IRC

WASH systems symposium Proceedings part 2

All systems go!

12 - 14 MARCH 2019 | THE HAGUE, THE NETHERLANDS

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WASH systems that transform lives.

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We believe in a world where water, sanitation and hygiene services are fundamental utilities that everyone is able to take for granted. For good.

We face a complex challenge. Every year, thousands of projects within and beyond the WASH sector fail – the result of short-term targets and interventions, at the cost of long-term service solutions.

This leaves around a third of the world's poorest people without access to the most basic of human rights, and leads directly to economic, social and health problems on a global scale. IRC exists to continually challenge and shape the established practices of the WASH sector.

Through collaboration and the active application of our expertise, we work with governments, service providers and international organisations to deliver systems and services that are truly built to last.

All systems go! WASH systems symposium. Proceedings part 2
This document published by IRC contains part 2 of the proceedings from the All systems go! WASH systems symposium which took place on 12-14 March 2019 in The Hague, The Netherlands. It is accompanied by the proceedings part 1, which includes all presentations and papers that were prepared for and presented at the event. Part 1 proceedings are available online at https://www.ircwash.org/proceedings

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This document was written and compiled based on notes from the rapporteuring team and thematic leads during All systems go! The names of thematic leads and rapporteurs are indicated in the table below. The thematic synthesis summaries (Part 1 of this document) were co-authored by the lead rapporteur and thematic leads. The document was compiled by Angela Huston; it incorporates content from the session outlines and descriptions, slide decks and symposium papers shared by session leads and presenters. The rapporteuring team was coordinated by Vera van der Grift and Janni Baekkelund Nielson. A special thanks to Robert Bos for guidance on the documentation strategy. A special thank you to Patrick Moriarty for review and inputs to this document and the symposium overall. We extend our appreciation to all who contributed to the event and the proceedings.

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Executive summary

The All systems go! WASH Systems Symposium took place from 12-14 March 2019 in The Hague. Close to 400 participants representing over 165 institutions from around the world participated, and over half of them made contributions in the form of presentations or session chairing and design. The event featured skills-building workshops, interactive sessions, keynote speakers, and gameshows among other types of knowledge-sharing and knowledge-developing activities. These were conducted in English, French and Spanish. All systems go! marks 50 years since IRC was founded through a joint agreement between the World Health Organization (WHO) and the Government of the Netherlands to serve as a learning organisation and knowledge hub for the water and sanitation sector.

Each day started and ended with a plenary session featuring keynote speakers or interactive expert panels. The day consisted of up to seven sessions running in parallel, where participants could choose what to attend. While some participants chose to follow a specific theme throughout the event, most opted to attend a mix of sessions. Roving rapporteurs, as well as rapporteurs assigned to each session, captured key insights and discussion topics. These were used to inform the highlights shared by event hosts during the plenary sessions, and to develop this proceedings document. In addition to the official programme, All systems go! featured a 50th birthday dinner evening on 12 March; special event on the Human Right to Water and Sanitation hosted at the Peace Palace on 13 March; and a Blue Drinks networking event on 13 March.

The programme was curated by a team of thematic leads representing seven organisations and incorporated both an open call for presentations and papers as well as co-designed and commissioned contributions. These proceedings summarise the content of over 62 sessions that took place from 12-14 March 2019, and include a synthesis summary of the general programme and of each of the five major themes for the event—sanitation and hygiene, safe water, finance, fragile states, and measurement and learning. The background note for each theme and the full collection of symposium resources are available online, including the peer-reviewed symposium papers and presentations, plus video recordings and blogs from the event.

All systems go! was the first event of its kind dedicated explicitly to using systems approaches in the WASH sector. This focus is in line with IRC's organisational strategy and approach—building strong and sustainable systems for water, sanitation, and hygiene service delivery around the world. The event came about three years into the ambitious Sustainable Development Goals (SDGs) and provided a timely opportunity to review the status of WASH progress; share current state-of-the-art thinking; stimulate a holistic mind-set; and identify opportunities for innovation. The event was also designed to support participants to become systems leaders who can drive a global movement for strong locally and nationally owned WASH systems and services.

What did we learn? Feedback from the event suggested that most participants were already aware of and moving toward systems thinking when they arrived, but left with a deeper understanding of how the thinking and tools could be applied in their work. The event created a space for reflection about systems thinking in WASH, shifting the discussion from 'why should we be using systems approaches' to a more proactive analysis and consolidation of strategies. Participants left with a sense of urgency and desire to continue developing a community of practice around WASH systems strengthening, either generally or for specific sub-topics such as finance or working in fragile contexts. Others expressed a readiness to move from thinking and talking to committed action and organisational and strategic change. In addition to thematic discussions on WASH systems, many participants rated the keynote speakers from outside the WASH sector as the most influential for their thinking. Many expressed commitment to continue learning more from other social sectors or public service systems. Beyond this, there was an emerging consensus about the need for a strategy to reach outside the typical WASH actors and engage more meaningfully with national political leaders and global finance systems to achieve systemic improvement in WASH services.

Although it would be impossible to summarise the entire event, a few themes and insights emerged as cross-cutting concepts that resonated with participants:

1. *Systems blindness* refers to trying to solve a problem without understanding the dynamics of the system around it that keep the problem in place—during his opening keynote, Patrick Moriarty called on all participants to challenge ourselves to break free from this. Throughout the discussions, we discovered that removing systems blindness is not simply a one-time choice but is a progressive process like peeling back layers of an onion. There is always a need to consider new perspectives and to try to understand the multiplicity of systems that exists.
2. We need to become champions for WASH systems as public systems. Government engagement is needed at multiple levels. High level (national) political commitments are critical but also engagement with local level technocrats and public servants who have authority for WASH service provision and knowledge of WASH provision on the ground. NGOs and external actors need to embrace a more nuanced understanding of how government bodies function so we can engage appropriately at different levels.
3. Dancing with the system is a metaphor that helps us to connect with complexity and improve our ability to contribute to a systems' evolution. The phrase was first written by Donella Meadows in 2001 along with general guidelines for working in complexity that embrace patience, open-mindedness, humility, and resilience. Participants at All system go! often referred back to this concept and noted the need to let go of a desire to control and limit the complexity of a system to instead learn to embrace and understand it, and work within it.
4. We are moving toward systems maturity in WASH— starting to understand the range of different service delivery models that must be part of a WASH system that can serve diverse parts of the population. Through the SDGs, we have made a universal commitment to leaving no one behind, but how this will happen depends on the context. There are increasing options that can be adapted and possibly scaled; multiple systems will need to co-exist to reach everyone. *Through collective action* we can bring others on board and leverage individual contributions to contribute to overall strengthening of the system.
5. Systems change is about both process and results— many of the measurement and monitoring tools that we use for systems can be used to facilitate a dialogue and a process valuable as the results themselves—or more. Monitoring does not have to start with data, it can start by hosting a discussion on the incentives, capacities and needs of different actors until we arrive at a desire for common measurement.
6. As the system matures we must still keep people at the centre— too often we have started with infrastructure and we need to avoid the same pitfalls in a WASH systems approach. It is critical to focus on the needs and desires of the end-users, to be able to adapt and learn to 'dance with the system'.

These insights and more are detailed throughout these proceedings. The first section provides the synthesis summary for the 18 sessions of the general programme followed by each of the five thematic programmes. The second section provides a summary of each of the individual sessions from the programme, including the plenaries, grouped by theme and using the session numbers from the All systems go! Programme. The final section is a list of references and useful links.

Charles Yeboah Safe Water Network Ghana

Acronyms and abbreviations

BMGF	Bill and Melinda Gates Foundation
CAR	Central African Republic
CBO	Community Based Organisation
CSO	Civil Society Organisation
CWIS	City-Wide Inclusive Sanitation
DFID	Department for International Development
DGIS	Directorate-General for International Cooperation
DRC	Democratic Republic of the Congo
FSM	Faecal Sludge Management
GESI	Gender and social inclusion
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GSF	Global Sanitation Fund
GTO	German Toilet Organisation
IWA	International Water Association
(i)NGO	(international)Non-Governmental Organisation
JMP	Joint Monitoring Programme
MIS	Management Information System
MWA	Millennium Water Alliance
NIUA	National Institute of Urban Affairs
OECD	Organisation for Economic Co-operation and Development
ODF	Open Defecation Free
OWNP	One WASH National Program
PBR	Payment by results
PTPS	Para Todos Por Siempre
QPA	Quantified Participatory Assessment
RBF	Results based financing
RWSN	Rural Water Supply Network
SCBP	Sanitation Capacity Building Programme
SDGs	Sustainable Development Goals
SEB	Skandinaviska Enskilda Banken
SFD	Shit Flow Diagram
SWA	Sanitation and Water for All
SWS	Sustainable WASH Systems
UNC	University of North Carolina
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene
WASHBAT	WASH Bottleneck Analysis Tool
WFP	Water For People
WHO	World Health Organization
WIN	Water Integrity Network
WPDX	Water Point Data Exchange
WSP	Water Safety Plan
WSSCC	Water Supply and Sanitation Collaborative Council
WSUP	Water & Sanitation for the Urban Poor

Introduction

The Sustainable Development Goals (SDGs) call for a radical change in the way we work; only strong and inclusive systems will be able to improve the quality and reach of public services like water and sanitation. The All systems go! WASH Systems Symposium was a learning event designed to discover, provoke, engage, create, collaborate, and most importantly to jointly improve our readiness to deliver on the global ambition. During 12-14 March 2019, nearly 400 participants from over 165 institutions around the world had the Fokker Terminal in The Hague buzzing with energy and excitement focused on achieving systems change in the water, sanitation and hygiene (WASH) sector.

As described in the Symposium background note, service delivery systems, and particularly public service systems, are a combination of people and elements that interact in complex ways to produce a service of some kind. The focus of All systems go! was on WASH services, which have proven to be particularly challenging to develop and maintain due to a range of social, cultural, and technical factors. WASH systems can take many forms and can function in many ways, but the stronger and more developed the system is, the more comprehensive and resilient the service it delivers (Huston, Moriarty & Lockwood, 2019). WASH systems can be defined many ways, but most definitions include policy, legislation, regulation, infrastructure, governance, finance, and environment, as well as some aspects of behaviour, monitoring and information use, and equity and accountability. We defined a WASH systems approach as one that starts with the understanding that WASH services are delivered and used in complex environments that interact with and influence those services, and that improvements therefore require systemic change.

Over the past decade, and particularly since the milestone of the Kampala WASH Symposium in June 2016, a growing number of people and organisations are embracing systems approaches to improve service quality and sustainability. As a result, an increasing body of knowledge tools are available for use. Three years since Kampala, All systems go! was held to take stock on progress toward the SDGs, to synthesise state-of-the-art thinking, and to reveal opportunities for innovation and transformational change in how we view and do public service delivery. The thematic programme was developed by a team of experts representing seven organisations supported by an external scientific review panel who provided strategic guidance during the twelve months of conceptualisation and design of the event. The keynote speakers were carefully selected to help inspire and call on participants to become *systems leaders* who can beat the drum for WASH systems change and motivate collective action toward a shared and increasingly detailed vision of the SDGs.

Each day started with a plenary session featuring keynote speakers, interactive expert panels and even a gameshow to introduce the thematic tracks from the previous day. The days consisted of up to seven sessions running in parallel ranging from 60 to 120 minutes each, where participants could choose whether to follow a specific theme or to attend a mix of sessions and workshops. Beyond the thematic programme, there were 14 parallel general programme sessions which addressed key concepts for thinking in systems and WASH systems strengthening. Each day concluded with a short plenary session where the hosts of the day invited participants and experts to share highlights and 'aha moments' with the whole group. The final closing plenary session, convened by Sanitation and Water for All, featured each of the different WASH constituencies: government, civil society, research and learning, private sector, and external support agencies, as well as a conclusion and summary of the overall programme outcomes. In addition to the official programme, All systems go! featured a 50th birthday dinner evening on 12 March; special event on the Human Right to Water and Sanitation hosted at the Peace Palace on 13 March; and a *Blue Drinks* networking event on 13 March.

Roving rapporteurs, as well as rapporteurs assigned to each session, captured key insights, discussion topics, and emerging conclusions that were used to inform the facilitation of the event, the concluding remarks, and this proceedings document. These symposium proceedings summarise the content of over 62 sessions and include a synthesis summary of the general programme and of each of the five major themes for the event—sanitation and hygiene, safe water, finance, fragile states, and measurement and learning. The full collection of symposium resources are available online , including symposium papers and presentations, along with video recordings and blogs from the event and can be found under the links included in the references section at the end of this document.

Part 1: thematic synthesis summaries

General programme sessions

The General Programme focused on the overall themes of the event, included the four plenary and keynote sessions as well as 14 smaller parallel sessions that took place during the thematic programme. The general programme was critical to meeting the high level objectives of the event, and were a combination of sessions received during the open call for contributions and through curation of the event content. The summary of the keynote speakers and all the programme sessions is available in the second part of this document.

The General Programme covered three broad areas:

- Understanding WASH systems change processes and what drives them
- The role of different stakeholder groups in systems change
- Cross-sectoral integration: systems change transcends conventional boundaries.

Understanding WASH systems change processes

Sustaining WASH services requires a complex interplay between different components, factors and actors. But how can we make sense of all this complexity? There are a number of tools and approaches to breaking down and navigating the complexity of the sector, however they risk oversimplification that could lead us to miss the point on systems and complexity thinking entirely. Focusing on breaking down the complexity into key components or building blocks can cause us to overlook the dynamic interactions of the different elements. Yet modelling the dynamics in too much detail risks creating something so complex it is difficult to engage with and has little meaning to local actors. Finding the right balance is key.

Group work on the understanding WASH systems change processes

By taking a (retrospective) look at the WASH systems change process as it has occurred in different countries, as presented in many of the sessions, it was possible to identify some **key drivers of change** that appear to be cross-cutting;

- Behaviour change of key actors. In cases like Ethiopia with the One WASH National Programme and Honduras with the Para Todos Por Siempre movement, the structure of the system and formal institutional arrangements has remained the same, but the behaviour of actors has changed, with new incentives, priorities, capacities, or collaboration mechanisms.
- Structure. In cases like Uganda and Rwanda, the WASH system shifted form through concrete redefinition of institutional roles and processes, and redrawing of the formal relations between actors.
- Financial models. In cases like the Netherlands water sector, changes in the system were triggered by shifts in the financial models used to finance and assign value to the sector which changed the financial responsibilities of actors.

These changes can take place at different institutional levels:

- Subnational (district) level. A large number of countries showed how WASH system change happened through district WASH planning processes. While these face a critical challenge of scale, these seeds or nuclei of change can have significant impact on both developing models for 'scaling up' and for stimulating 'scaling out'.
- National level. In some countries (Rwanda and Honduras), national movements/collaborations of different actors are pushing for WASH systems strengthening. In countries like Ethiopia there is a national programme for top down sector change as well as a growing number of sub-district initiatives.

Systems change almost always involves a range of different types of stakeholders: A single actor can be a seed of change, but systems transformation typically requires a behaviour or role change from multiple stakeholders. For WASH, these actors are particularly critical:

- Government. Ideally government should lead sector-strengthening processes. But government may lack flexibility and the capacity of more technical actors such as private sector or utilities; government is not often the best place for experimentation. Still, engaging government early enough has been shown as critical to developing buy in and eventual support for (and leadership of) systems strengthening initiatives.
- Civil society. Transparency and accountability are key for WASH service delivery, as are creating a CSO structure that works with and holds the government and international NGOs accountable. It is important to find a balance between constructive and critical dialogue between CSOs and government, community, and other partners
- (International) NGOs need to support government, and often come with resources and flexibility to experiment, but NGOs need to listen more and improve their understanding of the complexity and diversity that exists within government and the local sector. iNGOs can play a key role in providing technical support, and like local civil society, need to find a balance between supporting and trying to influence.

Systems change, like many complex situations, is a political game, which requires careful tactics and adaptive strategies.

- It is important to be sensitive to political pressure that influences behaviour of actors. National politics should also influence how iNGOs operate and drive alignment of agenda.
- Political decisions are usually at the start of a structural reform process. Knowing how and why reforms are undertaken can improve the response.
- Change in the political economy (democratisation, decentralisation) can lead to a shift from private to public service delivery models. The broader political context has enormous influence and differences between countries need to be taken into account when trying and testing models from other contexts.

Another emerging focus at the symposium was collective action, which offers a framework to drive a change process that is responsive to the considerations above. The theory of collective action echoes many of the sentiments of a systems approach, and many of the presenters in the general programme theme made some reference to using collective action theory to make sense of their work.

Systems change challenges us to think beyond conventional boundaries, both in terms of collaborating with other sectors and by inspiring us to learn from other sectors' experiences. This theme was represented both in keynote presentations as well as some of the thematic sessions. To promote collaboration with other sectors, it is necessary to consider the needs and

objectives of other sectors before trying to engage, for example thinking about how WASH services contribute to the goals of the health sector, or how the lack thereof undermines it. But it is also clear that cross-sectoral integration is difficult, and full integration is probably impossible.

Conclusion

WASH systems are complex, involving many different types of actors at multiple institutional levels linked by a number of functions and factors that collectively deliver WASH services through multiple models. Politics are critical at every level, and those working toward systems change in WASH must get used to navigating the dynamics of the system. But embracing the complexity does not mean 'paralysis by analysis'; it means starting to engage with the system at some entry point - be it district planning, strengthening capacity of CSOs, supporting government-led reforms of the sector. Embracing complexity also means periodically stepping back to look at the bigger picture, knowing that any single entry point is probably in itself insufficient. A WASH systems approach means there will always be a need to recognise the influence and role of different administrative levels, different factors, and different scales, to be responsive enough to motivate change with multiple actors. Collective action provides a theoretical framework for moving toward a shared goal within this complexity, but it is up to individuals to make the change.

Theme 1: sanitation and hygiene

Understanding the systemic shifts necessary for sustained demand, provision and use of sanitation and hygiene services

Systems thinking asks us to look beyond a single problem to view the larger context in which such problems exist. Root causes of (and solutions to) WASH problems can often be found by taking a broader view of the situation. Applying systems thinking to sanitation and hygiene challenges in the era of the SDGs will require critical thinking and further evolution. More coherent and effective approaches to sanitation and hygiene at national and subnational levels will require service delivery systems to tackle a broad range of issues, such as institutional arrangements, financing, regulation and accountability, and the right mix of technologies. Achieving sustainable services that 'leave no one behind' will be an extremely complex undertaking, given the amount of resources currently available, the existing human and institutional capacity, and the need to strengthen and reform the enabling environment.

Participants discussing the systemic shifts necessary for sustained demand, provision and use of sanitation & hygiene services

However, through the course of eight sanitation and hygiene sessions held during the Symposium, **a range of new approaches, ideas, and questions emerged** that will help frame the sanitation and hygiene systems debate, and – along with appropriate follow-up actions – will move systems thinking and the WASH sector forward.

Context is important

Countries are in very different situations in terms of their ability to take on board 'systems thinking'. Political will and local capacity largely determine the extent to which sanitation systems thinking can be applied in a given context. This underscores the need to strengthen and reform the enabling environment. Several experts also noted that systems frameworks for sanitation and hygiene need more attention and innovation than those related to water supply and water resource management, as 'water systems' are typically less institutionally complex and have already received considerable focus to develop them.

For urban sanitation, the 'Shit Flow Diagram' (SFD) has brought attention to sanitation issues among municipal officials and other parties. However, SFDs also have de-emphasised the people and communities who are at the heart of the issue. The Sanitation Cityscape conceptual framework discussed at this Symposium is an attempt to put people back into the equation.

Another urban 'systems tool' was discussed - City-Wide Inclusive Sanitation (CWIS). CWIS embodies a set of principles that can be used to make urban sanitation services more efficient, environmentally sound, responsive to demand, and pro-poor. In the eight cities where this approach has been trialled, it has helped shift sanitation service delivery beyond faecal sludge management (FSM) approaches, to a more holistic approach that embraces the entire sanitation service chain.

In rural contexts, key organisations supporting sanitation programmes also are rethinking how they do business. For example, UNICEF, Plan, and WaterAid presented a new, joint programming guidance document that seeks to make rural sanitation programming more efficient and scalable. It is not a prescriptive approach, but rather a new way of thinking.

The German Toilet Organisation (GTO) and Aguaconsult shared their collaborative work on a systems framework for sanitation and hygiene, adapted from the Agenda for Change. Their proposed changes aim to strengthen how the enabling environment is addressed, as well as clarifying the roles and responsibilities of government and other actors in sanitation and hygiene. Also, private sector roles in sanitation need to be better integrated into systems thinking and analysis, recognising that they rely on a certain degree of systems maturity to find a viable role and that when included, private sector actors can co-evolve with the system to play a more fundamental role.

The 2018 Guidelines on Sanitation and Health are WHO's latest contribution to this critical area of technical WASH guidance. These Guidelines are intended to serve as a basis for development of new (or revision of existing) national regulations and guidance. WHO noted that some differences exist between the Joint Monitoring Programme (JMP) and these Guidelines. For example, shared sanitation (defined as not safe by the JMP) is described as acceptable by these Guidelines - under certain situations.

WSSCC presented results from outcome surveys carried out in six Global Sanitation Fund (GSF) countries which showed a range of results - some fairly encouraging - and some less so. Effective systems thinking requires good monitoring and data analysis, and this survey tool (and the survey findings) should prove helpful to other organisations as well. Questions arising from the survey include whether 'Open Defecation Free (ODF)' outcomes are sustainable; whether 'access' is an accurate predictor of 'use'; and whether women and girls are accessing sanitation facilities as easily as men and boys. WSSCC also found that the poorest income quantiles had made greater gains in sanitation access than 'middle' quantiles, and that ODF definitions were found to vary from country to country, making this criterion less useful for inter-country comparisons.

Financing, revenue and incentives

Adequate levels of public financing will be essential for establishing sustainable sanitation and hygiene solutions – and current funding levels are insufficient. Revenue generation is highly variable from country to country. Where local tax revenue is limited, governments have few options but to rely upon external donors – who often focus on solutions like sewered sanitation, which do not address the bulk of the problem.

Effective monitoring and benchmarking approaches can provide political incentives that promote more effective leadership and commitment to improving sanitation systems. By making sector performance information widely available, districts and municipalities can demonstrate how well they're doing in terms of reaching customers and sustaining their sanitation systems. Targeting high-impact information at political leaders, such as access data, health statistics, and funding level trends, can pay off. For example, in India this has created an environment where local leaders want to tackle sanitation problems to improve their rank or status amongst other municipalities. In Nigeria, the national government declared a 'state of emergency' on WASH to address high rates of open defecation, and declining trends in water access and WASH funding levels.

Symposium host Ikenna Azuike getting feedback during a plenary session

Private sector role

Sanitation systems are often heavily reliant on the private sector. Yet in many cases, private suppliers may not reach a significant portion of the population, nor offer certain needed products or services (e.g., affordable and hygienic household toilets). In some cases, there might be neither supply nor demand at the outset – solutions may require stimulating both. This type of enterprise development is high-risk, and requires patient, long-term support for periods of up to five years or more. In addition, high levels of professional expertise (i.e., marketing, product development) are typically required.

Attention also should be directed towards **strengthening the enabling environment**, to help ensure long-term viability (and increase demand). Successful enterprise development requires long-term commitment – it's "…more like a marriage, than a single date."

Finally, an 'exit plan' should be crafted well in advance, with a view to establishing independence of the enterprises over a long period.

Communications, learning, and capacity-building

Selling systems thinking will require effective, carefully targeted communications. Systems ideas should be conveyed in practical terms, especially for local leaders who often are the ones responsible for implementing changes and seeing them through.

A concerted effort to provide localised, practical information on systems thinking can pay off. For example, the Sanitation Capacity Building Programme (SCBP) in India has generated useful information and training programmes on faecal sludge and septage management – which in turn has helped the government strengthen its focus on non-sewered solutions.

Having an active, positive approach towards learning and capacity-building are important when promoting systems thinking. People who are open to learning, including learning from failure, are critical to success.

Because systems thinking looks beyond the details of a specific problem to view the larger context in which the problem lies – it is also important to understand how the borders of a system are defined. Communicating clearly about system definitions and boundaries can be helpful in keeping systems at a manageable size and facilitating the development of solutions.

WASH system boundaries and accountability

What constitutes a WASH system, and what are its limits? The boundaries of a system (where it meets other systems) can be both interesting and important. For example, how are the boundaries of the WASH sector defined when it comes to WASH facilities and practices in the health and education sectors? Who should be accountable for establishing and maintaining WASH services in health facilities and schools?

WHO's 2018 Guidelines on Sanitation and Health specify that health authorities are responsible for WASH in health care facilities. In practice, this doesn't always happen. WASH organisations often feel compelled to 'sell' better sanitation and hygiene to other sectors such as health and education. Health experts at the Symposium reinforced this by encouraging WASH advocates to reach out beyond their own sector more often, and to craft messages for non-WASH audiences. While this may be an accurate reflection of the current situation, some wondered whether the boundaries of the WASH (and other) sectors should be redefined to place more responsibility on health and education sectors, for example. Should other sectors be encouraged to redefine their views of WASH, and their own accountability for helping tackle WASH challenges?

Conclusions

Systems thinking presents a new way of thinking that can help strengthen WASH programmes and accelerate progress towards the SDGs. However, there are institutional obstacles to overcome, including 'internal' ones such as the mind-set of the individuals making up WASH institutions, as well as the attitudes and practices of funding institutions who often shape the development agenda.

For systems work to be effective, the focus should shift from organisational priorities (such as growth and branding) and onto countries, communities, and end-users. SDG6 provides a solid 'vision' for the sector to work towards.

The sanitation and hygiene sessions (among others) led to questions about systems thinking that should be considered. For example – is WASH adequately integrated with other sectors? Do WASH experts 'talk to themselves' too much? Do we make a strong enough case for shared responsibility with other sectors? How should we (re)define WASH system boundaries and accountabilities? Do we involve representatives from national and local governments enough in our discussions?

Participants in the sanitation and hygiene thematic sessions expressed an overall optimistic viewpoint on the future of systems thinking. While raising concerns such as whether sanitation and hygiene are sufficiently prioritised and integrated with water supply, and whether financing institutions are prepared to move beyond supply-focused and project-based support – participants identified many practical approaches they would use to promote systems thinking when they returned to their countries and their work.

What seems clear is that many key actors within the sector are already working more holistically than in the past. Although systems language and terminology are not universally applied to their efforts, their thinking has clearly moved beyond a simple focus on hardware and service delivery. Solutions to sanitation and hygiene problems are increasingly focused on strengthening the enabling environment and addressing other system components to address challenges that lie in the wider societal context. Participants and presenters alike seemed generally in agreement that this trend towards system thinking constituted a positive trend for the sanitation and hygiene sector, and that further work in this regard was much-needed.

Theme 2: safe and sustainable water services

Systemic approaches to increasing safety and sustainability of drinking water service delivery

At a global level, progress towards safe and sustainable drinking water, including in low-resource settings, is impressive but it remains far from universal. Much of Africa and South Asia continues to struggle with failing urban water systems, broken hand pumps in rural areas, and endemic waterborne disease. This conference stream focused on understanding the drivers of service improvements and the requirements for instituting similar change in lagging regions. At the heart of this was recognising trends and noting similarities and differences between service provisions in different contexts. The eight sessions in this theme included an explicit focus on learning across geographies, a focus on developing systems to protect water resources such as water safety planning and water quality monitoring, as well as specific focus on operation and maintenance approaches.

Ranjiv Khush, Executive Director of the Aquaya Institute introducing the safe and sustainable water services theme

Early sessions in this theme took a higher level look at progress and persistent challenges in developing drinking water systems around the world. One session reviewed water safety planning as 'the original systems approach' and considered the lessons that we can learn about moving from theoretically sound systems thinking to getting implementation to happen in diverse and capacity constrained contexts. Overall, the theme focused on using systems thinking to frame and come to grips with the implications of the rising ambitions in the water sector – for safer supplies (water treatment) and an increasing amount of piped supplies and household connections. A focus on inclusive systems that reach everyone mean grappling with service quality improvements while confronting the reality that millions of people around the world still haven't received first time access or struggle to maintain even basic services such as rural hand pumps.

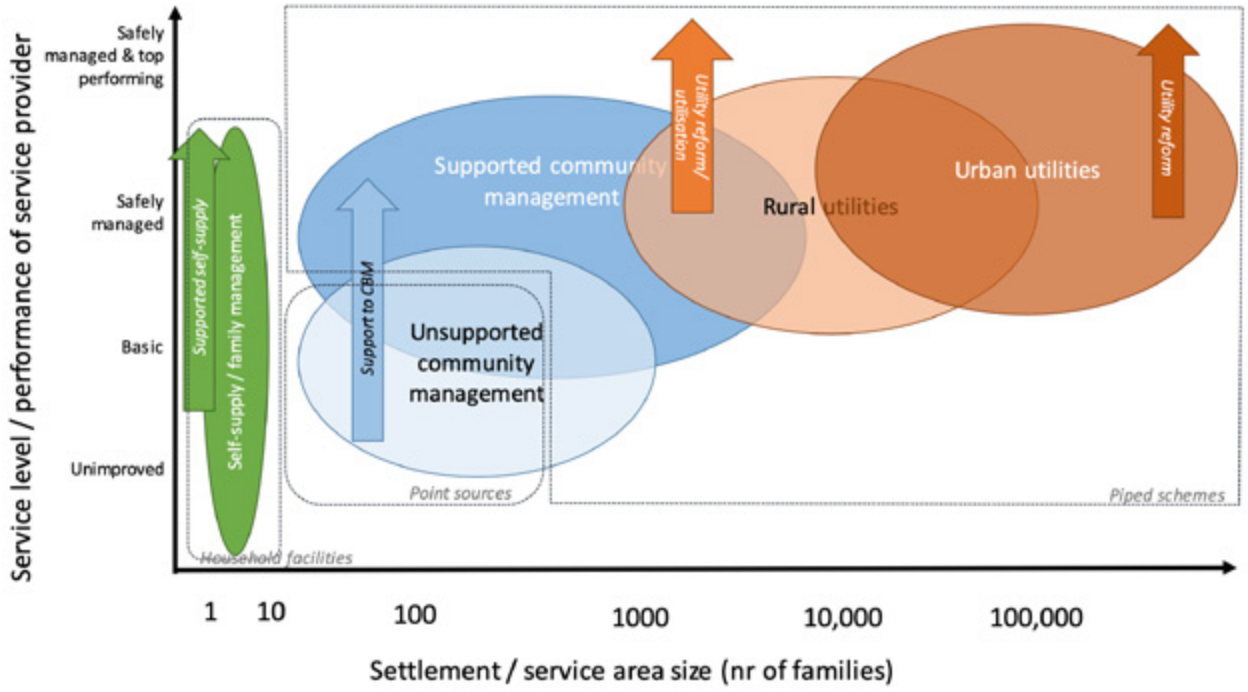
This emphasis on providing universal water services often means embracing a system that includes different service delivery models that may overlap in a single context:

- Self-supply: implementation and management of household-level water facilities by (small groups of) households themselves;
- Community-managed point sources: these include models with and without different levels of support by government and/or private sector (e.g. private maintenance service providers)
- Various models for piped scheme management, which may suit different contexts, including

- Community-management (e.g. Ghana)
- Private (ownership and) management (e.g. Malawi, Ghana)
- Rural utilities (e.g. Ethiopia)
- Urban utilities.

Figure 1 gives an overview of main service delivery models, their typical service area size (in terms of number of households served) and the level of services typically provided under these models. It clearly shows overlaps between the models and the fact that there is no 'one service delivery model-that-fits-all'.

FIGURE 1: AN OVERVIEW OF MAIN SERVICE DELIVERY MODELS, THEIR TYPICAL SERVICE AREA SIZE AND THE LEVEL OF SERVICES PROVIDED UNDER THESE MODELS.



SOURCE: SMITS ET AL, 2019

Although many countries aim to increase access to piped water supply, achieving this goal is challenging. Community-managed point sources and self-supply are likely to continue playing an important role in providing water services in the years to come, especially in rural contexts with disbursed settlements.

