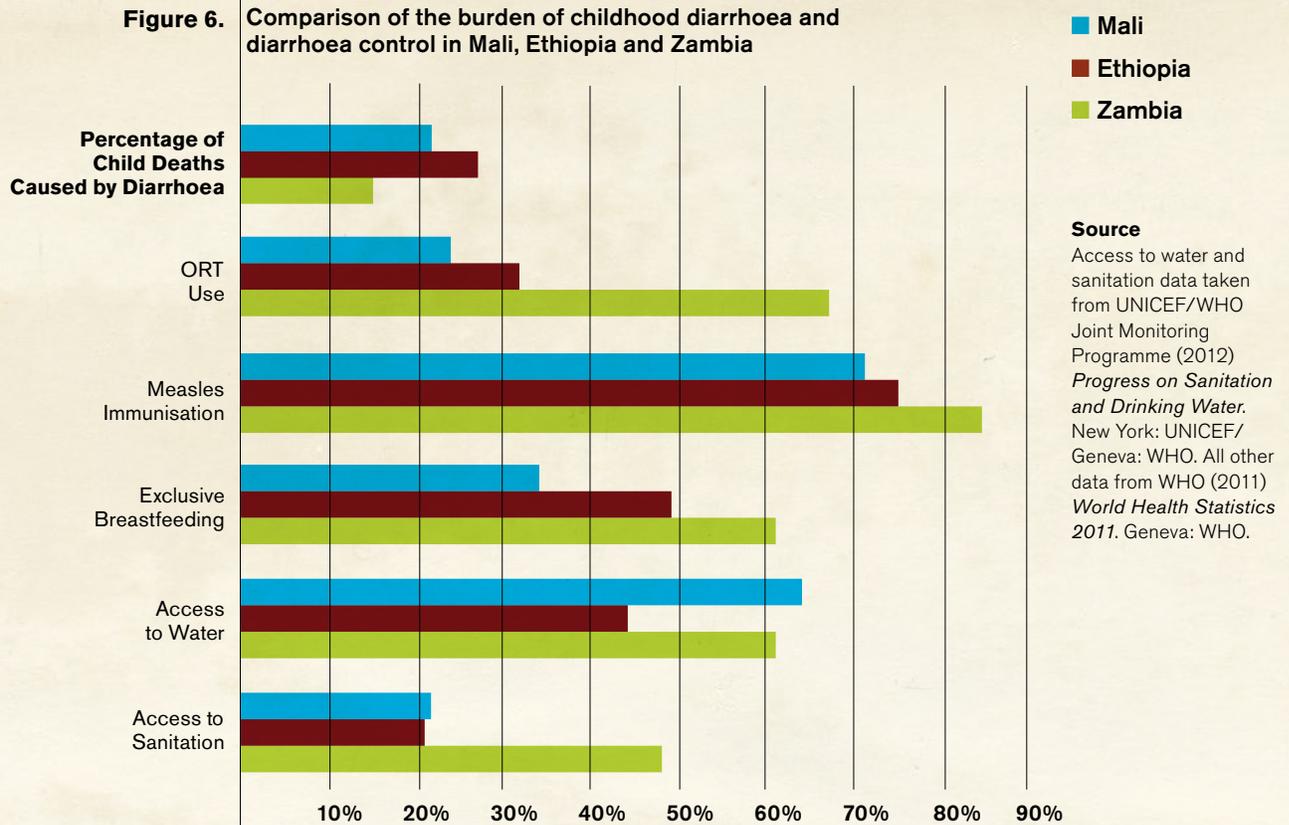


**Policies and strategies in themselves are not sufficient without strong mechanisms in place for effective implementation and delivery of diarrhoea control at the local level, supported by adequate resources.**

This report examines the approaches used to address the different elements of diarrhoea control in three key countries. It identifies the challenges and opportunities for increasing the effectiveness of policies and strategies. It also highlights the varying coverage of interventions across the countries, as highlighted in the graph below.

