



# SHARE End-of- Programme Report

# Building knowledge. Improving the WASH sector.

**Title:** Sanitation and Hygiene  
Applied Research for Equity (SHARE)

**Programme value:** £15,890,000

**Start date:** 20 January 2010

**End date:** 31 December 2018

**Report date:** 31 January 2019

#### Cover photos

1. Complementary food hygiene in Malawi
2. Handwashing in Bangladesh
3. Pupils using handwashing stations in Kagera, Tanzania

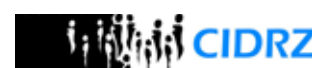
This report uses embedded links to online sources. If you are reading a printed version of the report and would like to access the links, please download an electronic version at <http://www.sharesearch.org/our-research/annual-reports-dfid>



This material has been funded by UK aid from the Department for International Development (DFID). However, the views expressed do not necessarily reflect the Department's official policies.



#### Contributors



# Contents

Acronyms	5
<b>A Introduction and context</b>	<b>6</b>
<b>B Performance and conclusions</b>	<b>8</b>
Annual outcome assessment	8
Output score and description	13
Lessons and how these have been shared	14
<b>C Detailed output scoring</b>	<b>15</b>
Output 1: Research	15
Output 2: Research into use	22
Output 3: Capacity development	27
Output 4: Management	33
<b>D Value for money and financial performance</b>	<b>37</b>
<b>E Risk</b>	<b>40</b>
<b>F Commercial considerations</b>	<b>41</b>
<b>G Conditionality</b>	<b>42</b>
<b>H Monitoring and evaluation</b>	<b>43</b>
<b>Annexes</b>	<b>44</b>
Annex A: Research outputs	45
Annex B: Programme logframe	48



## Acronyms

<b>CAG</b>	Consortium Advisory Group
<b>CEO</b>	Chief Executive Officer
<b>CIDRZ</b>	Centre for Infectious Disease Research in Zambia
<b>DFID</b>	Department for International Development (UK)
<b>GLUK</b>	Great Lakes University of Kisumu (Kenya)
<b>LSHTM</b>	London School of Hygiene & Tropical Medicine
<b>MEIRU</b>	Malawi Epidemiology and Intervention Research Unit
<b>MEL</b>	Monitoring, evaluation and learning
<b>MHM</b>	Menstrual hygiene management
<b>MITU</b>	Mwanza Intervention Trials Unit
<b>NGO</b>	Non-governmental organisation
<b>PLOS</b>	Public Library of Science
<b>RIU</b>	Research into use
<b>SDG</b>	Sustainable Development Goal
<b>SHARE</b>	Sanitation and Hygiene Applied Research for Equity
<b>UK</b>	United Kingdom
<b>UN</b>	United Nations
<b>UNICEF</b>	United Nations Children's Fund
<b>UNIMA</b>	University of Malawi
<b>VfM</b>	Value for money
<b>WASH</b>	Water, sanitation and hygiene
<b>WHO</b>	World Health Organization

# A Introduction and context

The Sanitation and Hygiene Applied Research for Equity (SHARE) Consortium is a £16 million Department for International Development (DFID) funded programme. It was established in 2010 and closed in December 2018. SHARE aims to improve the performance of water, sanitation and hygiene (WASH) and related sectors through the generation of rigorous evidence, and, in this way, contribute towards effective, sustainable and equitable access.

SHARE has an innovative focus, structure and strategy. It focuses on sanitation and hygiene in low-income countries, still a relatively neglected area of public health research; it has an innovative structure bridging academia and practice; and its strategy combines the three synergistic elements of research production, capacity and impact.

**Table 1: Summary of SHARE Phase I and Phase II**

Phase I (20 January 2010 - 19 January 2015)	Phase II (20 January 2015 - 31 December 2018)
Value: £10 million	Value: £6 million
<b>United Kingdom (UK)</b> London School of Hygiene & Tropical Medicine (LSHTM) (lead) International Institute for Environment and Development (IIED) WaterAid UK  <b>Sub-Saharan Africa</b> WaterAid (Malawi) WaterAid (Tanzania) Shack/Slum Dwellers International (SDI) through IIED  <b>South Asia</b> International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B) WaterAid (Bangladesh)	<b>UK</b> LSHTM (lead) WaterAid UK through WaterAid Tanzania  <b>Sub-Saharan Africa</b> Centre for Infectious Disease Research in Zambia (CIDRZ) Great Lakes University, Kisumu (GLUK) (Kenya) Malawi Epidemiology and Intervention Research Unit (MEIRU)/University of Malawi (UNIMA) Mwanza Intervention Trials Unit (MITU), (Tanzania)  <b>South Asia</b> ICDDR,B  <b>Associate (no contractual obligation)</b> IIED with SDI

In its first five years, SHARE convened sector partners to identify critical research gaps constraining progress in sanitation and hygiene. It funded dozens of research projects across several thematic areas, through three open global calls for research and through four national platforms in South Asia and sub-Saharan Africa. Each call had a different strategic purpose from funding a range of diverse projects (Call A) to focusing in on four key themes (Call B) to building on success by investing in collaborative thematic projects (Call C).

Phase II had a more focused approach across four thematic areas identified as research and policy priorities in Phase I: WASH and nutrition, urban sanitation, complementary food contamination, and

links to oral vaccination for enteric diseases. Phase II was designed to maximise value for money and leverage Phase I investments but also to achieve greater national impact and capacity by investing in major studies led by national academic partners in four African countries: Tanzania, Malawi, Zambia and Kenya.

In total, SHARE has delivered over 50 research projects, with over 110 publications in peer-reviewed journals and almost 200 translational outputs, £88.9 million leveraged through direct WASH investments and £14.1 million leveraged through additional research investments. We have developed capacity to carry out and use research globally, with an emphasis in our focus countries on developing future research leaders and building longer-term institutional capacity. The research impact achieved to date can be attributed to a focused strategy on uptake that emphasises stakeholder engagement throughout the research cycle through tailored activities that cluster around convening, translating, projecting online, and being responsive to policy opportunity when it arises. These activities have contributed significantly to global development and SHARE's overarching achievements include:

- **Advancing the global knowledge base** through delivery of dozens of rigorous studies in partnership with local institutions across a broad range of thematic areas in Phase I.
- **Strengthening research capacity in sub-Saharan African institutions** to design and deliver rigorous research linked to national policy priorities and addressing the SHARE Phase II research priorities through five flagship studies.
- **Shining a spotlight on neglected links** between WASH and various health outcomes including **menstrual hygiene management, maternal health, nutrition** and **neglected tropical diseases** and driving new research through systematic reviews.
- **Galvanising action by global decision-makers** through high-level convening in areas where the evidence warrants it, such as through the **Global Action Plan on WASH in health care facilities** or through influential policy reports, such as our **Recipe for Success** report which influenced a global partnership between Sanitation and Water for All and the Scaling Up Nutrition Movement.
- **Influencing the WASH agenda of leading international agencies and donors** through tailored evidence papers for **DFID** and **UNICEF**.
- **Providing evidence-informed guidance to practitioners** where justified, such as the acclaimed **toolkit for practitioners on gender, violence and WASH** and the **Menstrual Hygiene Matters Manual**.

SHARE's progress has been reported to DFID on an annual basis and these reports can be found [on our website](#). In addition, the achievements and lessons ensuing from Phase I of the programme have been captured in our [Synthesis Report](#). Accordingly, this final report refers to achievements throughout the programme but with greater emphasis on Phase II.

# B Performance and conclusions

Table 2: Progress against Phase II outcome-level indicators

Indicators	Milestones	Progress
1a: Amount of funds invested by other donors in SHARE research (£)	Phase II target: £1.5 million	£7.3 million
1b: Amount of funds invested in sanitation and hygiene projects influenced by SHARE (£)	Phase II target: £7.5 million	£8.5 million
2: Percentage of progress markers met by recipients of funding, as indicated in the outcome mapping document developed for each partner	Phase II target: 70%	Average 83% of progress markers met in outcome mapping plans for research uptake.  CIDRZ met 86%, GLUK met 78%, MEIRU/UNIMA met 86%, MITU met 72% and WaterAid met 91%.
3: Percentage of capacity development outcomes met by recipients of funding, as indicated in the capacity-building strategy documents prepared by partners.	Phase II target: 70%	95%

## Annual outcome assessment

SHARE has made excellent progress on all three outcome areas in this reporting period and has exceeded all Phase II logframe targets. This section summarises key achievements against each outcome indicator.

### Leveraged funding (outcome indicators 1a and 1b)

Over the course of Phase II, SHARE has informed and influenced new investments in research and programmes. There have been 35 new investments in research totalling £7.3 million and 5 new investments in programmes totalling £8.5 million. These include a £5.4 million investment by DFID Tanzania for the second phase of the Tanzania National Sanitation Campaign, led by LSHTM. This builds on the first phase of the campaign, the evaluation of which was funded and technically supported by Phase I of SHARE. Thirteen of these new investments were for research and programmes targeted at women and girls, totalling over £860,000.

In the current reporting period, SHARE has significantly exceeded targets for new funding invested in research. Twenty new grants



have been awarded to SHARE partners for related research projects including International Food Policy Research Institute funding that builds on GLUK's Safe Start trial in Kenya and a Bill & Melinda Gates Foundation funded oral cholera vaccine study led by CIDRZ in Zambia. In addition, a Global Challenges Research Fund grant prepared collaboratively by the SHARE partners was awarded in 2018. Led by MEIRU/UNIMA and the University of Strathclyde in partnership with GLUK, MITU and CIDRZ, it aims to establish an interdisciplinary network to address barriers to sanitation and hygiene among the fishing communities of Africa's Great Lakes. The grant also involves Makerere University (Uganda) and Mzuzu University (Malawi). It is the first grant to have been secured collaboratively by SHARE partners and is paving the way for sustaining the consortium's links in the future.

There has been strong progress on funding invested in sanitation and hygiene projects influenced by SHARE - this includes scale up of the WaterAid-designed Government of Nepal programme integrating hygiene behaviour change interventions into routine immunisation programmes in four districts. With the successful pilot in four districts, the Government of Nepal in partnership with WaterAid is now in the process of scaling up nationally to all districts. Funding has also been invested in a new oral vaccine programme in Mozambique using Behaviour-Centred Design. In Malawi, MEIRU/UNIMA was commissioned by UNICEF and the Government of Malawi to undertake the strategic review of the Open Defecation Free and Handwashing with Soap strategies to form a five-year National Sanitation and Hygiene Strategy (2019-2023). In Malawi and in Kenya, SHARE partner research has influenced sanitation and hygiene programmes of NGOs including PumpAid and Practical Action.



WaterAid Tanzania strategy launch

## Research into use (outcome indicator 2)

### Research into use in Phase I

SHARE has monitored research uptake from Phase I research, which continues to influence policy and practice globally, including the following highlights:

- The [Cochrane Review on the effect of WASH on undernutrition](#) has continued to be influential to researchers and implementers. It has acted as an important reference to the wider evidence base and has informed the global strategies of lead actors such as UNICEF and Action Against Hunger.
- The [Missing Ingredients](#) and [Recipe for Success](#) reports offered the first synthesis of the policy and donor environment for WASH and nutrition and showed up significant shortcomings. These reports helped spur international collaboration towards improved integration, driving new global partnerships including a memorandum of understanding between the International Federation of Red Cross and Red Crescent Societies and Action Against Hunger as well as the partnership between Sanitation and Water for All and the Scaling Up Nutrition Movement.
- Tailored evidence syntheses for donors and international agencies have continued to influence investment, allocation and strategic direction. In 2018, we built on the influence of the 2013 [evidence paper for DFID](#), which informed business cases for DFID-funded WASH programmes. An updated version was instrumental in informing DFID's position on future WASH programmes and research investment in the wake of results from the WASH Benefits and SHINE trial results, by placing these in the context of the broader evidence base.
- The body of work SHARE has funded on maternal and newborn health has helped galvanise action, increase global political commitment and inform critical tools for delivering results. SHARE's work has contributed to the launch of a World Health Organization (WHO) Global Action Plan to provide universal WASH access in health care facilities by 2030, the UN Secretary-General's call to action on WASH in health care facilities on World Water Day in 2018, and the development of core questions and indicators for maintaining WASH in health care facilities in the Sustainable Development Goals (SDGs). The [WASH and CLEAN toolkit](#) (a needs assessment tool exploring WASH and infection prevention control conditions in labour wards) has been adapted for outpatients and scaled up at the state level in Gujarat, India.
- SHARE's [systematic review on menstrual hygiene management \(MHM\)](#) was a seminal piece of work, opening up research on a previously neglected topic. The review highlighted challenges around the quality of existing evidence and advocated for more rigorous research methods. This influenced a range of new studies on MHM including an [innovative case control study](#) in India funded by SHARE as well as investment by other funders in MHM research in the Gambia, India, Nepal and Uganda.