Emphasising 'safely managed and top performing' service providers (or service delivery models) may jeopardise expansion of basic services for the vulnerable. This could lead to tensions between achieving 'all for some' vs. 'some for all'. Instead, planning for combinations of different service models may better ensure that **no one is left behind.** Self-supply is especially relevant in areas with dispersed rural populations, which are hard to reach through other service delivery models. In settings that support piped water supplies, options for ensuring that no one is left behind include social tariffs (e.g. equitable block tariffs), free or subsidised shared connections, cross-subsidies, and micro-financing.

To determine what is needed for safe and sustainable water service provision within each model, it is important to look beyond the causes of failure, and also the requirements for success: both within the service delivery model and in the enabling environment. A systems approach helps to recognise that the same underlying causes or factors might be influencing multiple models. Requirements for success will likely include financing, technical and infrastructure requirements, institutional frameworks (including clarity on roles and responsibilities and capacities), and water resources requirements.

During the Symposium, different pathways for strengthening service delivery models were identified, presented and discussed:

- Self-supply: like household connections linked to piped schemes, family-managed facilities (implemented through self-supply) can provide safely-managed water services, when implemented and managed well (providing water when needed and free from contamination). To ensure this happens, there must be institutional support and an enabling and stimulating environment for self-supply. In order to ensure water from self-supply options are free from contamination, linking them with household water treatment and safe storage options is essential.
- Community-managed point sources: there are a variety of arrangements for supporting and strengthening community-managed water supplies. These include private sector involvement in providing maintenance services to CBOs. The implementation of various maintenance models is currently ongoing in different contexts and at different scales with multiple levels of recognition and regulation (e.g., Circuit riders in Central African Republic, Whave in Uganda, Fundifix in Kenya and Uduma in Burkina Faso).
- Piped schemes: strengthening of piped-scheme service delivery models requires 'utilisation' (the introduction of service-oriented business approaches with a move towards customer customer-oriented service providers) and utility reform. This includes enhancing staff motivation and structural capacity building.

To ensure that local and national systems are able to provide sustainable water services under the different service delivery models, suitable **financing mechanisms and arrangements** for covering at least operating costs are needed. User contributions through tariffs play an important role in addressing service delivery costs. The roles of local authorities and service providers on tariff setting should be clear. Public funding is and will continue to be an important source of financing, especially of capital investments and for expansion and rehabilitation/renewal of water schemes, both in rural and urban areas.

There are a wide range of largely unproven financing mechanisms and arrangements related to emerging service delivery models, especially community managed models that include private sector support (e.g. for maintenance arrangements). To promote private sector involvement in rural, community-level water service delivery (and possibly some degree of financing from the private sector), **legal operating frameworks** are essential. Without government approvals and long-term business permits, the private sector will not be able and willing to commit adequate financial resources. However, in many areas regulatory frameworks do not yet exist for all service delivery models. This is especially true for emerging private-sector maintenance and service delivery models in rural, small towns and peri-urban areas.

The demand responsive approach emphasised the provision of services that aligned with the **demands and capacities of targeted communities.** However, there is increased recognition that in reality the demand for safe and sustainable water services is not always manifested, especially in rural areas, where a range of alternative sources may be considered adequate. In addition to focusing on systems strengthening, should we focus on stimulating and creating customer demand for safe and sustainable water services? Or will this demand follow the provision of services? In the North, it was not the demand for clean water but rather the political will that pushed for investment in and the provision of safe and sustainable water services.

Political will and leadership are crucial! Without political will, systems strengthening will not happen and it will not be possible to overcome sustainability challenges. However, even with political will, there is a risk of a disconnect between policy and practice (for example shown by the high level of support to the development of Water Safety Plans, but the lack of sustained implementation, or the presence of national policies, without implementation on the ground). We need to identify what translates political will into prioritisation and (transitional) change.

Conclusion

Despite some significant progress and advances in drinking water safety and sustainability, those engaged in systems strengthening still need to get the basics right. A range of service delivery models are possible, ranging from very basic to advanced, but the service delivery models and roles and responsibilities of different actors need to be clearly defined and agreed on. Without mapping and understanding the service delivery landscape, and building accountability for key institutions, advances are likely to continue for the minority while many are left behind. Technical progress is evident, but contexts and countries who have achieved the most have had clear political leadership and commitment to improving services and strengthening systems for sustainability. There is no recipe for transformational change, but the collection of experiences and menu of options is getting bigger for those who are committed and able to back commitments with long term investment.

Theme 3: financing WASH

Applying a systems approach to financing WASH

As was clear from the number and variety of presenters at All Systems Go, finance is deservedly attracting more attention in the WASH sector, and is not only of interest for technical financial experts. Over the three days, we heard representatives from several organisations[1] talk and discuss finance for WASH from a systems strengthening perspective, with topics ranging from specific tools for project finance to broader strategies for tracking and increasing financing to the sector overall.

Mobilising finance to address the WASH finance gap will require more than sophisticated financial mechanisms. Without addressing foundational systemic issues, many financial solutions will be short-term; effectively promoting dependence on external support. To anchor the finance discussions in a systems strengthening approach, 10 foundational issues (Figure 2) were unveiled in a new paper by Water.org, IRC, and the World Bank.

IRC's Catarina Fonsceca, thematic lead om financing WASH, has all the correct answers during the WASH systems gameshow

1 Centre for Budget & Governance Accountability (India), Development Organization of the Rural Poor (Bangladesh), DFID Tanzania, DGIS, GIZ, IRC, Max Foundation, Millennium Water Alliance, Ministry of Water and Sanitation Resources Ghana, National Institute of Urban Affairs (India), Oxfam GB, Oxfam Kenya, Oxfam Nepal, Social Finance, SEB, SNV, UNICEF West & Central Africa Regional Office, USAID, WASH Catalysts, Water.org India, Water For People, WEL Group, World Bank and World Vision Ethiopia

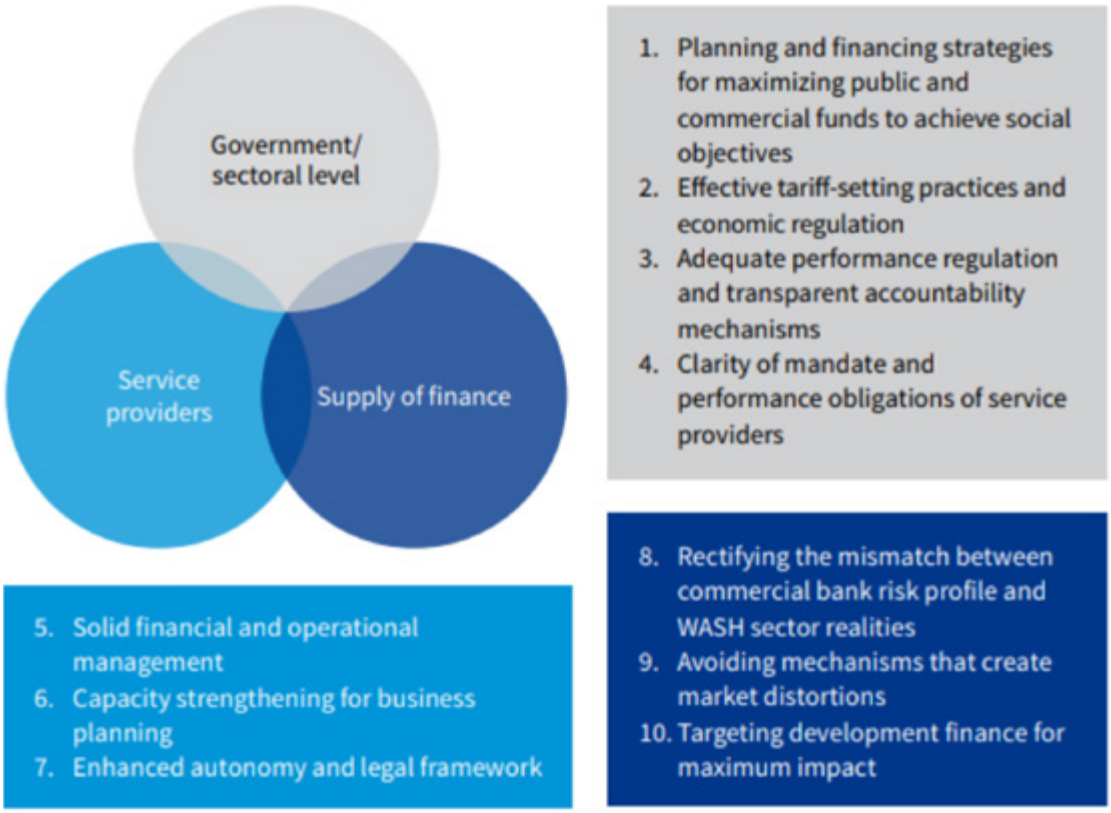


FIGURE 2: FOUNDATIONAL ISSUES FOR MOBILISING FINANCE FOR WASH

SOURCE: PORIES, L., FONSECA, C. AND DELMON V, 2019. MOBILISING FINANCE FOR WASH: GETTING THE FOUNDATION RIGHT. WATER.ORG, IRC AND THE WORLD BANK.

Successful, sustained WASH systems require sufficient finance of various types (private, public, and blended) for different purposes. We cannot rely on the poor to pay the full costs of water and sanitation services, and international finance and development partners do not have the funds required to achieve SDG 6 either. "Only governments have the capacity to mobilise the amount of finance required to reach the SDGs, but it's everyone's responsibility to address the foundational issues", said Evariste Kouassi Komlan, UNICEF.

For progress to be made, national governments are required to have a financial strategy (Figure 3) for achieving the targets they have set at national level and get political endorsement. In the Philippines, the financial strategy goes into the level of detail where analysis is made on how different levels of services can be paid for by different sources. For instance, financing sanitation looks completely different from financing water and is much more dependent on grants and concessional loans than tariffs.

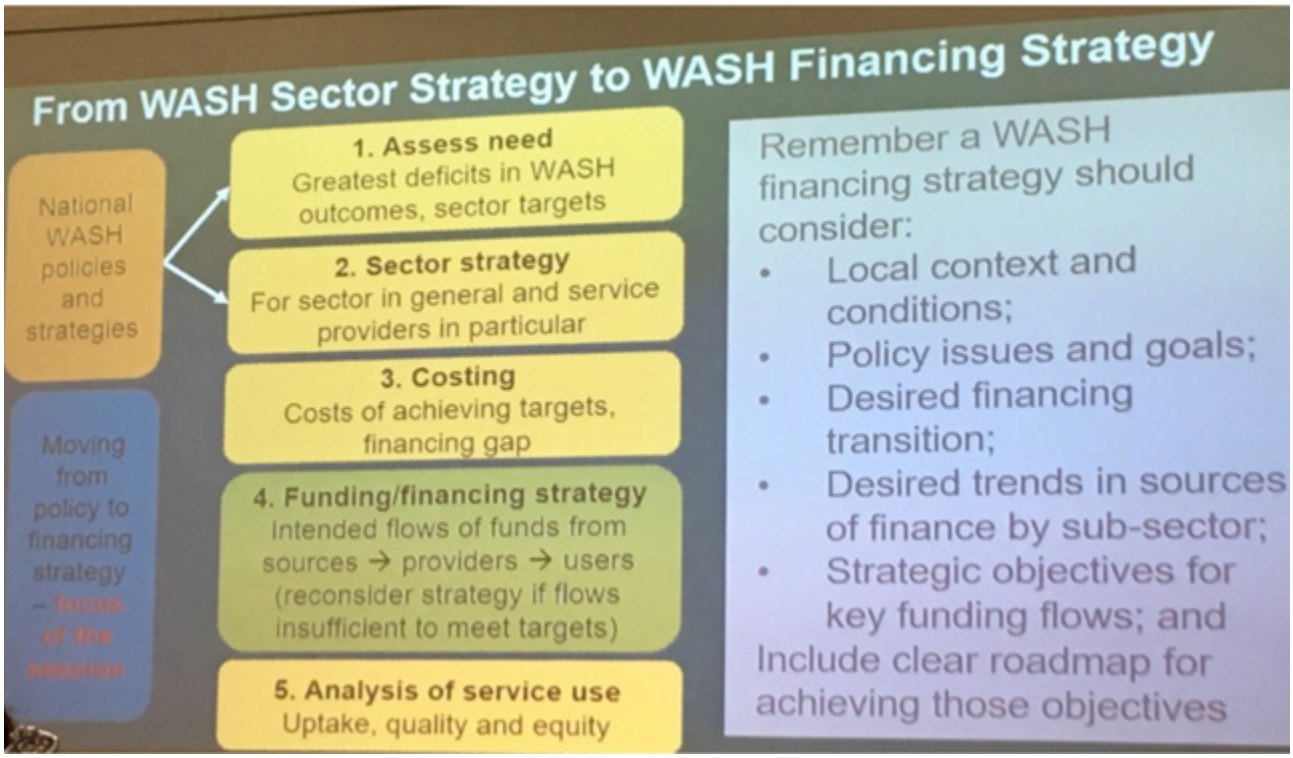


FIGURE 3: FROM WASH SECTOR STRATEGY TO WASH FINANCING STRATEGY

SOURCE: EVARISTE KOUASSI KOMLAN, UNICEF

It is easy to fall into a circular 'chicken and egg' discussion on WASH finance: if the sector were stronger and performed better it could attract more investment yet without more investment the national systems will not become strong enough to warrant investment. Joel Kolker of the World Bank made it plain and simple for finance experts and laymen alike. "There are only two possible sources of investment: private or public. For both, the sector has to be investment worthy. And I'd add that only public investment in systems will make the sector investment worthy," he said.

To focus on options and solutions, complimentary case studies were presented: DFID Tanzania presented findings from three years of applying a results-based financing approach in Tanzania, including efforts to combine payment by results with adaptive programming as drivers of change lead mostly by the government itself. In contrast, Water.org and NIUA discussed how in India funding was not the main motivation for the huge increase in sanitation coverage because before 2014 there were already subsidies for latrines. "There has been a tremendous effort for strengthening institutions to turn the sanitation vision into a reality," said Depinder Kapur of NIUA India.

Using the WHO's TRACKFIN methodology provides transparent data to help governments and development partners to coordinate and better target their resources. Governments must strengthen monitoring systems to account for financial resources available, and regularly report on resource allocation and use. TRACKFIN can also be used as an accountability tool by CSOs to hold governments accountable on their promises to reduce inequalities of funding allocations. Still, it is clear that more investment will be needed to reach the SDGs.

District life cycle costing can inform financial strategies and plans. Costing is hard to do the first time, but very important for guiding evidence-based decision-making. Costing tools and budget tracking can be used to assess who is being left behind and must be viewed in the context of advocacy work to push forward pro-poor and pro-gender budget allocation and utilisation.

DORP presented an inclusive gender responsive WASH budget monitoring tool used to track equitable WASH budgets in Bangladesh.

Questions remain on the following areas:

- It is clear that financing mechanisms for the rural and urban poor are scarce but there are interesting experiments. Participants questioned how scalable some of the presented solutions are given the level of complexity involved in setting up the financial deals and the lack of confidence of WASH professionals to engage in financial discussions.
- Related to the point above, there was discussion on improved coordination among funders and governments. We need to come up with a way to funnel commercial finance where it makes sense and allocate public finance where it's most needed, but questions remain on accountability and the best processes to achieve this.
- The sector is collecting more and more costing data. Questions emerged on how we can use this evidence more effectively to advocate for better programme design and improve efficiency of implementation.

Catarina Fonseca, IRC, presents the 10 foundational issues. Photo by Irene Gai

Conclusions:

Key takeaways from the different sessions include:

- Government must lead and plays an important role not just in terms of developing multi-annual financial strategies (national and district level), but also from a regulatory angle promoting cooperation to increase both private and public finance.
- Civil society should advocate for public investment in WASH for those that are being left behind but also for formal financial accountability mechanisms that can be used to strengthen institutions.
- NGOs and development partners can support both governments and civil society efforts to develop financial strategies (which can be a means to increase coordination) and track finance but also increase their knowledge about the financial mechanisms available.
- Throughout the finance theme, different types of actors emphasised the importance of investing in human and institutional capacity, as well as financial literacy within the WASH sector, to make it more viable to attract finance and make the sector and its utilities and service providers creditworthy.

Theme 4: fragile states

Understanding risks and opportunities for WASH systems strengthening in a rapidly changing environment

More than two billion people already live in fragile and conflict-affected contexts and it is estimated that by 2030 half the world's poor will live in such contexts. It is therefore essential to address the theme of sustainability in fragile states to meet SDGs 6.1 and 6.2 (achieving universal and equitable access to WASH services). While the conceptual framework and key building blocks for WASH systems strengthening have been clearly identified, a wide range of fragile contexts challenge the relevancy and adaptability of such models. The objective of this thematic area was to identify and discuss principles and learning from fragile states to contextualise the WASH systems strengthening conceptual framework and building blocks. Through this definition, participants gained a more nuanced understanding of the spectrum of fragility and the reality that more practitioners are confronted with it than previously considered.

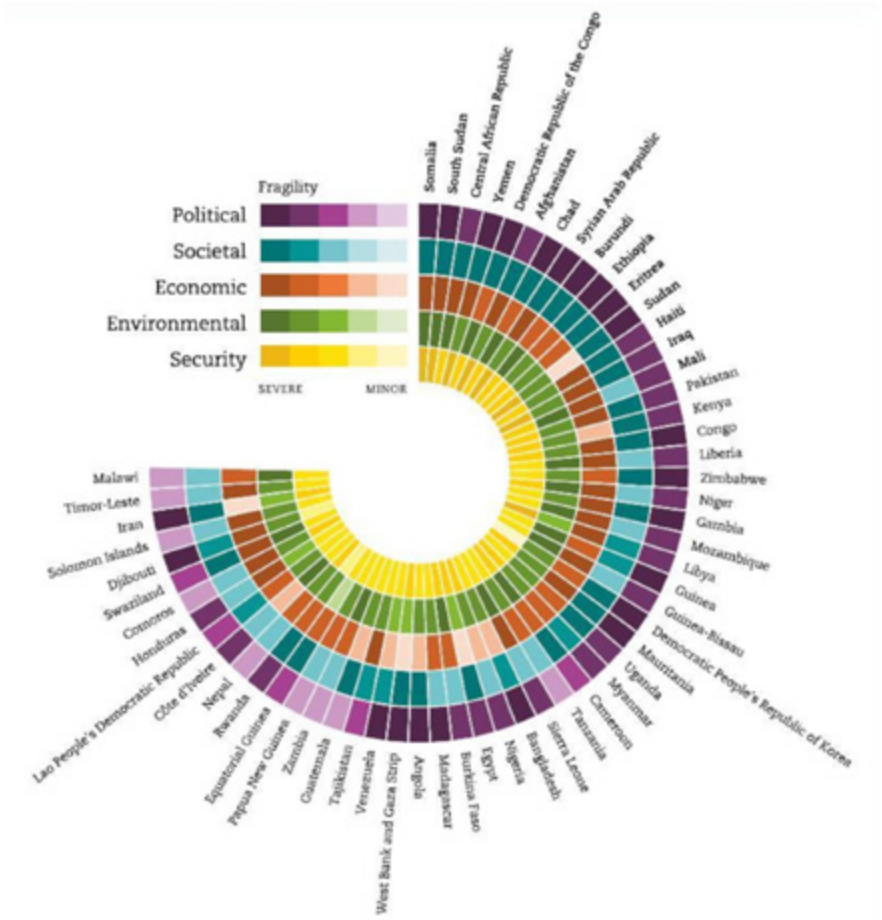


FIGURE 4: STATES OF FRAGILITY FRAMEWORK.

SOURCE: OECD, 2018

There were six session in this thematic area, woven together by a red thread focused on defining risk and opportunities, then identifying principles and strategies for systems building in fragile contexts. Sessions were extremely participatory and focused on confronting participants with challenging real examples from the field to collectively discuss solutions and ways forward as a way to work toward a shared agenda and framework. It also featured two documentary films, a session focus on market-based approaches and a session on monitoring and information systems.

There were several take-aways from the sessions and discussions, including:

1. Fragility is multi-faceted, and exists to some degree or in some form in almost every country we work in. The multi-faceted nature of fragility means that we should not aim for a one-solution-fits-all, but instead address every situation, context or

country individually - strengthening WASH systems is very different in Somalia compared to Ethiopia. Conversely, the fact that building blocks are missing or extremely weak in fragile contexts, was identified as a significant commonality. There was a common understanding among participants that when we talk about a fragile context in the WASH sector, we primarily mean a conflict or insecure setting, or a very weak state.

2. In many fragile contexts, formal leadership is absent, weak or disputed. This often leads to parallel systems, coordinated by the humanitarian sector, which overlook the power dynamics and informal leadership that exist. This is a missed opportunity, as this way, the 'divide' between the humanitarian and development sector will never be bridged. Humanitarian actors should engage more with informal leaders, lower institutional levels and communities to (already during the emergency phase) lay the foundation of sustainable systems.
3. Fragility is not static, nor uniform. Many countries go through cycles of insecurity or fragility, e.g. through a flare-up of hostilities or (annual) periods of drought/hunger gaps. Also, in a country like DRC, certain areas are strictly no-go, whereas in other areas, agencies can comfortably work on strengthening WASH systems. WASH actors – and donors – should be conscious of this and be opportunistic in where and how they work. A (short) period of relative calm in one part of the country, could be exploited to work on strengthening the different building blocks.

David De Armey, Director of International Partnerships at Water for Good, discussing WASH systems strengthening in fragile states

Although there is little documented experience in WASH systems strengthening in fragile contexts, several cases were presented at the Symposium that illustrated the above. In addition to these contextual challenges of working in fragile states, funding models are also hindering progress. This is because: funding cycles are too short for realising real and sustainable change; humanitarian and development funding streams are still very segregated; and funding for anything other than infrastructure is practically unavailable, even more so in emergencies.

Conclusions

Clearly, systems strengthening in fragile states is possible and there are many examples. Actors working in this space seem to be fragmented and found an incredible amount of value in coming together in a learning forum like the Symposium. Over the coming months, a group of practitioners, working with Water for Good and Aguaconsult will draft a paper on WASH systems strengthening in fragile context that will 1) expand the information base and advance sector thinking and 2) raise awareness of practitioners working in fragile contexts and the opportunities for systems strengthening therein.

Theme 5: measurement and learning

Measuring and learning about the WASH system and its strengths

The field of WASH systems strengthening is growing, creating with it a need for new approaches to monitoring and documenting change. The Symposium itself is a recognition and celebration of learning and data sharing and use, but it is one stop on a longer journey. All systems go! follows the 2016 Kampala and 2013 Addis symposia where the former focused on sustainability and holistic thinking and the latter was focussed on "Monitoring sustainable WASH service delivery". The discussions within the Measurement and Learning thematic programme made it clear that in the years since, the sector has evolved further from focusing solely on service delivery to wider systems thinking. This theme focused on both tools for systems monitoring and the overall systems change that is required to make data-driven decision making a reality. The objective was to explore the range of available tools for measuring systems and service level outcomes through a systems thinking lens, and to consolidate lessons learned and make them more available to the wider WASH community.

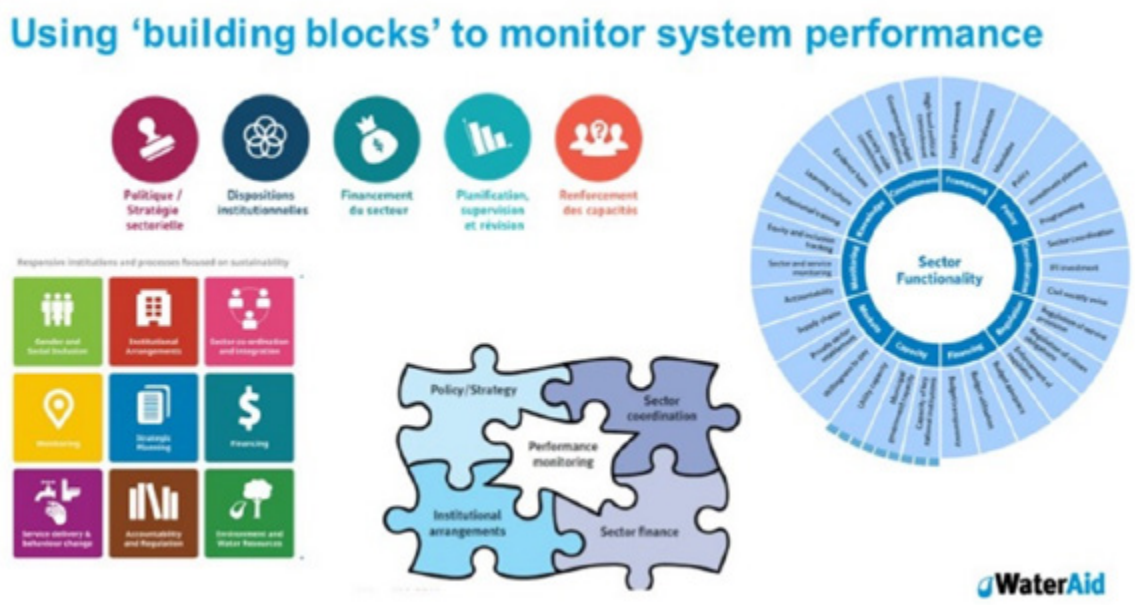


FIGURE 5: USING 'BUILDING BLOCKS' TO MONITOR SYSTEM PERFORMANCE

SOURCE: SLIDE FROM CLAIRE BATTLE, WATERAID.

One recurring discussion in this theme was about how to make sure monitoring approaches that break the system into a collection of parts (e.g. building blocks) don't miss out on the drivers and underlying dynamics present in the system.

The challenges in measuring system strength and system change became immediately apparent with keynote speaker Barbara Schreiner (WIN) asking *"how does one avoid getting so caught up in trying to understand the system complexity that you get paralysed?"*. With a growing understanding and appreciation of the complexity of the sector, it can be difficult to step back and identify the key areas to focus on, and to identify entry points or notice when something is running off track. We may find ourselves trying to measure and map more and more systems elements even while our understanding of complexity tells us it will be very difficult to link cause and effect between different components. Avoiding paralysis by analysis is all about finding the right balance, and this was a thread running through the eight sessions in this theme.

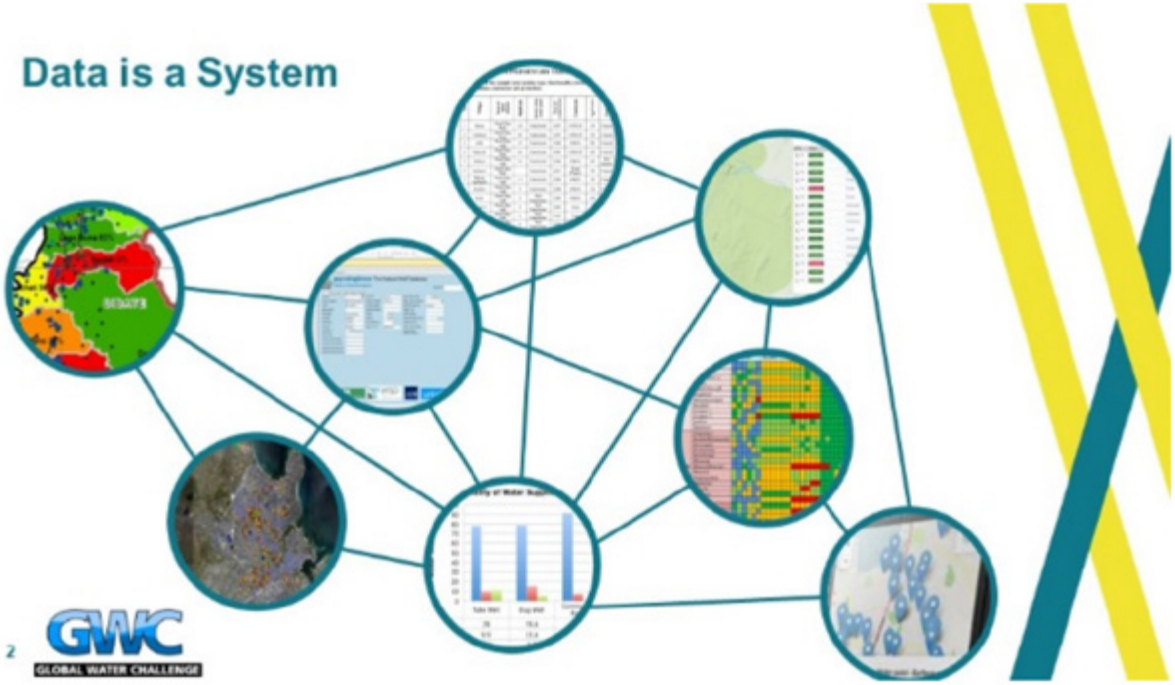
WaterAid's Clare Battle kicked off the theme by presenting new research that asked "Is system building at odds with a results agenda?". This brought on a lively discussion on the role of the donors with questions about how much progress in monitoring is needed to make donors confident that systems strengthening can be accurately measured and is worth investing in. Yet others saw this as an opportunity—measuring upstream 'system factors' can show whether projects are going in the right direction and allow for course correction before it is too late.

This was further explored in the next sessions that shared tools being used to understand and diagnose aspects of a system such as Network analysis;, "wellbeing" as a proxy measure (WEEP) for system health; and WSUP's Sector functionality framework. The discussion of options and methods prompted debate around the following:

- Are the right stakeholders being engaged in-country to use these tools and also benefit from their use?
- Is the use of systems-oriented tools embedded in existing (governmental) planning and budgeting cycles?
- Are these one-off exercises being institutionalised in a way that brings value?
- How to sustain usage of any of these tools?
- Who is the owner of the tool or the process in which the tool is being used?
- Are the tools currently in use able to adequately deal with the complexity of the sector?
- Is there a danger of over complicating the assessments?

A key strength of any tool is in how people engage with it, which was well captured by Guy Hutton (UNICEF), "Bringing people together and have them talk in a way that they don't normally talk is incredibly valuable."

FIGURE 6: BRIAN BANKS FROM WATER POINT DATA EXCHANGE (WPDX) INDICATING THAT DATA REQUIRES SYSTEMS THINKING



The final sessions captured the 'deliver and do' theme, by showing: first, that the effective use of data for results requires that all system actors share knowledge; second, that sector monitoring platforms and meetings can be made more effective through systems approaches; and finally, that analysis of the data ecosystem can help identify leverage or entry points for systems change. Initiatives such as WPDX demonstrated that availability of data is no longer the blocking factor, but more attention is needed for building incentives and capacity to understand what data is telling us – in terms of quality, availability and results. Various sessions mentioned factor mapping as a way to take data to the next level in a complex system.

The whole process of system measuring, monitoring and adapting came together with examples from Myanmar and West Africa, particularly Sierra Leone. In these examples, government has led the monitoring process and triggered it with well-structured WASH plans, showing system readiness to take action on data insights, as well as the importance of linking different sector systems (e.g. monitoring and planning) However, challenges remain, in particular around alignment of partners, structuring of data and timing as Heather Skilling summarised: "We need actionable, usable data coming at the right times.." or else it won't be taken up and used by the right stakeholders.

Tough discussions during the sessions on measurement and learning

Conclusions:

1. **Activities that bring together the various parts of a complex system, such as factor mapping, have an innate value. As Guy Hutton noted:** "Bringing people together and have them talk in a way that they don't normally talk is incredibly valuable".
2. **Paralysis through analysis** is avoidable as there are approaches and tools to deal with the complexity of systems-thinking and practical examples of how to measure systems change are starting to emerge.
3. There will always be a need to monitor and measure results, especially for donors, but it is increasingly recognised that **measuring systems change adds an additional layer of understanding** and can facilitate course correction before a result is achieved (or not achieved).
4. Similarly, there is value to mapping, measuring and analysing the factors and actors that contribute to a sector's performance – the building blocks of sector performance – but they should be framed with, or complemented by, an understanding of system drivers and interrelationships. One promising approach is an integrated "layering" approach that combines sector performance assessment with tools such as **network analysis and factor analysis** to identify leverage points/areas to intervene in the system with stakeholders/policy-makers.
5. Compared to five years ago, **data is no longer the limitation** – rather it is about motivating and training sector stakeholders on how information and data can best be used by decision-makers.
6. Accuracy and reliability of the data that is reported/collected is at the heart of any system. Monitoring can only create the potential for action if it generates reliable and timely data. Data can only increase accountability, if the collection and reporting process is paired with **systems for accountability.**
7. In every context, one of the challenges is that there are **parallel monitoring** projects for multiple programmes, with distinct funding sources and their own indicators. Government is key and harmonising the national MIS and having partners support it will take time.