Out of the three countries reviewed, ORT use is notably higher in Zambia, which may reflect the fact that ORS is freely available there, whereas in Mali and Ethiopia ORS is a registered medicine and requires a consultation first. Zambia also has significantly higher sanitation coverage and, interestingly, diarrhoea accounts for a lower proportion of deaths in children less than five years old. More research is required, however, to establish the exact reasons for this.

Greater efforts are needed across all three countries. **Diarrhoea is still one of the main causes of death in children less than five years old in Zambia, and in Mali and Ethiopia it is the leading cause of death.** At both the national and international levels, greater commitment for diarrhoea control is needed. Policies and strategies in themselves are not sufficient without strong mechanisms in place for effective implementation and delivery of diarrhoea control at the local level, supported by adequate resources. The only international guidance for diarrhoea control is the UNICEF and WHO 7-Point Plan, and yet during the review it became apparent that these guidelines were not particularly well known.



**Mali is the only country reviewed to have an explicit strategy for diarrhoea, and it only focuses on preventative hygiene behaviours.**

Coordination of diarrhoea control needs to be strengthened at all levels, from the national level down to the local level. Mali is the only country reviewed to have an explicit strategy for diarrhoea, and this it only focuses on preventative hygiene behaviours. There have also been delays in its implementation and there is currently no monitoring framework in place. Neither Ethiopia nor Zambia has a framework for diarrhoea control. The absence of such a comprehensive framework means there is no institutional home for either vertical or horizontal accountability for efforts towards diarrhoea reduction.

**Lack of coordination can mean significant gaps in policies being overlooked, barriers to implementation being neglected and important opportunities, as identified in this review, being missed.**

Kenya is currently the only country in sub-Saharan Africa with a comprehensive policy that incorporates guidance on both prevention and treatment to address diarrhoea (see page 11). While the policy is still relatively new, and therefore its impact is difficult to measure, it has already resulted in increased guidance for provinces and districts, as well as securing government commitment to the issue.

## CHALLENGES

**While there are some promising policies and frameworks in place, implementing these policies and strategies effectively is proving challenging.**



**Death from diarrhoea is preventable, yet still one child dies from diarrhoea about every 20 seconds. There are still challenges that urgently need to be addressed.**

### 1. Barriers to implementing joint policies and coordination of monitoring

An overarching theme arising from this review is that, while there are some promising policies and frameworks in place, implementing these policies and strategies effectively is proving challenging. Despite the existence of encouraging cross-ministry policies at a national level, roles and responsibilities need to be better defined at regional and district levels, as the practicalities of working in an integrated way become more challenging.

In Mali, diverging opinions on the most appropriate sanitation strategies were more acutely felt at the sub-national level, such as concerns about the quality of latrines as a result of CLTS. In addition, tensions were highlighted over opposing strategies being implemented involving both subsidised and non-subsidised sanitation approaches. In Zambia, there is no formal framework for integration, though cross-sector committees and working groups coordinate WASH activities. There was also low coordination between health policies, although a strategic plan was introduced in 2006 to harmonise policies and incorporate new ones. This was renewed in 2011.

The review in Zambia also highlighted the need to coordinate monitoring processes between sectors. Monitoring should be carried out in a comparable and compatible way so that the findings and resources invested in monitoring can be maximised.

### 2. No coordinating mechanism for the delivery of IMCI and CLTS

Both IMCI and CLTS are important strategies for promoting behaviour change relating to diarrhoea control and involve delivering preventive messages to communities. In Mali, however, district staff highlighted tensions over the delivery of these two strategies and perceived a duplication of the roles of community health workers and 'CLTS agents', particularly around messaging.<sup>17</sup> Without a coordinating mechanism in place, it is difficult to ascertain whether resources are being used efficiently to ensure that these two approaches are complementary and mutually reinforcing. It is also unknown whether they will support communities as they transition to any long-term behaviour change as a result of these strategies. Countries would benefit from streamlining these interventions, from a national level to a local level, to ensure maximum impact and best use of resources. However, further research is needed to investigate how they could be harmonised to ensure maximum returns.