- The **Menstrual Hygiene Matters manual** has informed national MHM guidelines and policies in India, the Solomon Islands and Papua New Guinea and was used in 2016 to create a rapid checklist for MHM in emergencies during the Cyclone Winston response in Fiji.
- **Accessible household sanitation guidelines** based on SHARE's Undoing Inequity research have been adapted for the Indian context and rolled out nationally. The related compendium was used by the Global WASH Cluster following the 2015 Nepal earthquake to meet the needs of disabled persons.

Further detail can be found in SHARE's Stories of Change which cover the following themes: **urban sanitation and hygiene, WASH and women, WASH in health care facilities, WASH and inequalities** and **WASH and nutrition**.

## Research into use in Phase II

In Phase II, there has been excellent progress on SHARE's research into use (RIU) work, with partners engaging and influencing a range of stakeholders throughout the project cycle. At the start of Phase II, partners developed project-level outcome mapping plans to identify relevant stakeholders, articulate stakeholder engagement aims, and formulate a plan of RIU activities to achieve this engagement. Despite not all findings yet having been published, partners have successfully met the end-of-programme target of 70% progress markers, with several partners significantly exceeding this target. This is testament to partner engagement with stakeholders throughout the research cycle, building the foundations for sustained policy and programmatic impact of findings when these are published in 2019.

Phase II's partner-led approach sought to create greater sustainability and to lay the groundwork for future research impact. Through delivering RIU strategies, partners have achieved strong early engagement across a range of stakeholders. Key achievements are summarised below:

### Building relationships with donors

Partners have increasingly been able to access donor funding for related projects and have used their SHARE-funded projects to demonstrate their expertise.

- GLUK was invited to attend and present at a regional consultation in Dar es Salaam launching the USAID-funded Health Evaluation and Applied Research Development (HEARD) partnership. The consultation focused on children in urban informal settlements and GLUK was also invited to present formative research findings at USAID's side event at the 2017 International Urban Health Conference. Following these presentations, USAID used information from GLUK to draft new guidelines for partners conducting research in East Africa.

- After presenting to UK politicians and DFID staff during a DFID country visit by key staff and MPs, CIDRZ was funded by DFID Zambia to use the behaviour change techniques trialled in their SHARE-funded work to design and deliver a disruptive behaviour change intervention to prevent cholera in urban Lusaka.

## Influencing national and local government

Partners have built strong relationships with government stakeholders and capitalised on emerging opportunities to influence policy processes.

- GLUK has influenced county government policies and plans in Kisumu, Kenya. They were invited to join meetings informing the content of the county-integrated development plan, ensuring that hygiene was defined, included and budgeted for in the final plan.
- MITU engaged educational officials and teachers in Kagera, Tanzania to review proposed curriculum content on handwashing with soap. Teachers in Kagera used MITU's content to deliver extracurricular sessions on hygiene, demonstrating increased interest in handwashing with soap.
- MEIRU/UNIMA engaged stakeholders through their multi-sectoral Research Advisory Group (RAG). The RAG then asked MEIRU/UNIMA to undertake national research in absorbent materials for MHM in Malawi; this work is now influencing the development of national MHM guidelines.

## Engaging municipal authorities

- WaterAid contributed towards a government-commissioned town master plan for Babati, Tanzania, covering all aspects of Babati's future. The master plan draws on their research findings to recommend a phased approach to faecal sludge management for Babati.

## Influencing non-governmental organisations (NGOs) and practitioners

- MEIRU/UNIMA built a new relationship with an NGO called PumpAid which has led to direct collaboration and uptake of their research. PumpAid is using MEIRU/UNIMA's toolkits to implement hygiene and sanitation training for women's groups. MEIRU/UNIMA also supported PumpAid with a successful funding application.

## Influencing academic institutions

- WaterAid has partnered with the Nelson Mandela African Institute for Science and Technology (NM-AIST). Through this partnership, NM-AIST has increased its engagement with sanitation. It has established the African Centre of Excellency in Water Infrastructure and Sustainable Energy (WISE Futures), begun developing a water supply and sanitation engineering curriculum and invested their own funds in supporting postgraduate students.



Unpacking Trust Community Café in Chikwawa, Malawi

## Capacity development (outcome indicator 3)

There has been significant progress on Phase II planned capacity development outcomes, with SHARE partners exceeding the target and delivering over 90% of these. All SHARE partners have successfully implemented their tailored capacity development strategies which include funding and mentoring Research Fellows, funding postgraduate student projects and investment in training courses and workshops. In Phase II, SHARE has continued to deliver the ‘Evidence-based WASH Policy and Practice’ lecture series to UNICEF WASH staff - reaching over 120 senior and mid-level staff in over 40 countries.

All six PhD students funded in Phase I of SHARE are now working in the WASH sector and have produced a total of 17 peer-reviewed journal publications. In 2018, Dr Om Prasad Gautam, a Phase I SHARE PhD student and now Senior WASH Manager at WaterAid UK, received the prestigious ‘Biddhya Bhusan Ka’ award from the President of Nepal. Dr Sheillah Simiyu, a former SHARE PhD student and now a Research Fellow at GLUK, has been awarded grants from two schemes to develop excellent early career academics: the Africa Science Leadership Programme and LIRA 2030.

In Phase II, SHARE has supported five post-doctoral Research Fellows and over 20 postgraduate students. Research Fellows and postgraduate students have presented at national and international conferences and had papers accepted in peer-reviewed scientific journals while some have won funding for new research projects.

## Output score and description

There has been excellent progress towards most outputs, with particularly strong achievements in the following areas:

- Over **7,500 event attendees** in Phase II at over **120 events** from national and international conferences to workshops, stakeholder meetings and technical working groups.
- **117 peer-reviewed publications** from SHARE Phase I and II research, including 10 papers from Phase II research.
- **115 translational outputs** produced during SHARE Phase II.

- High percentage of training attendees reported that they later applied SHARE training in their work (85%).
- Responding to over **40 technical assistance requests** during Phase II, supporting a range of actors across the WASH sector.
- Increased citations and views for peer-reviewed publications

## Lessons and how these have been shared

Other sections of this report highlight specific recommendations for research, RIU, capacity development and management. This section shares three crosscutting lessons which may be relevant for other research programmes.

- **Research consortia should aim to build capacity through facilitating cross-consortium learning visits:** Cross-partner learning visits have taken place throughout Phase II of SHARE. These include exchanges on formative research design between GLUK and MEIRU/UNIMA, both working on WASH and food hygiene but in very different settings. WaterAid has facilitated key stakeholder visits for town officials to other towns in Tanzania to learn how they manage faecal sludge - these have helped inform potential options for sanitation solutions in their research site of Babati. Partners and stakeholders have found these learning exchanges valuable for informing the research process. Lessons from learning exchanges have been generated and shared between partners and through SHARE annual meetings.
- **Research organisations should engage communities and get their feedback:** All partners have included communities in their RIU strategies from project inception and have implemented activities to engage communities with research findings. For example, GLUK has convened regular community dialogue meetings with their participants. In late 2017, MEIRU/UNIMA hosted an Unpacking Trust Community Café to gain further insight into the beliefs and concerns of the community in Chikwawa. They reflected that feedback to the community and input from leaders and district partners to the intervention development has enhanced the quality of the programme and been a very worthwhile process. Lessons from community engagement have been shared widely through a policy brief, toolkit and poster as well as national press coverage in Malawi. The toolkit has been endorsed by the Malawi National Commission for Science and Technology and adopted by district research committees.
- **Outcome mapping is a useful approach to guide RIU work:** SHARE's RIU work has been informed by outcome mapping principles from inception. In Phase II, outcome mapping was embedded across the programme as a tool to guide planning, monitoring and evaluation of RIU. The lessons from our experience have been disseminated in a learning paper covering five key areas: resourcing outcome mapping, context and culture, data analysis, adaptive approaches and ways of working. This [learning paper](#) makes recommendations for other organisations using outcome mapping in research and programmes. These lessons have been shared widely through guest blogs on research uptake websites as well as a presentation at the Overseas Development Institute.

# C Detailed output scoring

## Output 1: Research

Output title: SHARE builds new evidence and synthesises existing knowledge

Output number per logical framework: 1

Impact weighting (%): 25%

Impact weighting % revised since last AR?: N



CIDRZ staff extracting DNA/RNA to test for diarrhoea related pathogens

Table 3: Output 1 progress

Indicator(s)	Milestones	Progress
1.1.1 Number of peer-reviewed publications on SHARE research	Phase II target: 106	117 (10 are Phase II publications)
1.1.2 Number and percentage of authors from institutions in low and middle income countries	Phase II target: 35%	35% across all publications 70% across Phase II publications
1.1.3 Number and percentage of female authors	Phase II target: 50%	54% across all publications 60% across Phase II publications
1.2 Average number of cumulative views per SHARE journal paper	Phase II target: 325	355
1.3 Citations of SHARE Phase I and II publications (average number per paper)	Phase II target: 19	29

## Research progress

This has been the final year of the SHARE programme. In Phase I SHARE funded 48 research studies across a range of topics. For Phase II, we focused our efforts on African investigator-led research across four thematic areas to build on Phase I investments. Five large studies were funded, all of which have now been completed:

- In Zambia, CIDRZ finished implementing the [SanDem \(NCT03174015\) randomised controlled trial](#) - a behaviour change intervention targeting landlords to create demand for improved sanitation in peri-urban settlements in Lusaka. This study is the

first to show that a purely behavioural intervention, independent of institutional reform or financial incentives, can improve the quality of shared toilets in peri-urban areas. This work involved developing an adapted putative evaluation tool with objective scores that was applied for the evaluation. The intervention was developed following the Behaviour-Centred Design methodology that emphasises appropriate formative research and a stepwise process for intervention development. Aspects of this intervention may translate to other contexts, although detailed and sensitive formative research will be needed to tailor interventions. To date CIDRZ have published two peer-reviewed papers and has had an additional paper accepted for publication (Chipungu et al 2018, Tidwell et al 2018). One paper relates to the development and testing of a score to indicate the quality of sanitation conditions in a neighbourhood; an objective score like this is a necessary tool to determine the outcome measure in the main trial. The other paper explores the social dynamics affecting collective management of shared sanitation in the Bauleni compound. CIDRZ have four additional papers in submission to journals.