Synthesis summary for capacity building sessions:

Introduction

Human capacity is a critical component of the WASH system and there are many methods and tools available and in use for building capacity globally. Capacity building is about more than direct skills transfer and trainings--it is about improving the ability of organisations and people to function in their environment. It emerges from a process of learning and development, and in complex systems, it is often more about collective or systems capacity than it is about any individual actor or institution. The entire All systems go! Symposium was a capacity building forum for participants, but the five sessions that comprised this thematic track were specifically designed as workshops to build participants' capacity to navigate the complexities of WASH.

Session GP2 in the general programme talked about capacity gaps in the sector overall, and one session (CP4) was dedicated to trying to define and understand what core competencies are essential for navigating complexity. Most of the sessions in this track used interactive methods like role-play and group work to test and explore how such competencies can be built in action, and to ensure participants left the room with new tools and concepts to apply in their work.

Systems mapping and systems change

Two of the five capacity building sessions were dedicated to techniques for systems mapping. The importance of mapping the system was a message iterated throughout the symposium -- in the background note; in almost every one of the keynote addresses; and it was emphasised in the Day 2 sub-theme of the monitoring and learning theme (and with a specific session M5). The capacity building sessions on this topic focused on finding leverage points for action and looking at the interrelationships of actors and factors within a specific WASH system. The tools discussed ranged from systems dynamics modelling to simplified processes using pen and paper. Regardless of the tool, understanding the system and your place in it is a core competency for working (and driving change) in the WASH system.

Two of the sessions looked at the 'what next' of understanding and mapping the system—how to plan for and drive systemic change. Planning within complex systems requires a flexible and adaptive approach that is open and responsive to feedback and new information. One session focused on theories of change specifically as a core tool for driving change, leading participants to embrace theory of change as an entire process and way of working, rather than a singular output that is produced at the beginning of a process or intervention. The second session revisited concepts about WASH-health sector integration and focused on strategies to motivate and institutionalise change at the WASH in health care facilities level. Participants were challenged to try to see and understand health care facilities through the eyes of medical professionals in order to better identify how different actors need to be brought on board for prioritising and improving WASH services.

Conclusion

The ambitions of the SDGs call for concerted efforts to enhance the competencies and capacities of all those involved in WASH systems promotion and implementation. This will enable WASH stakeholders understand the systems approach and view the system as a whole; reflect and discuss issues together; find different ways of working; co-create knowledge; develop a shared vision; and take a forward-looking perspective .

The five capacity building sessions brought together over 114 participants with an average of 22 participants per session, demonstrating the interest and enthusiasm in capacity building. Still, these sessions overall did not draw in the same crowds as some of the more technical thematic sessions like those dedicated to finance or operation and maintenance models. The workshop format of these sessions meant they were designed to accommodate smaller numbers, and feedback and responses suggest that those who participated found them extremely useful. But given the magnitude of the WASH challenge and the human resource gaps at multiple levels, does the sector need to increase the attention that it gives to building core competencies? And given that capacity building seems best done in small group work and through participatory sessions, how can we take the lessons learned during these sessions in the symposium and bring these tools to scale? For now, the documentation and resources produced for and shared at All systems go! will provide a start.

Catarina de Albuquerque, CEO, SWA

Part 2: detailed summary of all sessions

Plenary sessions:

Opening plenary: setting the scene and exploring WASH systems change

The opening plenary session on Tuesday 12 March was welcomed by a full house of nearly 400 people. Event host Ikenna Azuike and co-host Patrick Moriarty warmed up the audience with ice-breakers then introduced a series of speakers. Reina Buijs, Director General for International Cooperation at Ministry of Foreign Affairs (DGIS) offered a positive introduction including strong commitment to systems approaches and the importance of sustainability and financing. This message was reinforced by Robert Bos, Chair of IRC's Supervisory Board, who reflected on IRC's 50th Anniversary while calling for the need to look towards and beyond 2030. The two keynote speakers, Patrick Moriarty and Barbara Schreiner, then introduced some common language and words of wisdom for driving systems change in WASH.

Learning to dance with the system - and not stand on anyone's toes

Patrick Moriarty, CEO IRC

Patrick Moriarty set out the broad framework for the event, emphasising that the challenge in WASH is no longer theoretical but practical – how to build effective systems. He emphasised the critical role of local government actors, focusing on WASH as a public service, and called on participants to become champions for overcoming systems blindness—that is the tendency to ignore parts of the systems that one cannot see. He urged participants to embrace adaptation and fluidity, calling on Donella Meadows' analogy of learning to 'dance with the system'. Building on IRC's 50 years of experience and his own personal journey, Patrick introduced the concept of collective action, whereby working with multi-constituent partners toward a common vision and goal is central to driving change. He appreciated the need to confront the challenges that come with collaborative work, suggesting we all need to be willing to work in ways that can be uncomfortable such as engaging with difficult stakeholders and moving into the political realm.

Event host Ikenna Azuike and IRC's Patrick Moriarty warming up the audience

Three framing points from Patrick Moriarty: 1) Be champions for overcoming systems blindness; 2) acknowledge the public nature of WASH and recognise the government has the leading role; 3) embrace collective action—all of us can drive change.

Corruption - the shadow system

Barbara Schreiner, Executive Director, Water Integrity Network (WIN)

Barbara Schreiner giving the key note speech on 'the shadow system'

Barbara Schreiner built on Patrick's speech by introducing three additional concepts for systems change. She emphasised the need to start by mapping existing systems, however informal or corrupt, to avoid the trap of only looking for the system you want to find. "How the system gets defined will determine who is in or out, which has huge implications for exclusion and could cause you to miss the point entirely." But a key word of warning: Try to avoid paralysis by analysis! You've got to start somewhere so don't let the complexity consume you and become a barrier to action.

She then introduced a key concept from resilience theory, explaining that the crossing of tipping points is what makes systems transformation (also called systemic change) different from incremental change.

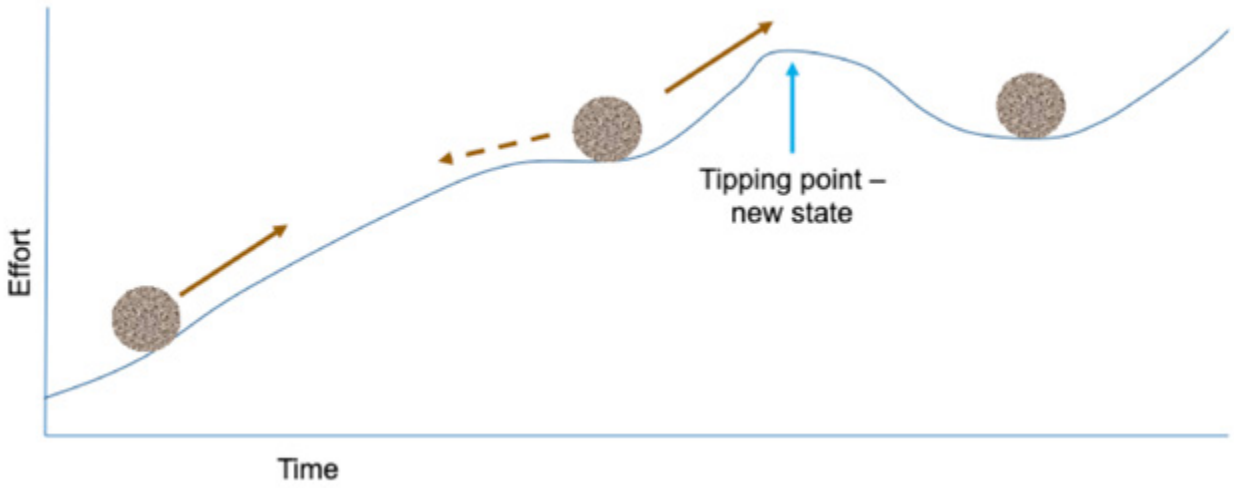


FIGURE 7: SYSTEMS CHANGE OR SYSTEMS TRANSFORMATION

SOURCE: IMAGE FROM BARBARA SCHREINER, WATER INTEGRITY NETWORK IN CORRUPTION: THE SHADOW SYSTEM

Barbara concluded with the critical topic of corruption—what she refers to as the 'shadow system'. WASH is embedded in the construction industry—one of the most corrupt in the world. We face an extreme resources shortage in this sector, so plugging financial leakages is a critical part of the solution and should not be considered as an add-on only. We should recognise that an enormous amount of thought and innovation goes into being corrupt, but that some evidence exists about how to temper corruption: through increasing diversity to break up group thinking, but we have more learning to do. Some people can dance with these systems better than others, however, who those people are and how to work with them looks like a key emerging theme.

WASH systems corruption is something we fundamentally need to address. It is the classic iceberg. Because of its nature a lot happens behind closed doors. It costs the system between 10% and 45% of direct finance in the sector.' – Barbara Schreiner

Go systems go! A gameshow full of surprises

Host Ikenna Azuike then invited thematic leads to compete in a WASH systems gameshow, designed by Elynn Walter of IRC. A series of different games were played and surprisingly, everyone was a winner! More information about the thematic leads and topics is found in the thematic section of these proceedings.

Game show participants

Day 2 morning plenary: learning from beyond WASH: a focus on health and education systems strengthening

Hosts Ikenna Azuike and Juste Nansi started the day by introducing the theme and asking participants to step back from their role as WASH "nerds" to consider broader public service systems. The two keynote speakers for the morning offered insights from two closely related sectors, education and health, and also spoke to cross-sector collaboration. Both speakers called on WASH sector professionals to focus on asking the right questions, and continuing to accept that there may be levels of complexity where you need to make compromises.

Peter Laugharn, Chief Executive Director, Conrad N. Hilton Foundation

Keynote speech

Ikenna Azuike and IRC's Juste Nansi, interviewing Peter Laugharn after his keynote speech

Peter Laugharn shared a compelling story of the transformation of the education and development sector up to the current age of SDGs where national governments are the ones driving the development agenda. The sector transformation – from cowboy to professional and government led-- echoed his own personal experiences in education working with Save the Children in Mali in the nineties up to his work today with the Conrad N. Hilton Foundation. To work within complexity, he emphasised the importance of diagnosing the needs first, mapping resources, and finding out where investments would be most supportive of existing initiatives or most useful in overcoming persistent obstacles. Secondly, he emphasized the need to iterate between bottom-up and top-down approaches, in order to respond to and develop inclusive solutions while also getting government leadership that is critical for sustainability and for implementing multi-scale complex programmes. His final point challenged WASH systems thinkers to consider how to create a virtuous cycle, in which we are stretched to think big, learn, and share ideas that work.

Health systems paradigm shift and what it means for WASH

Gilbert Buckle, public health physician and expert on health systems strengthening

Gilbert Buckle addressed the WASH-focused audience from his perspective as a medical professional and health systems expert. He called upon WASH professionals to keep the end goal of WASH in mind—improved human health—and to engage with health professionals as fellow travellers with a common objective. The health sector has made incredible progress in understanding that it takes an entire system to deliver a service, but there is still a long way to go. "The system is perfectly designed to deliver the results it gives," said Gilbert, emphasising the need to know what keeps problems in place before trying to solve them. If you want health professionals to increase emphasis on WASH, then you need to come to them with a value proposition that makes WASH attractive, as WASH itself does not offer a bottom line. "I have seen the WASH system – but you need to understand my system – to use my system to achieve what you want in your system."

Panellists George Padmore, Coordinating Director of the Asutifi North District Assembly, Dr Gilbert Buckle and IRC's Juste Nansi

Panel discussion

A group of panellists were invited to the stage for a discussion with Gilbert, Ikenna, and Juste. Panellists included George Padmore Mensah, Coordinating Director of the Asutifi North District Assembly; Dr Bruce Gordon, Coordinator of WASH, WHO; Meera Mehta, Professor at the Centre for Environmental Planning and Technology, India. Cross-cutting themes were on the importance of understanding the multiplicity of systems that exist and the need to develop mutually intelligible cross sectorial dialogue and measurement approaches. Further, maintaining ambition and urgency is crucial, for example dramatic and immediate improvement in hygiene behaviour was achieved in the wake of the recent Ebola outbreaks, change that was previously not possible within a long term systems approach. WASH professionals must remember that lives are at stake to motivate SDG ambition and jump start progress on a systems change agenda.

Day 3 morning plenary: making it real

This plenary session touched on some of the most personal questions surrounding systems change – can we (and do we perhaps have to) change as individuals in order to be effective in the agenda of systems change? What about our mind set? Hosts Ikenna Azuike and Vida Duti introduced keynote speaker Katie Boswell followed by a panel discussion featuring a bilateral, multilateral, and national government to reflect on Boswell's statements in a discussion about the elephant in the systems change room—finance.

Thinking big: mind set trumps method in systems change

Katie Boswell, Deputy Head of Funders, Think NPC

Katie made a deep dive into the theme of the day—making systems change real—focusing on the importance of mind set. While many methods are possible, she implored that effective analysis of systems is important to see the deep structural forces at work, which can be done by starting by looking at proximate causes then moving out to understand the deeper and more fundamental issues. She offered five rules of thumb based on the work of Donella Meadows and her own experience in the homelessness sector in the UK, which might help to overcome the 'paralysis by analysis' cautioned by Barbara Schreiner on the first day. These rules of thumb focus on the need to understand context, know yourself, think systemically, learn and adapt and lastly embrace the personal nature of change. She concluded with a quote from Meadows, "[Systems change] requires our full humanity—our rationality …our intuition, our compassion, our vision, and our morality." More about Katie Boswell's rules of thumb for systems change can be found in her report Thinking Big with the Lankelly Chase Foundation.

Panel discussion: how to get our politics right and finance the change

Boswell was invited to join a panel discussion with Joel Kolker, World Bank; Regina Rossman, German Corporation for International Cooperation GmbH (GIZ) and Engineer Joseph Eyatu, Ministry of Water and Environment, Uganda. The discussion focused on the critical role of financing, in new and different ways, to support a systems agenda. It also asked panellists to comment on whether they saw a readiness in the sector to address some of the more radical and self-reflective implications of systems change as presented by Boswell. Linking back to previous plenary topics and an earlier appeal from CSO representative, one participant asked the room if the sector is ready to engage with organisations focusing on more radical, deep structural issues. "Are we willing to embrace more subjective understandings of systems (from CSOs and community members) to compliment objective understandings?" If not, cautioned the audience member, we might be condemned to "play at the margins".

Eng. Joseph Eyatu, Ministry of Water and Environment, Uganda; Regina Rossman, GIZ; Joel Kolker, World Bank; and Katie Boswell, Think NPC.

The panellists continued into a discussion with the audience about the tension between what donors and NGOs look for in a systems agenda, and the pressure on national politicians to look for short term (immediate) solutions. Engineer Eyatu countered the prevailing view that politicians only look at the short term and suggested that voters are able to put pressure on their representatives in a legitimate way. Still, there are only two sources of finance, said Mr Kolker, public or private—and neither is huge. A systems agenda needs to support utilities to become credit-worthy and to increase transparency in the sector overall to encourage investment.

Closing plenary: moving together toward a shared systems agenda

This closing session, hosted by Ikenna Azuike and Vida Duti, featured a range of different perspectives on how to ensure we move and maintain action toward the shared vision of the sector. The first half of the session was convened by Sanitation and Water for All (SWA) and featured speakers from all five constituencies of the collaboration; the second half of the plenary delivered insights emerging from the thematic sessions of the Symposium.

Partnerships, politics of collaboration: how to get it right?

Representing the Government constituency: Honourable Cecilia Abena Dapaah, Minister of Sanitation and Water Resources, Ghana
Representing civil society: Nathalie Seguin, FanMEX, Mexico
Representing private sector: Cliff Nyanga, Fundi Fix Kenya
Representing donors: Lukas Kwezi, DFID Tanzania
Representing research and learning: Sovatta Dah, WaterSHED Cambodia

The Minister had spent most of the three days actively involved at the Symposium and had many optimistic reflections to offer about the roadmap and tools available to support the ambition of the sector. She committed to the importance of using funds judiciously and holding others and ourselves to account and emphasised the importance of continued collaboration in order to deliver SDG targets in just 11 years.

Each of the following constituent representatives offered speedy answers to questions fired by Vida and Ikenna on the role of collaboration and of the different stakeholder groups. One theme across the constituencies was the need to understand and view government differently; to focus on finding frameworks for partnership and identifying systematic ways to ensure consultation and increase the availability of jointly validated information for decision making and planning. Critical to this is the ability to package knowledge and information in different ways for different audiences.

Angela Huston, symposium content director presenting the key lessons of the symposium

Representing SWA: Catarina de Albuquerque, Chief Executive Officer, Sanitation and Water for All

Ms. Albuquerque offered concluding remarks based on her extensive experience in leading sector collaboration to improve outcomes. "Being challenged is what enables us to grow," she said, calling on participants to question the status quo and confront difficult issues. It is important to first understand our own needs and drivers, then those of others. From there, we can hold the uncomfortable but frank discussions that lead to changes in the way we work and improve our collective ability to respond to the challenge ahead.

The final speech of the event was a synthesis from the overall thematic programme made by All systems go! content coordinator Angela Huston (IRC). These remarks have been written up along with the Executive Summary.

Hon. Cecilia Abena Dapaah, Minister of Sanitation and Water Resources, Ghana

General programme sessions:

GP1: reforming our way to sustainable WASH systems

Convener: IRC
Experts: Bethlehem Mengistu, Country Director, WaterAid Ethiopia
Dr David Zetland, Leiden University
Eng. Joseph Oriono Eyatu, Commissioner Rural Water Supply and Sanitation, Ministry of Water and Environment, Uganda
Contributing authors: John Butterworth, IRC Ethiopia, Laura Brunson, MWA, Tamene Chaka, Ethiopia WASH Alliance, Jane Nabunnya, IRC Uganda
Moderator: René van Lieshout, IRC

This session described the drivers for change in drinking water service delivery approaches in Ethiopia, Uganda and the Netherlands. It used an economic lens to examine reforms and the history of water system development in the Netherlands, then identified relevant lessons for countries at earlier stages of developing public WASH services. Learnings from sector reforms in the Netherlands can support the thinking about reforming WASH sectors in Uganda and Ethiopia - including financial, institutional, and behavioural aspects. This means finding a balance between policies that support the development of a mature self-sustaining sector that is also able to provide services for all.

Bethlehem Mengistu, Country Director for WaterAid Ethiopia presented a paper about sector change in Ethiopia; she examined the triggers for NGOs and local government to shift from a focus on hardware delivery alone toward a systems approach. The Ethiopian sector has evolved from a set of random, project-based interventions into a single integrated WASH programme - One WASH National Program (OWNP) - with a focus on sustainability. In the context of decentralised federalism, WaterAid and other NGOs like MWA and IRC are focusing on the district level as a key entry point to drive progress and work toward scaling success.

Engineer Joseph Eyatu Oriono, Commissioner for Rural Water Supply at the Ministry for Water and Energy, Uganda presented his paper on sector evolution through institutional changes, mandates, reforms, and changing service models in Uganda. Decentralisation, privatisation, and a bottom-up sector wide approach has achieved significant improvements despite persistent challenges. There is still potential for further reforms and changes to address some of these challenges.

David Zetland of Leiden University, Netherlands, reflected on the Ethiopia and Uganda experiences by noting the movement toward decentralised, bottom-up approaches that embrace a market of different actors with different roles. He presented an economic framework for managing of markets and goods, and offered three main lenses for interpreting change: behavioural (Ethiopia), institutional (Uganda) and economic (Netherlands). He told the story of "water civilisation" in the Netherlands, that took 140 years and lasted until the 1970s. It was not planned but followed a pattern of problem identification-solution-new problem. The approach has led the Netherlands to a high performing water sector with nearly 100% safe water services.

Given the financial constraints in Uganda and Ethiopia, one key lesson from the Netherlands case is around finding ways to develop economies of scale despite the significant efforts on decentralisation-- which the Netherlands achieved by merging and corporatising small water providers.

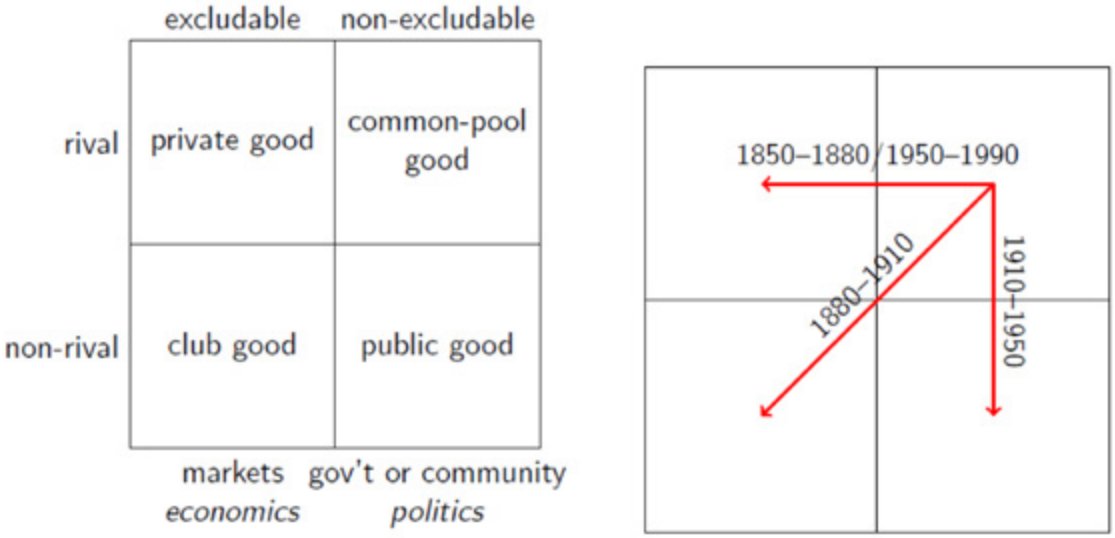


FIGURE 8: ECONOMIC MODEL FOR PUBLIC GOODS

SOURCE: ZETLAND AND COLENBRANDER, 2018. AVAILABLE: HTTP://WWW.KYSQ.ORG/PUBS/NL-DWCS.PDF.

Policies (with regulation) need to manage the balance between water as a right and water as a social good to prevent those who need it from paying more than those who can afford it or have it already. Generally, the cost of supply in rural, poor areas is higher than that in areas where water is available. Political leaders and water providers need to accept the need for complex tariff and tax schemes for different models, and be able to provide subsidies that support rural people.

"Sustainable means that it is available and affordable for everyone" - Joseph Oriono Eyatu, Ministry of Water and Environment, Uganda

GP2: understanding local needs and unlocking latent capacity

Convener: IRC
Experts: Pam Furniss, Open University
Nitya Jacob; IRC India Associate
Sophy Ny, Watershed
Tereza Nega, Muhammed Musa and Mike Morris, IRC Ethiopia
A.J. James, Independent Consultant
Moderator: Ruchika Shiva, IRC; Ingeborg Krukkert, IRC

Many government institutions have capacity gaps that will deter the delivery of sustainable water and sanitation services to communities. Is it possible for governments to achieve SDG 6 with inadequate staffing, knowledge and skills? A new way of working is needed to achieve the SDG targets for water and sanitation on time. While the scope of work has changed, education often has not. This session was borne out of the IWA report, "An Avoidable Crisis: WASH Human Resource Capacity Gaps in 15 Developing Economies." This found many countries lack significant numbers of water and sanitation professionals, along with the necessary knowledge, diverse experience and specialist skills needed to design, construct, operate and maintain water and sanitation services to meet the SDG targets.

The session was designed to explore capacity issues and learn from and discuss initiatives and solutions from different countries and contexts:

1. Education and training in sustainable WASH systems – Pam Furniss (PM), Open University. Dr Furniss presented her Symposium paper and explained how distance learning can enable out-of-the-box dynamic thinking; it can help to achieve scale and deliver high quality tailored education with local experts at the community level.
2. WASH Capacity Building Assessment in India: Analysis at different government levels - Nitya Jacob, IRC India Associate. The study found that there are often functional overlaps between bureaucrats, technocrats and elected representatives. There is broad understanding of WASH system by bureaucrats and a more focused understanding by the technocrats – although the technocrats have less flexibility to apply their knowledge. Overall, at lower administrative levels there is more responsibility and possibility to act on WASH systems knowledge but less resources to do so.
3. Innovations to address leadership capacity gaps within core government institutions on the frontlines of rural WASH service delivery – Sovattha Neou, Watershed Asia. The early motivation for the programme was to 'find a way to 'clone' talented commune counsellors' because transformational leaders appeared to be the biggest driver of sustainable water, sanitation, and hygiene. The result? A self-pay training where leaders plan and commit to targets for learning and improvement.
4. Challenges of Facilitating Local Ownership of WASH Systems Strengthening - Tereza Nega, Muhammed Musa and Mike Morris, IRC Ethiopia. Learning alliances are established in Ethiopia to encourage systems change. These participatory platforms include local government actors accountable for different levels of administration, development partners, academic institutions, and more. A learning alliance aims to improve understanding and collective action by facilitating social learning and combining it with structured training events and activities.
5. Change management in four contexts and results from the Quantified Participatory Assessment (QPA) evaluation, A.J. James, Independent Consultant. The question was asked by a senior government engineer of the Indian government: "Why can't the government work as well as the NGOs?" This motivated a change management training workshop based on confronting government staff with (negative) public perceptions about their work, and inspiring individuals to support the transformation of institutional performance. Dr James presented a methodology for assessing such improvements, QPA, that shows promise for evaluating longer term impact from capacity building.

All approaches shared the fundamental understanding that building capacity is about more than just training and education and needs to be continuous and ongoing.

A key challenge is staff turnover. Presenters discussed the need to design with this in mind; one suggestion was to continue offering training opportunities to foster retention. Presenters also agreed on the need to develop new and improved ways to measure results to incentivise investments in sector capacity.

"Doctors used to not be taught about bedside manner, but now they are. Similarly, engineers need to understand that effective communication with local communities is essential." - Pam Furniss, Open University

GP3: district-wide approaches: what is a district WASH plan and how do we get there?

Conveners: Millennium Water Alliance (MWA) / Agenda for Change

Experts: Ethiopia – Tedla Mulatu, MWA

Ghana – Vida Duti, IRC; George Padmore Mensah, District Coordinating Director from Asutifi North; Benjamin Agbemor, IRC Ghana

Uganda – Cate Nimanya, Nick Burn, WFP

Rwanda – Perpetue Kamuyumbu, WFP; Mulindwa Prosper Rulindo, District Vice-Mayor in charge of Economic Development; Maurice Kwizera, WaterAid

Nepal – Surendra Gautam, Welthungerhilfe; Will Tillett, Aguaconsult

Burkina Faso – Richard Bassono, IRC; Aboubakar Hema, Mayor of Banfora municipality, Burkina Faso

Moderators: Julia Boulenouar, Aguaconsult and Laura Brunson, MWA

Julia Boulenouar facilitating the session on district WASH plans

This session focused on the process and results of developing a district-wide plan on how to achieve universal and sustainable services. Participants from six countries[2] presented how they have developed long-term WASH masterplans - as both a process for systems strengthening and as an output that is a plan ready for financing and implementation.

The plans were developed at district level (commune in Burkina Faso or woreda in Ethiopia) with district political leadership. They follow a unique process based on getting a wide range of stakeholders to agree on an ambitious vision of universal WASH services by 2030 then work to chart a way to get there that can be used to solicit financial and political support. Several presenters emphasised the participatory nature of the process to develop a shared vision and generate commitment from different actors.

Masterplans differed from conventional or status quo planning procedures in that they are more comprehensive, more inclusive, and are based on departing from the status quo way of working by compelling stakeholders to understand the stakes for reaching universal coverage then to chart a way forward. Plans have been used as platforms for discussion, as well as to leverage funding and support, and have brought high level ministers to recognise and commit to supporting the ambitions of district leadership.

2 Burkina Faso, Ethiopia, Ghana, Nepal, Uganda, Rwanda.

"Masterplans include the community's responsibility. The community has their part as the government has its part". - Mr George Padmore Mensah, co-ordinating director Asutifi North Assembly

A collaborative approach is particularly critical for financing the plans. If citizens are not mobilised, government and donor money is not enough for implementation. A detailed costing alongside mapping of existing and potential funding streams is a critical part of it; documentation and transparency are essential to build trust for financial investments and to maintain support from all the involved parties.

"Regional government is watching us very closely to see the results of the master plan for potential replication." – Tedla Mulatu, MWA, Ethiopia

A cross-cutting feature from the presentations was the importance of a strong and diverse partnership built on mutual accountability and trust. While many different tools and approaches were tested, the "non-technical" and perhaps intangible elements, such as leadership and political will, were seen as essential for success. Not only are the masterplans innovative tools used by the districts, but a mind-set of systems change is essential to own and implement the plans. Documentation and sharing the experience at different levels are also critical if the plans are to be scaled up.

GP4: embracing complexity: thinking in systems and what it means for WASH

Convener: Sustainable WASH Systems Learning Partnership
Experts: Bethlehem Mengistu – Country Director, WaterAid Ethiopia
Richard Rwabuhinga – District Chairperson, Kabarole District, Uganda
Martin Watsisi – Regional WASH Advisor, IRC Uganda
Sovattha Neou - Director, WaterSHED Cambodia
Moderators: Nick Valcourt, University of Colorado Boulder and Jeff Walters, George Fox University

Sustaining WASH services requires a complex interplay between factors and actors, but how can we make sense of all this complexity? What does it mean to say that a system is complex? We explored these issues by introducing basic concepts and key terminology of complex systems based on insights from the Valcourt et al Symposium paper Understanding Complexity in WASH Systems. A panel of WASH experts illustrated these concepts by sharing their experiences dealing with complex problems in Ethiopia, Uganda and Cambodia.

The session's goal was to help participants improve their understanding of concepts of complexity and systems-thinking so they can recognise and respond appropriately in their own work. It introduced the Cynefin framework[3] for classifying different types of systems, highlighting the difference between a complicated and complex system. The panel discussion highlighted how WASH systems on the whole are complex (always changing), even if some subcomponents may appear to be merely complicated.

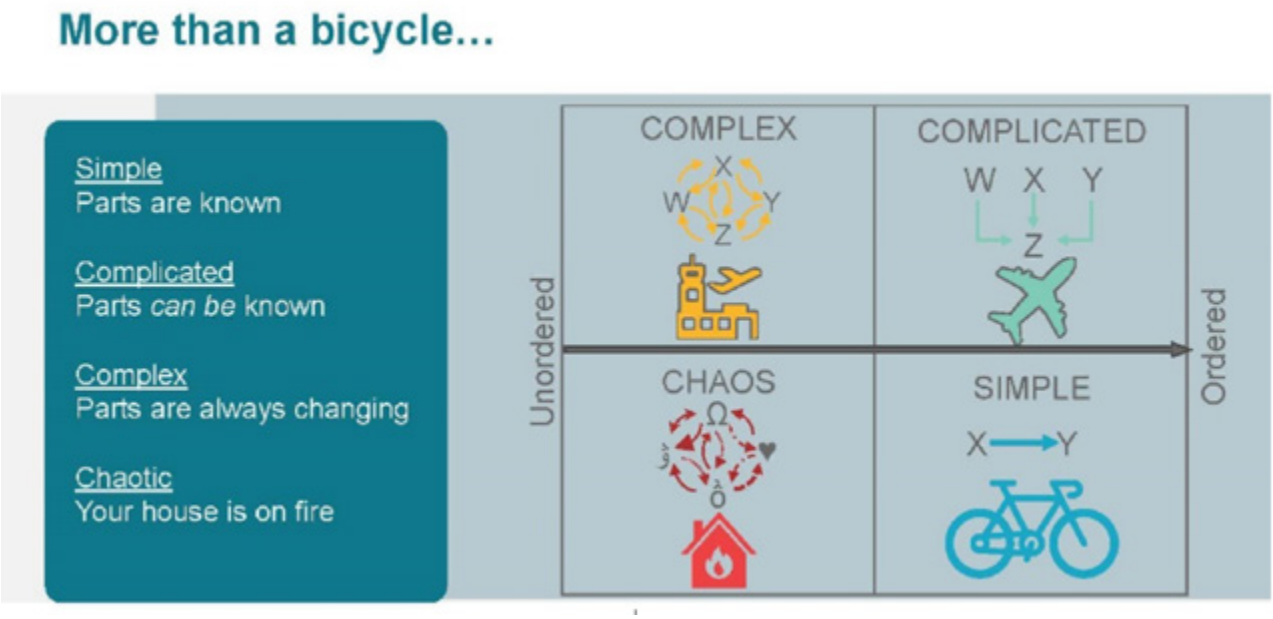


FIGURE 9: WALTERS AND VALCOURT EXPLAIN THE CYNEFIN FRAMEWORK

Bethlehem Mengistu, WaterAid Ethiopia; Richard Rwabuhinga, District Chairperson, Kabarole District, Uganda; Martin Watsisi, IRC Uganda and Sovattha Neou, WaterSHED Cambodia

3 Snowden, D., 2000. Cynefin: a sense of time and space, the social ecology of knowledge management

Key takeaways from the session:

Understanding WASH systems

Complex systems are context-specific collections of factors and actors that grow out of simple interactions to create dynamic, and often unpredictable, behaviour. WASH actors encounter this complexity in their daily lives but we may not always frame it this way. Viewing these issues through a complex systems lens and using a common vocabulary can help make this complexity more evident, and thus more manageable.