### 3. Difficulties preventing community health workers reaching communities

Community health workers have a critical role to play in promoting treatment and conveying prevention messages about diarrhoea control at a household level. However, programmes lack resources and incentives for the workers. District staff in all three countries highlighted the difficulties faced by community workers in not being able to reach rural populations effectively. In Zambia, the lack of sufficient transport infrastructure, means of transport and travel budget was the key reason given for this. Community health workers therefore need to

<sup>17</sup> In some instances, the roles are carried out by the same person.



**Although rotavirus vaccines are becoming more widely available across sub-Saharan Africa, none of the three countries reviewed has yet adopted the vaccines into its national immunisation system.**

## OPPORTUNITIES

be supported to reach rural communities. In addition, staff shortages at health centres result in community workers having to help in the centres, rather than do community outreach. Other challenges facing community workers include staff turnover, heavy workloads and limited potential for promotion.

#### 4. Barriers to communities accessing treatment and prevention

**Although ORS is proven to be critical for the treatment of diarrhoea, it is not widely accessible.** The review in Mali highlighted the costs incurred in obtaining ORS, including costs for travel and a medical consultation, in addition to the cost of the sachets themselves. In Ethiopia, ORS is a registered medicine so access is also dependent upon people going to health services. Zinc use is low in all three countries; key barriers include the difficulties associated with registering it as an official medicine and with identifying and securing local manufacturers.

In addition to these barriers of accessing treatment, hurdles to prevention also exist. **Access to water and sanitation remains a challenge and the lack of clean water will have an adverse effect on the efficacy of ORS.** About a third of the hand-pumps in all three countries are non-functioning and more than half the population in all three countries lack access to improved sanitation, especially in rural areas. Despite progress on CLTS and increased integration across sectors, sanitation coverage remains insufficient and requires further scaling-up and financing. In addition, although rotavirus vaccines are becoming more widely available across sub-Saharan Africa, none of the three countries reviewed has yet adopted the vaccines into its national immunisation system, despite the importance of this.

#### 5. Low awareness and uptake of the UNICEF and WHO 7-Point Plan

While UNICEF and WHO have issued global guidance to country stakeholders through the 7-Point Plan, many stakeholders interviewed in the three countries were not familiar with it. It is not surprising, then, that this guidance has not been widely adopted. Without increased dialogue about comprehensive approaches between global and national stakeholders, diarrhoea may remain a low priority with a fragmented set of approaches.

**In countries where diarrhoea is a leading cause of death, coordinated action should be taken to prevent this. A key starting point is to review policies that incorporate elements of diarrhoea control in order to strengthen current responses and build upon existing in-country opportunities. The overarching opportunities for improved diarrhoea control in the three countries reviewed are presented below.**

##### 1. Policies and strategies are in place to enable communities to receive crucial messages relating to diarrhoea control

Policies are in place in all three countries reviewed that enable communities to receive crucial messages about diarrhoea control and there have been a number of promising developments. For example, rather than just focusing on curative interventions, health workers are now delivering preventative WASH messages. There were examples of emerging political and celebrity endorsement of sanitation and hand-washing messages in all three countries reviewed, which helps to get messages out nationwide.



**In all three countries, there is evidence of strengthened and diverse forms of coordination between the sectors, with a particular focus on the links between health and water, sanitation and hygiene.**



There are also encouraging signs of a renewed attention to reaching rural populations. This is seen in Ethiopia through the progress of the HEP. In Mali, it is seen with the relatively new directorate responsible for sanitation, improving the balance of emphasis between urban-based infrastructure and rural-focused hygiene promotion and community mobilisation. Measles immunisation campaigns have been far-reaching, and there are plans to introduce the rotavirus vaccine in all three countries. Indeed, a pilot has already commenced in Zambia.

CLTS, as a behaviour-change strategy, is also achieving significant momentum and is being scaled up in all three countries, increasingly with a hand-washing component. This strategy is gaining recognition and credibility within the Ministry of Health in all three countries, helping it to be included within the efforts to address better health outcomes. In Ethiopia and Zambia, this has led to the Ministry of Health leading on the scaling-up of CLTS.