- After two phases of detailed socio-behavioural and microbiological formative work, GLUK initiated the [Safe Start \(NCT03468114\)](#) trial and endline data collection was completed in December 2018. The Safe Start intervention is an innovative infant food hygiene intervention designed to improve food hygiene behaviours among caregivers in low-income informal settlements of Kisumu, Kenya. Its trial uses a cluster-randomised controlled trial design to measure the effect of this intervention on a range of diarrhoeagenic enteric infections. GLUK has already published two papers based on the formative research findings and have five more papers in development. The [first paper](#) looked at the infants' oral contact events and caregiver's hand hygiene. Findings suggested that caregiver hand hygiene before feeding events and after cleaning a child are priority interventions. The [second paper](#) investigated whether community health volunteers would be effective in delivering behaviour change in WASH. The findings revealed that the community health volunteers face challenges that limit their capacity to deliver effective behaviour change interventions. It found that they need more resources, better coordination and additional training in modern behaviour change approaches to ensure their optimal performance in implementing health programmes.
- MEIRU/UNIMA has completed implementation and finalised data collection for their [Banja la Ukhondo \(Hygienic Family\) \(PACTR201703002084166\)](#) intervention. The study aims to determine the relative effectiveness of food hygiene and WASH interventions in preventing diarrhoeal disease in children aged under five in Chikwawa District, Southern Region, Malawi. MEIRU/UNIMA have submitted two publications based on formative data. Five further outputs will follow the completion of data analysis from the main intervention endline evaluation.



- MITU are in the process of conducting the endline survey for the main **Mikono Safi (Clean Hands) (ISRCTN45013173)** trial in Kagera, Tanzania. Due to unforeseeable delays and in order to abide by appropriate research ethics standards, MITU will complete the trial in early 2019 using additional resources from outside SHARE. This has been agreed with DFID. This cluster-randomised controlled trial targets children aged between 6 and 12 years with a hand hygiene intervention to see if it helps control helminthic infections. They are also implementing a complementary qualitative study. MITU are analysing data and have three publications in process on the baseline data and intervention design.
- WaterAid completed its **Cities of Tomorrow** research project in Babati, Tanzania, a growing urban settlement, and has one publication accepted and four papers in development. The project worked in partnership with municipal stakeholders in Babati and Nelson Mandela African Institute of Science and Technology (a local university) to develop an action plan for its future sanitation and hygiene solutions. This is based on an in-depth understanding of current WASH services, a shared vision for equitable and sustainable provision, and due consideration of the local political economy. A participatory approach was a critical cornerstone of the project. WaterAid has been able to feed the research findings into the Babati Town Council Spatial Master Plan and intend to invest further resources into continuing it beyond the timeline of SHARE, constituting an important contribution to SHARE's legacy.



WaterAid rank scenarios with stakeholders

### Smaller studies

- Implementation and data analysis of the smaller project on rotavirus and vaccines in Zambia (CIDRZ) has been completed. The researchers have continued to work on publications and to disseminate findings, with three peer-reviewed publications to date. Two of these papers (**Mwape et al, 2017; Mwila-Kazimbaya et al, 2017**) shed more light on the observed low rotavirus vaccine effectiveness and explain some of the factors affecting vaccine performance. The **third paper** redescribes the aetiology of diarrhoea on children aged under five in the post-rotavirus vaccine era.

- The qualitative component for the mixed-methods psychosocial stress project in Iringa, Tanzania (LSHTM/MITU) has been completed. A key finding relates to the various ways in which power hierarchies manifest and interact with traditional environmental and social dynamics, determining access and use of water resources. Previous studies have explicitly examined power relationships as they relate to WASH access, but few have further linked this back to general environmental process and broader social systems. Data analysis is ongoing and three journal papers are in process.
- MEIRU/UNIMA has completed its situation analysis of MHM absorbent interventions in communities and schools of Malawi. The researchers have presented findings at national and international conferences, which are being used in the development of national strategies and guidelines for absorbent materials. They have a publication in development.
- MEIRU/UNIMA has completed data collection for their qualitative study on perspectives and practices on sanitation and hygiene among fishing communities around Lake Malombe. This study will provide formative data for developing larger research projects in the Great Lakes fishing network previously mentioned. It is also planned to produce a peer-reviewed publication from this work.
- MEIRU/UNIMA has completed all design, testing and data collection for their floating toilets challenge project and are currently in the data analysis stage. This project aims to design technology solutions for floating toilets in migrant fishing communities around Lake Chilwa.

## Key publications

In addition to the ongoing five main studies and smaller studies led by SHARE Phase II partners, SHARE has supported a range of other projects over the course of its nine-year tenure and these projects continue to produce peer-reviewed outputs. Over 110 publications have been produced during Phase I and Phase II of SHARE. Since our last report, there have been 21 new publications - 11 from Phase I and 10 from Phase II. These new publications are listed in [Annex A](#).

There can be a long lag between the identification of policy relevant research priorities, the conception, design and delivery of research projects and the publication of research findings in peer-reviewed academic journals. This section highlights 12 scientific articles published under SHARE Phase I (2010-2015) that have generated significant interest across research, policy and practice communities over the course of SHARE Phase II (2015-2018).

These papers were selected based on a high number of scientific citations (an imperfect but useful indicator of influence in the research community) and an Altmetric score of over 100 (categorised as in the top 5% of papers on Altmetric). Altmetric provides an indicator of research uptake across traditional news, social media and policy outlets. Most publications included here meet both criteria, however some are included because they have an extremely high score for one

of the two criteria. Table 4 provides information on 12 publications which meet these criteria.

**Table 4: Key SHARE Phase I publications**

Paper title	Lead author	Type of paper	Year	Citations on Web of Science	Altmetric score
Burden of disease from inadequate water, sanitation and hygiene in low- and middle-income settings: a retrospective analysis of data from 145 countries	Pruss-Ustun	Secondary data analysis	2014	228	332
Effectiveness of a rural sanitation programme on diarrhoea, soil-transmitted helminth infection, and child malnutrition in Odisha, India: a cluster-randomised trial	Clasen	Primary research	2014	146	155
Assessing the impact of drinking water and sanitation on diarrhoeal disease in low- and middle-income settings: systematic review and meta-regression	Wolf	Systematic review	2014	123	140
Hygiene and health: systematic review of handwashing practices worldwide and update of health effects	Freeman	Systematic review	2014	81	183
Interventions to improve water quality and supply, sanitation and hygiene practices, and their effects on the nutritional status of children	Dangour	Systematic review	2013	89	105
Effect of a behaviour-change intervention on handwashing with soap in India (SuperAmma): a cluster-randomised trial	Biran	Primary research	2014	55	172
Effect of Water, Sanitation, and Hygiene on the Prevention of Trachoma: A Systematic Review and Meta-Analysis	Stocks	Systematic review	2014	55	176
Hygiene, Sanitation, and Water: Forgotten Foundations of Health	Bartram	Secondary data analysis	2010	182	23
Water, sanitation and hygiene for the prevention of diarrhoea	Cairncross	Secondary data analysis	2010	224	18
From Joint Thinking to Joint Action: A Call to Action on Improving Water, Sanitation, and Hygiene for Maternal and Newborn Health	Velleman	Call to action	2014	19	159
Risk of Adverse Pregnancy Outcomes among Women Practicing Poor Sanitation in Rural India: A Population-Based Prospective Cohort Study	Padhi	Primary research	2015	15	125
Does Global Progress on Sanitation Really Lag behind Water? An Analysis of Global Progress on Community- and Household-Level Access to Safe Water and Sanitation	Cumming	Secondary data analysis	2014	19	108

SHARE's key publications include highly cited review articles that have effectively synthesised the best available evidence on key WASH-related health outcomes - including on [WASH and diarrhoeal disease](#) (Cairncross et al, 2010), [WASH and undernutrition](#) (Dangour et al, 2013), [WASH and trachoma](#) (Stocks et al, 2014), and [WASH and reproductive health](#) (Benova et al, 2014).

Key publications also include primary research findings from both intervention and observational studies ([Biran et al, 2012](#), [Clasen et al, 2014](#), [Padhi et al, 2015](#)) and novel analyses of secondary data ([Spears et al, 2013](#), [Roche et al, 2017](#)). Finally, SHARE has also supported highly influential policy-oriented publications in high impact scientific journals which include authors from both academic and policy communities ([Bartram and Cairncross et al, 2010](#), [Velleman et al, 2014](#)).

## Summary of responses to issues raised in previous annual reviews

One recommendation was made in the 2017 DFID Annual Review of SHARE and this has been actioned as follows:

### **1. LSHTM to provide close support during substantive research and analysis to ensure completion of all research projects by the end of the programme.**

Under SHARE Phase II, LSHTM has proactively engaged all research partners to identify research support needs and ensure successful completion of contracted research activities. This support has included engaging collaborators with specific research skills to support nationally led studies on epidemiology, microbiology, statistics and behavioural sciences. All research projects have delivered the specified research outputs within schedule with a series of papers published or under review, and additional manuscripts under development for submission in 2019.

## Recommendations for future programmes

- 1. Research should be integrated with RIU and capacity development:** The successful delivery of rigorous, relevant research led by African research organisations was driven by the integration of research, capacity and RIU workstreams. Future programmes should conceive integrated strategies that include adequately resourced RIU and capacity plans from the outset.
- 2. Build strong collaborations between research institutions:** Building successful individual and institutional research collaborations takes time and requires ongoing engagement between institutions. Future programmes which aim to foster research collaborations and build capacity should allocate sufficient resources to enable ongoing and intensive interaction that goes above and beyond direct research activities.
- 3. Plan realistically for research impact:** It is a lengthy process to ensure that research projects are led by national partners, reflect national policy and practice priorities, build local capacity and contribute towards research impact. Future programmes should plan realistically and account for the long-term research to policy cycle. Research donors should also consider investing in activities to support the uptake of findings after completion of research.
- 4. Research programmes should engage with ethical processes and include participating communities from the outset:** Research ethics in global health research is rapidly developing and it is critical that research programmes ensure all appropriate ethical approvals are in place. In advance of participant enrolment, future programmes should ensure appropriate ethical approvals and publicly register the study protocol where relevant (e.g. for trials). They should also plan for open access publication of results and underlying datasets to support future research use. Locally appropriate efforts should be made to engage participating communities in context-appropriate ways from inception to completion of research and to share research findings.
- 5. Central management systems should align with research workstreams:** Future programmes should carefully align contractual or payment milestones with key research outputs such as the finalisation of research protocols, national ethical approvals, trial registration, completion of data collection and submission of manuscripts. This approach supports efficient use of management and research resources.