There is no one understanding of what a (WASH) system is. We each have our own mental model, as illustrated through the audience's drawings of each complex system. Yet, those who interact with the system usually have more intimate mental models of local systems. Thus, engaging local stakeholders in discussions of factors, actors and interactions is key to 'getting the heartbeat of the system.'

Engaging with complex systems

It is also important to remember that no one tool or model is best-suited to understanding the complexity of WASH systems. Each system requires an approach that is fit for purpose. The key thing is to share your perspective of the system (mental model) with others who work within the same system.

The session also highlighted how it is intuitively easier to identify the factors (e.g. building blocks) and actors (e.g. network) than the interactions between them. But it is these interactions that make the system 'complex'.

When you have a clear sense of purpose it is easier to understand the system. Identifying what outcomes you want to see the system producing, and understanding the root causes of these outcomes, will help stakeholders focus their energy on the key parts of the system they seek to strengthen.

FIGURE 10: THE 'RIGHT' TOOL

SOURCE: SLIDE FROM WALTERS AND VALCOURT

GP5: health systems: what we can learn, why we must strengthen them and how we can work with them

Conveners: WHO, UNICEF, WaterAid
Experts: Arabella Haytera, WHO
Dr Gilbert Buckle, Public Health Physician, Ghana
George Padmore Mensah, Asutifi North District Assembly, Ghana
Moderator: Clare Battle, WaterAid

Clare Battle of WaterAid facilitating a panel discussion on health systems

We focused here on learning from the history of health systems strengthening approaches, to help participants work more effectively at the intersection of health/WASH, particularly in health care facilities. Health systems share many commonalities with WASH in terms of their complexities and governance, and the diverse set of actors involved - ranging from high level politicians to individuals in households.

The session built on concepts introduced by Dr Gilbert Buckle in the morning plenary of Day 2 and provided more background on the WHO building blocks for strong health systems and how they can be implemented at different levels. Echoing sentiments from Dr Buckle, participants called for the need to improve collaboration and coordination between the sectors, once the two sectors can listen and understand each other's ways of working.

"I want to hear that the WASH system is integrated into mine, not that my system is integrated into WASH." - Gilbert Buckle, Public Health Clinician, Ghana

Framing and pitching the integration of WASH into health systems is important to ensure that it is feasible and not intimidating or alienating for health care professionals.

"It might be the surgeons that get all the glory, but we need to make the job of environmental health officers more glamorous." - Arabella Hayter, WASH Consultant for the WHO

The global vision for health care facilities is that every health facility has the necessary WASH services and practices to provide essential, quality health services for everyone, everywhere. At least 50% of all health facilities globally in each SDG region are targeted to have basic WASH services by 2022. Integration of WASH systems into health facilities is necessary to promote better health outcomes for patients and health care workers. Reaching these targets requires systems-level changes including increases in budget and human resources; shaping social norms and developing leadership/political will; improving accountability and supply chains.

The WHO and UNICEF WASH FIT (Facility Improvement Tool - https://washfit.org/#/) is designed to support risk-based management of WASH in health care facilities using improved monitoring and information management. The WASH FIT methodology calls for concrete steps to reduce WASH-related complications in health care facilities:

- Assemble and train a WASH FIT team
- Conduct an assessment of the facility
- Undertake hazard and risk assessment
- Develop and implement improvement plan
- Continuously evaluate and improve the plan.

While originally envisioned as a session to demonstrate lessons from the health sector as relevant for WASH, much of the discussion focused on finding ways to better integrate WASH into health systems and particularly to focus on improving WASH in healthcare facilities.

GP6: how to ensure systems leave no one behind?

Conveners: WaterAid / SDG Consortium / WASH United
Experts: WASH SDG Consortium: Sara Ahrari, WAI; Mascha Singeling, Plan International Netherlands; Sharon Roose, SNV
WaterAid: Hannah Crichton-Smith, WaterAid UK; Bethlehem Mengistu, WaterAid Ethiopia; Thavin So, WaterAid Cambodia
Making Rights Real Consortium: Sara Ahrari, Simavi
Moderators: Hannah Crichton-Smith and Eva Duarte Davidson

Achieving inclusive, sustainable WASH access requires a shift in mind-set for all WASH actors. The same is true for the integration of gender and social inclusion throughout the system. Stakeholders must understand their different roles and responsibilities for the realisation of everyone's rights to water and sanitation and act accordingly. This session focused on approaches to empowering local governments to integrate rights-thinking into their everyday work, focusing on how gender and social inclusion can be integrated into broader WASH systems change initiatives.

Three tools were discussed:

1. Gender and social inclusion (GESI) assessments: Experiences from 15 countries showed how a GESI assessment during the inception phase can be repeated during midline and endline to monitor change and incentivise positive improvement.
2. Gender transformation framework methodology: This uses and analyses focus group discussions with women throughout implementation to benchmark progress on inclusion.
3. Making rights real methodology: This works closely with government agents to assess and define programmes and understand different 'personas' and how they can support or hinder implementation of human rights principles.

Experiences of using the different tools demonstrated the need to address gender and social inclusion at every level from national level policy arrangements, to district level implementation, service provider, and individual. It is not something to be considered an 'add-on'; changing mind sets and behaviours needs to be integrated into all building blocks of any programme, and requires consistent investment. Every type of inclusion has a cost—it is important to quantify and report back this information to the duty bearers, providing data to encourage government to improve.

"If you think education is expensive, try ignorance" – Tim Hayward WSUP

The importance of understanding the costs of expanding WASH services to reach the last mile in a district was a key discussion point. While tools exist and some estimates can be made, how can efforts be scaled up to national programmes, and what will the monitoring and regulation of this cost be? No one party can do this, so we also need to invest in building service provider capacity to deliver equitable services. Apart from looking at the supply side, participants emphasised the need to include excluded groups in designing and developing programmes. "There is nothing about us, without us," said Thavin So, WaterAid Cambodia. Her colleague Bethlehem Mengistu from Ethiopia added, "When the narrative is forgotten, it is undermined."

GP7: blunders, bloopers and foul ups: a WASH game show: introducing the Nakuru Accord

Conveners: University of Leeds and FSM Fail
Contestants: Meera Mehta;
Patrick Moriarty;
Pippa Scott;
Sovattha Neou;
Arjen Naafs;
Paul Hutchings
Moderator s/ hosts: Dr Dani Barrington; Susan Davis and Gheed Abdul Jabbar

Shit happens, but it doesn't have to! Through an animated video and interactive game show this session encouraged sharing experiences and recognising that things do go wrong in WASH, sometimes at the expense of communities, often at the expense of donors. We can learn from our own mistakes and improve the way we operate.

The session was the second iteration of the first-ever WASH failures gameshow at the Water Engineering and Development Centre Conference hosted by Loughborough University in Kenya in 2018. Participants wrote and signed the Nakuru Accord: Failing better in the WASH sector, with 10 principles, which has since been disseminated and improved. It is part of a growing grassroots effort, launched officially on World Toilet Day 2018, to nurture a culture of sharing.

Project failures either cost money or have more harmful impacts, like villagers ostracised through SanMark campaigns, or even death through poor design and construction. The session started with a short video clip that demonstrated how poor communication of project goals (presenting in an unclear, ambiguous way), apathy and lack of complete accountability supports ignorance and misinformation. Failure is not only defined by whether the project was completed or not, explained Dr Barrington, we need to look at the bigger picture to redefine what qualifies as a success.

The objective of the game show segment was to nurture a culture of sharing when things go wrong, and to accelerate sector progress by enhancing learning and sharing. The game asked contestants to determine whether each failure presented was real or fake, and to share their own experiences. Many stories emerged: one contestant spoke of importing a new technology into an area with no uptake because it was not possible to train people to use it; another talked about children and adults being ostracised or even arrested for participating in or adhering to project-driven activities. Common experiences were around failing to account for all aspects of the context (e.g. neglecting to consider lack of availability of water); poor design or implementation leading to improper product usage; and not taking into account or understanding the regulatory framework and government position on specific issues.

Dr Dani Barrington hosting the game show, blunders, bloopers and foul ups

After an introduction about the costs of failure by Dr Barrington, co-host Susan Davis presented some ideas for predicting and mitigating failure. A pre-mortem is an alternative type of risk-assessment that is best used to support a flexible planning cycle. Her pre-mortem has seven steps: select a project, get the right people and evidence in the room (i.e. national representation), set the frame of mind, set the stage, brainstorm doom, prioritise problems, and co-create solutions.

What else can be done to avoid blunders and improve sharing of failures? Commit and join the conversation (@FSM_Fail)! Participants were urged to sign the Nakuru Accord, a call for WASH professionals to publicly commit to sharing their failures and learning from one another. You can read here and commit yourself to the 10 principles of the Nakuru Accord.

GP8: systems transformation around the world: stories of change from Amsterdam to Accra

Conveners: IRC, Wattopia, GWC and DRIFT
Experts: Tessa de Geus, DRIFT
John Duti, GIZ
Marten Witkamp, Wattopia
Felix Knipschild, Wattopia / WASHNote
Nick Dickinson, WASHNote
Brian Banks, Global Water Challenge
Moderator: Erma Uytewaal

This session got to the heart of one of the All systems go! objectives: to learn from systems change processes in sectors outside of WASH. It brought together experts working on or having achieved transformative change in complex adaptive systems like energy and housing reform, and sought to harvest lessons relevant to WASH. It placed specific emphasis on two key conditions necessary for systems change: 1) shaping long-term multi-stakeholder collaboration and 2) building knowledge development and learning into sector systems.

Marten Witkamp from Wattopia shared the experience of transforming the energy system (reducing consumption) in the Dutch housing sector. A key barrier to making homes more energy efficient is the low cost of natural gas to heat them; Wattopia aims for systems change by identifying how legislative decisions (the current energy bill) can be leveraged to make energy-efficiency free and overcome the barriers.

Brian Banks of the Global Water Challenge called for WASH to follow the example of private sector (e.g. insurance), health (precision medicines), agriculture, and others who use machine learning to become more efficient and targeted. In WASH this is feasible given the access to and increasingly widespread use of mobile-phone based data collection and refined platforms for hosting it such as water point data exchange (WPDX). Context matters but data analytics have high potential to predict water failure and help prioritise rehabilitation and maintenance needs.

Tessa de Geus from DRIFT talked about a programme aiming to engage Amsterdam's citizens in innovating and building citizen capacity for systems change through financial support to social innovators. Many interesting ideas emerged but Tessa emphasised the difficulty of scaling social innovation pilot projects. She warned of getting stuck in a Beta phase where nothing gets adopted or sustained. As Jan-Willem Rosenboom noted in the context of WASH: pilots never fail and never scale. They are propped up for success with little to no accountability.

John Duti of GIZ discussed a job creation programme in Ghana aiming to develop policies that mitigate conflicting interests - seeking to support the private sector in meeting both commercial and development goals. To meaningfully engage the private sector to contribute to development goals, the value proposition needs to be well defined, with supply chains and interests for all parties well understood.

The session was much appreciated as a rare opportunity for cross-sectoral learning on systems. However, is was noted that a more nuanced understanding of the different sectors is needed to activate a deeper level of learning exchange.

GP9: integrating WASH and nutrition for stunting reduction: from system collision to sector cohesion

Conveners: Max Foundation and Hillaria International
Experts: Christopher McGahey, Hillaria International
Suzan Van der Wilt, Max Foundation
Arabella Hayter, WHO (moderator)
Table hosts: Plan International Nederland
German WASH Network
Max Foundation

WASH is a means to an end for healthy development within society. Should WASH be integrated with nutrition for better results or can they work well separately?

Research has shown that unsafe water, sanitation and hygiene practices may have a more significant impact on chronic undernutrition than previously recognised; this session discussed the challenges and opportunities for integrating WASH and nutrition interventions.

Prior to the participatory discussions, presenters shared examples of integrated progammes: the Max Healthy Village concept in Bangladesh, and a Millennium Challenge Corporation–supported programme to improve community sanitation and household nutrition practices run by Hillaria International in Indonesia. The remainder of the session broke into small groups.

Should everything be integrated in a systems approach? Arabella Hayter (WHO) spoke of the value and opportunities presented by joint programming but did not prescribe blanket integration of programmes without careful consideration of compatibility. Government buy-in for integration is critical; often the entry point should be the government deciding to combine WASH and nutrition efforts. Government institutions should be at the centre of public health interventions, so their vision for the sector will determine what can be done. Experience suggests, however, that government decisions may be taken without full consideration of their impact at the local level. This means external partners who work at both levels can experience what Chris McGahey calls 'systems collision' within communities. They can use their experience to provide evidence and inputs into government decisions about how a programme will be implemented.

One tip for making Nutrition and WASH more synergistic is to keep an emphasis on results— what is it that the group of activities is trying to achieve? A results focus helps to maintain an open and learning-oriented perspective and identify natural opportunities for collaboration and coordination. No single activity should become the goal, but rather the health impact should be at the forefront when planning.

Since WASH service delivery involves a complex and loosely grouped set of actors and functions, the designation of a 'WASH sector' can be an artificial boundary (in most cases there is no single WASH ministry or service delivery system). Barbara Schreiner and Gilbert Buckle advise mapping and understanding existing systems, however imperfect they might be. Some participants noted that decision-makers in both donor agencies and governments are often disconnected from how activities are implemented on the ground, making it difficult for them to understand how programmes will intersect and affect people at the community level. Bringing them to the field more often to see what the challenges and needs are can help them see how their activities can better support and be built into existing systems. Implementation is always imperfect, but there needs to be flexibility to learn and adapt during implementation with an outcomes-based mind set, rather than getting fixated on specific activities and early plans.

GP10: getting the politics right to ensure ongoing WASH systems delivery

Conveners: Water For People and WaterAid
Experts: Stuart Kempster, Policy Analyst – Monitoring and Accountability, WaterAid
Kate Harawa, Country Director Malawi, Water For People
Viju James, Independant consultant
Moderator: Kimberly Lemme, Water For People

The political economy has an extraordinary influence on the WASH system and understanding key concepts of political economy is central to transformative change. Here 'political economy' refers not only to national economics and party politics, but it encompasses a broader meaning encompassing political will and leadership, power dynamics, societal norms and values, and the culture and incentives that drive behaviour of both formal and informal institutions. The session highlighted the need to systematically analyse and engage with the political economy to make sure project outcomes are sustainable, and provided examples of how and when to engage with politicians.

Tereza Nega, IRC Ethiopia and Andy Narracott, Finding Impact

Stuart Kempster, a Policy Analyst for WaterAid introduced a political economy analysis (PEA) toolkit that has been developed by WaterAid for the WASH sector. The toolkit helps to do a realistic analysis of the current situation and to identify pathways to change - at country or WASH sector levels, and for tactical, or everyday situations. The toolkit requires facilitation and an organisational commitment to embed results into existing processes; it is free for download at https://washmatters.wateraid.org/publications/political-economy-analysis-toolkit.

A. J. James presented his Symposium paper that identifies meaningful ways to engage with political actors, ranging from national to community level. He emphasised the importance of understanding how they work and what drives behaviour in order to identify appropriate pathways to influence and engage them. He emphasised the need to be personal, to identify a contact through which to approach them, and urged NGOs to develop a clear value proposition that can be fashioned into a concise pitch and concrete answers to politicians' queries.

Water For People Country Director Kate Harawa presented a case study from Blantyre, Malawi, and invited participants to test concepts from the political economy analysis toolkit, to evaluate the experiences she shared. To address the poor WASH services in this politically important unplanned city, Water For People (WFP) used a political economy analysis to develop their theory of change. Findings showed that key players were party governors, religious leaders, and officials from the local utility and authority. As a result WFP initiated a new approach by partnering with media and engaging consumer networks to combat malpractice while also holding meetings and developing a technical assistance type of relationship with politicians. Instead of finding political interference as a gridlock, the political economy analysis supported the development of a new strategy for change.

"We have to live with politics as WASH practitioners to change systems and how WASH services are delivered. A toolkit can help deal with the political economy in a more systematic manner". - Kate Harawa, Water For People

GP 11: beyond collaboration: learning from national and district-level collective action efforts in WASH

Conveners: Tetra Tech and Aguaconsult
Experts: Rishi Agarwal, FSG
Vida Duti, IRC
Lillian Nabasirye, SNV
Geoff Revel, WaterSHED
Laura Brunson, MWA
Elizabeth Jordan, USAID
Moderators: Jonathan Annis, Tetra; Harold Lockwood, Aguaconsult

A key objective of the Symposium was to learn about ways to achieve systems change— with an emphasis on how collaboration and alignment of diverse actors can support this. Collective action emerged as a focus, despite the fact that this was the only session dedicated to this topic. Participants discussed what conditions need to be in place to make collective action possible and progress. They began by establishing a working definition for 'collective action': a facilitated approach to strengthening coordination, trust and cooperation among a diverse set of stakeholders toward achieving a shared outcome.

The main difference between collective action and conventional collaborative approaches is the commitment of actors to a common agenda and to solving a specific social problem at scale. While it can take many different forms, according to the framework developed by FSG for collective impact, there are five specific conditions necessary to make this work:

1. common agenda
2. mutually reinforcing activities
3. backbone support (often called the Hub role by IRC)
4. shared measurement
5. continuous communications.

Panellists presented examples form the Cocoa Action effort, the work of MWA in Ethiopia, and of IRC Ghana over the past 10 years. All had recognised the framework of collective impact, however the actual action on the ground looked very different according to local needs and context. Geoff Revel of WaterSHED Cambodia highlighted the need to sometimes start with a small engaged group and wait for others to take an interest and join the movement over time. Vida Duti from IRC stressed that while IRC plays the backbone role, the entire process is structured around understanding and supporting government as the leader and key decision makers. She found that the continuous communication part has been especially critical to making this a reality: avoid establishing a parallel to government systems and make sure that partnerships are nurtured to become effective and worthwhile.

"What we leave behind is a strong government system that can take over. IRC Ghana is not a project. We have an office in Ghana. The process in Ghana has been supported by different projects over 10 years." - Vida Duti, IRC Ghana

Initiating and driving collective action is not easy: the way of working is often very unfamiliar, at first it can look like too many meetings with no action, and can be difficult to finance the valuable but often non-visible, time-consuming nature of partnership development. Despite all the challenges, is it worth it? "What we know for sure is that the current paradigm isn't working" said one panellist. Geoff Revel of WaterSHED Cambodia added that the only way to do it is to go all in, which can be risky yet "I remain completely committed and 100% convinced that collective action is what is needed."

GP12: the role of integrity and civil society in strong public service systems

Convener(s): WIN / FANMEX / Watershed
Experts: Erma Uytewaal, Watershed (IRC Associate)
Elynn Walter, IRC
Natalie Seguin, FANMEX
Teun Bastemeijer, WIN

"If you want to go fast, go alone. But if you want to go far, go together." - Kate Harawa, Water For People Malawi

Accountability is a necessary but often underappreciated part of strong systems. The session aim was to explore how CSOs can be part of increasing integrity/accountability for public services. CSOs can include faith-based organisations, local institutions, and many other networks and groups.

Through panel discussions and a round table with government, CSOs, private sector and other actors, this session investigated linkages between better water governance and integrity; citizen monitoring of government commitments; planning and access to information; and financing. But what is the role of CSOs?

CSOs can introduce innovations in spaces which government is not well suited to. They can also actively monitor and ensure an evidence-base is generated and used in policy discussions and decisions. While they may not have resources to plan and implement responses themselves, they can play a critical role in improving efficacy of government programme design and implementation. When CSOs are invited to participate in planning, they bring their experience and first-hand knowledge to make sure that the context is well understood.

"I think that civil society is really the closest to knowing the reality of the people... so their implementations and activities are much more able to meet the needs of the people." - Nathalie Seguin, FANMEX

The session referenced several examples of where people trying to build coalitions of stakeholders have struggled to sustain them, particularly where similar mechanisms had not existed previously. Governments are not always eager to give resources, space to operate, and access to information.

What makes a CSO effective? It is critical that CSOs avoid being taken over by government, politicians, or single-issue groups. Transparency and accountability are key – create a CSO structure that builds in interaction with government and international NGOs. CSOs have a responsibility to show international NGOs the reality of local peoples' lives, and to leverage resources together. CSOs can monitor and create an evidence-base for the government. It is important to find a balance between constructive and critical dialogue so that the relationships are sustainable and useful for all.

"Multi-stakeholder institutions may hold well for a while...then fizzle out. That really highlights the need to make sure [a CSO network] has the government actors from coordinating sectors involved." - Carolien van der Voorden, Water Supply & Sanitation Collaborative Council

GP13: sustainable WASH systems: a government-driven approach

Conveners: Millennium Water Alliance (MWA) / WASH Catalysts
Experts: Tedla Mulatu, MWA Ethiopia
Kenneth Owuocha, MWA Kenya
Yimer Habtie, Deputy Bureau Head of Irrigation and Energy, the Amhara National Regional State, Ethiopia
Anthony Mensah, Director at Ministry of Water, Ghana
Moderators: Laura Brunson, MWA; Keith Wright, MWA

For WASH systems thinkers, it is common to talk about 'supporting government leadership' or 'enhancing government leadership' - one of the four collaborative behaviours identified by Sanitation and Water for All (SWA) as essential for WASH sector efficacy. But how do different governments want to be supported, and how can this be done? Many NGOs who embrace this principle also struggle to find effective ways to engage, often citing challenges with tight timelines, budgets, or limits to government capacity.

In this session government partners from the Amhara National Regional State in Ethiopia and the Ministry of Water and Sanitation in Ghana shared their perspectives on their role as leaders of WASH initiatives and the role of NGOs, followed by sharing of techniques and lessons learned from NGOs in Ethiopia and Malawi.

Anthony Mensah, Chief Director of the Ministry of Sanitation and Water Resources in Ghana, worked for 20 years at local level before joining the Ministry. He noted that NGOs need to understand the different role and scope of government work at different levels. Nationally, the Ministry designs the framework for different actors, develops the long-term plans, and directs incoming partners into different roles. NGOs have the impression that government is slow and often wants to take over, while in fact we are in a long process of devolution of power. NGOs that are serious need patience to work with us, understand where we are coming from, and often they can be directed to offer useful support at local level where the mandate and perspective of government is more defined.

Yimer Habtie of the Bureau of Water, Irrigation and Energy for the Amhara National Regional State in Ethiopia also emphasised the government's role in plugging short-term NGO inputs into long-term government plans. NGOs play a key role in the One WASH National Program in Ethiopia and donors also play a significant role; but they must all recognise that their accountability needs to be to the national government; we also need to make sure to closely follow NGO activities.

Members of the Millennium Water Alliance (MWA) shared how they developed a 'hub' role during the Kenya Resilient Arid Land Partnership for Integrated Development (RAPID) programme from 2015-2010. Since government is there to stay, MWA sought to avoid creating a new NGO silo with the approach, and to instead identify supporting roles that they can play to enhance and guide the government's efforts.

WASH Catalysts Malawi shared experiences from the Tingathe Fellowship programme that created a peer learning platform aiming to raise the profile of district, and develop capacity for everyday activities that the district is already responsible for. As an NGO, "we need to move on government time and at government pace," and to avoid funding core costs that ultimately lead to NGOs taking over the government role.

Session conclusion? *"While there are differences in each country, putting government first is here to stay,"* said Keith Wright, MWA.

GP14: national initiatives to strengthen local WASH systems: experiences from Rwanda and Honduras

Conveners: Agenda for Change / Para Todos Por Siempre
Presenters: Martin Rivera, Coordinator, Para Todos Por Siempre, Honduras – The PTPS Platform
Engr. Marcelline Kayitesi, Water and Sanitation Division Manager, Ministry of Infrastructure, Rwanda – Piloting a District Wide Approach in Rwanda
Discussants: Engr. Joseph Eyatu, Commissioner of Rural Water Supply, Ministry of Water and Environment, Uganda
Vida Duti, Country Director IRC, Ghana
Moderator: Nick Burn, Water For People

Systems strengthening for WASH takes place at many levels-- however many NGOs in particular take a district or regional focus to maximise limited resources and to learn lessons that can eventually scale. A 'district wide approach' is one founded on reaching universal coverage at district scale with the leadership of district government and institutions. This session investigated how a district approach can go to scale by sharing experiences from Agenda for Change in Rwanda and Para Todos Por Siempre in Honduras.

We focused on understanding how the national level enabling environment can be built while working at the district level more intensively. Martin Rivera shared how the PTPS collaborative effort focuses at municipal (district) level but also seeks to create a network of municipalities that can learn from and support one another. While significant capacity has been built at municipal level, PTPS has struggled to gather the political backing necessary to facilitate national level top-down leadership and support to municipalities. By bringing municipalities on board across the country, PTPS has reached scale and has built the case for WASH - including several success stories - and has been able to influence some policy, sector guidelines, and reforms. Working at regional level has also helped scale the municipal-wide approach and improved harmonisation.

In Rwanda, a single pilot of the district-wide approach in Rulindo with WFP led to update of the approach at national level. Since districts are legally responsible for WASH services and delivery, a district-wide approach provides a roadmap for the national government to demonstrate its commitment to universal access by 2024. In 2016, the National WASH Policy was updated to call for a district wide approach and called for the formation of District WASH Boards to provide oversight and lead planning for investment and service monitoring. However, business models are fragile and learning will continue as the policy is rolled out.

The bottom line for WASH systems strengthening at scale is high level political commitment backed by action and investment. Corruption was noted as a common fracture point for system failure, making a multi-actor sector with mutual accountability critical. *"Without major political support for decentralisation plans and WASH systems, things move very slowly."* - Nick Burn

Eng. Joseph Eyatu, Ministry of Water and Environment, Uganda; Vida Duti, IRC Ghana, Eng. Marcelline Kayitesi, Ministry of Infrastructure, Rwanda; Martin Rivera, Para Todos Por Siempre, Honduras


PAUL HUTCHINGS
All systems go!

Theme 1: understanding the systemic shifts necessary for sustained demand, provision, and use of sanitation and hygiene services

SH1: introduction to the overarching theme of sanitation systems thinking (dialogue)

Convenors: Eawag and IRC
Experts: Dr Elizabeth Tilley, University of Malawi
Dr Meera Mehta, CEPT
Moderator: Christoph Lüthi

The objective of this session was to introduce the concept of systems thinking in sanitation through a dialogue between Dr Elizabeth Tilley and Dr Meera Mehta, each bringing technical, conceptual, and practical global expertise, with a focus on Malawi and India respectively. In terms of the broader political economy, the dialogue juxtaposed two very different contexts: India with a strong mandate to improve sanitation by providing the required supporting infrastructure and programmes as opposed to Malawi where government has few resources or capacity to implement a comprehensive sanitation plan. Emerging conclusions were the need to further outline political and policy frameworks and non-technical terminology for sanitation systems thinking. This will help to advance sector thinking and reach different audiences more effectively to bring more finance into the sector -- including public finance through tax.

Key takeaways:

Countries may be in very different situations in terms of their ability to take on board 'systems thinking'.

Political mandates and local capacity are strong factors determining to what extent **sanitation systems thinking** is applied in a given context.

In India, there is a strong mandate to improve sanitation along with providing the needed supporting infrastructure; while in Malawi the government is not currently prepared to do this.

A strong focus on investment in sewered sanitation in Blantyre, for instance, is at odds with the fact that only 10% of the waste stream is served by sewers. The regulatory system does not currently recognise non-sewered sanitation as a valid service provision option. Attention therefore needs to be paid to strengthening and reforming the enabling environment to ensure effective sanitation systems thinking and implementation.

Selling systems thinking will require effective, carefully targeted communications.

Non-technical terminology is important to convey the advantages of systems thinking, but this is often not used. Systems thinking needs to be conveyed in practical terms for local leaders who ultimately are responsible for implementing changes.

Adequate levels of public financing will be essential for establishing sustainable sanitation solutions:

- Tax collection is highly variable from country to country. Examples provided (Malawi and India) underscored this.
- Where local tax revenue is very limited, government has few options but to rely on external donors – who often focus on solutions like sewered sanitation, which do not address the bulk of the problem.
- An example from India was provided whereby a sanitation tax was collected; these funds were used to finance public and private investment in the sector.

Monitoring, benchmarking and providing incentives are keys for successful sanitation solutions:

- Such systems allow municipalities to demonstrate how well they're doing in terms of sustaining their sanitation systems.
- In India this has created an environment where local leaders want to improve sanitation to improve their rank or status amongst other municipalities.

SH2: system challenges in urban and rural sanitation

Convenors: i-San and Aga Khan Foundation
Experts: Dr Pippa Scott (i-San)
Ms Cathy Stephen (Plan International)
Mr Andrés Hueso (WaterAid)
Moderator: Erick Baetings

"Systems thinking doesn't work in guidelines. How you define the boundaries of a system depends on what you try to find out. So every system has its own boundaries and these are the problems you try to address but everyone defines their boundaries differently". – Pippa Scott, i-San

The objective for this session was to share two approaches – one urban and one rural – and use these to stimulate discussion on what is being done and what needs to be done to strengthen systems that deliver sustainable sanitation and hygiene outcomes.

The 'Shit Flow Diagram' (SFD) has taken the WASH world by storm, drawing attention to urban sanitation issues for municipal officials and other interested parties. However, the focus is primarily on faecal flows themselves and has de-emphasised the importance of people, communities, and behaviours in the system. The 'Sanitation Cityscape' is an attempt to rectify this situation by providing additional dimensions and indicators for the a) type of living environment (how people live); b) the service delivery situation (sanitation chain); and c) the enabling environment. These tools add complexity to the assessment but are meant to enable a more granular analysis that helps to move to action. This is important after officials have been triggered to act by the findings of a broader assessment like an SFD. Systems are complex, so it is critical in planning to be clear about the boundary of which technology type will serve where, to create a typology for planning.

For rural sanitation, progress is also slow and a rethink is needed to achieve the 2030 targets. This calls for a stronger focus on universal access, ending Open Defecation, and reducing inequalities. UNICEF, WaterAid, and Plan International have developed a **guidance document** that seeks to make rural sanitation programming more efficient and scalable. Reflecting the complexity and context-dependency of rural sanitation, the guidance document is not so much a prescriptive approach as a way of thinking. Suggestions include a diagnostic-driven approach to understanding and planning, and a mixed-approach of implementation to reflect different realities on the ground. Headline suggestions from the document were shared for review and input from the group to help edge it toward finalisation and testing.

After looking at one urban and one rural example, the facilitators sought to understand how useful the audience found the urban/rural divide when it comes to understanding systems for sanitation and hygiene. The conclusion was that it is more a spectrum than a duality. However, understanding the mandates of different actors and the government's definition is critical to driving change. Categorisation is helpful, but the categories should come from the context rather than the other way around. While the frameworks and guidelines are helpful, there is always a need to focus on what is feasible to implement given the local context, and the capacities and interests of key actors.