## **2. Efforts are being made to strengthen coordination between the sectors**

In all three countries, there is evidence of strengthened and diverse forms of coordination between the sectors, with a particular focus on the links between health and water, sanitation and hygiene. For example, Mali's strategic plan for diarrhoea control sets out the different responsibilities of different stakeholders. In Ethiopia, the Ministries of Health, Water and Energy, and Education have a memorandum of understanding to increase the efficiency and coordination of WASH services.

Such cross-sector working is an important step towards increasing access to WASH and maximising the impact of available resources. It can lead to promising developments, such as the formation of the National Hygiene and Sanitation Taskforce in Ethiopia. There is also increased involvement of the education sector in all three countries, targeting school children with hand-washing campaigns.

## **3. There has been an increase of harmonisation and aid alignment**

Funding for diarrhoea could not be disentangled from other funding streams, such as child health, vaccines or water and sanitation, in any of the three countries. However, harmonisation and aid alignment featured in the review as a process that is accelerating action on child health and WASH interventions. Sector-wide approaches and pooled funding have gained traction in many countries and are found in Zambia and Ethiopia. Ethiopia is also applying the International Health Partnership compact which supports the concept of 'one plan, one budget and one report' for health. Transparency in Ethiopia's financing is apparent too, with the introduction of the Aid Management Platform to improve aid flows, increase predictability and improve disbursement.

## RECOMMENDATIONS

Specific areas of coordination and implementation arising from this review are as follows

**1. The international community should use its influence to draw attention to diarrhoea and catalyse political will in countries where the burden is high.**

The international community, particularly UNICEF and WHO, should encourage the promotion and uptake of the guidelines in the UNICEF and WHO 7-Point Plan.

**2. Governments should undertake a review of all existing policies and strategies that incorporate elements of diarrhoea control at a country level.**

The Ministry of Health should coordinate a comprehensive review of the policies and strategies that relate to diarrhoea control, as laid out in the UNICEF and WHO 7-Point Plan. This review needs to ascertain: gaps in policies and programmes; areas of diarrhoea control that require urgent introduction or scale-up; and existing opportunities that could be built upon. Cross-sector alliances between the health, WASH and education sectors will be essential.

**3. Governments should develop a national coordinating framework for diarrhoea control.**

Following on from this review, a coordinating framework should be established, outlining the responsibilities of all diarrhoea control stakeholders, with accountability mechanisms in place. This could take the form of a policy, as in Kenya. The purpose of such a framework is to ensure maximum results stemming from coordination at the policy level down to implementation at district and community levels. Crucial to coordination is having comparable monitoring data across government ministries.

● **Community health workers need to be better supported to carry out their role.**

Community health workers require more support to enable them to reach rural populations. This involves health centres being sufficiently staffed to allow community workers to do their outreach and efforts being made to improve recruitment and retention.

● **Coordination between behaviour-change strategies need to be strengthened.**

At the district level, the roles of those involved in implementing behaviour-change programmes and strategies, such as CLTS and IMCI, need to be clearly defined, overlaps identified and efforts made to harmonise approaches. It is important that, from the care-giver's point-of-view, messages are complementary and cover all the essential prevention and treatment messages necessary to control diarrhoea.

● **ORS, zinc and rotavirus vaccine coverage needs to increase.**

ORS sachets and zinc should be made more readily available locally, without requiring people to first visit a health centre and pay for a medical consultation. Local manufacturers need to be identified and commissioned and the registration process of zinc needs to be shortened. Rotavirus vaccines should be introduced through national immunisation programmes in countries where the burden of diarrhoea is high.

● **Increasing access to sanitation needs to be a greater political priority.**

Access to basic sanitation, along with improved hygiene practices, is crucial to help control diarrhoea. Coverage is low across sub-Saharan African, a problem compounded in many countries by low access to clean water which is essential for use with ORS. Increased funding to promote sanitation and hygiene at a country level is urgently needed.