## Output 2: Research into use

Output title: SHARE disseminates and communicates research to encourage uptake of policy and programming

Output number per logical framework: 2

Impact weighting (%): 25%

Impact weighting % revised since last AR?: N

Table 5: Output 2 progress

Indicator(s)	Milestones	Progress
2.1 Percentage of RIU activities completed by funding recipients in their outcome mapping document	Phase II target: 80%	<b>96%</b> (149/155 RIU activities completed)
2.2.1 Number of attendees at SHARE knowledge sharing events (disaggregated by gender)	Year 3 target: 1,600 Phase II target: 2,500	Year 3: <b>4,247</b> attendees (1,948 or 46% women) at 78 events.  Phase II total: <b>7,534</b> (3,156 or 42% women) attendees at 125 events.
2.2.2 Number and percentage of attendees of those events that report they found them to be useful in improving their knowledge	Phase II target: 90%	<b>99%</b> (327/330 event attendees surveyed)
2.2.3 Number of external events using SHARE resources	No target as outside our sphere of influence	Year 3: <b>8</b> events Phase II total: <b>12</b> events
2.3 Number of recipients of SHARE technical assistance	Year 3 target: 15 Phase II target: 35	Year 3: <b>23</b> Phase II total: <b>40</b>
2.4.1 Number of translational outputs arising from SHARE research	Phase II target: 94 translational outputs (cumulative from Year 1)	<b>115</b> translational outputs
2.4.2 Average monthly number of views of SHARE website	Phase II target: 3,000	Phase II average: <b>2,770</b>



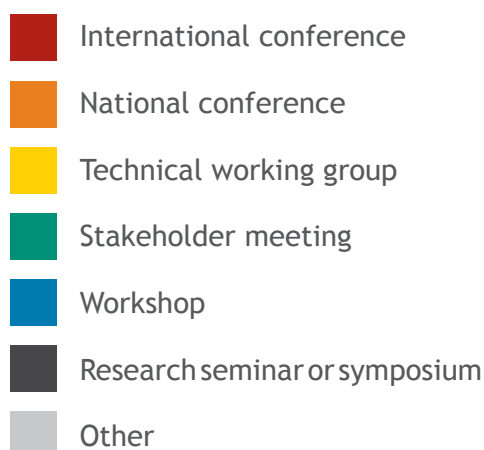
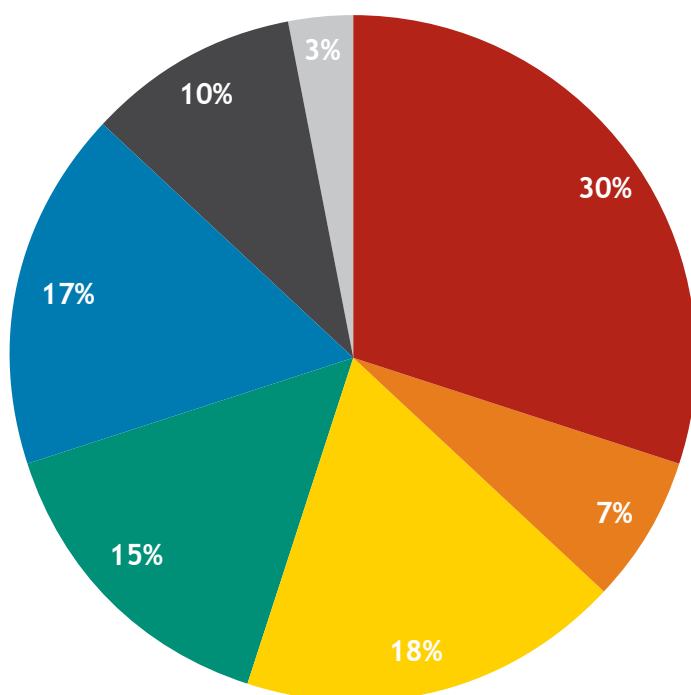
Research into use workshop with GLUK

RIU is a critical pathway in SHARE's overarching theory of change. The output indicators shown in Table 5 reflect SHARE's four clusters of RIU activity: **convening** boundary partners/users, **translating** research and synthesis, **projecting** SHARE work online and **rapid response** to policy opportunity. The majority of indicators were met, and many exceeded targets, during this reporting period. The departure of SHARE's RIU Officer in August 2018 meant that website views significantly decreased, affecting indicator 2.4.2.

## Convening events

Throughout Phase I and Phase II, SHARE has been involved in over 160 knowledge-sharing events. In Phase II, there have been 125 knowledge-sharing events from international and national conferences to technical working groups and stakeholder meetings. SHARE's primary role has been presenting research approaches, methods and results, and convening, attending and rapporteuring events.

**Figure 1: Types of knowledge-sharing events in SHARE Phase II (n=125)**



In the last year, SHARE has been involved in **78 knowledge-sharing events** with over **4,000** attendees. These events have included national-level research dissemination events, stakeholder workshops and international academic conferences. Table 6 provides a summary of key events SHARE has actively engaged in over the past year.

**Table 6: Key SHARE events in the current reporting period**

Event	Location	Date
WEDC International Conference	Loughborough, UK	July 2017
Stockholm World Water Week	Stockholm, Sweden	August 2017
DFID Urban Sanitation Workshop	London, UK	September 2017
International Conference on Urban Health	Lisbon, Portugal	September 2017
University of North Carolina Water and Health Conference	North Carolina, USA	October 2017
GLUK WASH Symposium	Kisumu, Kenya	November 2017
Taps, toilets and targeting behaviours: LSHTM public WASH Seminar	London, UK	December 2017
WEDC International Conference	Nakuru, Kenya	July 2018
Stockholm World Water Week	Stockholm, Sweden	August 2018
Dissemination and Scenario Planning Workshop	Babati, Tanzania	August 2018
University of North Carolina Water and Health Conference	North Carolina, USA	October 2018
Centre for Water, Sanitation, Health & Appropriate Technology Development (WASH TED) Global Hand Washing Day Symposium	Blantyre, Malawi	October 2018
Tanzania WASH Stakeholder Workshop	Dar es Salaam, Tanzania	December 2018

## Translating research

During Phase I and Phase II, SHARE has produced 195 translational outputs. Most of these are from Phase II (115) and range from policy briefs and reports to guest blogs and infographics (see Figure 2).

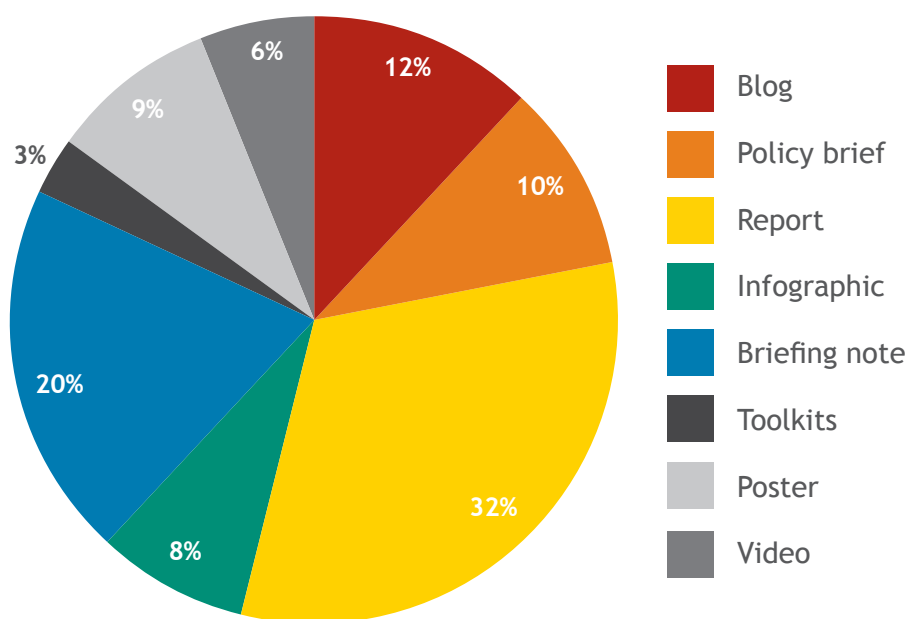
In total SHARE has produced 17 policy briefs synthesising the evidence base and its implications for emerging WASH topics including **complementary food hygiene, MHM, WASH, maternal and newborn health, sanitation and nutrition** and **behaviour change interventions**. Other key outputs include influential toolkits on **violence, gender and WASH** and **MHM** that have informed international agency guidelines, NGO programme design and national policies.



CIDRZ present their research at the 11th African Rotavirus Symposium



Figure 2: Types of translational output produced in SHARE Phase II (n=115)



SHARE produced 42 new translational outputs in its final year including four formative research briefs and a new **WASH and behaviour change policy brief**, synthesising SHARE research on the topic to inform policy and practice in the WASH sector. This brief has been featured by the **Communication Initiative Network** and has had interest from stakeholders such as the Johns Hopkins Centre for Communication Programs. A MEIRU/UNIMA public engagement community health research workshop in Malawi led to the publication of a related **policy brief, toolkit** and poster as well as national press and television coverage. The toolkit has since been adopted nationally and by all district research committees in Malawi.

SHARE partnered with WaterAid to produce a follow-up report to the successful **Missing Ingredients** report. The new **Recipe for Success** report analyses WASH and nutrition integration plans in 10 countries. As noted earlier, the **Missing Ingredients** and **Recipe for Success** reports have been influential - as well as informing new partnerships, they were also featured in **international news outlets** and policy documents including the **2017 Global Nutrition Report** and a **Solidarités International WASH report**.

SHARE also produced a **learning paper** documenting its experience using outcome mapping. This paper has had strong uptake in the RIU community, featured in a **guest article** in *On Think Tanks* and a **guest blog** on *Research to Action*. It was presented at a roundtable event at the Overseas Development Institute which invited practitioners, researchers, research funders and communication specialists to share and capitalise on research uptake experiences.

SHARE research has also been featured in various national and international news outlets including a feature on ICDDR.B's work in **the Economist**, a **CNN feature** on MEIRU/UNIMA's WASH and anti-microbial resistance work and a **The Conversation Africa** article on shared sanitation written by SHARE Research Fellow, Dr Sheillah Simiyu.

*I think our work can have a huge impact on policy. We have so many programmes on sanitation - with funding from the World Bank, African Development Bank, GIZ and others. The issue with programmes is that it may work or may not work.*

*We have very little evidence around sanitation in Lusaka, so I think the projects we are doing now are valuable in contributing to what already exists and to help understand what works and what does not, and provide useful information to policymakers. We have also been involved in different groups, including technical working groups at the policymaking level, so we can disseminate results and help contribute to the decisions being made.*

*Jenala Chipunga, CIDRZ*



WaterAid share their research with stakeholders

## Recommendations for future programmes

1. **Research must be demand led:** It should be informed by early consultation with policy and programmatic leaders both at national and global levels.
2. **Research advisory groups should be set up as they increase engagement with and uptake of research:** Establishing research advisory groups helped partners to build relationships at the organisational level, to develop relationships with key individuals and increase partner access to events or projects. In Malawi, the research advisory group agreed to mentor another project and donor representatives in the group invited MEIRU/UNIMA to join forums which they previously did not have access to and to take part in policy review processes. Forming a research advisory group at inception establishes a strong foundation for stakeholder engagement.
3. **Policy, programme and research stakeholders should be engaged throughout the research cycle** in order to create demand for the research in question, get stakeholder feedback and drive future uptake. Approaches such as outcome mapping can help implementers to map key stakeholders and plan engagement throughout the research cycle.
4. **In-country RIU strategies must be context specific, drawing on national expertise and experience.** Partnerships with national research institutions are essential to access existing stakeholder networks, broaden the reach and influence of international consortia and enrich relationships with national policy and decision-makers.
5. **Research synthesis is a powerful tool for informing policy formulation and driving future research agendas and should be used.** SHARE has synthesised research through targeted evidence papers for international agencies and thematic policy briefs. Research synthesis has been a key tool for informing policy actors and influencing research agendas.

## Output 3: Capacity development

Output title: SHARE develops the capacity of key stakeholders in the WASH sector and other related sectors

Output number per logical framework: 3

Impact weighting (%): 25%

Impact weighting % revised since last AR?: N

Table 7: Output 3 progress

Indicator(s)	Milestones	Progress
3.1.1 Number of attendees at SHARE training sessions (disaggregated by gender)	Phase II target: 270	<b>562</b>  (226 women and 336 men: 40% women and 60% men)
3.1.2 Number and percentage of attendees who report using at least one aspect of the training in their day-to-day work at least one month after completing the	Phase II target: 80%	<b>85%</b>  39/46 attendees from 5 events reported using SHARE training in an aspect of their day to day work
3.2 Number and percentage of research partners who report that their experience working with SHARE has developed their research capacity	Phase II target: 90%	<b>100%</b>
3.3 Number and percentage of SHARE-supported postgraduate students who gain employment in a WASH sector-relevant role post graduation	Phase II target: 100%	<b>100%</b>  6/6 Phase I PhD students are now working in WASH

SHARE's capacity development work is driven by relevant strategies designed and implemented by each partner. These strategies focus on increasing partner organisations' contributions to scientific evidence and increasing WASH sector capacity in Malawi, Tanzania, Kenya and Zambia. Partners have also undertaken additional activities to improve access to information technology software, increase technical and administrative skills in institutions and increase stakeholder capacity to use evidence. As noted earlier in this report, SHARE has exceeded its outcome-level indicator relating to capacity development through the successful delivery of these strategies.