SH3: strengthening sanitation and hygiene in the WASH systems conceptual framework

Convenor: German Toilet Organisation (GTO)
Experts: Robert Gensch, GTO
Will Tillet, Aguaconsult

The basis for this session was the presenter's findings that WASH systems thinking is further advanced in the water space than it is for sanitation and hygiene, and that as a result **current conceptual WASH frameworks suit water more than sanitation and hygiene.**

The Agenda for Change has a WASH systems framework which emerged from experiences of different member organisations; it uses eight building blocks to define the WASH system for diagnostic and systems strengthening efforts. The

German Toilet Organisation (GTO) and Aguaconsult reviewed this framework looking at its suitability/applicability to sanitation and suggested adding an extra block: "Attitude, Behaviour and Demand". They also added the stakeholders that are part of the system (service authority: national, regional, district level, service provider: community, household level, user) more explicitly to the framework. The presenters introduced their revised framework and shared it with participants.

In some aspects the contexts and challenges faced for sanitation and hygiene provision are different than for water. Water is usually a public service whereas sanitation and hygiene are often considered a private good with responsibilities shifted to household level. Actors are also more fragmented for sanitation and hygiene; the overall number of stakeholders at the government level is larger, making planning and regulating more difficult. It is not as simple as just working with the water department for instance, there is also involvement of departments of health, hygiene, education or sanitation, sometimes even agriculture or natural resource management. In addition, the overall number of stakeholders at the government level is larger and more fragmented in sanitation and hygiene than water, making planning and regulating more difficult. The participants agreed, adding that the **private sector has a more important role in sanitation than water and needs to be integrated in the framework. Interconnectivity between stakeholders and government levels needs to be represented in the adapted framework. The emphasis on expanding the types of stakeholders included was called for particularly, to make the framework relevant to both urban and rural settings.**

The aim of the adapted framework is to enable development of analytical tools for identifying strengths and weaknesses of sanitation and hygiene systems. The session gathered expert feedback from participants through roundtable and plenary discussions.

SH4: toward resilient systems for sanitation and hygiene services provision

Convenors: IRC, WaterSHED Cambodia and NIUA
Experts: Andrew Smith (Desert Rose PLC)
Geoff Revell (WaterSHED)
Jyoti Dash (National Institute for Urban Affairs, India)
Simone Klawitter (Independent Consultant)
Moderator: Ruchika Shiva (IRC)

Note taking at the sanitation and hygiene services session

The objective of the session was for everyone to understand the varied experiences in market systems and to become more comfortable engaging with local governments and in humanitarian contexts. The session aimed to show participants how activating sanitation markets can support reaching SDG6 and to help people to understand what factors and system need to be in place for markets to thrive. Participants were also asked to consider how NGOs can focus on long term local systems development in order to avoid an unsustainable dependency. The overall conclusion was that NGOs can play a facilitative role but should be realistic about the costs, long-term nature of support, and should plan for exit from the beginning.

Andrew Smith, and John Butterworth (IRC Ethiopia) shared experiences from Ethiopia about how business can get into WASH, noting that in reality there are only a few unsubsidised sanitation companies in the market. Few market-based sanitation interventions have scaled and most of these are heavily subsidised. Building a successful sanitation company is an iterative process, so support agencies should be prepared to accept that such enterprises may deliver low returns and be high risk.

Geoff Revell of WaterSHED in Cambodia shared experiences from WaterSHED's Hands-Off experience to strengthen sanitation markets. Sanitation enterprise development is high-risk and requires patient, long-term support (5+ years); experiences in Cambodia reflected a need to focus both on supply and demand in addition to general support to the enabling environment. Advocating for legal and regulatory reforms, while also buttressing local ownership and champions; finding ways to reduce cost and improve designs can together help open the market.

Jyoti Dash, Depinder Kapur (National Institute for Urban Affairs, India) presented lessons from Sanitation Capacity Building Platform (SCBP), India, which was developed in response to rapid urbanisation in Indian. SCBP helps governments and local bodies tackle the emerging sanitation challenges through a focus on capacity building (state and institutional, private sector), technical support, and policy framework development. SCBP has generated a great deal of useful materials and training programmes on faecal sludge and septage management (FSSM) in India. This has helped the government strengthen its focus on non-sewered solutions and to prioritise FSSM, which has shown strong potential.

The last presentation came from Simone Klawitter on continuity and discontinuity in moving from systems of humanitarian WASH response to development in Pakistan. She focused on learning and getting the right people involved when transitioning from rapid response to systems building, which she conceptualised through three different types of learning: personal mastery; mental models; and team learning. Simone emphasised the importance of not making the system too complex which can stymie inclusive progress.

The different cases presented demonstrated that when using a systems approach, there is no silver bullet or single solution that can simply be scaled up or replicated, because there is always more to success than a single factor or market development. Developing market solutions also requires significant support to the broader system. For NGOs an 'exit plan' should be crafted well in advance with a view to establishing the independence of the enterprise over a long period.

"Can it be institutionalised? When we talk about one element that is part of a whole system, the question is more nuanced than can it be scaled or replicated?" - Geoff Revell

Echoing the success factors from the Ethiopia presentation, participants discussed the value in collaboration and sharing of common tasks and even of sharing opportunities for external funding to increase the chances of sustained support. For new businesses, revenue always lags behind and it often takes 7-10 years to break even. "Support should be more like a marriage then a single date."

Learning has to be continuous and should be planned from the start; businesses and new initiatives need to be able to pivot and to address and respond to things that are not working. "We need to get people learning the right way. When we have people learning, then we get organisations learning," said one participant.

Event host Ikenna Azuike and IRC's Vida Duti starting the day

SH5: the new WHO guidelines on sanitation and health

Convenor: WHO
Experts/Moderator: Sophie Boisson, WHO
Fiona Gore, WHO
Bruce Gordon, WHO

Substantive evidence indicates that sanitation interventions have less impact than expected; this may be because the health sector has retreated from the sanitation sector. As a result, the focus is on treatment and not on prevention of diseases.

The 2018 Guidelines on Sanitation and Health are WHO's latest contribution to this critical area of technical WASH sector guidance, and this session aimed to encourage awareness and use of the guidelines among practitioners, policy makers, and researchers in sanitation. The Guidelines serve as a base from which regulations and direction can be given to health authorities. They state that health authorities are responsible for health facility WASH; however, in practice this doesn't always happen (and the WASH sector steps in).

An important recommendation, reflecting the keynote from Dr Gilbert Buckle, is to **include other sectors in the sanitation sector** as well, like solid waste management and transportation. And maybe the WASH sector should be more supportive to other sectors and forego more responsibility to other sectors? They suggest working with both health and education sectors to clearly delineate the boundaries between their respective 'systems', and to define the responsibilities and accountabilities of each.

The Guidelines make a few important deviations from the JMP and place the focus on programming rather than definitions and indicators. One key example is the Guidelines' endorsement of shared sanitation as an acceptable interim solution (under certain circumstances). WHO acknowledges that people take JMP as the norm, but in fact the decision to exclude shared sanitation from the definition of safely managed was more practical than theoretical (it is not possible to monitor).

Participants largely agreed that tools, interventions, or guidelines should be **adjusted to the context.** The Guidelines should be used flexibly according to context, as should tools, interventions, and guidance. For example, drivers of behaviour change

should be contextualised rather than standardised. The best infrastructure to provide safe sanitation is different in every country, area, region, city or neighbourhood, depending on the situation and context. This is why it is helpful to focus more on principles than tools, because principles can be more cross-cutting. Tools have shorter lifespans than principles, because they are continuously adapted and improved.

Overall, the Guidelines were well received and both WHO and the participants agreed that it will be interesting and important to document how they are used and adapted in different contexts.

SH6: City-Wide Inclusive Sanitation (CWIS): a system approach to service provision

Convenor: Bill and Melinda Gates Foundation (BMGF)
Expert/moderator: Dr Radu Ban, BMGF

Urban sanitation service delivery is different to other types of services and goods that we consume; in sanitation the client has no power and responsibility is diffuse. For education, if something is wrong at your child's school, you can at least talk to a representative of the school. For sanitation, households do not even know or care where the waste ends up, which makes accountability and public engagement more difficult.

The service starts at home, but much of it takes place outside the home—the system is complex and responsibility changes along the sanitation chain and remains diffused among sector actors. Sanitation is a public service, however buying a toilet in the home is not a public good. Yet, the ensemble of private goods (household sanitation systems) makes the overall public environment cleaner. It is complex and is unlikely to be solved without a wider appreciation of systems thinking.

City-Wide Inclusive Sanitation (CWIS) is a systems approach to sanitation service provision being taken up by leading systems thinkers in sanitation including its champion - Bill and Melinda Gates Foundation (BMGF). The CWIS approach embodies a set of clear principles that can be used to make urban sanitation services more efficient, environmentally sound, responsive to demand, and pro-poor. Eight cities are currently piloting this approach, and financing institutions are gaining interest. This session focused on the cases of Wai (Maharashtra, India) and Dakar (Senegal), showing that successful outcomes have been achieved in both Indian and African contexts, and in small and large cities. The principles' application has helped shift sanitation services towards improving fixed point systems requiring better faecal sludge management (FSM) approaches, which directly addresses key needs in the developing country context.

The Wai case shows you can achieve transformation in a small town. They have made the sanitation system feel more like service provision; emptying trucks come on a regular schedule; funding comes from property taxes. The costs have stayed relatively low.

The Dakar example is at the scale of 150 trucks in a large city. Their approach was less about making it a public service, and more about showing how the current system can be made more efficient. They selected contractors via competitive bids and created a call centre to dispatch trucks to pick up the sludge. With the functioning of the call centre, prices for emptying went down, but after four years, only by 7%.

A few key takeaways:

- Urban sanitation presents many interesting challenges. It is a 'public service' but has a strong private sector component, and many externalities. Still, there is a clear role for government: to ensure that the market does not leave gaps in service, especially for the poor.
- The CWIS is a set of principles that seeks a middle ground between 'traditional' approaches and newer approaches that focus on FSM and the poor.
- Public-private-partnership models are often useful solutions, however they work best if local authorities carry the responsibility to make it possible to effectively manage the system.
- Shared sanitation facilities may offer opportunities to promote business models involving biogas and cost recovery.

SH7: measuring the last mile: discussing new sustainability and equity data across at-scale behaviour change programmes

Convenor: Water Supply and Sanitation Collaborative Council (WSSCC)
Expert/moderator: Carolien van der Voorden (WSSCC)

WSSCC's Global Sanitation Fund recently revamped its outcome survey methodology with the University at Buffalo specifically for large scale sanitation and hygiene behaviour change programmes. In addition to assessing the sustainability of key sanitation and handwashing outcomes (related to for example quality of facilities, behaviours, and equality of access) the outcome surveys measure the extent of changes in social norms with regards to sanitation and hygiene use, and feelings of safety and satisfaction of sanitation facilities from women, girls, and other people in vulnerable situations. This session presented the new outcome survey methodology as a practical tool for measuring sustainability and equity outcomes, and discussed combined survey findings from Malawi, Kenya, Tanzania, India, Nepal and Cambodia. The surveys showed a range of results, some fairly encouraging – and some less so.

While not necessarily surprising, the findings showed that if people were more involved in the process of improving WASH, they were more satisfied with the result. Satisfaction and expectations were grouped into three categories that formed the norm: personal beliefs (what do I expect from myself), empirical expectations (what do I expect from you), normative expectations (what do I think that you expect from me). There is a low norm in Tanzania and Kenya (low expectations), and a high norm in Malawi.

The Nepal case stood out as highly successful, so WSSCC is looking further into what can be learned from it. Overall, the findings about access and inequality varied across contexts: in Malawi and India girls had less access to household facilities than other residents; in Tanzania people with limited mobility and vision have higher access than the elderly; while in Kenya it is the other way around.

Some questions arose from the survey – including whether Open Defecation Free (ODF) outcomes are sustainable; whether 'access' is an accurate predictor of 'use'; and whether women and girls are able to access sanitation facilities as easily as men and boys. Overall, the poorest income quantiles made greater gains in sanitation access than the 'middle' quantiles. ODF definitions were found to vary from country to country, making this criterion less useful for inter-country comparisons. A revisiting of ODF criteria may be needed to make future measurements and evaluations more reliable and meaningful.

Results from the outcome study will be used to improve WSSCC's efforts in sanitation programming. A revisiting of ODF criteria may be needed to make future measurements and evaluations more reliable and meaningful.

SH8: emerging conclusions for sanitation systems thinking

Convenor: Eawag
Experts: Depinder Kapur, National Institute of Urban Affairs, India
Elizabeth Tilley, Swiss Federal Institute of Aquatic Science and Technology/EAWAG
Rachel Cardone, Stanford University, USA
Gilbert Buckle, Health Sector Consultant, Ghana
Moderator: Peter Feldman, IRC

Systems thinking presents a good opportunity to strengthen WASH programmes and accelerate progress. However, there are institutional obstacles to overcome, including 'internal' ones such as the mind sets of individuals making up WASH institutions, as well as the attitudes and practices of funding institutions who often shape the development agenda. For systems to work, the focus should be shifted away from organisational priorities (such as growth and branding) and onto countries, communities, and end-users. SDG6 provides sufficient 'vision' for the sector to work by.

The WASH sector is inadequately integrated with other sectors; and its system boundaries are poorly defined. Opportunities exist to work more effectively with other sectors such as Health and Education – but WASH experts will need to stop 'talking

to themselves' and start making a strong case for shared responsibility with other sectors. Along those lines, it is important to ensure representatives from national and local governments and other local institutions are involved in these systems discussions – not just the usual experts from international bodies.

Under-studied or overlooked technical challenges also will need to be addressed. One looming challenge is the issue of solid waste (rubbish) in faecal sludge waste streams.

Audience reflections were collected on note cards and grouped into four categories. These are summarised below:

Key learnings and observations from the Symposium

- There are exciting new tools and perspectives such as the Sanitation Cityscape, City-wide Inclusive Sanitation, and a district-level approach.
- We need to focus on revenue generation through taxes and transfers.
- There are many ways of analysing systems such as breaking it into smaller component parts; factor analysis; and gaining a better understanding of user needs and of decision-making processes.
- It is important to define and understand the 'boundaries' of WASH systems, and how WASH relates to other sector systems.

Things missing from this Symposium

- Agriculture
- Inequalities; gender; menstrual hygiene
- Less focus on sanitation and hygiene than water supply
- Human capacity gaps
- Behavioural science/scientists
- Solid waste.

Perceived obstacles to systems thinking

- Funding agency mentality may not be conducive to systems approach.
- WASH sector itself is not sufficiently integrated; or possibly not flexible enough to engage in systems thinking.
- The need for other types of professional to support systems thinking in WASH.

Practical actions and next steps

- Promote cross-sector dialogue - no more 'talking to each other.' Communicate outside of the 'WASH silo' – especially with public health people.
- Improve communication with Ministry, District, and municipal representatives.
- At workshops, ensure there are country-level working sessions to develop practical follow-up actions. Develop **commitments** for each country.
- Publish more on strengthening sanitation systems.
- Put users at the centre of systems.
- Focus on 'why' we need systems thinking (vision).
- Use ideas learned at the Symposium for teaching WASH students in a fun & practical way.
- Understand dependencies on NGOs & design new programmes **with exit strategies.**
- Use 'Participatory Factor Mapping' ['Participatory Systems Mapping']
- 'Read the book'. Referring to Donella Meadows' Thinking in Systems: a Primer.


WASH SYSTEMS SYMPOSIUM
All systems go!

Theme 2: systemic approaches to increasing safety and sustainability of drinking water service delivery

SW1: overcoming rural water challenges:

Convener: Richard Carter and Associates Ltd.
Presenters: Anjil Adhikari, Oxfam, Nepal
Adugnaw Tadesse, CARE, Ethiopia
DJ. MacAllister, British Geologic Service
Richard Carter, Independent Consultant, UK
Johanna Koehler, Smith School of Enterprise, Oxford
Moderator: Marieke Adank, IRC

"Hand pumps will break down, that's inarguable, so we must prepare for it" - Richard Carter

Rural water services have a long history of poor performance and low sustainability. Addressing these realities is essential for achieving water development targets. Many factors however, that range from insufficient financial resources to a lack of accountability among management structures, contribute to slow advances. The goals of this session were to explore rural water development from different perspectives and in different settings to establish the scope of the challenges and the determinants of progress. In line with the overall symposium objective, the aim was to move the discussion from a problem-focus toward realistic and achievable solutions. Since no solution fits every context, the session focused on identifying key factors for success. A number of presentations and a group discussion were effective in teasing out some common issues across different contexts, planting the seeds for key themes that would keep recurring throughout the session.

Joanna Koehler introduced the concepts of institutional pluralism and risk-pooling, sharing experiences from the FundiFix Model in Kenya.

DJ MacAllister shed light on the often under-emphasised physical causes that affect borehole functionality in Uganda, Malawi, and Ethiopia through his presentation titled, The Hidden Crisis: assessing the physical sub-system of hand pumped boreholes.

Richard Carter presented his Apollo 13 model focused on making success possible (rather than interrogating failure) which refers to 13 factors that must be in place for successful management of community water points.

Adugnaw Tadesse explained findings from a multi-stakeholder assessment of supply chains and operation and maintenance (O&M) in Amhara region of Ethiopia.

Anjil Adhikari told a story of digging deep behind the complexities of sustainable water supply in Nepal, with an emphasis on asking the right question from the start.

Several key themes emerged:
A multitude of factors play a role in failure or success of rural water service provision through community managed point sources. These include financial, technical and infrastructure issues, institutional issues (including clarity on roles and responsibilities and capacities), and water resource availability. These factors are often interrelated and influence each other.

"Systems strengthening is like 'tuning' a sound system. When you tweak one factor it may affect the other factors"- Anjil Ashikari

Overcoming sustainability challenges through systems strengthening is not only about getting the building blocks / factors right, but also about actors (including users, service providers, service authorities, policy makers etc) and their motivations.

"Maybe we need to think about a new field of studies in the WASH sector, something like 'hydro-psychology'" - Sally Sutton

Political will at different levels is crucial! Without political will, systems strengthening will not happen and it will not be possible to overcome sustainability challenges. There is also a need to translate political will into progress on the ground. The community needs to be engaged and must be willing to pay for the system or services in order to make them sustainable.

Finally, context is key! This is true for the enabling environment, for the technical risks associated with infrastructure, for the maintenance model, as well as the design of infrastructure in the first place.

SW2: water safety planning within the WASH systems context

Convener: WHO
Presenters: Bruce Gordon, WHO
Panellists: Caroline Delaire, The Aquaya Institute
Samantha Vince, Drinking Water Inspectorate, UK
Arnt Diener, WHO
Joel Kolker, World Bank
Moderator: Ranjiv Khush, The Aquaya Institute

Ranjiv Khush of The Aquaya Institute referred to Water Safety Plans (WSPs) as 'the original systems approach' in WASH. In 2004, WSPs emerged as a pro-active, systematic approach to identifying and managing risks to drinking water supplies, representing a shift away from over-reliance on end-product testing, towards a more holistic system management approach. WSPs have been implemented in more than 90 countries and this trend in increased implementation is expected to continue with the SDG call for 'safely managed' water supplies. While considerable efforts have focused on strengthening the enabling environment to support WSP sustainability, key challenges threaten the long-term effectiveness and sustainability of many. Therefore, it is an opportune time to reflect on experiences to-date with WSP implementation and broader WASH systems strengthening and apply these lessons to improve the sustainability of WSPs and their impacts. The objective of this session was to engage participants in understanding the factors that must exist for effective and sustainable WSP: political support, enforcement, human resources, and funding.

Globally, there is increasing political support for WSP and most participants had a good understanding of them.

Audience members provided the following responses in an opening poll:
What do you consider the major sustainability challenge for WSPs?
Answers: A lack of...prioritisation by management (29%); political support (21%); human resources (14%); funding/ budget allocation (18%); enforcement/surveillance (11%); technical advisory/solutions (4%); other (4%).

"Often, we talk about viability of water service providers, technical/financial efficiencies of service providers – but more and more we are talking about regulatory environments and policy institutions" - Joel Kolker, World Bank

WSPs go beyond assessing water safety through water quality testing; routine testing and assurance of water quality are the end results of a holistic system. A whole systems approach minimises contamination of source water quality and reduces contamination by prevention and treatment. WSPs can also be combined or integrated with sanitation safety plans for a more effective system, however **defining boundaries and limits for WSPs will affect and inform whether the sanitation aspects of wastewater treatment plants and hygiene aspects are considered.**

An impact assessment of 99 WSPs in Asia-Pacific Region revealed significant improvements in infrastructure (86%), operation and management (O&M) (95%), donor funds (39%), stakeholder communication (66%), water quality testing (65%), consumer satisfaction (33%).

The impact assessment also identified areas where WSP efforts can be improved, such as through increased efforts to address disparities between urban and rural water systems, support or systems to help in overcoming financial constraints or insufficient staff. The results indicated that WSPs focused on water quality rather than broader issues also relevant for risk management such as water quantity. The results also showed the WSPs were effective in moving from the status quo toward evidence of improved water quality, however over time water quality decreased, calling into question their endurance.

"Setting up policy institutions and regulatory environments is difficult, maintaining them is even more difficult" - Joel Kolker, World Bank

Three main leverage points were identified to help overcome the challenges in making sure WSPs are sustainable and durable and not done as a one-off-project-led exercise. They need to be well understood by all involved, well prioritised by decision makers, and properly and fully integrated in local management and supplier processes. A consumer-centred approach seems to be the consensus for providing sustainable solutions for WSPs and other WASH interventions.

SW3: progress in Latin America and Asia: what drives service delivery improvements?

Conveners: Water For People, WaterAid & Avina Foundation
Presenters: Daniel Oporto, Water For People
Andrés Hueso, WaterAid
Lil Soto, Fundación Avina
Moderator: Sally Sutton

Many countries in Latin America and Asia have made substantial progress in expanding water and sanitation services. Efforts in the region include the development of effective regulatory frameworks; strong local leadership; productive community engagement; and effective public-private partnerships. The results of these programmes provide important lessons for realising similar achievements in other geographies. The goals of this session were to explore successful water supply and sanitation improvement initiatives in Latin America and Asia, and to discuss strategies for promoting south-south collaboration and exchanges of best practices.

"It does not work to put the whole load on the shoulders of the community or the government, they must form a partnership!" - Lil Soto

"Exchanging experiences helped us to understand our own context. It also helped us to accelerate innovation" – Lil Soto

Daniel Oporto presented the case of San Pedro Bolivia, where Water For People (WFP), through their Everyone Forever approach have been working with local and council governments from 2008-2017. This work has included an emphasis on monitoring, and currently they are working to integrate the local work into the national SIASAR monitoring system as WFP plans for a 2019 exit. This is a powerful example where WFP has invested only 50% of costs for water infrastructure and the rest has come from the district.

Lil Soto, Fundación Avina

Andrés Hueso contributed findings from WaterAid's research: Achieving total sanitation and hygiene coverage within a generation. Singapore and South Korea are two examples where 100% sanitation coverage was achieved within about 20 years, showing that achieving the 2030 goals for water and sanitation service delivery is possible in some settings.

Key factors driving this progress were the presence of a compelling narrative (and positive valuation) for sanitation; high level political leadership and incentive systems; a well-coordinated multi-sector approach; a horizontal prioritisation (sanitation is all sectors' business); plus active course corrections (mechanisms and cultures).

"[Development teams] must also, at least once a week, have what I call 'morning prayers' where all departmental officers get together and instead of writing tedious minutes on files to each other, they settle their departmental differences together, in a coordinated way, in front of the maps in their operations rooms." - Deputy Prime Minister to Persatuan Ekonomi Malaysia, 24 March 1966

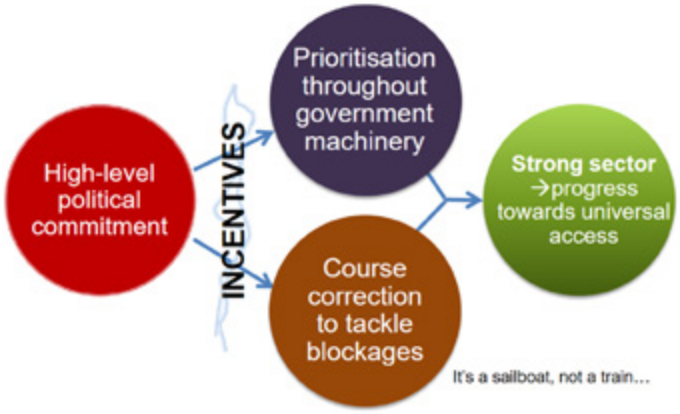


FIGURE 11: UNDERSTANDING AND CLASSIFYING DIFFERENT DEMOCRATIC GOVERNANCE APPROACHES TO SERVICE DELIVERY

SOURCE: HUESO, A. 2019.

Lil Soto shared examples from around the world and emphasised the importance of knowledge exchange, such as between Mozambique and Latin America. This presentation also stressed the importance of understanding and classifying different democratic governance approaches to service delivery to facilitate a more nuanced discussion across very different contexts (e.g. community management versus social control).

SW4: innovations in rural water maintenance models

Convener: Aguaconsult
Experts: Cliff Nyaga, FundiFix, Kenya (presenter/panellist)
Adam Harvey, Whave, Uganda (presenter)
David De Armey, Water for Good, Central African Republic (presenter)
Nicolaas van der Wilk, UDUMA, Mali (presenter)
Adrienne Lane, Water for Good, CAR (panellist)
Liz Buhungiro, Whave, Uganda (panellist)
Yemane Gebree'gziabher, iWET, SNV, Ethiopia (panellist)
Martin Watsisi, IRC Uganda (panellist)
Caleb Cord, CU Boulder/ SWS, USA (presenter)
Pranav Chintalapati, CU Boulder/ SWS, USA (presenter)
Moderator: Harold Lockwood, Aguaconsult, UK

In response to poor sustainability of traditional rural water supply arrangements, specifically those relying on community-based management, various models are emerging to address the critical challenge of maintenance. There is growing recognition that revenues generated through user tariffs may not be sufficient to support on-going operations and maintenance. As a result, there is interest in increasing operating efficiencies, public-private partnerships and subsidised financing to improve service quality. In this session, participants and presenters shared emerging approaches to rural water supply maintenance and discussed the requirements for scaling these efforts from a systems perspective.

The short presentations described several different maintenance models currently being implemented in different contexts and on different scales. FundiFix, Whave, Udama, and Water for Good provided examples of how they have overcome a few of the well-known challenges with community management. Presenters from the Sustainable WASH Systems Learning Partnership introduced tools for systems analysis and systems dynamics modelling that can offer additional insights.

Common challenges across the different models included achieving cost recovery and economies of scale. Only recovering a portion of the full costs for water supply is not enough, it will not work in the long run. This is because the role of subsidies

is contested, costs need to be split between what consumers and communities can pay, and there is not agreement on what needs to come through public or private funding. These financial mechanisms at different levels are critical to move beyond pilot projects to full scale.

"Only recovering a small part of the full costs for water supply is just not enough, it will not work on the long run" - participant

"There are not enough small hand pumps breaking down for maintenance people to make a living from it, they need another income, that's a reality" - Harold Lockwood

To improve financial sustainability, it is also important that local government is able to offer long term concessions (concession contracts), which give the mandate to provide public services to a provider. It is only with long-term concessions that cross-subsidies and government support become feasible. This means there is a need for different levels of recognition and regulation.

Thirdly, there is a need for more engagement, with (local) government and with users. Many of these models are developed by small enterprises and NGOs that often seek independent cudos without full engagement with local government and users. A successful model needs to be extremely well integrated, and in good relationships with different actors to allow for meaningful feedback and adaption into and with the local system. Further research into systems dynamics of rural water supply maintenance may also help uncover barriers to success that can be addressed through advocacy and strengthening or modification of business models.

SW5: realising the piped water dream

Convener: WaterAid
Presenters: Mike Barbee, Water4
Richard Franceys, consultant
Charles Yeboah, Safe Water Network
AJ Karon, Aquaya
Hester Foppen, Aqua for All
Panel Ranjiv Khush
Chair: Vincent Casey, WaterAid

Brainstorm on piped water services

As rural populations grow and demand higher levels of service, there are daunting questions about realising aspirations for inclusive 'piped on premises' drinking water, achieving public health benefits and assuring water quality and safety. Currently only 20% of rural dwellers across sub-Saharan Africa receive safely managed water, and the estimated cost of achieving the next higher level of service is estimated at three times the current spending. UNCEF/WHO Joint Monitoring Programme data highlights that hand pump-based water supply options are still being implemented at a far higher rate than piped options in some countries. The aim of this session was to stimulate discussion about the enablers of sustainability, scale and improved service levels. Implementers and other experts were invited to share their views on where piped water and management arrangements are headed and the system step change that is needed to enable them to reach more people.

In the introduction to the session, Vincent Casey highlighted the growing movement toward piped services that ranges from purely aspirational to highly strategic in different contexts. In India, there was almost zero percent increase in piped water between 2000 and 2015, however there is now a target to get to 90% by 2022. In Nigeria and Pakistan, there has been a decrease in the overall proportion of people accessing piped water during the last decade. **A key driver in transitioning toward piped water is the presence of universal public demand, accompanied by demand-responsive and strong government leadership. In most countries, there will also be a need for mixed service delivery models, for example in the USA 1.3 million Americans still rely on point sources (self-supply) or other non-piped options.**

Two presenters described social enterprise models for piped services:

- Mike Barbee presented the Water4 NUMA model for installing and managing small piped schemes that provide safe water services to multiple types of consumers.
- Charles Yeboah explained the Safe Water Network's social enterprise model that uses a digitised payment system for metered households in Ghana to strengthen the financial viability of the model.

AJ Karon elaborated on another key aspect of safe water delivery - water quality monitoring - and presented findings from formative research in Ghana showing how different actors could be engaged to make this a reality.

Hester Foppen of Aqua for All shared another promising model for improving water quality at the point of consumption in Ethiopia, whereby the utility engages in extended distribution of household water filters.

Nevertheless, cost recovery remains difficult. Richard Franceys proposed that 'utilisation' is an important consideration. He proposes a service oriented business approach that focused on customer service orientation as a way to generate a sustainable and professional market for rural water services.

While most contributors agreed that there is a need for expanding piped coverage in some but not all settings, they identified a few key conditions for when and how piped services can work.

Subsidies are likely to be required for capital expenditure investments. Building on discussions from the previous session, there is a need to develop and institutionalise financing models that reflect the actual demand and context. Further to construction, there is need for long term investments in building capacities for managing more complex (piped) water schemes. This does not mean one-off training of community management committees, but structural capacity development strategies and support, as change takes time.

Regulatory frameworks must be improved to cover different management models including contexts where piped water schemes may need to exist alongside point sources that reach the most dispersed population segments.

Approaches and strategies for ensuring that no one is left behind will be key; examples include free or subsidised shared connections, cross-subsidies, or micro-financing to make household (or on premises) connections affordable for low income residents.

SW6: leave no one behind: the role of self-supply in reaching everyone

Convener: Rural Water Supply Network (RWSN)
Presenters: Matthias Saladin, Skat
Lemessa Mekonta, IRC Ethiopia
Moderator: Matthias Saladin, Skat

Everyone is talking about 'leaving no one behind' and universal coverage. But what does that actually mean? In particular, how do government entities, donors, NGOs and UN agencies put them into practice? This session looked at challenges related to reaching out to people living in sparsely populated rural areas.

The session aimed to spark discussions on how to reach the hard to reach (sometimes referred to as the 'last mile') in a given area, and how to make sure 100% of the population in an area have access to at least basic services (and how to move everyone else further up). The nature of this challenge, in practice, is strongly related to settlement pattern and density as well as water resources availability.

The session looked at self-supply around the world with a focus on Ethiopia, where the national water legislation names self-supply as one of four models of infrastructure development (the others being government financed, NGO financed, and community managed). The national indicators allow self-supply water sources to be considered safely managed as long as they involve a scheme defined as improved and shown to be free from contamination. A model from Zambia was also discussed, where a key condition for water management is 'family-managed'; in this case the family managed pump sometimes ends up serving the broader community, which can end up as a sustainable and low-cost option.

"If we think about the ever-increasing population, there's still this huge population of dispersed, rural households that have a hard time getting access to water. The numbers suggest there is an important role for [self-supply] so long as it is done thoughtfully and with support." – Laura Brunson, Millennium Water Alliance

Self-supply is often a polarising topic, however in the interest of leaving no one behind it must be addressed. Self- supply is especially relevant in contexts with a rural dispersed population, which are hard to reach through other service delivery models. Self-supply can be made far safer by introducing and assuring household water filters.