- 1 The United Nations Children's Fund (UNICEF), World Health Organisation (WHO). *Diarrhoea: Why Children are Still Dying and What can be Done*. New York: UNICEF/ Geneva: WHO; 2009. Available at: [http://whqlibdoc.who.int/publications/2009/9789241598415\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241598415_eng.pdf)
- 2 Black RE, Cousens S, Johnson HL, et al. 'Global, Regional, and National Causes of Child Mortality in 2008: A Systematic Analysis.' *The Lancet*. 2010; 375(9730):1969-1987.
- 3 World Health Organization (WHO). *Combating Waterborne Disease at the Household Level*. Geneva: WHO; 2007. Available at: [http://www.who.int/household\\_water/advocacy/combating\\_disease/en/index.html](http://www.who.int/household_water/advocacy/combating_disease/en/index.html).
- 4 Black RE, Cousens S, Johnson HL, et al. 'Global, Regional, and National Causes of Child Mortality in 2008: A Systematic Analysis.' *The Lancet*. 2010; 375(9730):1969-1987.
- 5 'A 7-Point Plan for Comprehensive Diarrhoea Control' page. The United Nations Children's Fund (UNICEF) and World Health Organization (WHO) 7pointplan website. Available at: <http://7pointplan.org/diarrhoea-control.html> Accessed March 8, 2012.
- 6 *Diarrhoeal disease fact sheet page*. World Health Organization website. Available at: <http://www.who.int/mediacentre/factsheets/fs330/en/index.html>. Accessed March 8, 2012.
- 7 PATH. *Common Virus and Senseless Killer: A Briefing Paper on Rotavirus*. Washington, DC: PATH; 2009. Available at: [http://www.path.org/publications/files/VAD\\_rotavirus\\_br.pdf](http://www.path.org/publications/files/VAD_rotavirus_br.pdf).
- 8 *Diarrhoeal disease fact sheet page*. World Health Organization website. Available at: <http://www.who.int/mediacentre/factsheets/fs330/en/index.html>. Accessed March 8, 2012
- 9 The World Bank. *Environmental Health and Child Survival: Epidemiology, Economics, Experiences*. Washington, DC: The World Bank; 2008. Available at: <http://siteresources.worldbank.org/INTENVHEA/Resources/9780821372364.pdf>
- 10 PATH *Diarrheal Disease Advocacy: Findings from a Scan of the Global Policy and Funding Landscape*; 2008. Available at <http://defeatdd.org/take-action/sites/default/files/node-images/Diarrheal-Disease-Advocacy-Report.pdf>
- 11 'A 7-Point Plan for Comprehensive Diarrhoea Control' page. The United Nations Children's Fund (UNICEF) and World Health Organization (WHO) 7pointplan website. Available at: <http://7pointplan.org/diarrhoea-control.html>. Accessed March 8, 2012.
- 12 *ibid*
- 13 'New policy unveiled to combat diarrhoeal disease, a leading killer of Kenyan children' [press release]. Seattle; PATH; March 31, 2010. Available at: <http://www.path.org/news/pr100330-diarrhea-policy.php>.