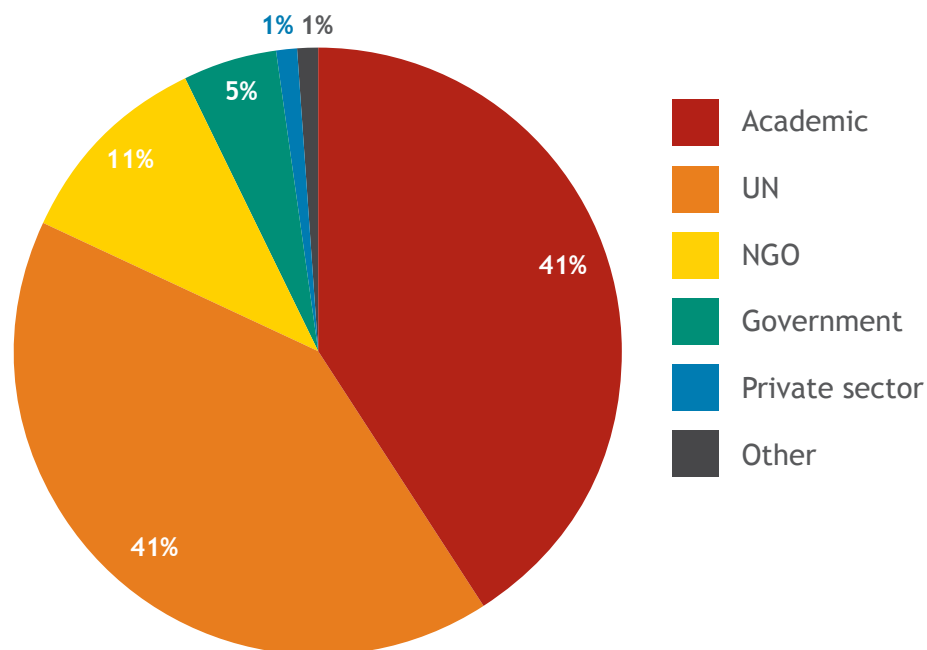
As part of SHARE’s commitment to developing capacity, Dr Belen Torondel joined the team as Capacity Development Manager in May 2017. Belen is an Assistant Professor at LSHTM with international experience conducting research, teaching and supervising students in the WASH sector. As Capacity Development Manager, Belen supports partners to achieve their national capacity-building plans by providing advice, technical support and resources.

Throughout Phase II, SHARE has achieved its capacity development outcomes through a range of strategies including: funding four post-doctoral Research Fellows, delivering training courses and workshops, funding postgraduate students to undertake small research projects and providing technical support through SHARE staff and other LSHTM researchers.

### Capacity development events

In Phase II SHARE has delivered training to over 560 participants (40% women) on a range of topics including scientific writing, financial management, data management, qualitative analysis, RIU and monitoring and evaluation. Training has been delivered through 27 events in Australia, the UK, Tanzania, Malawi, Kenya and Zambia and online. Of those participants who completed follow-up feedback forms, 85% reported gaining new knowledge and 85% reported using the training in their day-to-day work. For those events where detailed data was available, Figure 3 shows the participants attending SHARE training events from different sectors throughout Phase II.

**Figure 3: Percentage of participants from different sectors attending Phase II training events (n=418)**



Changwe Mafuta, engineering student, demonstrating his lever eco sanitary toilet design.

In the final year of SHARE, 346 participants (40% women) have attended 16 training events. SHARE once again partnered with UNICEF to host the ‘Evidence-based WASH Policy and Practice’ lecture series. Attended by 57 senior and mid-level UNICEF staff from 37 different offices, 93% of participants said the course had changed their views on research for the better and 95% of participants said they would recommend the course to their colleagues.

*‘I have learned to appreciate the broader relevance of WASH. I now understand why I should involve various stakeholders in WASH programming. I know how to value the evidence in WASH programming and decision making. I will now make meaningful contributions to Sudan’s WASH team in many aspects such as proposal development, WASH studies and master planning. Again I have gained a better appreciation of how I can balance social, economic, technical and scientific factors in WASH programming.’ - Course attendee from UNICEF Sudan, 2018*

Other key training events in the final year of SHARE include:

- Qualitative research training at MITU and WaterAid’s national stakeholder meeting in Dar es Salaam (November 2017)
- Qualitative data training at the Nelson Mandela African Institute of Science and Technology (December 2017)
- A writing and publication workshop in Blantyre, Malawi, which expects to lead to 15 peer-reviewed journal publications (March 2018).

## Research Fellows

SHARE Research Fellows have developed capacity in their own institutions through mentoring and supervising MSc and PhD students. Research Fellows have also led on searching for grant opportunities and sharing these within the SHARE consortium and their own institutions. In Malawi, Save Kumwenda (MEIRU/UNIMA) organised lunchtime research seminars for all MEIRU/UNIMA staff on topics including research methods, statistics, and proposal writing. In Tanzania Dr Elialilia Pallangyo co-facilitated a research methods course.

Over the course of Phase II, SHARE Research Fellows have been successful in winning funding to further their professional development and have had 21 abstracts accepted for presentation at prestigious international conferences. Dr Caroline Chisenga (CIDRZ) received a European Developing Countries Clinical Trials Partnership grant award, funding a study that aims to determine immunogenicity against the newly introduced cholera vaccine. She has also been awarded funding to be co PI on a new rotavirus study. Dr Sheillah Simiyu (GLUK) was also awarded several new grants to continue research in the sanitation sector. She also won **best paper** in the World Academic Championship 2018 in Environmental and Global Health. In autumn 2018, Save Kumwenda was appointed as Deputy Head of Department at UNIMA, a significant progression and promotion.

*“The SHARE fellowship has really strengthened my career - I was just a fresh graduate, but now I’m able to compete for grants and I’ve won one. I’ve strengthened my writing skills and am learning how to write a good proposal. I’ve also been able to publish as first author and co-author. I’m happy that SHARE has helped me to build my independence in research.”*

**Dr Caroline Chisenga,  
CIDRZ**

## Postgraduate students

SHARE Phase II has supported 23 postgraduate students (12 women and 11 men) in Kenya, Malawi, Tanzania and Zambia. Nineteen of these students have been funded to undertake small-scale research projects on sanitation and hygiene, complementing main SHARE research projects or adding to the broader WASH evidence base.

MEIRU/UNIMA has completed a series of small research projects through postgraduate students and graduate interns. These cover topics including: hygiene of water sachets; factors contributing to open defecation free slippage; hygiene practices in urban childcare; integration of WASH with malnutrition programmes; hazard analysis of traditional maize drink production and sale; co-design and evaluation of group handwashing facilities in peri-urban schools; and evaluation of hygiene practices in early childhood development centres. As well as building individual capacity, these studies have produced a range of reports which will form the formative data needed for future funding applications.

CIDRZ funded two University of Zambia engineering students to undertake WASH projects, increasing interest in WASH in the engineering department. One student designed and developed a lever eco-sanitary toilet and the other focused on improving sanitation through recycling plastic solid waste materials.

Several students have been supported to attend LSHTM MSc modules: Rossanie Daudi-Malolo (MEIRU/UNIMA) and Evalyne Aseyo (GLUK) joined the LSHTM Tropical Environmental Health course and Katayi Mwila (CIDRZ) attended the LSHTM epidemiology and biostatistics course.

Kondwani Chidziwisano is undertaking his PhD at the University of Strathclyde and has played a key role in MEIRU/UNIMA's WASH and food hygiene study through leading the behaviour change component of the formative research, intervention development and evaluation. In 2017, he was awarded one of six annual Eawag Partnership Programme for Developing Countries fellowships and spent three months on a scientific training and exchange visit in Switzerland.

## Technical support

SHARE LSHTM members and other researchers from the Environmental Health Group at LSHTM have been providing continuous and responsive capacity development to all SHARE partners from the beginning of the programme. This support aligns directly with partner capacity development plans as well as responding to emerging needs.

SHARE has also continued to provide external technical assistance across the sector. Throughout the course of Phase II, the SHARE team responded to 40 technical assistance requests. Through these they provided support on research, monitoring, evaluation and learning (MEL) and RIU to organisations such as the British Red Cross, Cancer Research UK, International Organisation for Migration, Oxfam, Solidaritiés International, UNICEF, WaterAid, WHO and Water and Sanitation for the Urban Poor.

*When the SHARE MITU fellowship came along, I felt re-energised, as MITU is an institution that focuses only on research. I see my SHARE fellowship as an opportunity for not only developing my research skills but also an opening for me to expand my network of research collaboration.*

*Dr Elialilia Okello, MITU*

## Skilled volunteers

Since 2016, SHARE has invited skilled volunteers (usually MSc students from LSHTM) to contribute to the work of the consortium through a voluntary role focusing on RIU and monitoring and evaluation. The position lasts for around six weeks and volunteers develop a workplan that supports their professional development goals, while providing valuable support to SHARE. Volunteers who have held the position are Nyemachi Nworgu (October-December 2016), Jasmine Burton (April-May 2017), Liz Madden (July-August 2017) and Nisso Nurova (June-August 2018).

## Summary of responses to issues raised in previous annual reviews

One recommendation was made in the 2017 DFID Annual Review of SHARE and this has been actioned as follows:

- 1. Capacity Development Manager to continue to ensure national coordinators are supported in their ability to act as representatives of SHARE partners in-country and convenors of key stakeholders.**

The Capacity Development Manager has continued supporting the national coordinators as well as broader research teams. She has supported them in any emerging capacity development requests and established new mechanisms for sharing funding opportunities across partner organisations.

## Recommendations for future programmes

- 1. Research capacity-building activities need to be planned and tailored with each research partner:** This enables consortiums to better identify and organise activities appropriate for each partner organisation. We recommend tailoring capacity-building strategies and activities so they align with each organisation's context, structure and needs.
- 2. Mentoring is essential to support postgraduate students:** A key strategy to support and develop PhD and MSc students in partner institutions was to appoint a middle scientist to help in their personal development in combination with offering mentorship support for each institution. We recommend building in individual mentoring to support postgraduate students.
- 3. Research capacity-building programmes require global collaboration:** SHARE used the collaborative efforts of multiple stakeholders working locally, nationally and globally to attain maximum impact. We recommend establishing and building strong local, national and global partnerships to effectively build capacity.
- 4. Building capacity for research takes time:** SHARE spent a year working with partners to develop good and rigorous proposals, and only began the research progress when these were in place. We recommend dedicating time to strengthen capacity in the research inception phase in order to build a solid foundation for high quality research.
- 5. Structured milestone reporting on progress helps identify and address challenges:** In SHARE this approach helped the projects identify areas of weakness early on and find mitigating solutions in good time. We recommend developing milestones based on individual partner capacity-building plans and reviewing these on a regular basis.



## Output 4: Management

Output title: The SHARE consortium is efficiently and effectively managed

Output number per logical framework: 4

Impact weighting (%): 25%

Impact weighting % revised since last AR?: N

**Table 8: Output 4 progress**

Indicator(s)	Milestones	Progress
4.1 Number and percentage of SHARE consortium executive members who report feeling actively engaged in SHARE planning and decision making	Phase II target: 90%	83%
4.2 Percentage of agreed Consortium Advisory Group (CAG) recommendations that are addressed within 3 months	Phase II target: 100%	100%
4.3 Percentage of invoice expenditure against forecast programme expenditure	Year 3 target: 46% Phase II target: 100%	This will be reported with SHARE's finance report in March 2019

The effective and efficient management of SHARE has been predicated on our ability to work collaboratively as a consortium and on the success of transparent and robust monitoring and programme management systems.