Working in groups, participants were asked to develop a plan for universal water coverage in a specific district to shed light on the trade-offs in target-setting and prioritisation as well as the need to understand and develop frameworks for supporting and integrating multiple modes of service delivery.

SW7: creating an enabling environment for better performing urban utilities

Conveners: IRC, IWA, World Waternet, AquaFed
Experts: Rui Malheiro, IWA
Marieke van Nood, World Waternet
Dominique Gatel (Aquafed)
Judith Kolen and Steven van Rossum, World Waternet
Pim van der Male, Ministry of Foreign Affairs of the Netherlands (panellist)
Dr Elizabeth Tilley, University of Malawi (panellist)
Moderator: Stef Smits, IRC

The objective of this session was to discuss how programmes for improvement of performance of urban utilities can be conceptualised from a systems perspective. It emphasised the need for a two-track approach that includes both utility-level performance improvement as well as measures to strengthen the broader enabling environment in which the utility operates. The session started with presentation of case studies, highlighted key concepts, then went into an interactive panel discussion.

Rui Malheiro focused on utility strengthening, presenting IWA's AquaRating tool, a characterisation and assessment system for urban water supply and sanitation utilities.

Steven van Rossum provided the SOMAGEP example, explaining why size matters and how World Waternet is helping leverage public finance and small investments in utilities in Mali to build the case for larger investment.

"It takes time to build capacity...and you need to start with small investments to increase efficiency. Size does matter because you don't need a lot of money in the beginning. You can do with small investments and then gradually build up." - Steven van Rossum, World Waternet

On the enabling environment, Caroline Latorre presented experiences from the IWA Lisbon Charter and the International Water Regulators Forum which asked 100+ regulators (service quality, economic, environment, health) from 56 countries to explain what the enabling environment looks like.

FIGURE 12: STRENGTHENING THE LEADERSHIP AND GOVERNANCE OF THE UTILITY

SOURCE: IWA

Dominque Gatel further outlined what a two-track approach can look like and how AquaFed is supporting others to take such an approach.

Programmes geared towards performance improvement of the utility itself - such as measures to reduce non-revenue water, to increase the operational ratio and increase the level of service - sometimes include activities around strengthening the leadership and governance of the utility.

Systems level support is necessary to make utility performance sustainable and to scale up changes. This looks outside the individual utility and includes activities like reviewing tariff regulations, institutional reforms that provide adequate autonomy of utilities or programmes to monitor and benchmark performance of utilities.

"When we talk about increasing tariffs, we are in the wrong forum. This forum is for leaving no one behind. If we are to leave no one behind we must make sure that the tariffs are not the only source of revenue." - Joseph Oriono Eyatu, Commissioner at Ministry of Water and Environment of Uganda

The session conclusions pointed to:

- A need for all programmes to address both aspects of improving utility performance, either through direct activities or through engaging and advocating for broader sector action.
- A need for greater clarity on the roles of local authorities vs service providers e.g. who is responsible for support for and implementation of tariff increases.
- One way to meaningfully support is to use small investments to increase the viability of the water companies and prepare them for attracting much bigger investments and sustainably managing them.

- Performance assessment using standard and consistent tools is critical to determine viability of a company, build creditworthiness and attract big investments.
- Capacity-building and training are necessary in non-technical skills, especially financing. Organisations and donors need to focus on this so that utilities are better prepared to manage resources.
- One point of divergence among participants was whether tariff increases are needed for increasing revenue. Some claimed that the company needs this for getting revenue to invest in performance improvement, while others insisted that there are other ways of generating revenue and tariffs should not be the only source emphasised.

"You can improve creditworthiness without raising tariffs." - Pim van der Male, Ministry of Foreign Affairs of the Netherlands.

SW8: moving the needle on safe and sustainable water systems: a synthesis of opportunities and challenges

Convener: The Aquaya Institute
Chair: Ranjiv Khush

For this thematic conclusion session, participants from all sessions about safe and sustainable drinking water services gathered to review key conclusions and priorities for advancing water delivery systems in an interactive sofa style session. This led to a dynamic audience participation. A few key highlights are mentioned below, and more takeaways from the safe water thematic stream are included in the overall thematic synthesis summary.

Stef Smits presented a diagram for discussion showing the main forms of WASH service provisions based on settlement size:

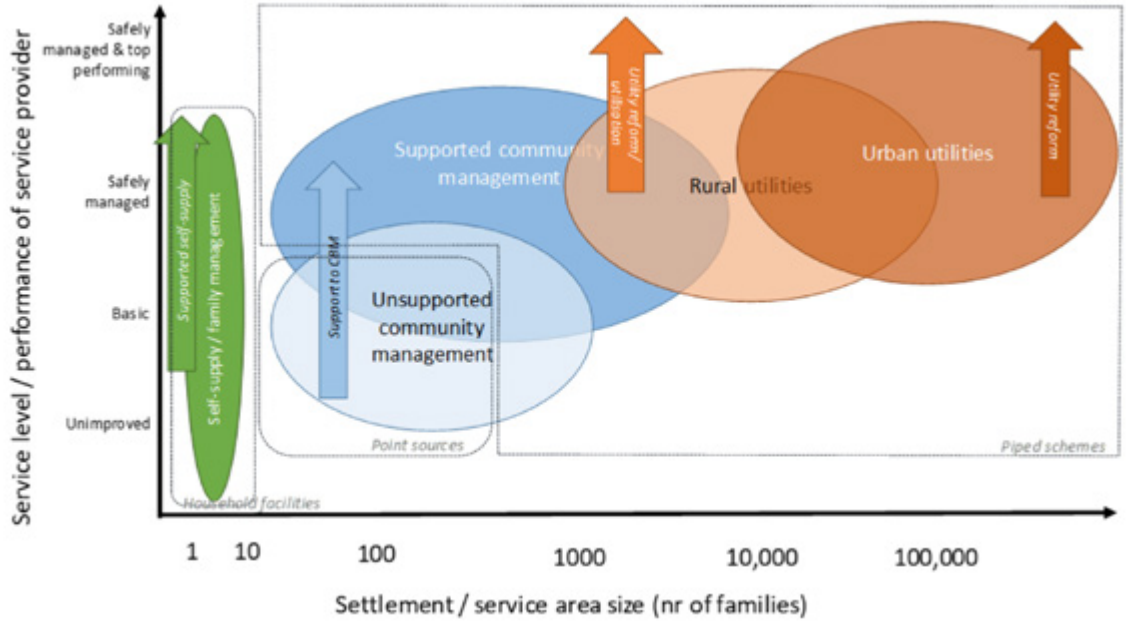


FIGURE 13 DIFFERENT SERVICE MODELS

The different models are:

- Self-supply: implementation and management of household-level water facilities by (small groups of) households themselves;
- Community-managed point sources: these include models with and without different levels of support by government and/or private sector (e.g. private maintenance service providers);
- Various models for piped scheme management, which may suit different contexts, including
  - Community-management (e.g. Ghana)
  - Private (ownership and) management (e.g. Malawi, Ghana)
  - Rural utilities (e.g. Ethiopia)
  - Urban utilities.

Participants reflecting on the sessions

Reflecting on these models, participants discussed the emergence of small NGO-like enterprises for rural water service delivery that aim to develop a private sector business model. "Are WASH people the right people to run these businesses?" Development actors are trying to fill what they see as a gap in the local market, but is the gap there for a reason (no profit to be made?). We have to accept that rural markets must first become public markets (before they become private markets) because while there is demand for mobile phones and transportation, there is no demand for safe water – without public health interventions.

A discussion on regulation of different service models ensued:
Should effective regulation precede the actual capacity to provide, or should you provide as much as possible before you start regulating?" - Sally Sutton

"You regulate first the big areas. Maybe balance and enforce regulations where you can, but stay away from regulating a small borehole somewhere in the mountains." - participant

"The regulations must be sensible and feasible. In the UK there is legislation to regulate the regulators." - participant

Another trend is water sector privatisation, but this risks leaving behind those who are not able to pay. The example from the Netherlands showed that when town utilities were not eager to go to rural/peri urban areas, private service providers were given a mandate to serve poorer areas and eventually the public sector took these over.

"People don't die of thirst. There isn't a willingness to pay for clean water. In the North, there wasn't a demand for clean water; it was just political will that pushed for clean water." - Patrick Moriarty


#WASH
nerds

Theme 3: financing WASH: A systems approach

F1: mobilising finance for WASH: getting the foundation right

Conveners: Water.org, World Bank, IRC
Experts: Catarina Fonseca, IRC
Joel Kolker, World Bank
Lesley Pories, Water.org
Paula Beens, DGIS
Christopher Flensborg, Skandinaviska Enskilda Banken (SEB)
Eng. Worlanyo Kwadjo Siabi, Ministry of Sanitation and Water Resources, Ghana
Moderator: Jeffrey Goldberg, USAID

Mobilising finance to successfully and sustainably achieve the SDG 6.1 and 6.2 financing gap will require more than innovative or sophisticated financial mechanisms. To move to scale, private and public investment hinge upon core foundational issues being addressed in the water sector by service providers, regulators and other stakeholders.

This session aimed to deepen participants' understanding of the foundations that must be in place for sustainable financial solutions for WASH such as improved coordination from the development community, improved planning and monitoring processes, and more targeted approaches to fill gaps such as investing in services for marginalised groups. The session unpacked what is meant by the enabling environment for finance in WASH and presented several real examples of how these bottlenecks are being overcome by innovators in the sector.

The session started with a brief summary of the foundational issues identified in Pories, Fonseca and Delmon (2019) with an emphasis on the interconnections between these different issues. The experts then offered perspectives from country government, donor governments, commercial banks, and service providers.

Lukas Kwezi (DFID Tanzania) emphasised that in the context of basket finance, there is need to coordinate the diverse group of funders. There is need to understand and engage these different groups by better understanding each actor's objectives and constraints.

Christopher Flensborg (SEB) noted that speaking from a commercial bank perspective, one challenge is that people in the water sector and people in finance speak very different languages. Also, the nature of capital has changed: there is big capital now, but a lot of water projects are small. So there is need to combine the language, and to create mechanisms that can activate big capital through aggregation of smaller water projects.

Worlanyo Kwadjo Siabi from the Ministry of Sanitation and Water Resources, Ghana noted that a lot of resources are being invested but one of the biggest gaps to sustain the system is in terms of the skills required to manage the system.

"Mobilizing human capital is very important. At the end of the day capital is one thing but humans will make the difference." - Christopher Flensborg, SEB

Expenditure on human capital - also called direct support - to keep the services running is mostly ignored in finance. In this session and throughout the finance theme, participants emphasised the importance of investing in human and institutional capacity, as well as financial literacy within the WASH sector. This will make it more viable to attract finance and ensure the sector and its utilities and service providers are credit worthy.

The session set the stage for a continuing discussion about how the sector can finance and support non-bankable utilities that are unable to attract commercial finance. In the sector overall, there has not been enough discussion on tax mobilisation and public finance management that are essential to support the less bankable utilities.

A concluding call to action: We need to invest in the foundational issues as much as we are investing in infrastructure in order to move from piecewise project funding and attract finance on the scale that is required to meet the SDG targets.

F2: what is needed for a country to prepare and implement a robust WASH financing strategy?

Conveners: UNICEF
Presenters: Guy Hutton, UNICEF (chair)
Dirk Schaefer, GIZ
Dawda Jawara, UNICEF
Evariste Kouassi-Komlan, UNICEF
Moderator: Regina Rossmann, GIZ and José Tomas Frade

Improving the level and efficiency of sector financing is a critical precondition for countries to meet their national WASH targets. Master plans and sector plans set the vision, but to be actionable they need costed financing strategies. Most plans identify the costs but don't go further into identifying the different sources of funds or the real gap.

First, countries need to understand what are the costs of meeting targets as well as current spending, to assess what additional resources are required and what existing or new sources of financing could be mobilised to close the gaps. However, according to the GLAAS 2017 report, few countries have defined or implemented comprehensive WASH financing strategies that seek to improve the flow and spending efficiency of resources.

This session explored the challenges that may prevent development and implementation of such strategies by presenting case studies covering Kenya, Uganda, Burkina Faso, the Philippines, Cote d'Ivoire, Guinea, Liberia, Senegal and Sierra Leone.

Dirk Schaefer of GIZ presented cases from Kenya and Burkina Faso, Dawda Jawara and Evariste Kouassi-Komlan presented cases from West Africa and the Philippines.

"Only when we can address some of the preconditions can we have the opportunity to innovate in financing, it will not come in unless the fundamentals are in place"- Dawda Jawara, UNICEF

Burkina Faso was the poorest country in the study, yet stood out in its significant efforts to develop and implement a coherent financing and investment framework. The country takes a bottom-up approach where the utility comes up with the model; the plans are regularly externally audited and reviewed jointly by the government, the treasury and the donors who are committed to financing the sector. The government has approved a sustainable tariff to repay the loans, and the donors enter into a more reliable commitment to the sector.

The Kenya case is interesting because it follows the entire sector reform processes where the whole topic of investment and financing was seemingly overlooked in top-down planning processes. The Water Act of 2016 tried to address this, but little progress is evident since then. It has become clear that something needs to be done and there are discussions about donors coming together to work with the government to develop capacity for investment planning.

The Philippines case showed how the track record of service providers was instrumental to attract more commercial finance. Like in other countries in Asia the incentives were clear: a challenge fund was set up where any external income would be matched dollar for dollar - these incentives made finance possible.

"Unless there are incentives in the system, the financing strategies will not go anywhere" - Emiel Wegelin

Group discussion and reflections from the panellists teased out a few key issues. One is the need to make a distinction between plan and strategy. A strategy is not a wish list, but it defines what we want to do, how we intend to do it and sets out a plan for monitoring progress on the strategy. But financial strategies need to make a stronger link to the tariff discussions and existing regulation.

Government leadership is critical. Sometimes a strong multi-actor platform is helpful as in the case of Senegal, or the work it delegated to others (as the delegation to the public utility in Burkina Faso), but in all cases, clear government leadership and initiative are essential.

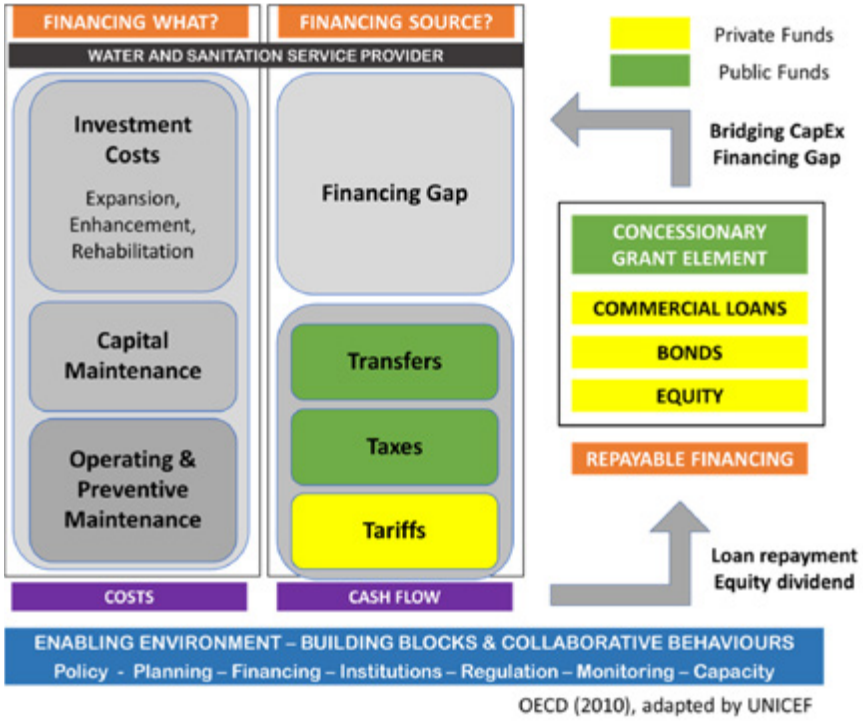


FIGURE 14: WASH FINANCE STRATEGY

SOURCE: OECD (2010), ADAPTED BY EVARISTE KOUASSI-KOMLAN, UNICEF

F3: results-based financing (RBF) in WASH: opportunities and lessons learned

Conveners: Max Foundation, DFID, SNV
Presenters: Lukas Kwezi, DFID Tanzania
Chris Brown, Technical Adviser to the Ministry of Water in Tanzania
Joke Le Poole, Max Foundation
Antoinette Kome, SNV
Moderator: Rachel Cardone, RedThread Advisors / Stanford University

This session explored the benefits and challenges of results-based financing in WASH through three cases:

- DFID Tanzania's experience supporting a national government programme on rural water supply maintenance systems (2.1 million people)
- Max Foundation's experience in Bangladesh with incentive payments to local partners tied to health outcomes (EKN funded, 1.2 million people)
- SNV's experience implementing the DFID results-based sanitation programme across 8 countries (8 million people).

Moderator Rachel Cardone started off the session with a survey of the room: of the approximately 50 participants the majority had some experience with payment by results financing.

Rachel Cardone, RedThread Advisors / Stanford University

The first presentation was from Lukas Kwezi and Chris Brown about experiences using results-based financing and adaptive programming to improve water service delivery in rural Tanzania. Lukas provided the overall background. Payment by results (PBR) emerged in response to donors finding that often the results of activities they were funding were not being realised. In the case of WASH, they were noticing a great deal of investment in infrastructure but much less going into maintenance and ensuring sustainability of services. The programme was developed not only as an incentive for implementing organisations but also to challenge the government to change the institutional set up and focus on achieving long term results.

"Achieving sustainability in a complex system is not straightforward; another objective with results-based financing was to allow for more adaptive programming and demand responsive activity development". - Lukas Kwezi, DFID Tanzania

Experiences from Max Foundation to improve child health showed that there was an initial challenge in getting different implementation partners to come to a common understanding of what success (results) should look like, which was a success in itself. Further, we learned about the need to be strategic in identifying intermediate results so that partners don't need to pre-finance everything.

Experiences from SNV in Zambia and South Sudan suggested that PBR is best when you know what and where the project risks are. For example, the overall unit cost per beneficiary will depend on how efficient you are with implementation, so you need to do contingency planning when things don't go as planned.

One interesting reflection on PBR is that overall there is often less project-related data, because the focus has been on measuring results, and less focus on activities. Several presenters mentioned the value of PBR in emphasising robust data for measuring results and particularly the quality of results, which can be overlooked in other funding schemes. This can also encourage supporting and using government-led monitoring systems where possible.

Overall conclusion from the session: Can PBR work? Yes. Everywhere? Probably not. Is it adequate to all WASH development interventions? No. It does require a significant change in approach and works when partners understand the reasoning behind PBR and are fully committed.

F4: tracking financial flows and developing WASH accounts: key results and future perspectives

Conveners: WHO, IRC
Experts: Mr. Joseph Obeng Poku, Ag. Chief Director, Ministry of Sanitation and Water Resources, Ghana
Bruce Gordon, WHO
Juste Nansi, IRC Burkina Faso
Jane Nabunnya, IRC Uganda
Jeff Goldberg, USAID
Radu Ban, Bill and Melinda Gates Foundation
Moderator: Fiona Gore, WHO

This session presented key results from countries implementing TrackFin. TrackFin is a globally-accepted methodology to track financial flows for the WASH sector. It provides governments with stronger evidence for decision-making on budget allocations. In this session, colleagues who had implemented the TrackFin methodology in Burkina Faso and Ghana shared their experiences, along with partners from the WHO, USAID and BMGF. The discussion spotlighted different funding approaches including the setting up of national WASH accounts with an emphasis on outcome-based planning.

Fiona Gore, WHO

Moderator Fiona Gore noted that this year marks the 10-year anniversary of the GLAAS initiative, and asked participants to reflect on the incredible progress made over the 10 years. Ten years ago few countries shared financial data on WASH. Then in 2014, some countries started to and this encouraged WHO to develop the methodology to track finance in WASH to make the financial gaps in the sector more explicit.

"TrackFin is going to be very important for development partners to improve coordination and targeting. We need to have reliable data to target our funds and use TrackFin as an accountability tool." - Jeff Goldberg, USAID Water

Since then, 16 countries have employed the methodology and demand now is high. Analysis across the 16 countries shows that expenditure in drinking water is 5 to 6 times higher than expenditure on sanitation; limited access to sanitation in many countries is correlated with the (low) expenditure. Remarkably, when we look at aggregate results, US$6 out of US$10 comes from users, meaning that the burden of WASH expenditure sits largely with households making it likely that vulnerable populations who cannot pay are being left out.

TrackFin can be used as an accountability tool, but it will only work if national governments, particularly those who are responsible and engaged in financial and investment planning, are interested. At the moment, interest is high but overall national monitoring systems are still weak and regular reporting on and accounting for resource allocation remains a challenge.

Radu Ban, BMGF; Bruce Gordon, WHO; Jane Nabunnya, IRC Uganda and Juste Nansi, IRC Burkina Faso

Just Nansi, IRC Burkina Faso described how in Burkina Faso users are the ones who contribute most for WASH – about 70% of total spending. Country budgets account for about 4%; bilateral and multilateral finance for 24%; regional and local authorities only 1% each. NGOs, who many believed to be a large contributor also only fund about 1%. These NGOs play more of a catalytic role and recognising the scale of NGO investments could have implications on their strategies and approaches.

Mr. Joseph Obeng Poko emphasised that, since 2016, Ghana has been doing studies to define and understand finance gaps. Beyond this, Ghana is working to adjust and adapt sector strategies and plans to try to fill these gaps and maximise the available resources. He also emphasised that endogenous revenue generation is complex since the Ghana water sector contains multiple bodies and agencies responsible for generating revenue for different funding streams.

The bottom line according to Jane Nabunnya, IRC Uganda, is that if government is truly leading the process, they must interrogate the TrackFin methodology and discuss the findings in key meetings with political leaders.

"Our government partners must take the results outside the WASH sector and to the top of the political agenda, otherwise we have all the data but we won't have change". - Jane Nabunnya, IRC Uganda

F5: financing WASH for the mile: how to invest in water and sanitation systems with negative return on investment?

Convener: Oxfam GB
Moderator: Tom Wildman, Oxfam GB
Presenters: Rob Mills, Social Finance
Jessica Graf, Le Fil Consulting
Irene Gai, Oxfam Kenya
Anjil Adhikari, Oxfam Nepal

The poor sustainability of WASH infrastructure has been documented for decades in remote and vulnerable contexts. We blame it on ineffective community management and poorly governed local institutions. We sometimes involve private sector in delivery, but it never scales. We try to enrol socially-minded impact investors, but they say that investing in these types of systems is not interesting for them, as there is no money in providing services to the poor. There's no 'win-win' situation in these contexts where we can both make profits and serve poor people - the numbers just don't work out.

This session explored some possible solutions developed by Oxfam for working in contexts where financial viability is likely impossible. Oxfam GB, Social Finance & Le Fil Consulting shared data and analysis methods from 'deep dives' in chronically vulnerable contexts in Kenya and Nepal in order to challenge pre-conceived notions on sustainability in these contexts. Key questions discussed in this session were:

1. How do we actually undertake the necessary analysis to identify underlying problems and quantify the potential financial impact of addressing them?
2. Finance is available for creditworthy water & sanitation enterprises/utilities; what about those that currently operate in the red but provide critical social returns?
3. Just how far can we push market-based/private sector approaches? Should we even be thinking about them in chronically vulnerable rural areas or fragile contexts?

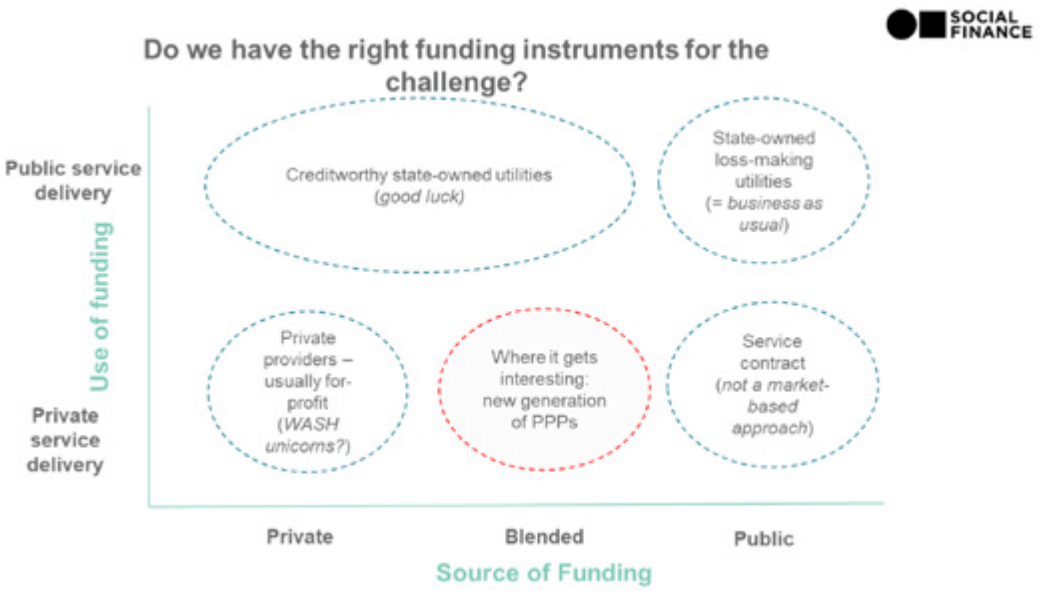


FIGURE 15: DO WE HAVE THE RIGHT INSTRUMENTS FOR THE CHALLENGE?

SOURCE SOCIAL FINANCE

The first example presented was the Outcomes Fund for Inclusive Water Provision in arid areas of Kenya. The initiative aimed to stimulate more effective use of public finance to drive investments for the poorest. Sensitivity analysis from poor rural areas showed that increasing tariffs was not a main driver for financial sustainability.

The second example was a centralised network of (unprofitable) mini-water service providers in rural Nepal, where a sensitivity analysis was undertaken to understand how close to financial viability they could get. The study determined that willingness to pay was strongly influenced by lack of transparency on spending, so with improved data and accounting it was possible to collect increased revenues from the community.

In either context, involving local government is key. The least bankable contexts will not attract private finance so public engagement is critical. This can be a challenge but strong commitments within the context of the SDGs helps.

The main revelation for Oxfam with this work? It's not just about building infrastructure and covering costs, it's about systems strengthening. We need to work within the local system and seek to understand the local context. This has led us to focus on market development in collaboration with local officials.

F6: the critical role of governments and political will in WASH finance

Convener: Water.org
Moderator: Regina Rossman, GIZ
Presenters: Manoj Gulati, Water.org-India
Trisha Agarwala, Centre for Budget and Governance Accountability, India
Depinder Kapur, National Institute of Urban Affairs, India

Development partners can put significant funds into WASH, but it will not be adequately leveraged or sustained if there is no political will from national governments to make it a priority. Political will is a foundational issue that needs to be addressed. The discussion focused on how political will in India helped in getting finance for WASH systems. The session examined the role of government globally in blended financial solutions across multiple layers – national, state and district – for countries striving to increase WASH access and coverage. It used India's national sanitation campaign, the Swachh Bharat Mission, as an example of how political will can be transformed into action.

"I am a strong advocate of public finance. Many states are doubly disadvantaged so we should keep pushing for public finance." - Trisha Agarwala, Centre for Budget & Governance Accountability.

In India, political will was strong and allowed an exponential growth in the number of toilets since 2014. The Swachh Bharat Mission included investments in the media to provide a frequent push for public support, and Bollywood celebrities and cricketers were engaged to endorse the programme. A comprehensive financing strategy and adapted financing instruments were also developed and supported by the government, including recommendation for the use of microfinance loans. Policies were created to allow bankers to move and channel funding more effectively.

Trisha Agarwala, Depinder Kapur, Manoj Gulati and Regina Rossman

Water.org adopted the Indian government's strategy, and through working with a different ministry - the National Rural Livelihood Mission project by the Ministry of Rural Development - their work in providing microfinance for toilets and water became part of the state rural livelihood mission. This led to a paradigm shift by bringing forth the perception that rural people are bankable. Meanwhile rural people were demanding toilets in line with the national campaign. They found that when people take a private loan there is a behavioural change: they take care of the toilet "When you own it, you use it."

What can other countries learn from the India experience? Certainly, there are unique elements of the context which mean the same programme cannot be exactly replicated to other places. Yet, many lessons may be transferrable:

For one, government leadership does not mean governments have to pay for everything. It means governments committing to and incentivising solutions for the long term. Government leadership means developing a comprehensive financing strategy, but it can -- and must-- require the involvement of many actors, including banks, as well as the population at large. In general governments are open to getting private finance – not just through credit from loans, but also through Corporate Social Responsibility, Public Private Partnerships, and other mechanisms. In these cases regulation by the government is also key. Serious political will means leadership with both a carrot and a stick.

It is also important that government agencies, departments, and others actors have clearly defined mandates and roles. This is true for overall WASH policy but it also important to build into financing strategies and national campaigns.

F7: the role of different stakeholders in influencing financial flows across the system

Convener: DFID
Presenters: Sydney Byrns, WASH Catalysts
Mohammad Zobair Hasan, DORP
Lisa Rudge, DFID
Moderator: Evariste Kouassi Komlan, UNICEF

The session outlined the experiences from three countries using tools for mapping financial flows and using the results to influence budget allocations to improve sustainable, accountable and effective rural water and sanitation. The examples were used to stimulate group discussion around the role and effect of different actors in influencing financial flows.

Sydney Byrns of WASH Catalysts shared a film about a stakeholder mapping exercise in Mulanje district in Malawi that identified a significant funding gap resulting in inadequate human resources for service provision, e.g. three staff responsible for monitoring 2,000 water points. Findings suggested a need to engage with stakeholders at national level to address the findings and challenges rather than trying to address systems strengthening at district level alone.

In Bangladesh, DORP used the Inclusive & Gender responsive WASH budget monitoring tool in hard to reach areas to track the equitability of budgets for women and the marginalised. The primary objective of the budget monitoring is to increase transparency, access to information and accountability. As in many countries, the budget system is fragmented across several ministries and departments; this tool accounts for the development budget (budget received under projects; allocated from nation to sub district) and non-development budgets. Findings are shared with population and civil society groups as part of a process to improve the financial literacy of the marginalised and support evidence-based advocacy.

In Mozambique, decentralised service provision needs to be improved along with strengthening sub-national governance and accountability. Lisa Rudge presented experiences from a performance-based funding approach that DFID has trialled as a way to influence results and improve financing for capacity building. After over five years of implementation, district officials are supporting data collection for performance-based indicators (such as the number of open defecation free communities sustained). The programme targets improvements both in visible factors (eg. computers, cars) and invisible factors (hierarchical structures, culture) to ensure the system works.

How is this model leading to change? Together with multi-level capacity building and strong leadership a concerted effort is paying off. However, success requires the implementation of financial decentralisation in addition to the decentralisation of responsibility and leadership that already exists.

What do these experiences say about improving financial flows? First, evidence generation is important to influence budget decisions. Secondly, there is a need for technical assistance - although the money might be allocated to decentralised service providers, there are often few capacities to actually spend the money and a lack of established efficient mechanisms for the timely flow of funds from one level to another. Many other factors influence the budget flows at the national level but much can be done to improve its flow to sub-national levels. The system is complex and we all need to collaborate to improve public financial management.

"'When the system is too complicated it comes down to individuals and their own drive to change things. People need to grow their confidence to talk about budgets." - Catarina Fonseca, IRC

F8: using life-cycle costing data to support strategic planning and decision making

Conveners: Water For People, IRC
Moderators: Kim Lemme and John Butterworth
Presenters: Tupac Mejia, Country Director, Water For People
Mesfin Geremew, World Vision and the Millennium Water Alliance
Rushika Shiva, IRC India
Trisha Agarwala, Centre of Budget and Governance Accountability

Life-cycle costs refers to the costs of ensuring adequate WASH services to a specific population in a determined geographical area, not just for a few years, but indefinitely (Fonseca et al, 2010). This interactive session provided evidence and experiences from Honduras, India, and Ethiopia to illustrate the power of life-cycle costing as a way to strategically plan and advocate for systems strengthening when working at a regional or national level.