- 14 Countdown to 2015. *Maternal, newborn and child survival: Kenya country profile 2010*. Geneva: Countdown to 2015; 2010. Available at: <http://www.countdown2015mnch.org/documents/2010report/Profile-Kenya.pdf>.
- 15 Kenyan Ministry of Public Health and Sanitation. *Policy Guidelines on Control and Management of Diarrhoeal Diseases in Children Below Five Years in Kenya*. Nairobi: Ministry of Public Health and Sanitation; 2010. Available at: <http://www.path.org/files/kenya-diarrhoea-policy.pdf>.
- 16 Endline survey for the Enhanced Diarrhoeal Disease Control program in Kenya, Western Province. PATH; 2011 (PATH, unpublished data, 2011).
- 17 Tearfund. *Adoption of Community-Led Total Sanitation: Guidance for Programming of CLTS in Tearfund-Supported Projects*. Tearfund; 2010. Available at: [http://tilz.tearfund.org/webdocs/Tilz/Topics/watsan/CLTS\\_web.pdf](http://tilz.tearfund.org/webdocs/Tilz/Topics/watsan/CLTS_web.pdf) For further information, see <http://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/cltshandbook.pdf>
- 18 'What is IMCI?' page. The United Nations Children's Fund website. Available at: [http://www.unicef.org/health/23958\\_imci.html](http://www.unicef.org/health/23958_imci.html). Accessed March 8, 2012.
- 19 Programme de Développement Sanitaire et Social (PRODESS), Ministère de la Santé, Mali, 1999.
- 20 World Health Organization (WHO). *World Health Statistics, 2011*. Geneva: WHO; 2011. Available at: [http://www.who.int/whosis/whostat/EN\\_WHS2011\\_Full.pdf](http://www.who.int/whosis/whostat/EN_WHS2011_Full.pdf).
- 21 National Department of Health (Mali) *The Strategic Plan for the promotion of hygiene practices for big impact within the framework for the reduction of diarrhoeal diseases (2011-2015)*.
- 22 World Health Organization (WHO). *World Health Statistics, 2011*. Geneva: WHO. 2011. Available at: [http://www.who.int/whosis/whostat/EN\\_WHS2011\\_Full.pdf](http://www.who.int/whosis/whostat/EN_WHS2011_Full.pdf).
- 23 *ibid*
- 24 UNICEF/WHO Joint Monitoring Programme (2012) *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO
- 25 Rural Water Supply Network – Handpump data, selected countries in sub-Saharan Africa <http://www.rwsn.ch/documentation/skatdocumentation.2009-03-09.7304634330/file>
- 26 The United Nations Children's Fund (UNICEF), World Health Organization (WHO). *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO; 2012. *Op Cit*
- 27 National Department of Health (Mali) *The Strategic Plan for the promotion of hygiene practices for big impact within the framework for the reduction of diarrhoeal diseases (2011-2015)*
- 28 *ibid*
- 29 Ministry of Health (2011) Rapport Evaluation, Programme de Développement Sanitaire et Social II
- 30 The United Nations Children's Fund (UNICEF), World Health Organization (WHO). *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO; 2012. *Op Cit*