### Staffing changes

Several staff changes have occurred in the past year, and these have been managed by the SHARE Management Group to guard against negative impact on planned activities:

- In April 2018, eight months before planned programme closure, SHARE's Research Director, Sandy Cairncross, was absent on sick leave due to an accident and Oliver Cumming, Deputy Director of the Environmental Health Group, has been providing additional support as Co-Research Director.
- Also in April 2018, SHARE Chief Executive Officer (CEO) Eileen Chappell resigned to take up a new position elsewhere. Joanna Esteves Mills, SHARE Policy Research Manager, took on the CEO role.
- In August 2018, SHARE RIU Officer Sophie Durrans resigned to take up a new position elsewhere. Given the programme timeframe, no replacement was recruited.

- In September 2018, SHARE Finance Officer Elenor McCoy resigned due to personal circumstances. Fred King joined in October as the new Finance Officer.
- In November 2018, SHARE Administrator Karen Holland resigned to take up a new position elsewhere. Given the programme timeframe, no replacement was recruited.



Consortium Advisory Group and Partner meetings in London, 2017

## Changes to governance structure

In June 2018, the decision was made to stop holding Executive Group meetings. The original function of this group was to discuss issues arising in the consortium and agree on the programme of work. With the programme well underway, this function became obsolete and the time taken to convene and report on them was deemed better used on daily management of the ongoing workstreams and their deliverables. Because of this shift, output indicator *4.2 Number and percentage of research coordinators attending SHARE Executive Group meetings* was removed from the logframe, in consultation with DFID.

## Engagement with partners

Bilateral meetings continue to be held between LSHTM and SHARE partners on a regular basis to track progress and identify areas of risk. These have ensured that SHARE is able to deliver on Phase II commitments to DFID across the research, impact and capacity development workstreams and plan for continued work as a consortium beyond December.

As the consortium has matured, partner-to-partner interaction has increased, with the successful funding proposal to the Global Challenges Research Fund the most tangible example of the fruit this is bearing.

## CAG recommendations

All four recommendations made at the December 2017 CAG meeting have been addressed and actioned where appropriate:

<p>1. Recommendation to write a journal paper on SHARE's approach to capacity development</p>	<p>Belen Torondel (LSHTM) and Roma Chilengi (CIDRZ) are working on this and have submitted a draft.</p>
<p>2. Recommendation to write a journal paper on SHARE's 2030 vision for sanitation</p>	<p>Due to resourcing challenges in 2018 it has not been possible to take this recommendation forward.</p>
<p>3. Recommendation to consider translating some resources into Portuguese</p>	<p>The decision was taken not to do this with existing resources due to budgetary constraints. This approach was agreed with DFID in February 2018.</p>
<p>4. Recommendation to produce a report on SHARE's outcome mapping process, challenges and successes.</p>	<p>Emily Balls, SHARE's Monitoring and Evaluation Officer, has authored a report with input from partners, SHARE colleagues and external outcome mapping practitioners. The <b>outcome mapping learning report</b> was published in July 2018.</p>

## Summary of responses to issues raised in previous annual reviews

Two recommendations were made in the 2017 DFID Annual Review of SHARE and these have been actioned as follows:

- 1. CEO and Research Director to meet with Kingston City Group and LSHTM to discuss the internal audit and implement recommendations, with feedback to DFID on the main implications.**

The former CEO, Eileen Chappell, and Research Director, Sandy Cairncross, met with Kingston City Group and LSHTM to discuss the internal audit and implementation of the recommendations. Several of these were not deemed feasible given the stage of the programme. There are no implications for DFID.

- 2. A financial audit should be carried out at the end of the programme to enable accounts to be closed by end of the 2018/19 financial year.**

The financial audit is due to be carried out in early 2019, as agreed with DFID.

## Recommendations for future programmes

- 1. Appropriate governance structures should be developed for research consortia:** Governance structures for a multi-country, multi-sectoral consortium such as SHARE must maximise a sense of ownership, harness collaboration and provide clear lines of accountability.
- 2. Financial monitoring and reporting systems should be set up during project inception:** Financial monitoring and reporting systems must be set up and capacity assessments carried out in communication with partners from the outset, to ensure standardised processes are adopted with consistency across the board.
- 3. Staff loss should be managed as the grant closes:** Risks around staff loss as research grants approach their conclusion must be planned for and revisited periodically to ensure the programme can be brought to a successful close.

# D Value for money and financial performance

## Key cost drivers and performance

The three key costs for the past year have been research, staff and other projects.

**Research** is contracted out to SHARE's partners, and as such is a large cost for SHARE that is fixed through contracts. Cost drivers include seniority of researchers, laboratory costs and institutional overhead rates. These are controlled by fixing staff time and costs in contract budgets, suggesting alternatives to reduce costs and sharing resources where possible, buying consumables and equipment in advance and ahead of price rises where possible, and negotiating ahead of contracting where possible to secure lower institutional overhead rates for research work.

**Staffing costs** cover management staff, key national programme staff in Malawi and Tanzania, capacity development and MEL and RIU personnel. Cost drivers include lead institution staff and national programme staff. These are controlled through LSHTM staff contracts, with increments and cost-of-living rises known in advance of budget preparation, and defining national programme staff budgets ahead of recruitment.

**Other projects** are defined as activities in capacity development and RIU. These include training events, conferences and meetings. Cost drivers include travel and accommodation and events fees. These are controlled by using agencies contracted via the London Universities Purchasing Consortium (who have recorded a return on investment of 124:1), making full use of 'early bird' discount rates for event registration, and reducing overhead costs by encouraging partners to invoice SHARE for event-associated costs rather than booking directly through our travel agency.

## Value for money (VfM) performance compared with the original VfM proposition in the business case

Three objectives capture SHARE's aim of capitalising on the successes emerging from Phase I and have continued to underlie the consortium's work and drive progress in this final year of the programme. They are:

1. Capitalise on research insights from existing work to maximise VfM and support scaling up
2. Scale up results through targeted work with national programmes
3. Strengthen the capacity for sustained global sanitation and hygiene research by Southern researchers and institutions

### Objective 1: Capitalise on research insights from existing work to maximise VfM and support scaling up

SHARE's Phase II research built on Phase I work. For example, GLUK and MEIRU/UNIMA's projects on WASH and nutrition followed on from work on the effect of WASH on child feeding practices, complementary food contamination and child nutrition outcomes. The two projects have sought to determine health impact and address scale-up challenges such as context specificity and delivery mechanisms.

MITU's study on WASH and helminth infections followed on from our systematic review on WASH and soil transmitted helminths, ensuing work on helminths in Tanzania, Kenya, India and Vietnam and our systematic review on the effect of WASH interventions on undernutrition. The latter review identified intestinal worms as a pathway through which WASH could potentially affect childhood nutrition. WaterAid and CIDRZ's studies on urban sanitation built on Phase I work on city-wide sanitation in East Africa, combining the co-production approach to developing solutions for this challenge with a strong political economy lens to see them through to fruition.

### Objective 2: Scale up results through targeted work with national programmes

SHARE has two national platforms - in Malawi and Tanzania - with the intention of building national capacity on WASH research, evidence interpretation and stakeholder engagement that outlasts the programme's December 2018 end date. Committed SHARE staff are in place in both institutions, and a national coordinator is in place to ensure sector-wide engagement.

In Malawi, all SHARE research was undertaken as part of the Centre for Water, Sanitation, Health & Appropriate Technology Development (WASHTED), which coordinates WASH in the university, and has a

presence in the sector. Through this mechanism, SHARE work was supported by WASHTED staff, facilities and network to enhance its reach and sustainability of the work. In Tanzania, lead institution MITU collaborated closely with the National Institute for Medical Research which guides national public health research and policy.

### Objective 3: Strengthen the capacity for sustained global sanitation and hygiene research by Southern researchers and institutions

Each partner's capacity development plan was directed at the needs of individual staff, institutional support and direct development of research capacity. This support was provided by LSHTM through each of the targeted capacity development plans and by partners who shared their expertise through courses and support to other partners

## Assessment of whether the programme represented value for money

SHARE has continued to provide good VfM in this final year of operation, as per the details given here. The programme has now closed.

## Quality of financial management during the programme

The programme has closed within budget. Forecasting of the programme expenditure during the year compared favourably against the actual expenditure claimed, and there have been no large budget variations during the period. The full 100% of the programme budget for the year was funded by DFID. Final financial reporting will be submitted separately to DFID in March 2019, including an update on indicator 4.3.

# E Risk

## Quality of risk management over the life of the programme

Throughout the life of SHARE, the Management Group has assessed risks associated with delivery of key commitments, documented these and managed them accordingly. There have been risks around contracting, staffing, financial management and governance. Previous annual reports provide considerable detail on specific risks in these categories and how they have been managed.

In the past year, the SHARE programme has faced three key challenges:

- **Loss of key roles in the SHARE management and core teams:** As outlined in the earlier section on management, several staff members have left SHARE as the programme approached closure. The programme was able to mitigate the impact of these staff losses by drawing on existing or former staff where possible and, where not, revisiting workplans in line with reduced staff to ensure all deliverables were still met.
- **Subcontracted deliverables:** All SHARE research projects' subcontracts are agreed on the basis of budgets tied to concrete milestones that illustrate progress towards study completion. In several instances, unpredictable challenges with the project timeline have caused delays in achieving milestones, with contractual implications. These have been closely monitored and, where necessary, adjustments made to bring the programme deliverables in on target.
- **Financial management:** A number of inadequacies in financial management were identified following the departure of the long-standing CEO, including an inaccurate programme forecast, and a large proportion of subcontracts with amendments outstanding. These were communicated to DFID, discussed in LSHTM and managed by the SHARE team who have worked hard to rectify the errors and succeeded in bringing the programme in on target, both in terms of committed deliverables and budget.



# F Commercial considerations

## Delivery against planned timeframe

Progress against our logframe indicators throughout the programme demonstrates that SHARE has generally remained on track, following initial delays associated with programme set-up. All SHARE research arising in Phase II has been contracted out to our five consortium partners - these contracts have closed on time and on target in terms of both budget and deliverables. RIU and capacity-development activities have also progressed according to approved timescales and are now concluded.

## Performance of partnerships

The SHARE consortium continues to maintain strong partnerships with each partner institution. This is achieved through regular management communication to all consortium members as well as regular contact with individual partners to discuss progress against milestones and any issues arising.

## Asset disposal and value obtained by DFID

Programme assets have been managed, monitored and disposed of in line with DFID policies. The asset register will be submitted separately to DFID on the close of the SHARE programme.

# G Conditionality

This section is not applicable. SHARE is a multi-country programme and does not provide funding through government systems.

# H Monitoring and evaluation

## Evidence and evaluation

In the final year of the SHARE programme, the focus has been on capturing and sharing learning, creating change narratives and synthesising MEL data. SHARE has produced two learning reports - on [gender monitoring](#) and using [outcome mapping](#). SHARE has also added to its series of [Stories of Change](#) that aim to capture and better understand impacts from Phase I of the SHARE consortium. Stories of Change investigate how an intervention contributes to outcomes through analysing qualitative MEL data, gathering supporting evidence and writing a narrative about change. The two new Stories of Change focus on [WASH and women](#) and [urban sanitation and hygiene](#).

The quarterly reporting system has ensured SHARE regularly receives monitoring data from partners and members of the SHARE Secretariat. This data from Phase II has been synthesised to inform the content of this report and generate final logframe figures. SHARE continued to produce consolidated quarterly reports that were shared in the consortium to communicate ongoing progress, challenges and successes.