FIGURE 16: WATER FOR PEOPLE'S 'COST PIE'

SOURCE. WATER FOR PEOPLE

In Honduras, between 2016 and 2019, local partners together with Water For People combined the asset registry tool which is used to identify which drinking water systems need replacement, with a full costing of the different components including direct support; operation and maintenance; and rehabilitation costs. This was followed by using the At What Costs Tool to calculate the tariffs needed to cover running and part replacement costs. The analysis tools have been incorporated into a guide for the development of PEMAS (strategic WASH plans), and the closing gap is being tracked with the financial sustainability scorecard.

The session on - using life-cycle costing data to support strategic planning and decision making

In Ethiopia, government spending is focused on capital expenditure. With an alliance of NGOs in Ethiopia, World Vision has used the life-cycling costing approach to assess WASH services in three woredas of Amhara covering a population of 800,000. Overall, water budgets were found to be much smaller than those for health and education, with little-to-no spending on maintenance or rehabilitation leading to frequent breakdowns and non-functionality.

Two out of three woredas had no tariff systems (the third had a fixed rate), so the costing exercise and complementary affordability assessment enabled clear tariff recommendations: an increase of 2.5% for households, along with a spending recommendation of 5-10% of the local government budget for WASH to be allocated for capital maintenance expenditure.

In Odisha, India, IRC worked with CSOs to analyse budget allocations and flows from the district to the village levels for the period 2015-16 to 2018-19. The main finding was that funds for sanitation and liquid waste management were almost exclusively for construction of new infrastructure; this funding increased until 2017-18 and then dropped as coverage reached 80% nationally. At the panchayat level, 40-60% of water supply was spent on CapEx, about 40% on direct support and about 12% on OpEx.

It was also found that the government had low capacity to manage account books, leading to delays in paying subsidies, misuse of IEC and corruption. Panchayats have limited opportunities to raise funds so there is a need to work at higher levels. NGOs needed training on financial management to effectively advocate with the government.

The session used the fish bowl for an interactive discussion exploring how evidence has been used to influence and support planning and decision making. Overall, the life-cycle costing tools seem to be a good entry point for a wider discussion on increasing finance, and the concrete budget tracking results are effective for transparency and advocacy.

Doing the costing part is hard, but vital for both NGOs and governments to make evidence-based decisions. Costing is not just for economists; the findings may seem basic but they must be viewed in context to be able to understand its power for influencing budget allocations and enabling more professional finance discussions.

Peter Laugharn, President and Chief Executive Officer of the Conrad N. Hilton Foundation

Theme 4: sustainability in fragile states: understanding risks and opportunities for WASH systems strengthening in a rapidly changing environment

FS1: systems strengthening in fragile states: rethinking the conceptual framework for fragile contexts

Conveners: Oxfam UK, Water for Good, Chemonics and WHH

Presenters/moderator: Joanna Trevor, Oxfam

Zachary Borrenpohl, Chemonics

By 2030 half the world's poor are expected to live in fragile conditions, up from less than 20% today. Currently more than 40% of the world's population lives in water scarce areas with roughly a quarter of global GDP exposed to water scarcity. However, most work on testing approaches for systems strengthening has focused on more 'stable' contexts. This session introduced key questions for using systems approaches in fragile contexts and took the discussion beyond the humanitarian and development dichotomy. The discussion called for a rethink in programme design that starts by looking at the context of fragility and understanding it, rather than starting with pre-defined programming outlines designed for 'fragile contexts'.

Common approaches to systems strengthening in WASH focus on defining and strengthening 'building blocks' of the system, implying that if these building blocks are weak, or even missing, the foundation of the system is weak. The objective of this session was to understand how systems for WASH service delivery can be strengthened even when the foundations are variable. Starting with the building blocks of the Agenda for Change conceptual framework for WASH systems, David de Armey challenged the participants to consider if and how this framework can evolve to be relevant in fragile contexts.

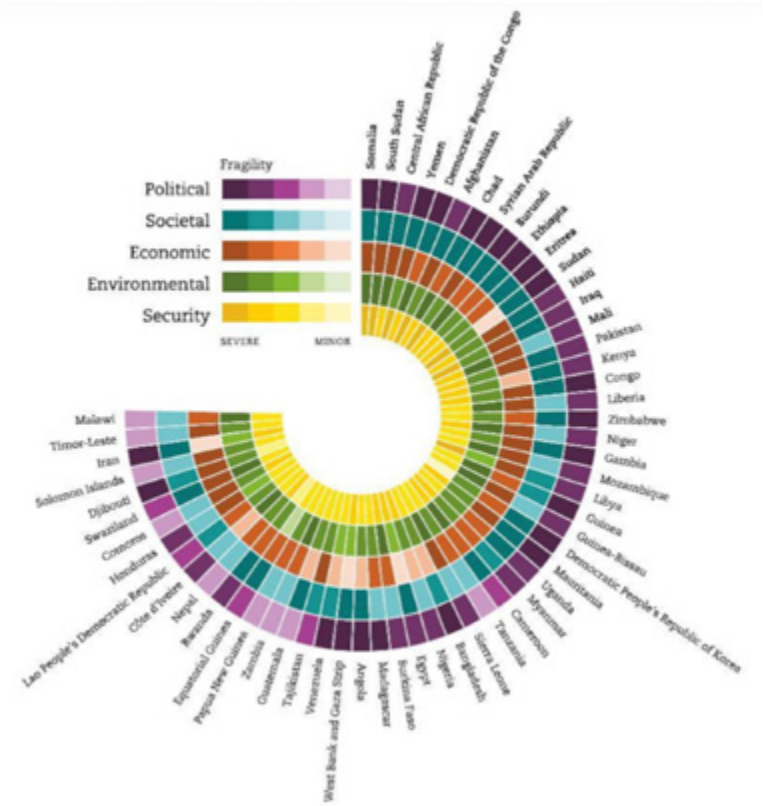


FIGURE 17: UNDERSTANDING DIFFERENT TYPES OF FRAGILITY

SOURCE: OECD.ORG

A first step is moving beyond an emergency response attitude. There is significant variation between contexts, but in many cases service provision does not completely stop due to a crisis and it certainly shouldn't be assumed to have stopped. Systems thinking in crisis means identifying and capturing every little opportunity.

From the outset it is important to be clear about whose/what system we are talking about strengthening. As Will Tillet of Aguaconsult commented, we need to understand the wider system in which WASH services operate; for example, understanding the social dynamics is key. Yasar Fatoom gave an example of how engaging communities and social committees in Syria led to an idea for improving water quality: make volunteers and truck drivers deliver in their own region, as nobody wants to deliver bad quality water to their own families.

A roundtable discussion generated new insights on some key principles and building blocks for working in fragility. Protecting security is vital, which means not only providing humanitarian access but also understanding that there are different sides to conflicts. It is vital to understand the role of different state and non-state actors to prevent any party from deliberately denying access to other parties.

Another key topic was leadership- many WASH systems approaches assume government leadership, but where does leadership come from if it isn't institutional? When there is little or no national level capacity it can come from NGOs and development partners, or any actors that have longstanding experience and mutual respect in that sector. These actors are often fluid, and the leadership emerges through partnership or inclusion of local actors including the private sector.

"When you work in a fragile environment, if you start working only at the humanitarian response, you will get stuck. If you look at the system blocks only, you will be disappointed. ***Moving from the humanitarian response situation towards to the whole systems is an art more than a science.*** *And make sure that the community can move from humanitarian crisis response state to be ready for sustainable development that will hopefully put the entire functioning system into place."* - Yasar Fatoom

The session concluded with an invitation to help build networks of people working in different contexts to share tools, methods, and concepts for strengthening WASH service delivery in fragile contexts.

Session on systems strengthening in fragile states

FS2: adapting to fragile contexts: choices, dilemmas, and consequences that relate to working in fragile contexts

Conveners: Oxfam UK, Water for Good

Presenters: Joanna Trevor, Oxfam

Josue Ibulungu, DRC SWIFT Consortium (via Skype)

Moderator: David de Armey, Water for Good

The session used a game format to engage people in discussing the nuances of working in fragile contexts. The game presented participants with a dilemma and asked them to choose between two responses and provide a brief justification. They were then given a score and judgment from a jury of experts. Each dilemma was linked with a building block, to demonstrate their value as a guide but also to suggest why they should be adapted in such dynamic contexts.

Game scenarios:

1. The government has declared all water a national commodity and therefore all water management structures must be managed by a government official. The official can choose members of the committee and price tariffs.
   - Do you – accept this management structure despite serious concerns and try and deliver water to areas that haven't got safe potable water?
   - Or do you find alternative ways of delivering aid 'illegally' and access the areas with the most need but risk repercussions to the organisation and some staff?

2. The government has mandated that water systems can only be built with a certain pump – this is known to be more unreliable and will end up costing the management committee in the long run:
   - Do you – accept this limitation and work with the management committee to mitigate this as best as possible?
   - Or – refuse to use this pump and find other ways to buy a more reliable pump and accept the risks to the access of the organisation?

3. During a conflict the government has decreed that aid will only go to pre-approved areas. An agreement has been made with the UN and other operational NGOs dictating programme areas. This has resulted in opposition areas being off limits to aid and has recently led to famine in a key opposition area.
   - Do you work with the UN and other organisations under this arrangement, knowing that areas are neglected but this is the only 'legal' mechanism to deliver aid across the country?
   - Or do you find alternative ways of delivering aid 'illegally' but risk repercussions to the organisation and some staff?

Following the game, Oxfam presented their recognition – based on experience - that building blocks are a useful guide but have to be adapted to fragile contexts, and Josue Ibulungo of the DRC SWIFT Consortium shared experiences from eastern parts of DRC in long-term conflict, extreme fragility and lacking state services including water. SWIFT showed that in a context with low capacity and downward accountability of local authorities, it was possible to improve transparency and engage local government to work more transparently with water committees to establish improved processes and even get people to pay for water.

Overall, the conclusion was that it is possible to have strong institutions in fragile contexts. Inclusion of different actors is essential and it should never be assumed that governments are corrupt and opposed to transparency and supporting local ownership. Moral decisions and risk management are part of working in fragile states.

FS3: fostering systems change in fragile states: economic and market-based approaches

Conveners: Concern Worldwide / Helvetas
Presenters: Franck Flachenberg, Concern Worldwide,
Agnes Montangero, Valerie Cavin, Mathias Pierre, Lucien Blaser, Helvatas
Moderator: Valérie Cavin, Helvatas

We know it is important to apply a systems approach to improve coverage and sustainability of WASH services, but how can we support the operationalisation of such an approach in fragile contexts? The session presented case studies from the Democratic Republic of Congo (DRC) and Haiti to stimulate discussion in a 'world café' style session about how to foster systems change. It focused on approaches to building financial sustainability and viability of WASH services in fragile contexts. Posing the question: is financial viability feasible in fragile states where existing infrastructure has been established by iNGOs, the session concluded that it is.

In Haiti, approximately 95% of funding comes from outside the country and there is little decentralised WASH management or capacity. Helvetas worked to use a systems approach for sector strengthening by establishing a common vision, clarifying roles and responsibilities, and strengthening key building blocks such as institutional capacity, planning, coordination, and consultation mechanism. To operationalise this, they used a market systems approach. A market system is a multi-function, multi-player arrangement. The approach draws a boundary around the exchange and processes by which goods and services are delivered. It focuses on the supporting functions and rules of systems which are performed and shaped by a variety of market players. The approach embraces supply and demand at the core, defining the rules and supporting functions that must be in place for the system to function properly.

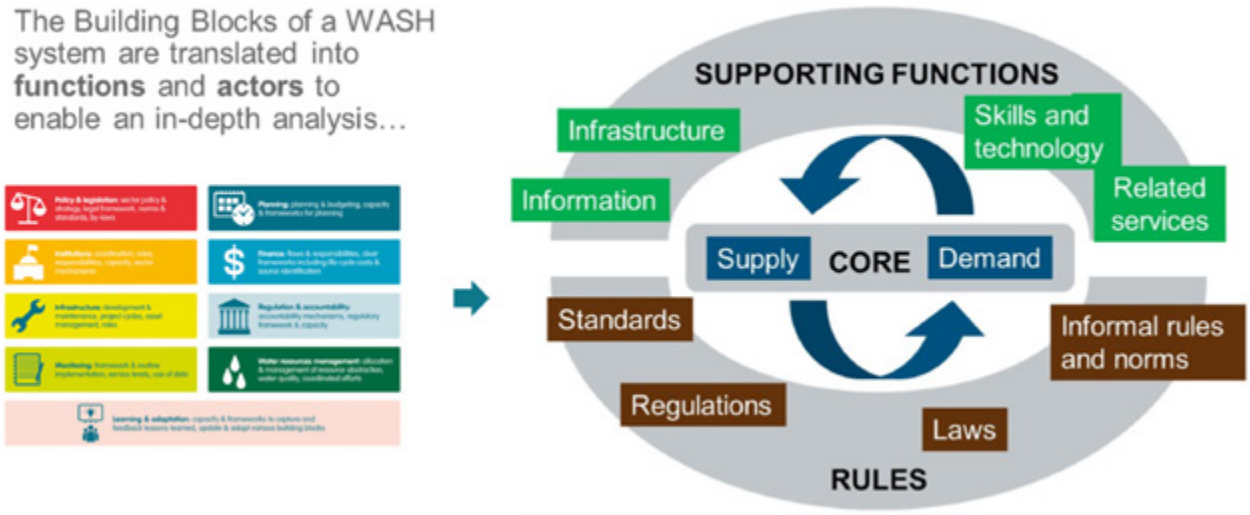


FIGURE 18: UNPACKING THE WASH SYSTEM.

SOURCE: MONTANGERO ADAPTING AN IMAGE FROM HUSTON AND MORIARTY, 2018

The case from Concern Worldwide focused on an 'economic approach' using life-cycle costing for rural WASH in DRC. It focused on understanding the different types of costs and addressing the reality that cost recovery can occur at different levels. They shared experiences of working with water point supervisors such as Papy Mbanzo wa Muana in Sambo, who embraced economic literacy as part of improving service sustainability and invested in raising pigs to leverage revenue from household water payments. According to a two-year follow-up study, roughly two-thirds of water points in the case have achieved some level of monetary self-sufficiency.

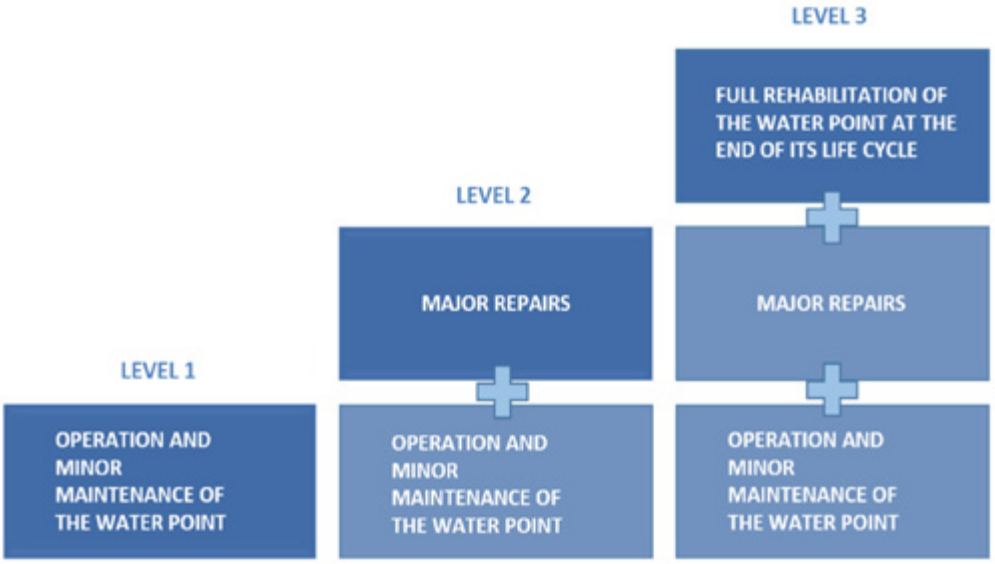


FIGURE 19: THREE LEVELS WITHIN THE ECONOMIC APPROACH

SOURCE: DRC WASH CONSORTIUM AND CONCERN WORLDWIDE

The main learning points from the case studies were how the presenters were able to identify challenges and create change in systems based on understanding the factors driving the market. The discussion and Q&A focused on approaches to developing local actor capacity and authority to deliver WASH systems and monitor on a larger scale. Participants also emphasised the need to get the basics right so that local systems are sufficiently robust to last in emergency contexts (e.g. integrate elements of facility in systems analysis and planning, and have a clear financial model even if it is not perfect). The discussions also focused on the need for different tools for monitoring and maintaining WASH facilities in fragile states in the context of larger national monitoring and large-scale funding and aid systems. Water systems tool sharing can be easily facilitated and shared openly via SWA tools at www.sanitationandwaterforall.org/all-tools

"If you have worked in a fragile state, you know how difficult it can be, but we have shown how promising WASH can be in these communities" - Franck Flachenberg, Concern Worldwide

FS4: strengthening monitoring and information systems in fragile contexts

Conveners: IRC / Water for Good

Presenters:

- Donavon Favre, Water for Good
- Crépin Prosper, former Hydraulics Ministry Technician and Water for Good WASH Expert
- Evan Thomas, University of Colorado Boulder
- John Butterworth, IRC Ethiopia
- Petros Birhane, Lowlands WASH (USAID)
- Haimanot Assefa Getahun, UNICEF

Water points are often not monitored in fragile states, and information collection and dissemination may not exist. These shortcomings typically result in negative outcomes for the water users, such as broken water points not being fixed, and poor planning for development and maintenance, resulting in a lack of evidence base for advocacy. This session explored what happens when local stakeholders shift from data-poor to data-rich. Experiences were shared of using sensors in Ethiopia (Evan Thomas, John Butterworth, Petros Birhane & Haimanot Assef), and from Water for Good's establishment of integrated monitoring systems in the Central African Republic (CAR). Both cases explored how live, and more routine data points, when respected by and in the hands of local authorities, can be used to support better and more efficient operation and maintenance.

Jane Nabunnya, master of ceremony at the special event on the Human Right to Water at the Peace Palace, The Hague

In fragile and emergency contexts (e.g. drought) infrastructure is often built with little attention to data management and without the establishment of feedback systems to track implementation nor follow up to see whether or not the programme outputs are actually working. When building a borehole, one thing is guaranteed-- the pump will break down someday! And in drought, when there is high demand for ground water such as in the Ethiopian lowlands, a few minutes of pump failure can create a crisis. In the hands of the right authorities, sensor data which identifies when the pump is broken, can reduce the down time between failure and repairs.

In CAR, Water for Good is working with districts and the national government to coordinate data collection and use to increase functionality and increase funding, credibility, and transparency. The absence of data has stifled long term development: having data can help push maintenance up the agenda; support improved allocation of budgets for sustaining services; and support actors to find new ways to provide maintenance services.

How are actors responding to having this data?

- People closest to system don't need it because they know the findings already.
- County/local government anticipated the findings, but are already looking ahead, asking for cheaper options than sensors, since despite evidence that maintenance is needed, there is no money for it.
- National governments are surprised and many did not know how bad the situation was.
- Donors are uncomfortable when forced to face the failure rates despite such significant investments.

Development actors seeking to improve monitoring are concerned about the risk of adding (another) unsustainable, externally-funded, parallel monitoring system. However this can be mitigated through partnership with local actors from early inception and by adapting approaches to the local context. Data collection and analysis contribute to better programming and financing. Once there is a system, engaging with district and national government agencies is key to keeping it running.

Contextual volatility does not mean services have to be volatile or fragile. The level of service stability depends on the operator's (NGO/agency, CSO or private sector) level of commitment and adaptability in the long term.

FS5: community engagement in the Democratic Republic of Congo: opportunities and challenges of applying the building blocks in an adaptive way

Conveners: DRC WASH Consortium/ SWIFT Consortium
Experts: Fidelis Folifac
Franck Flachenberg, DRC WASH consortium
Dr Josué Ibulungu, SWIFT Consortium Coordinator
Amisi Kalenga, SWIFT Public Health Promoter
Moderator: Fidelis Folifac, UNHCR

This session discussed the application of systems change perspectives in DRC. Two cases presented demonstrated adaptive learning and programme modification within their funding constraints (including one within a Payments by Results funding agreement).

The DRC is a water rich state – a significant number of alternative but unimproved sources are easily available and there is a historic dependency on humanitarian aid. Many communities therefore expect water for free. However, the presenters showed that good progress has been achieved in advocating and successfully implementing more professional service provider operations. These are valued by communities and have led to payments for improved services.

A video, Sustainable WASH in the Democratic Republic of Congo, showed how the **DRC WASH Consortium** is working with 640,000 people in rural communities to develop sustainable WASH services. Over the last 5-10 years there has been a demand-driven movement towards sustainable, reliable water points that include financial planning for multiple levels of maintenance and operation. Financial planning started with the adaptation and use of IRC's life-cycle costing approach. Promoting the project in villages through community collectors and promoters has been key to sustaining demand and income.

The second video by the SWIFT Consortium looked at collaborative efforts between iNGOs, local government and communities to explore how teams have adopted different ways of working. They have moved away from traditional messaging to explore what motivates change in behaviour, particularly what prompts individual payment for services. Key to this was developing a more active market where local managers are trained and salaried, with continued monitoring of services.

Talking with the filmmakers highlighted the importance of thinking long-term, by creating more transparent and easy to understand systems, especially in fragile states where hygiene behaviour and change are so difficult to implement. When communities are given detailed costing information, they may opt for more costly but higher quality technology. The **RENAS Framework** was noted as useful regarding behaviour change.

According to Franck Flachenberg, systems change approaches take significant time and effort. There is now recognition that providing services means giving people full time jobs. As Joanna Trevor remarked, "We should have started up the professionalisation of service providers earlier and the excuse of the Congo being a difficult setting has been used for too long."

Sustainability still remains a challenge. We continue to learn: how to ensure that communities reach these competencies after instruction is gone; how to monitor all aspects of these programmes best; and how to increase financial stability.

Other considerations included: the impact of internally displaced people; the need for excess capacity to deal with rapidly shifting numbers of users; and the difficulty of setting fair tariffs for internally displaced people who are particularly vulnerable. There was some strong critique of the challenges arising from payment by results funding arrangements which hinge on basic reporting indicators (eg. number of tippy taps).

"Although many of these helpful programmes are safe, clean, and sustainable, it can be tough to implement them because these communities are used to other sources that are free, subsidised, or traditional" - Florence Pichon, ODI Research Officer

"If you do not pay for the water, then when Oxfam, AVUDS, and other organizations leave, you have no way of continuing your services" - Amisi, Behaviour Change specialist for AVUDS

FS6: findings on conceptual frameworks for fragile contexts: where do we go from here?

Conveners: Oxfam UK, Water for Good, Chemonics and WHH
Experts: Joanna Trevor, Oxfam UK
David De Armey, Water for Good
Will Tillett, Aguaconsult

The session aimed to bring together issues emerging from the fragile states theme at the Symposium, to highlight learnings and identify points for further discussion and next steps. The theme sessions had provided the rare chance to converge conversations about fragile states and WASH systems and to highlight water as a human right and moral obligation. The discussion focused on continuing this process beyond the Symposium by galvanising the emerging community of practice around building systems in fragile states.

More highlights from the sessions are included in the thematic synthesis summary. A few key reflections were:

- The WASH systems conceptual framework is helpful in fragile states but does require modification and alternative tools. Perhaps an additional building block that accounts for aspects of fragility?
- Systems approaches and systems building in fragile states are absolutely possible!
- Several tools and examples exist of professionalisation of services and even cost-recovery at local level. This could be particularly important in the absence of centralised leadership and government subsidy.
- We need systems innovation for hygiene behaviour change, which is particularly difficult in fragility. Promising examples exist (e.g. DRC).
- One approach is to look at the existing system as a possible risk point itself, and consider how to react/adapt to fluctuations and changes in a given setting.

For next steps, one idea was **to formalise the emerging community of practice on systems building in fragility,** with the aim of integrating discussions on WASH systems, human rights, and fragile states. It was deemed helpful to consider how specific cases and discussions fit into a larger context (especially in complicated and fragile contexts): a conceptual framework can be useful to help prevent feelings of isolation which are common in this sphere.

A possible concrete follow up for interested collaborators is to **produce a discussion paper on WASH systems strengthening in fragile contexts.** The purpose would be 1) to expand the information base and advance sector thinking and 2) to raise awareness of practitioners working in such contexts and the opportunities for systems there. It was emphasised that this paper should include voices from communities and donors who are the major players in this sphere.

Clearly, progress on the longer-term objective to develop and build a network of practitioners working in fragile states has already been made.

"We are all part of this system; whether it's engaging, strengthening, or being part of a dilemma, we are all in it." - Joanna Trevor,– Oxfam UK

Participants celebrating IRC's 50th birthday

Theme 5: measurement and learning

Sub-theme day 1: monitoring and measurement sub-theme: understanding the challenges and opportunities for monitoring WASH systems

M1: beyond building blocks: identifying and monitoring dynamic drivers of functional WASH systems

Convener: WaterAid

Presenters/panellists:

Clare Battle, WaterAid

Heather Skilling, DAI

Elizabeth Jordan, USAID

Stephen Lindley-Jones, DFID

Brecht Paardekooper, Ministry of Foreign Affairs of the Netherlands

Nick Burn, Water For People

"From the start in a contract you have to be talking about a systems view to make clear how we want to work." - Brecht Paardekooper

"If you want to make sustainable services work, be clear about the institutions, the financials, the processes, etc. that you need to make that work." - Nick Burn, Water For People

Brainstorm on identifying and monitoring dynamic drivers of functional WASH systems

WaterAid's Clare Battle presented new research asking "Is system building at odds with the results agenda?". It is clear that enthusiasm about systems approaches is on the rise, creating an equal need for new approaches to measuring and monitoring. Building blocks and similar frameworks have been developed by a variety of organisations and used to monitor the performance of systems components. However, the building block approaches have been used more often for one-off analyses rather than for continual monitoring of systems evolution. The health sector is more advanced in its measuring approaches.

Despite efforts to encourage systems monitoring in WASH, in practice we see there are few examples of effective continuous systems monitoring, and attention for results monitoring has stayed steady. Evidence shows that even if indicators of system strengthening are better designed and used, stakeholders need to be wary of the politics around monitoring; data of any kind needs to be verified if it is to be trusted, and ideology can often play as great a role in decisions as evidence.

The research identified four challenges:

1. Isomorphic mimicry: e.g. focusing on having a regulatory agency, rather than ensuring that a regulatory agency functions. It is a focus on form rather than function.
2. Silos, not systems: building blocks divide a system up. By definition a system is made up of the building blocks and the interactions between them. This is often neglected in the focus on the system elements.
3. Overlooking emergence: building blocks can result in a rigid or static view that obscures the messy, complex patterns arising from the interactions.
4. Misplaced effort: a lack of focus can lead to undue attention on marginal issues and encourages over-complex responses.

This provoked discussion on financing and the flexibility needed from donors:

- How can we mobilise funding for approaches oriented toward systems change including the potentially more costly experimentation with systems monitoring? E.g. When the Dutch government implemented a clause stipulating all WASH investments should last 10 years, did they triple the money given with grants to fund monitoring efforts that would be needed to support this?
- How do you know when you reach the tipping point in investment in monitoring approaches and the efforts are yielding diminishing returns?
- How can we build in, and enable, more flexibility and agility in logframes, and avoid theories of change being measured and implemented like logframes?
- How can the pressure for results be balanced against the emerging consensus that we have to build systems?

On moving beyond building blocks:

1. How can we adapt the building block frameworks for continuous monitoring against systems change? We should work on what we already have (not overreact), but we need to explore how we can get from diagnostics to monitoring.
2. Donors and partners should work together to: a) research and understand the core building blocks, b) consult local stakeholders to develop detailed indicators for monitoring progress. We need a form of funding that is compatible with this. Local stakeholders should be empowered to start using and appreciating approaches to c) fund small-scale experiments; d) select indicators to track how institutions function; e) develop and test methods to capture system-level dynamics; f) leave space to capture unpredicted emergent issues within results frameworks; and g) keep thinking about this issue, keep asking questions, keep learning from other sectors.

M2: understanding and assessing the WASH system

Conveners: IRC, UNICEF and WSUP
Presenters: René van Lieshout, IRC
Guy Hutton, UNICEF
Jonathon Stokes, WSUP
Moderator: Stef Smits, IRC

Related to discussions in M1, strengthening WASH systems require approaches and methodologies for diagnosis of the system to understand and decide on the changes needed. Many analytical frameworks work by breaking the system down into simplified components for assessing individual elements and the dynamics between them. The following tools for WASH systems diagnosis were presented for a discussion on challenges and opportunities:

- WSUP: Urban WASH sector functionality framework
- UNICEF: WASH Bottleneck Analysis Tool (WASHBAT)
- IRC: WASH systems framework

A key theme of the presentations and discussion was that the process in which the tools are used is very important. Typically, the tools are used in a workshop format where different stakeholders are brought together to discuss and determine the scoring. It can be more or less participatory, and which stakeholders are engaged (and how) has a big impact on how the results are appreciated and used. Simone Klawitter, consultant for UNICEF, noted that: "The more you can align with existing processes in the sector, the more ownership and value you create."

"Bringing people together and have them talk in a way that they don't normally talk is incredibly valuable." - Guy Hutton, UNICEF

Given the similarities of such tools, another objective of this session was to identify potential synergies and any needs for alignment of the methods to better streamline and support sector efforts. However, given the interest in understanding the 'how' of applying such tools and the necessary enabling conditions, the discussion did not gravitate toward a more nuanced discussion of synergies. More focus was made on synergies with national sector processes, and understanding how the different tools can adapt and support joint sector review or other national assessment strategies.

What about the shortcomings of 'Building block' approaches as discussed in M1? Can the current tools that are being used deal with the complexity of the sector?

There is a clear consensus that WASH systems are complex and the tools that are being used are all pretty linear. This problem is acknowledged, however there is always a danger of over complicating the assessment when you try to take a more systemic approach. The specific indicators and building blocks can be adapted to address dynamics. IRC, for example, includes a scoring tool to look at more complex concepts like leadership and commitment. One value of these tools is that the sector can understand how the score is determined; more complex and dynamic tools typically require analytical processes that are less transparent. A lot of the strengths of the tool is in how people engage with it, which starts in the assessment workshop but goes far beyond. Partnerships, culture and the way stakeholders/actors engage with each other (outside of that one workshop) is equally important as the content discussed using the tools. Capturing the qualitative reflections and narrative behind an answer is crucial for later replication and sense making.

M3: understanding the outcomes of WASH System Strengthening in complex settings

Conveners: IRC, Cranfield University and IWMI
Presenters: Paul Hutchings, Cranfield University
John Butterworth, IRC
Barbara van Koppen, IWMI

Understanding the outcomes and impact of WASH system change is an intricate challenge, especially with reference to equity issues and vulnerable populations. The session presented the details on a new **Water Wellbeing Toolkit** that can be used to assess the intended and unintended consequences of sector strengthening for different sectors of a target population. It presented findings and proof-of-concept from the application of the Toolkit among pastoralist populations in the Ethiopian Lowlands. This study contributes to the ongoing debate about measuring and attributing wellbeing and health outcomes to WASH interventions when those outcomes are known to be multi-dimensional.