- 31** African Development Bank Mali <http://www.afdb.org/en/countries/west-africa/mali/>
- 32** Ethiopia Federal Ministry of Health 2012 <http://www.moh.gov.et>
- 33** Ethiopia Federal Ministry of Health. *Health Extension Program in Ethiopia: Profile*. Addis Ababa: Ethiopia Ministry of Health; 2007. Available at: <http://www.moh.gov.et/English/Resources/Documents/HEW%20profile%20Final%2008%2007.pdf> and Federal Ministry of Health – Health Sector Development Programme IV Final Draft <http://phe-ethiopia.org/admin/uploads/attachment-721-HSDP%20IV%20Final%20Draft%2011October%202010.pdf>
- 34** MDG 6 – ‘Bringing care to communities in Ethiopia’ page. Department for International Development website. Available at: <http://www.dfid.gov.uk/Stories/Case-Studies/2011/MDG-6---Bringing-care-to-communities-in-Ethiopia/>. Accessed March 8, 2012.
- 35** USAID. *Essential Services for Health in Ethiopia - Final Report*. November 2003-September 2008’ Available at [http://pdf.usaid.gov/pdf\\_docs/PDACP065.pdf](http://pdf.usaid.gov/pdf_docs/PDACP065.pdf)
- 36** World Health Organization (WHO). *World Health Statistics, 2011*. Geneva: WHO; 2011. *Op cit*.
- 37** *ibid*
- 38** *ibid*
- 39** The United Nations Children’s Fund (UNICEF), World Health Organization (WHO). *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO; 2012. *Op Cit*
- 40** Rural Water Supply Network – Handpump data, selected countries in sub-Saharan Africa *Op Cit*
- 41** The United Nations Children’s Fund (UNICEF), World Health Organization (WHO). *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO; 2012. *Op Cit*
- 42** Federal Ministry of Health – Health Sector Development Programme IV Final Draft *Op Cit*
- 43** *ibid*
- 44** Global Handwashing Day 2010 <http://ghwd.nascentsolutions.com/ViewActivity.aspx?ID=239>
- 45** RIPPLe. *Reaching Universal Access: Ethiopia’s Universal Access Plan in the Southern Nations, Nationalities, and People’s Region (SNNPR)*. Addis Ababa: RIPPLe; 2009. Available at: <http://www.ripplethiopia.org/documents/stream/20090220-gap-synthesis-paper>.
- 46** USAID. *Child Survival Project Second Year Annual Report*. Westport: Save the Children; 2009. Available at: [http://pdf.usaid.gov/pdf\\_docs/PDACP688.pdf](http://pdf.usaid.gov/pdf_docs/PDACP688.pdf)
- 47** The United Nations Children’s Fund (UNICEF), World Health Organization (WHO). *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO; 2012. *Op Cit*
- Available at: [http://whqlibdoc.who.int/publications/2010/9789241563956\\_eng\\_full\\_text.pdf](http://whqlibdoc.who.int/publications/2010/9789241563956_eng_full_text.pdf).
- 48** World Health Organization (WHO). *World Health Statistics, 2011*. Geneva: WHO; 2011. Available at: [http://www.who.int/whosis/whostat/EN\\_WHS2011\\_Full.pdf](http://www.who.int/whosis/whostat/EN_WHS2011_Full.pdf).
- 49** *ibid*
- 50** *ibid*
- 51** The United Nations Children’s Fund (UNICEF), World Health Organization (WHO). *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO; 2012. *Op Cit*
- 52** Rural Water Supply Network – Handpump data, selected countries in sub-Saharan Africa *Op Cit*
- 53** The United Nations Children’s Fund (UNICEF), World Health Organization (WHO). *Progress on Sanitation and Drinking Water*. New York: UNICEF/Geneva: WHO; 2012. *Op Cit*
- 54** ‘The starting point for the ColaLife Pilot’ page. Colalife website. Available at: <http://www.colalife.org/2010/11/09/the-starting-point-for-the-colalife-pilot/>. Accessed March 8, 2012.
- 55** Zambia page. Absolute Return for Kids website. Available at: <http://www.arkonline.org/health/zambia>. Accessed March 8, 2012.
- 56** Turku University of Applied Sciences. *Experiences of Dry Sanitation in Southern Africa*. Turku: Turku University of Applied Sciences; 2008. Available at: <http://julkaisut.turkuamk.fi/isbn9789522160782.pdf>.
- 57** Harvey PA, Mukosha L. *Community Led Total Sanitation: Lessons from Zambia*. 2008. Available at: <http://www.communityledtotalsanitation.org/resource/community-led-total-sanitation-lessons-zambia>
- 58** Republic of Zambia Ministry of Health. *Ministry of Health 2011 Action Plan*. Zambia; 2011.
- 59** Republic of Zambia. Fifth National Development Plan 2006–2010. Republic of Zambia; 2006. Available at: <http://www.imf.org/external/pubs/ft/scr/2007/cr07276.pdf>.
- 60** Zambia page. Community-Led Total Sanitation website. Available at: <http://www.communityledtotalsanitation.org/country/zambia>. Accessed March 8, 2012
- 61** Ministry of Health, Zambia 2007
- 62** Ministry of Local Government and Housing [http://www.danidadevforum.um.dk/NR/rdonlyres/1DF67975-598E-4C17-81AA-5FE0DE94FF2F/0/Zambia\\_SH\\_Component\\_Overview\\_090922.pdf](http://www.danidadevforum.um.dk/NR/rdonlyres/1DF67975-598E-4C17-81AA-5FE0DE94FF2F/0/Zambia_SH_Component_Overview_090922.pdf)



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***Designed by***  
**Tony Frye Design**



100 Church Road, Teddington, TW11 8QE, United Kingdom  
Tel: +44 (0) 20 8977 9144

[www.tearfund.org](http://www.tearfund.org)

Registered Charity No. 265464



455 Massachusetts Avenue NW, Suite 1000, Washington, DC 20001 USA  
Tel: +1 (202) 822 0033

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