## Monitoring progress throughout the review period

Key MEL activities and achievements during the review period include the following:

### Impact and learning

- Developing two new Stories of Change.
- Documenting SHARE's gender monitoring and capacity development approach in a [gender report](#).
- Publishing a [learning report](#) that documents SHARE's experience using outcome mapping to plan, implement, monitor and evaluate research uptake.
- Submitting a journal paper analysing outcome mapping monitoring data and effective RIU strategies.



Outcome mapping learning community event in Bangkok, Thailand

## External engagement

- Attending the Outcome Mapping **Learning Community's Learning and Exchange** event in Bangkok, Thailand (April 2018). This informed our approach for learning from SHARE's outcome mapping work and provided an opportunity to share our work with a group of global practitioners.
- Featuring guest blogs on **Research to Action** and **On Think Tanks**.
- Presenting at a roundtable on monitoring research impact hosted at the Overseas Development Institute (November 2018).

## Partner engagement

- Providing direct outcome mapping support to GLUK, CIDRZ and MITU through in-person visits in 2018 as well as ongoing remote support to all partners.

## End-of-programme report process

The end-of-programme report process involved the SHARE Secretariat, SHARE Management Group and all Phase II partners. DFID provided a template and guidance.

# Annexes

## Annex A: Research outputs

**Table 9: Research outputs in brief**

This table covers research outputs produced in the current reporting period.

Indicators and definitions	Number	Notes
Published research outputs/translational outputs	42	These are captured by indicator 2.2 as translational outputs.
Peer-reviewed publications	21	
Peer-reviewed publications that comply with DFID's open access policy	21	All publications from this period comply with DFID's open access policy.
Peer-reviewed publications with a Southern researcher as the primary author	12	
Peer-reviewed publications explicitly addressing gender issues or women/girls	3	
Datasets made openly and freely available to external researchers	0	CIDRZ intend to make data sets available at a future date, in line with their Data Protection and Sharing Policy.

**Table 10: List of new peer-reviewed publications**

Publication title	Journal title	Lead author	Year	Geographic focus	Phase of SHARE
1. Decision making on shared sanitation in the informal settlements of Kisumu, Kenya	International Journal of Environmental Health Research	Simiyu	2017	Kenya	Phase I
2. From Menarche to Menopause: A Population-Based Assessment of Water, Sanitation, and Hygiene Risk Factors for Reproductive Tract Infection Symptoms over Life stages in rural Girls and Women in India	PLOS ONE	Baker	2017	India	Phase I
3. The public health significance of latrines discharging to groundwater used for drinking	Water Research	Ravenscroft	2017	Bangladesh	Phase I
4. Role, ownership and presence of domestic animals in peri-urban households of Kisumu, Kenya	Zoonoses and Public Health	Barnes	2017	Kenya	Phase I
5. Moving up the sanitation ladder with the help of microfinance in urban Malawi	Journal of Water, Sanitation and Hygiene for Development	Chunga	2017	Malawi	Phase I

6. Estimating the Health Risk Associated with the Use of Ecological Sanitation Toilets in Malawi	Journal of Environmental and Public Health	Kumwenda	2017	Malawi	Phase I
7. Effect of innate antiviral glycoproteins in breast milk on seroconversion to rotavirus vaccine (Rotarix) in children in Lusaka, Zambia	PLOS ONE	Mwila-Kazimbaya	2017	Zambia	Phase II
8. Immunogenicity of rotavirus vaccine (Rotarix <sup>TM</sup> ) in infants with environmental enteric dysfunction	PLOS ONE	Mwape	2018	Zambia	Phase II
9. High prevalence of ESBL - Producing E. coli in private and shared latrines in an informal urban settlement in Dar es Salaam, Tanzania.	Antimicrobial Resistance and Infection Control	Erb	2018	Tanzania	Phase I
10. Contributing to the debate on categorising shared sanitation facilities as ‘unimproved’: An account based on field researchers’ observations and householders’ opinions in three regions, Tanzania	PLOS ONE	Massa	2018	Tanzania	Phase I
11. Oral Contact Events and Caregiver Hand Hygiene: Implications for Fecal-Oral Exposure to Enteric Pathogens among Infants 3-9 Months Living in Informal, Peri-Urban Communities in Kisumu, Kenya	International Journal of Environmental Research and Public Health	Davis	2018	Kenya	Phase II
12. The association between domestic animal presence and ownership and household drinking water contamination among periurban communities of Kisumu, Kenya	PLOS ONE	Barnes	2018	Kenya	Phase I
13. Aetiology of Diarrhoea in Children Under Five in Zambia Detected Using Luminex xTAG Gastrointestinal Pathogen Panel	Pediatric Infectious Disease	Chisenga	2018	Zambia	Phase II
14. Assessing peri-urban sanitation quality using a theoretically derived composite measure in Lusaka, Zambia	Journal of Water, Sanitation and Hygiene for Development	Tidwell	2018	Zambia	Phase II
15. Promoting hygienic weaning food handling practices through a community based programme: intervention implementation and baseline characteristics for a cluster-randomised controlled trial in rural Gambia	BMJ Open	Manjang	2018	The Gambia	Phase I

16. Association between unhygienic menstrual management practices and prevalence of lower reproductive tract infections: a hospital-based cross-sectional study in Odisha, India	BMC Infectious Diseases	Torondel	2018	India	Phase I
17. Realities and experiences of Community Health Volunteers as agents for behaviour change: evidence from an informal urban settlement in Kisumu, Kenya	Human Resources for Health	Aseyo	2018	Kenya	Phase II
18. Understanding Living Conditions and Deprivation in Informal Settlements of Kisumu, Kenya	Urban Forum	Simiyu	2018	Kenya	Phase I
19. The social dynamics around shared sanitation in an informal settlement of Lusaka, Zambia	Journal of Water, Sanitation & Hygiene for Development.	Chipungu	2018	Zambia	Phase II
20. Using a Theory-Driven Design Process to Create a Peri-Urban Sanitation Intervention	Implementation Science	Tidwell	2019	Zambia	Phase II
21. Contamination of groundwater sources in emerging African towns: the case of Babati town, Tanzania	Water Practice and Technology	Pantaleo	2019	Tanzania	Phase II

## Annex B: Programme logframe

PROJECT TITLE Sanitation and Hygiene Applied Research for Equity (SHARE)					
IMPACT	Impact indicator 1	Targets	Baseline (2014-2015)	End of Phase II	
				Assumptions	
Accelerated progress towards universal sanitation and hygiene coverage in sub-Saharan Africa and South Asia	The annual number of people gaining access to improved sanitation in all SHARE focus countries	Planned	Total: 10.9 million India: 7.58 million Bangladesh: 2.6 million Malawi: 271,601 Tanzania: 501,990	Total: 75.8 million India: 64 million Bangladesh: 5.8 million Malawi: 1.2 million Tanzania: 4.8 million	<p><b>Impact Indicator:</b> The baseline is the number of people gaining access to improved sanitation from 2014-2015 according to <b>Joint Monitoring Programme data</b>. The Year 3 target is based on WASHwatch's data on the total number of people in each country who would need to be reached annually to meet the SDGs relating to universal access by 2030. While these figures are ambitious, it is important for SHARE to align with global targets.</p> <p><b>Impact indicator 2:</b> The original goal for impact in SHARE Phase I was to reduce the number of child deaths in the four focus countries by an annual amount, reaching 100,000 by 2015. In fact, deaths in children under 5 fell by about 459,000, roughly 4.5 times greater. This original goal has been taken as a starting point, and the 'planned' mortality rate adjusted to give similar rate reduction for the three years of the extension i.e. Phase I, 100,000 in five years; Phase II, 60,000 in three years.</p> <p>Research in Phase II is not expected to have immediate impact on child mortality, but work from Phase I is expected to have a continuing and increasing influence. For that reason, the original four focus countries are maintained and Zambia and Kenya are not included.</p> <p><i>*Under-five mortality rate is the probability per 1,000 that a newborn baby will die before reaching age five, if subject to age-specific mortality rates of the specified year.</i></p>
		Achieved		Total: 40.4 million India: 33.5 million Bangladesh: 4.6 million Malawi: 497,000 Tanzania: 1.7 million	
		<p><u>Source:</u> Annual number of people gaining access to improved sanitation in each SHARE focus country according to data from UNICEF/WHO <b>Joint Monitoring Programme</b>.</p>			
	Impact Indicator 2	Targets	Baseline (June 2015)	End of Phase II	
	Child (<5) mortality rate in all SHARE countries (# deaths/year)*	Planned	Bangladesh: 37.6 India: 47.7 Malawi: 64 Tanzania: 48.7	Bangladesh: 36 India: 46.1 Malawi: 60.4 Tanzania: 46.7	
		Achieved		Bangladesh: 34.2 India: 43 Malawi: 55.1 Tanzania: 56.7	
		<p><u>Source:</u> Analysis of data from <b>ChildInfo</b>.</p>			



OUTCOME	Outcome indicator 1	Targets	Baseline (June 2015)	Year 1			Year 2			Year 3			Assumptions	
				Planned	Achieved	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3			
National and global sector partners change the way they plan, implement or monitor in order to increase i) equitable access, ii) sustainability, and iii) cost-effectiveness of sanitation and hygiene	a) Amount of funds invested by other donors in research (£) b) Amount of funds invested in sanitation and hygiene projects influenced by SHARE (£)	Planned	a) £6.4 million in SHARE research b) £80.8 million in WASH investments	a) £0.25 million b) £0.5 million	a) £0.5 million b) £2.5 million (cumulative)	a) £1.5 million b) £7.5 million (cumulative)	a) £0.25 million b) £0.5 million	a) £904,000 (cumulative) b) £5.6 million (cumulative)	a) £1.5 million b) £7.5 million (cumulative)	a) £1.5 million b) £7.5 million (cumulative)	a) £1.5 million b) £7.5 million (cumulative)	a) £0.25 million b) £0.5 million	a) £0.25 million b) £0.5 million	a) £0.25 million b) £0.5 million
		Achieved		a) £50,689 b) £703,254	a) £50,689 b) £703,254	a) £904,000 (cumulative) b) £5.6 million (cumulative)	a) £7.3 million (cumulative) b) £8.5 million (cumulative)	a) £50,689 b) £703,254	a) £904,000 (cumulative) b) £5.6 million (cumulative)	a) £7.3 million (cumulative) b) £8.5 million (cumulative)	a) £7.3 million (cumulative) b) £8.5 million (cumulative)	a) £7.3 million (cumulative) b) £8.5 million (cumulative)	a) £50,689 b) £703,254	a) £50,689 b) £703,254
	Outcome indicator 2	Targets	Baseline (June 2015)	Year 1			Year 2			Year 3				
	Percentage of progress markers met by recipients of funding, as indicated in the outcome mapping document developed by each partner	Planned	Unknown	20%	40% (cumulative)	70% (cumulative)	Unknown	40% (cumulative)	70% (cumulative)	70% (cumulative)	70% (cumulative)	20%	40% (cumulative)	70% (cumulative)
		Achieved	N/A	15%	33%	83% (cumulative)	N/A	33%	83% (cumulative)	83% (cumulative)	83% (cumulative)	15%	33%	83% (cumulative)
		Source: Quarterly reporting, data from SHARE Management Group.												
	Outcome indicator 3	Targets	Baseline (June 2015)	Year 1			Year 2			Year 3				
	Percentage of capacity development outcomes met by recipients of funding, as indicated in the capacity-building strategy documents prepared by partners	Planned	Unknown	20%	40% (cumulative)	70% (cumulative)	Unknown	40% (cumulative)	70% (cumulative)	70% (cumulative)	70% (cumulative)	20%	40% (cumulative)	70% (cumulative)
		Achieved	N/A	Information not available	43%	95% (cumulative)	N/A	43%	95% (cumulative)	95% (cumulative)	95% (cumulative)	Information not available	43%	95% (cumulative)
		Source: Capacity development plans, capacity development matrix and qualitative partner interviews.												
INPUTS (£)	DFID (£)		Government (£)	Other (£)	Total (£)									
	£5,890,00		0	0	0									