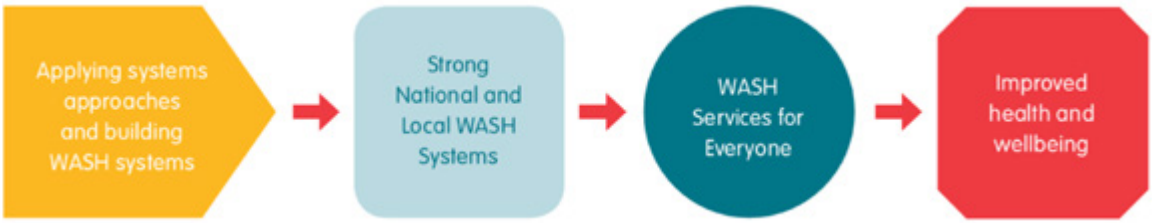


FIGURE 20: THEORY OF CHANGE FOR WASH SECTOR

SOURCE: IRCWASH

If you look at high level theory of change for IRC (sometimes referred to as a theory of change for the entire sector), the whole approach of system strengthening hinges on the idea that this work will eventually lead to improved health and wellbeing. However, attribution between activity and outcome is harder the further you get through the logframe or theory of change. Can we actually measure and attribute outcomes in an affordable way? This is a hot debate. When you see studies and headlines that claim "WASH is in crisis" due to the weak relationship found between health and impacts (e.g. Luby et al, 2018 WASH Benefits study showing low clinical, RCT evidence for WASH on child health benefits), we see there is a need to continue to investigate health outcomes and impact. Yet, most studies on impact are extremely costly and not feasible for WASH implementers.

Often in WASH, the highest level outcome that is measured is WASH service levels, which have known shortcomings such as 1) Different forms of multiple use ladders; 2) Informal self-supply; 3) Mobility and water sources beyond the household; 4) Seasonal variability in demand, water services/uses. The **Water and Wellbeing toolkit**, developed within the WEEP project, was developed to follow up on the suggestion that conventional service ladder monitoring misaligns with pastoralist livelihoods and water use patterns. WEEP used wellbeing as a proxy measure for health outcomes and WASH impact, as one study in a series of projects exploring the subjective experiences of water access instead of directly measuring water access and service levels.

Instead of outsiders telling people what their service levels should be, can we use this approach to get feedback on what actually matters to the people receiving (or not) the services? In line with the theme of Day 1 of the Symposium to provoke and debate, is this provocative?

"The big question for this work? How can you isolate the emotion that is attributable to water access? This is a multi-disciplinary question, but the short version is that it IS possible to ask people how events make them feel and capture an isolated effect." – Paul Hutchings

The findings presented in this session are only a beginning. The study only sampled 150 people in three similar villages (pastoralists in Afar), however it showed that people are sad in the dry season, which is 9-10 months of the year, which is associated with acute negativity. Surprisingly, the study found no significant difference in wellbeing responses based on gender disaggregation. However, the potential to capture intra-household variation based on gender, life stage, etc, is an important, potential contribution, and one potential use of this method is to study impacts of climate change, environmental change and environmental health.

The conclusion from Barbara van Koppen? "There is a lot to keep learning on this," and we need to remain open to entirely new ways of working that come with transformative change.

Reina Buijs at the opening plenary


@IRCWASH
The Hague
1968
#Allsystemsgo #notjust4nerds #WASHsystems
All systems go!

Sub-theme day 2: tools and techniques for understanding how actors and factors influence WASH outcomes

M4: introduction to tools and approaches to monitoring and measuring WASH systems (marketplace)

Convenor and moderator: Dr Kate Neely
Presenters: Yemane Gebreegziabher, SNV, iWET consortium Ethiopia
Allison Salinger, WaterSHED
Mr Hagere Belete, Head of the Water, Mines & Energy Department, Jinka, South Omo
Joseph Pearce, IRC
Jonathan Stokes, WSUP
Rich Fromer and Geoff Revell, LINC and WaterSHED Cambodia
Diana Benikhlef, École de technologie supérieure de Montréal (ÉTS), Université d'Etat d'Haïti (UEH), Université Quisqueya (uniQ)
Radu Ban, BMGF

There are a wide variety of tools and techniques that are useful in understanding and evaluating the complexity of the social-political-environmental systems surrounding WASH interventions. This session used a marketplace approach to introduce some tools and techniques via a series of short presentations on the tools and the contexts where they have been useful. The short pitches were followed by an opportunity to dig deeper into a few of the selected techniques in small groups in a world cafe style.

The seven pitches were from:

- Geoff Revell & Allison Salinger – evolving Metrics for Sanitation market systems: working with local government to design, collect and analyse data in Cambodia
- Diana Benikhlef - identifying and mapping the stakeholders in the sanitation systems in Haiti
- Sam Drabble and Jonathan Stokes- characterising sector functionality in 6 cities
- Yemane Gebreegziabher - identifying the actors and scoring progress for water entrepreneurship to sustain services in Tigray, Ethiopia
- Radu Ban- Combining the SFD with the economic representation of costs distributed to households in the system to visualize equity, safety and sustainability in urban sanitation
- Geoff Revell - organisational network analysis and community driven systems analysis
- Hagere Belete - using monitoring of assets and estimating life-cycle costs as an entry point for improved support for maintenance in Ethiopia.

"For government stakeholders, it was totally different for them to see data about themselves" – Diana Harper LINC, regarding the results of Network Analysis in Sanitation sector in Cambodia

In this session it became clear that tools and monitoring are not only about measurement. These are ways of creating change and catalysing action, including often-unanticipated directions and shifts. In the opening keynote of the Symposium, Barbara Schreiner emphasised the need to find ways to measure and understand and assess systems without becoming paralysed. This marketplace provided several examples of tools that help do that. Participants noted the value of the Symposium for making connections and providing opportunities to learn from other organisations' experience before launching a new monitoring tool or approach. Overall the experiences presented in this marketplace drew us back to the realisation that monitoring systems change works best when many voices are included in the process. We saw that building feedback and relationships between stakeholders is pivotal to applying tools for systems monitoring. Applying tools in ways that are flexible enough to 'follow the story' is an important factor in continuous monitoring.

Hon. Cecilia Abena Dapaah, Minister of Sanitation and Water Resources, Ghana and Catarina de Albuquerque, CEO, SWA

M5: networked for action: understanding coalition networks for WASH service sustainability

Convener: Sustainable WASH Systems Learning Partnership
Presenters: Diana Harper, LINC;
Duncan McNicholl, Independent Consultant;
Pauline Kiamba, Oxford and Rural Focus, Ltd
Moderator: Amy Javernick-Will, University of Colorado Boulder

Network mapping and analysis is a tool for interpreting systems and relationships between organisations. It can identify gaps, strengths and weaknesses as well as divergent understandings. It is strongest when complemented with qualitative approaches and strong participatory processes (both from a quality and ethical perspective, as well as potentially an impact and use perspective). This session provided an introduction to the topic and presented case studies from Kenya, Uganda and Cambodia followed by a dynamic audience discussion. Most of the audience members were already familiar with network analysis and around half had some experience using it.

As a practical example of impact, Martin Watsisi from IRC Uganda outlined how the mapping analysis undertaken by SWS had identified a lack of contact between communities and district government in Kabarole, and as a result, there was a change in focus to include strengthening these relationships. 'It is about presenting the system back to itself' said Martin. While we sometimes think that local experts know the network, according to Duncan McNicholl "10% of the network is a surprise and this is what helps to strengthen strategies." From Ethiopia and Uganda, other opportunities for action were already emerging. In both contexts, the network analysis showed that female led organisations were less well connected.

The session was successful in producing more questions for a continuing discussion. How can these approaches be best utilised to make strategic decisions by both partners and other sector stakeholders? How (or even will) these approaches be used by sector stakeholders and beneficiaries without the heavy (and costly) involvement with donors and development partners? To what extent are they truly participatory rather than extractive in nature?

It was pointed out that the network maps cannot truly show the quality of the connections, the only thing you can know for sure is where there is or isn't a relationship. There is not necessarily an ideal network either-- we don't always know what is good or bad since more connections can actually reduce efficiency or indicate poor systems structure. In this regard understanding the context of a social network map is just as important as having the map.

Ranjiv Khush, Aquaya Institute, congratulating IRC with its 50th birthday

Sub-theme day 3: data, people and monitoring platforms come together to support systemic improvement of WASH decision-making

M6: the power of data in inspiring and measuring systems change

Conveners: GWC, WASHNOTE, IRC and DAI
Presenters: Brian Banks, GWC
Felix Knipschild, Nicolas Dickinson, WASHNote
Marieke Adank, IRC
Moderator: Heather Skilling, DAI

This session started with a short game called 'WaterShip' developed by Brian Banks to demonstrate the problem in a light easy format that was referred back to during the session. Each individual at a table was an NGO trying to provide everyone with water. Everyone had a map where their waterpoints were, and were planning to build a new waterpoint in a new location. If a player opted to build in a place where someone else already had a waterpoint they would strike out (wasting resources). The winner was the one who provided most services. What's the point? You can make better decisions when you have better information. The tricky part is that data is everywhere from a variety of sources and its existence does not equate to its use. "The value of data is reached when the data is consumed – a data spreadsheet itself doesn't help us in any way. If you collect data and only use it for one purpose, you lose a lot of potential value of the data," said Banks.

There are a number of platforms that participants were familiar with, Brian Banks clarified that WPDx is setup to support data exchange for water points; similarly, Gather Hub (http://gatherhub.org) is focused on sanitation.

The session then moved into a conceptual overview of the relationship between data and improved WASH systems led by Nick Dickinson. Nick emphasised that WPDx is also a data exchange standard, which is meant to support the use of evidence for improved service delivery. He also drew on experiences from AfricaSan to show how monitoring country progress on commitments was an important way to improve the outcomes and stimulate action. He presented results from a white paper Harnessing water point data to improve drinking water services which provided the following key recommendations:

- It's crucial to integrate standards into national frameworks.
- Authorities should encourage all to collect water point data in the same way, using national standards.
- Financiers: require grantees and businesses to do their due diligence and evaluate current water points.
- Track your water points over time: can district government, implementers and community see the history of the water point? How do we keep that collective memory?
- Engage in the political process: if we see a successful example of how data has been used, we should also see politicians talk about it.

The final component of the session was a presentation for discussion by Marieke Adank, IRC on the factors that influence the use of data for improved decision making. This work provided a framing on the different uses of monitoring data for different purposes (e.g. accountability, improvement, planning, regulation), and introduced three different models for using data (linear model, relationship model, systems model). According to Marieke's research, factors for data use can be divided into three broad categories:

- Data characteristics: quantity, quality, timeliness, accessibility, relevance
- Capacities: individual, organisational (financial and logistical resources), organisational (data and information systems), institutional
- Motivations: incentives, interest, culture

The most important factor according to an audience poll during the session? Culture.

Marieke's conclusion is that it's not just about the data, it is also about culture and incentive structures, the institutional/ organisational and individual capacities.

M7: drivers, triggers and factors for success or failure in strengthening government-led monitoring

Convener: WaterAid
Presenters: Ellen Greggio, WaterAid
Nick Dickinson, WASHNote
Tim Davis, WaterAid Australia
Stuart Kempster, WaterAid UK
Mr Hla Khaing, Department for Rural Development, Myanmar
Moderator: Heather Skilling, DAI

Building on discussions started in M6, this session was intended to stimulate further discussion around key drivers, incentives and factors for success or failure in strengthening government-led WASH monitoring. While M6 and WPDx focused on all water point data, this session was particularly focused on government-led approaches and national monitoring systems. It included experiences from both government and external agencies and donors' perspective to help identify best practices and key drivers that can lead to actual progress for effective monitoring processes in the WASH system. Presentations included contributions from the Department for Rural Development in Myanmar as well as presentations on the WASHNote / IRC / Akvo/ UNICEF experience with the 12 Component Framework for a structured participatory approach that was implemented with nine partner governments in west and central Africa.

The presentation from Ellen Greggio with Mr Hla Khaing from the Department for Rural Development in Myanmar focused on experiences in setting up an M&E team in 2017 and working progressively toward concrete systems strengthening to improve drinking water outcomes. The initiative was founded after it became clear that there was not enough data to track progress toward the national strategy. The planning approach, as well as the need to attract more finance, required more than SDG and JMP type data and was a key driver. It took a combination of political champions and drive from technical experts, motivated young engineers, and those who put an emphasis on learning. The main challenges-- in Myanmar and every context - are parallel monitoring projects with the multiple programmes with distinct funding. Harmonising the MIS and process will take time. There needs to be flexibility in the new MIS as well, and that will take time.

"If I wait for the results of the JMP, that will be every two or more years, and we cannot wait that long. I want to know where I am. At the same time monitoring alone will not make the progress." - Mr. Hla Khaing, Department for Rural Development, Myanmar

The next presentation for discussion came from Nick Dickinson, who introduced a framework for strong national WASH monitoring systems that comes with a toolkit adapted from UNAIDS. The toolkit supports a process of assessment of national systems toward development of a national M&E plan and activities with a focus on the enabling environment, coordination of national actors and even the technical components including access and use of data. He summed up the findings in terms of drivers, triggers, and factors as the need for 'a funnel of participation' that includes inputs from various actors and consultants toward a streamlined process with the government in the lead.

Clearly, there is still work to do to build national monitoring and information systems, but can there also be a commitment of the donors to build national monitoring systems, and can they start working through the national systems instead of their own project indicators and results? This has all the hallmarks of a reinforcing feedback loop (working for or against national MIS).

Points for further discussion?

- Where do we start with the development of monitoring systems: top-down, indicator driven approaches or participatory evaluations of the national systems and nationally driven implementation plans? Probably both, but the tension on where to start is non-trivial.
- The accuracy and reliability of the data that is reported/collected is at the heart of any system. Monitoring can only create the potential for action if it is reliable and timely. Thus, while data can increase accountability, that is only true if the collection and reporting process is itself undertaken with systems for accountability as well.

M8: towards WASH service delivery systems approach: using different tools and sources of data

Convener: Akvo
Presenters/discussants: Jeroen van der Sommen, Akvo
Machteld Galema, Akvo
Brian Banks, GWC
Nick Dickinson, WASHNote
Jeff Goldberg, USAID

This participatory session was designed to close the measurement and learning theme and to highlight the 'what's next' of systems approaches to data for WASH monitoring at national scale. It included presentations from Akvo on their experiences internationally and with a focus on Sierra Leone, followed by a structured discussion on future perspectives. The objective was to get beyond looking at data and data use, toward understanding the actual action that is stimulated by effective monitoring.

The case of Sierra Leone demonstrates one examples of what the 'data journey' looks like in practice, where the Ministry of Water Resources has contracted Akvo to support the design and implementation of water quality monitoring at scale. The demand came from the Ministry level and an entire system was put in place to bring it from ground level and into use for top decision making.

An emerging new term in the theme data journeys? Participants talked extensively about understanding the data value chain and supporting its development across sectors. The value chain makes the data market viable; it starts with demand and can spread quickly. Similar to lessons learned from market-based approaches in sub-sectors like sanitation, we see that the entire enabling environment and system need support in order to meet and sustain demand.

Presentations and discussions in this thematic area show that collecting data and talking about data is far more common than five years ago, but there still is a need to move away from innovation of single tools and data concepts and toward larger systems innovation. Systems innovation could mean there is active demand and use of tools, and development of databases which are inter-operable. According to the presenters and discussants, future perspectives include a platform-strengthened market for data, where young data collector professionals in communities all over the world are able to gather data on request from NGOs/governments/etc. worldwide and exchange it through the platform. It is through a strengthened collaborative platform that data becomes more valuable and data collection becomes more cost efficient.

"Five years ago talking about data, understanding data, and acting on data was so far away. The speed of change in this field is incredible." – Brian Banks

"Once something works in this field, it can spread fast and that is what we need in the WASH Sector." – Jeroen van der Sommen

Presenters called for a renewed data vision in the sector, focused on how we can best share data, with clarity on who contributes to the data and who owns the data. These are the type of discussions that are more and more present (at least at this "Nerds" symposium, so maybe a slight bias here!). Jeff Goldberg provided a donor perspective: our reality at USAID is that we are operating on a 5-year project approach, where these processes go quicker. There was a notable lack of government perspectives in the room; participants emphasised that beyond tool and system innovation there is a need to continue to focus on how they can understand the demand from local governments and to support stakeholders to make informed decisions.


Fire hose
ROOM 7
Finance
VIP
AVEQ RENTAL

Capacity building sessions and workshops

CB1: exploring the complexity of local WASH systems. A participatory factor mapping workshop

Convener: Sustainable WASH systems Learning Partnership
Facilitators: Nick Valcourt, University of Colorado Boulder
Jeff Walters, George Fox University

Exploring the complexity of local WASH systems

Factor mapping is a powerful approach for isolating and visually representing the influence of different relationships within complex systems, as well as leverage points of where to intervene in these systems. This workshop offered a how-to guide and demonstration of an interactive group model building approach. The enthusiasm of the facilitators was matched by that of the participants, who were keen to master the tool and consider its application outside the workshop.

The approach combines quantitative and qualitative data to identify the range of factors in a complex system, to rate the significance of the relationships between individual factors, and to filter out the relationships that have the most significant influence. Creating a visual representation of the data then serves as analytical tools for identifying possible leverage points. The approach helps to unpack complexity by breaking the system down into its component parts, and identifying the core relationships and factors that influence the system. The participatory process helps to expose people's assumptions about the system. It shows how people think—mental models-- and provides evidence for where to focus intervention efforts.

The factor mapping approach can be applied in different contexts and is adaptable to work with different types of stakeholders, including people with low literacy and numeracy. It does not require a computer, electricity or the internet, and the approach can be implemented by trained facilitators but does not require extensive high-level training. Ideally it is developed through an iterative process rather than a one-off workshop. Skilled facilitation is important, including the ability to read the room and know and understand how to get earnest participation from those in the room. Ultimately, the quality and robustness of results will depend on who is present during the exercise.

The facilitators paused for questions before trying out an example-- seventeen hands went in the air! The questions implied participants had clearly understood the presentation and were already thinking about how they could apply it in their work.

The group then did an exercise based on a 'willingness to pay' scenario. Participants developed a matrix of six factors (quality of service, affordability, social factors, regulation, trust and willingness to pay), ranked them according to 30 different influence relationships in the matrix and used the data to develop an influence map and a causal loop diagram. Whilst going through this semi-quantitative scoring process, a second facilitator or note taker was on hand to capture all the rich qualitative insights coming from the discussion that might not be represented in the final diagram.

Mapping the system is critical for driving change within complexity, and participatory factor mapping is one great tool for doing it. The tool can be used to stimulate an earnest dialogue among stakeholders while also providing useable results—making it a win-win. In the future it will be possible to see whether participants can take what they learned and apply it after the symposium, but the enthusiasm on 13 March was a strong indication that at least some in the sector are ready to try it out.

CB2: WASH in health care facilities planning from a systems perspective: what to ask, who to involve, when to do this

Convener: Dr Gilbert Buckle
Facilitator: Gilbert Buckle, Healthcare Federation, Ghana

Because of the known link between WASH and healthcare outcomes, many WASH practitioners assume that drinking water and sanitation facilities are a critical part of healthcare facilities planning and management. In reality, this is rarely the case due to constrained resources and other factors, as presented in the keynote by Gilbert Buckle. Participants appreciated Dr Buckle's unique position as a health systems expert and the objective of this session was to further discuss these ideas and go the next step by starting to apply concepts like 'seeing through the eyes of the other' in a planning process. Planning was discussed in the context of seeking transformational progress through structural change and institutionalisation of WASH as a priority in health care. Planning in this context also emphasised the importance of advocacy and trying to get others on board and to invest in and commit to improving wash services. Like the district WASH master planning process supported by Agenda for Change members and presented in GP3, planning needs to be both political and technical in order to overcome constraints faced in status quo planning and enact systems change.

Many in the WASH sector have adopted an approach to dealing with complexity that is based on breaking up the WASH system into manageable components, often called building blocks, in order to make sense of the complexity and enable a systematic assessment and strengthening approach. As mentioned by Huston and Moriarty, 2018, the 'building block approach' to WASH was inspired by the WHO's health systems strengthening framework that identifies ten building blocks for health systems. Dr Buckle proposed that the WASH building blocks framework can be used explore the interface with healthcare, by exploring how each of the building blocks, such as policy or regulation, intersect with and contribute to healthcare systems and outcomes. This could help identify and develop shared innovations, such as opportunities for technology investments, improved regulation or strengthened monitoring systems. Patience is required to do this in detail but this process can be used to help design an intervention and to develop the 'business proposition' that can be made to healthcare professionals with whom you want to collaborate. It means buy-in and commitment from both health and WASH professionals are essential from the outset because each building block and stream of work is involved.

Participants identified the critical leadership and management skills and mind sets needed to champion, design and implement WASH in health care facilities. They also learned techniques to assess the readiness of healthcare facilities to use a WASH systems approach to improve facilities. Discussions varied widely given the different experiences and interests of the people in the room, however participants left with a better understanding of the context for working in health care facilities and the need to address this type of WASH service very differently given its position within the health sector.

CB3: system mapping and identifying leverage points: a simplified process for practitioners

Conveners: WASHCatalysts / BASEflow
Facilitator/moderator: Sydney Byrns, WASHCatalysts

Leverage points in a system are places where a small change could lead to a larger shift in behaviour, and this session provided some philosophy and simple tools for identifying them. The participatory session introduced Donella Meadow's theory of systems thinking and illustrated how these can be applied in practice by sharing WASHCatalysts' experiences with local systems strengthening and capacity building in Malawi.

Donella Meadow's ten tips for Dancing with systems were much discussed during the symposium, so this session was an excellent chance to look at them in more detail. We suggest you look them up for yourself, but here is a summary:

1. Get the beat.
2. Listen to the wisdom of the system.
3. Expose your mental models to the open air.
4. Stay humble. Stay a learner.
5. Honour and protect information.
6. Locate responsibility in the system.
7. Make feedback policies for feedback systems.
8. Pay attention to what is important, not just what is quantifiable.
9. Go for the good of the whole.
10. Expand time horizons.
11. Expand thought horizons.
12. Expand the boundary of caring.
13. Celebrate complexity.
14. Hold fast to the goal of goodness.

Get the beat, referring to taking the time to be still in the system and observe its behaviour, was strongly emphasised and included cues to understand the unique history in each context. This was particularly important to get to grips with the dynamic relationships between different actors, and to try to get underneath why things are the way they are before trying to change or 'fix' them. Getting the beat is particularly important when working with leverage points in complex systems since it is not possible to predict what larger shifts a small change might lead to. Often results are counterintuitive so it can also be wise to start with smaller scale changes or piloting before seeking broad spectrum implementation of promising solutions.

"Starting with history discourages the common and distracting tendency we all have to define a problem not by the system's actual behaviour, but by the lack of our favorite solution." - Donella Meadows quote, shared by Sydney Byrns.

Furthermore, this shows the importance of flexibility and adaptability during implementation. *"If the programme is not designed to be flexible,"* said Sydney, *"it is not a systems change approach."*

Another tip was to locate intrinsic responsibility and try to understand what motivates people to do what they do, beyond short term motivation through things like per diem or daily spending allowances to attend a meeting. The session introduced a simple systems mapping tool that can help to understand these dynamics by drawing linkages between stakeholders and trying to understand the responsibilities, strengths, weaknesses and dependencies of different actors. In Malawi, WASHCatalysts used this tool to imagine scenarios where the NGO would exit (e.g. 'cover up' the NGO worker on the map') in order to build system resilience and design a long term NGO exit strategy.

Participants shared ideas from their experiences in complexity, and walked away feeling inspired and ready to try out the mapping technique in their own work. Several expressed a desire to read more of Donella Meadows' work: her book Thinking in Systems is available online at: https://wtf.tw/ref/meadows.pdf.

CB4: what core competencies are needed in WASH? Develop your very own WASH masterplan and see!

Conveners: Durham University / Lund University / McGill University / UNHCR
Facilitators: Jennifer Thompson, Durham University
Sara Gabrielsson, Lund University
Susan Gaskin and Angela Huston, McGill University
Fidelis Folifac, UNHCR

On entering the room, participants were urged to choose a seat based on their desired 'role' for the 120 minutes of this workshop. Each table formed a group of five representing the stakeholders in 'University Town' which included a municipal local government politician; an engineer with the water utility; a community member; and either a WASH NGO staff, development bank representative, journalist or local student union. Each role included a short description and a specific set of interests and constraints. Everyone was given some context on the WASH situation in the fictitious University Town and was instructed to develop and agree on a realistic set of targets and a masterplan to reach by 2030.

Participants soon sprang into action and stepped into their roles: debating, raising concerns, and forming allegiances with other stakeholders at their tables. The different stakeholders clearly had diverse perspectives on what was 'realistic' and whether investment should focus on immediate success through new constructions (politically favourable) or on planning for long term sustainability. When one of the University Towns started making real progress, an announcement was made that protests had broken out in town and water users were demanding services now. Short on time, each of the groups presented their 'masterplan' and shared their perspectives on perceptions of the role play process.

Discussing the core competencies needed in WASH

It was only after the role play concluded that the convenors shared the objectives. The purpose of the process had been to develop awareness about the unique competencies required for navigating the complexity of WASH systems. While technical skills were needed, they were insufficient to stimulate collective action toward the ambitious aims of universal WASH services. The power dynamics of the multiple stakeholder process were important, but understanding and adapting to the personalities of the individuals was also important, as were several other strategic skills.

The second objective was to gain consensus on what exactly the core competencies are for working in complexity to help inform training and capacity building approaches in the sector. Jennifer Thompson, the overall facilitator, then shared a set of five core competencies adapted from Wiek et al, 2011 for the WASH sector:

- Systems thinking competence
- Anticipatory competence
- Normative competence
- Strategic competence
- Interpersonal competence

These five competencies seemed to resonate with workshop participants, who noted that it is unlikely that a single person will excel in all of them but that within the entire group it is important to have them all represented.

The final objective was to pilot the activity (a role play of master planning for universal WASH services) as a methodology for building these core competencies in participants. The methodology seemed to have potential for revealing latent competencies in individuals and for building them through a sort of gamification. The down side? Some noted that this exercise might make a case against transparency since shielding or putting a slant on information was in some cases helpful for individual players to achieve their objectives. This dynamic is an unfortunate reality so perhaps it can be exploited to provide added value by helping participants understand some of the situations they encounter in reality. Another insight from participants was on the need for facilitation and mediation in going through multi-stakeholder processes, even if it is a role play. "At IRC we often see our role as a change facilitator for complex processes; this exercise showed me that this role is crucial in finding compromises and win-win solutions," said Elynn Walter. One place those competencies are certainly needed is for playing the role of facilitator, change hub or backbone for any sort of collective action or transformative change process.

CB5: theory of change and systems change

Convener: Think NPC
Facilitator: Katie Boswell

Many of us talk about theories of change, and for some of us they are a default approach to programme planning. This session offered insights for both beginners and experts alike while providing tips to avoid some common pitfalls. Systems change specialist (and keynote speaker) Katie Boswell of Think NPC focused on two examples and a collection of other anecdotes from when theories of change have been helpful, or limiting, in complex social sectors outside of WASH. Katie is co-author of Thinking Big: How to use theories of change for systems change.

A theory of change is a conceptual tool used to articulate how change happens; it is explicit about the mechanisms of change and brings assumptions to the surface so they can be challenged. Typically, a theory of change includes activities, outcomes, and impacts, which are identified and developed by working backwards from the highest level anticipated outcome. Because of the possible similarity to a results change, theories of change often end up getting used for tracking results in the social sector, and can form the foundation of an organisation or project monitoring framework.

A theory of change becomes less effective if it becomes too linear, so Boswell encourages creative adaptation to the basic components to include elements of context, assumptions, feedback loops, and lots of links between different parts.

Like many systems tools, the effectiveness of a theory of change will depend on how it is implemented; Katie argues that the process of developing and applying it is as useful or more useful than the actual output. The purpose of going through a theory of change process is to make the organisation's assumptions explicit within the organisation, and to initiate a dynamic, and hopefully continuous discussion about how to address and navigate them. The approach is well-suited to modelling complex challenges but requires a careful balance to keep it practical and accessible to diverse audiences.

Participants broke into small groups to discuss the benefits and risks of using the theory of change. Since the process of developing a theory of change typically produces a concrete product or figure, if only that figure makes it into use (and

the process is forgotten) there is a risk of undermining the complex change process by neglecting context, oversimplifying realities, and overlooking assumptions. Another common shortfall is to develop a theory of change that focuses only on technical changes or the changes that others need to make, without looking within to consider what organisational transformation might be needed.

Plenary, Thinking big Katieb Boswel

Sounds like a theory of change is all risk and no reward? Most of the limitations and shortcomings can be overcome through a conscious commitment to thinking in systems. When people are put at the centre and the process is inclusive and reflective, relationships and power dynamics are more likely to be revealed.Boswell's report provides a simple list of things to check periodically in a theory of change process, most things are avoidable once you are aware of them.

Participants also appreciate the value of applying theory of change along with other systems tools such as system and network mapping. Mapping the system helps to understand the terrain, then a well-thought out theory of change can serve as a compass for navigation and working toward desired results.

Martin Watsisi, IRC Uganda

Conclusion

The three days of excitement, deliberation, learning and sharing at the Fokker Terminal in Fhe Hague marked an important milestone on our journey toward strong and resilient WASH systems that deliver services to everyone, everywhere around the world, forever. While the 400 participants represent only a handful of those who must be engaged and committed to making the SDGs a reality, our shared understanding of collective action and evolutionary change mean that a critical mass of systems leaders can make a real difference.

The transition from an infrastructure-only sector toward one that is focused on developing resilient and inclusive systems for public services is ongoing but has clearly reached an inflection point at All systems go!. The salient message that WASH systems strengthening is the only way to achieve lasting improvements to service delivery was heard loudly from representatives of government, development banks, NGOs, CSOs, academics, and from a more limited number of private sector actors. Still, there are a large number of highly influential people and organisations who are not yet convinced or on board with the systems approach. And for those of us who are convinced, we still have a long journey toward adapting our ways of working and finding ways to drive change and investment in the sector's maturity as a service-providing system. While we may embrace the idea of systems thinking, we need to continue to challenge ourselves and one another to peel back additional layers of systems blindness; continue to discover new perspectives; and challenge our own limitations and status quo assumptions.

The WASH system is clearly evolving and maturing, but it will take commitment and persistence to be sure it is inclusive and able to leave no one behind. There is no easy answer or approach to reaching the last mile with water, sanitation and hygiene services. But we know that it will not happen without commitment; and without creating feedback mechanisms and communication channels that measure inequality and hold governments and service providers to account. Tracking systems change as a whole is important, but it cannot come at the cost of inclusion. Public systems must be challenged to reach the most marginalised and continue to improve the quality of services for all.

Systems leadership differs from conventional leadership in that it is often emergent, performed by multiple actors, and based on inspiring oneself to change more than trying to direct others. National and local governments are the ultimate leaders of systems strengthening and sector development; it is critical that a WASH systems agenda is placed within the national vision and supports the vision of government. At All systems go! we had the opportunity to learn from government representatives ranging from local to national level about the challenges and constraints they face: and acknowledging and understanding the perspectives of others is a critical aspect of systems leadership and is a prerequisite for collective action.

Nearly four years into the SDGs, we concluded the Symposium with confidence that the needle has been moved on our collective understanding about how to achieve the ambitious targets set by government worldwide. With only 11 years remaining to reach everyone with water, sanitation, and hygiene services a shared understanding of the emerging systems changes required by ourselves as individuals and collectively as a sector is essential to provide a compass for navigating the complexity of the terrain. The Symposium is not an ending but an inflection point on our journey of collective action. All WASH systems go!

Resources for further reading

All systems go Symposium - https://www.ircwash.org/symposium

All systems go! Symposium presentations and papers dedicated to WASH systems - https://www.ircwash.org/all-systems-go-presentations

All systems go! Symposium proceedings: Part 1 - papers authored for the symposium - https://www.ircwash.org/proceedings

All systems go! Symposium programme - <https://www.ircwash.org/sites/default/files/all_systems_go_programme_0.pdf>

Background note for the All systems go! symposium - https://www.ircwash.org/sites/default/files/all_systems_go_background_note.pdf [Shorter version]

Failing better in the WASH sector - https://wash.leeds.ac.uk/failing-better-in-the-wash-sector/

Thematic areas concept notes for the All systems go! symposium - https://www.ircwash.org/resources/all-systems-go-symposium-concept-notes-thematic-areas

Thinking big: How to use theory of change for systems change (Abercrombie, Boswell and Thomasoo, 2018) - https://www.thinknpc.org/resource-hub/thinking-big-how-to-use-theory-of-change-for-systems-change/

Thinking in systems (Meadows, D., 2008) - https://wtf.tw/ref/meadows.pdf

Understanding the WASH system and its building blocks paper (Huston and Moriarty, 2018) - https://www.ircwash.org/resources/understanding-wash-system-and-its-building-blocks

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