OUTPUT 1	Output indicator 1.1	Targets	Baseline (June 2015)	Year 1	Year 2	Year 3	Assumptions
SHARE builds new evidence and synthesises existing knowledge	1.1.1: Number of peer-reviewed publications on SHARE research	Planned	1.1.1: 60% 1.1.2: 27% 1.1.3: 35%	1.1.1: 65 1.1.2: 40% 1.1.3: 40% (all cumulative to baseline)	1.1.1: 87 1.1.2: 30% 1.1.3: 45% (all cumulative to baseline + Year 1)	1.1.1: 106 1.1.2: 35% 1.1.2: 50% (all cumulative to baseline + Years 1 and 2)	<ul style="list-style-type: none"> <li>Assuming a basis of 60 publications from inception as baseline.</li> <li>Year 2 and Year 3 targets build on the actual number of publications from Year 1: 77.</li> <li>Publication targets for Year 2 and Year 3 are based on publication plans presented by partners in December 2016 and pending Phase I publications.</li> <li>Publications and % of authors from low and middle income country/female authors will be reported against Phase I and Phase II.</li> <li>1.1.2 revised because it was not possible to meet previous targets unless an extremely high number of new publications produced; disaggregation for Phase I and Phase II will demonstrate progress.</li> <li>Baseline for % of female authors and authors from institutions in low and middle income countries calculated as mean of % from the last three annual reports (June 2013, 2014 and 2015).</li> </ul>
	1.1.2: Number and percentage of authors from institutions in low and middle income countries	Achieved		1.1.1: 76 1.1.2: 20% 1.1.3: 43%	1.1.1: 89 1.1.2: 24% 1.1.3: 42%	1.1.1: 117 1.1.2: 35% 1.1.3: 54%	
	1.1.3: Number and percentage of female authors	Source: SHARE MEL systems and reporting from Principal Investigators and researchers.					
	Output indicator 1.2	Targets	Baseline (June 2015)	Year 1	Year 2	Year 3	Assumptions
	1.2 Average number of cumulative views per SHARE journal paper	Planned	Unknown	230	270	325	Assuming an average increase of 40 views annually, based on Year 1/2016 data.
		Achieved	N/A	230	265	355	
		Source: Research Online data.					
	Output indicator 1.3	Targets	Baseline (June 2015)	Year 1	Year 2	Year 3	Assumptions
	Citations of SHARE I and II publications (average number per paper)	Planned	11	11	15	19	Year 1 target is based on total number of citations in June 2015 (669) divided by total number of articles (59).
		Achieved	N/A	13	17.7	29	Actual data in Year 1 was 13; Year 2 and 3 targets are based on an increase by 2 each year.
		Source: Web of Science Bibliometrics, used by SHARE MEL Officer to get an overall average for full set of SHARE papers.					
<b>IMPACT WEIGHTING: 25%</b>							
INPUTS (£)	DFID (£)		Government (£)	Other (£)	Total (£)	DFID SHARE (%)	
	£3,419,339		0	0	0		

OUTPUT 2		Output indicator	Targets	Baseline (June 2015)	Year 1	Year 2	Year 3	Assumptions
SHARE disseminates and communicates research to encourage uptake of policy and programming	2.1	Percentage of RIU activities completed by funding recipients in their outcome mapping documents	Planned Achieved	Unknown N/A	30% 62% (3 partners)	50% 55%	80% 96%	<ul style="list-style-type: none"> <li>Outcome mapping documents are agreed and fully understood by research partners with appropriate time horizons.</li> <li>RIU activities are appropriate.</li> <li>Research timelines move according to schedule.</li> <li>Relevant stakeholders are identified and prioritised through outcome mapping.</li> </ul>
	2.2	2.2.1: Number of attendees at SHARE knowledge sharing events (including disaggregated at gender level)  2.2.2: Number and percentage of attendees of those events who report they found them to be useful in improving their knowledge  2.2.3: Number of external events using SHARE resources	Planned  Achieved	2.2.1: 848 (32% women*) 2.2.2: Unknown 2.2.3: Unknown	2.2.1: 300 2.2.2: 30% 2.2.3: No target  2.2.1: 657 (43% women*) 2.2.2: 98% 2.2.3: 1	2.2.1: 600 2.2.2: 80% 2.2.3: No target  2.2.1: 2,629 (37% women) 2.2.2: 100% 2.2.3: 3	2.2.1: 1,600 2.2.2: 90% 2.2.3: No target  2.2.1: 4247 (46% women) 2.2.2: 99% 2.2.3: 8	<p>Enough events will be convened and attendance at these events can be feasibly tracked.</p> <ul style="list-style-type: none"> <li>Relevant, practical and insightful event monitoring processes can be put in place.</li> <li>Enhancing knowledge is core to the purpose of the event(s) for which attendee numbers are monitored.</li> <li>No target is set for 2.2.3 as this is not something that SHARE is trying to influence but a positive externality of the project that SHARE will aim to monitor and measure.</li> </ul> <p>*This percentage represents events for which gender disaggregated data was available (it was not available for all events).</p>

Output indicator	Targets	Baseline (June 2015)	Year 1	Year 2	Year 3	Assumptions
2.3						
Number of recipients of SHARE technical assistance	Planned Achieved	29	10 7	10 10	15 23	<ul style="list-style-type: none"> <li>The information can be analysed and aggregated.</li> <li>This will be supported by a qualitative analysis of the applications of any technical assistance and any feedback given by recipients will be captured.</li> </ul>
Source: Log of requests for technical advice in SHARE MEL systems, qualitative analysis of recipient feedback/application of technical advice.						
2.4						
2.4.1: Number of translational outputs arising from SHARE research, as indicated in the list of content types on the resource pages of SHARE's website. (Translational outputs include: policy briefs, reports, toolkits, posters, presentations and podcasts.)	Planned Achieved	2.4.1: 80 reports and manuals, 83 media outputs 2.4.2: 2,666	2.4.1: 10 2.4.2: 3,000  2.4.1: 24 2.4.2: 3,261	2.4.1: 64 (cumulative) 2.4.2: 3,000  2.4.1: 69 (cumulative) 2.4.2: 3,395	2.4.1: 94 (cumulative) 2.4.2: 3,000  2.4.1: 115 (cumulative) 2.4.2: 2770	<ul style="list-style-type: none"> <li>SHARE can effectively track and monitor page views.</li> <li>Year 2 and Year 3 revised targets based on adding to Year 1 actual number of translational outputs: 24.</li> <li>2.4.1: Assuming a basis of 80 manuals and reports from inception as baseline.</li> </ul>
Source: Website data and Google Analytics, reported by SHARE RIU Officer.						
2.4.2: Average monthly number of views of SHARE website						
IMPACT WEIGHTING: 25%						
INPUTS (£)		DFID (£)	Government (£)	Other (£)	Total (£)	
		£870,752	0	0	0	

OUTPUT 3		Year 1	Year 2	Year 3	Assumptions	
SHARE develops the capacity of key stakeholders in the WASH sector and other related sectors	Output indicator 3.1	Baseline (June 2015)	Year 1	Year 2	Year 3	
	Targets	Planned	Year 1	Year 2	Year 3	
	Planned	3.1.1: 491 (SHARE 1) 3.1.2: Unknown	3.1.1: 50 3.1.2: 15%	3.1.1: 80 (cumulative) 3.1.2: 40%	3.1.1: 270 (cumulative) 3.1.2: 80%	• SHARE can effectively follow up with individuals/organisations after events. • There will be a high number of non-replies and courtesy replies, and contact details for all attendees will not always be known.
	Achieved	3.1.1: 43 3.1.2: Data not available	3.1.1: 234 3.1.2: 83%	3.1.1: 562 (40% women) 3.1.2: 85%		
	Source: Event register and qualitative survey/interviews with training attendees.					
	Output Indicator 3.2	Baseline (June 2015)	Year 1	Year 2	Year 3	
	Target	Planned	Year 1	Year 2	Year 3	
	Planned	Unknown	45%	65%	90%	Assumption that there will be a level of responder bias.
	Achieved	n/a	Data not available	100%	100%	
	Source: Interviews with principal investigators and researchers about capacity development.					
	Output indicator 3.3	Baseline (June 2015)	Year 1	Year 2	Year 3	
	Target	Planned	Year 1	Year 2	Year 3	
	Planned	Unknown	20%	60%	100%	
	Achieved	n/a	67% (4/6)	83% (5/6)	100% (6/6)	
	Source: Follow up with alumni by email.					
<b>IMPACT WEIGHTING: 25%</b>						
<b>INPUTS (£)</b>		<b>DFID (£)</b>	<b>Government (£)</b>	<b>Other (£)</b>	<b>Total (£)</b>	
		£999,972	0	0	0	

OUTPUT 4	Output indicator	Targets	Baseline (June 2015)	Year 1	Year 2	Year 3	Assumptions
The SHARE consortium is efficiently and effectively managed	4.1	Percentage satisfaction of SHARE Executive Group member engagement in planning and decision making	Planned Unknown	50% (annual target)	70% (annual target)	90% (annual target)	<ul style="list-style-type: none"> <li>• A relevant feedback instrument (survey) can be designed, analysed and reported against.</li> <li>• Partners will feel comfortable providing feedback to SHARE Secretariat.</li> <li>• The contents of the survey are relevant to partners.</li> </ul>
			Achieved N/A	67%	80%	83%	
			Source: Annual survey to representatives of partner organisations and SHARE national coordinators.				
			Source: Annual survey to representatives of partner organisations and SHARE national coordinators.				
	4.2	Percentage of agreed Consortium Advisory Group (CAG) recommendations that are addressed within 3 months	Planned Unknown	100%	100%	100%	<ul style="list-style-type: none"> <li>• Recommendations are captured in CAG meeting minutes.</li> <li>• Follow-up actions and responses are documented and the MEL Officer is able to get this information from the SHARE Management Group and partners.</li> </ul>
		Achieved	76%	100%	100%		
	4.3	Percentage of invoice expenditure against forecast programme expenditure	Planned Unknown	25%	29%	46%	<ul style="list-style-type: none"> <li>• Recommendations are captured in CAG meeting minutes.</li> <li>• Follow-up actions and responses are documented and the MEL Officer is able to get this information from the SHARE Management Group and partners.</li> </ul>
		Achieved	N/A	No data - new indicator	29%	TBC	
		Source: Data from LSHTM finance system: Agresso, captured by SHARE Finance Officer.					
<b>IMPACT WEIGHTING: 25%</b>							
<b>INPUTS (£)</b>		<b>DFID (£)</b>	<b>Government (£)</b>	<b>Other (£)</b>	<b>Total (£)</b>		
		£599,937	0	0	0		



# Building knowledge. Improving the WASH sector.

The Sanitation and Hygiene Applied Research for Equity (SHARE) Consortium seeks to contribute to achieving universal access to effective, sustainable and equitable sanitation and hygiene by generating, synthesising and translating evidence to improve policy and practice worldwide. Working with partners in sub-Saharan Africa and Asia, two regions with historically low levels of sanitation, SHARE conducts high-quality and rigorous research and places great emphasis on capacity development and research uptake.

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

 @SHAREresearch

SHARE Consortium  
London School of Hygiene & Tropical Medicine  
Keppel Street  
London  
WC1E 7HT, UK

Tel: +44 (0)20 7927 2301

Email: [contactshare@lshtm.ac.uk](mailto:contactshare@lshtm.ac.uk)



This material has been funded by UK aid from the Department for International Development (DFID). However, the views expressed do not necessarily reflect the Department's official policies.

