



WASH Systems Strengthening in Africa: Knowledge and Capacity Mapping

SUMMARY

Strengthening water, sanitation and hygiene (WASH) systems needs to be at the heart of any initiative aiming to advance the achievement of Sustainable Development Goal 6 – ensuring availability and sustainable management of water and sanitation for all. To reinforce national WASH systems strengthening efforts in countries, UNICEF, IRC and Water For People launched a *Partnership for WASH Systems in Africa* in April 2021 that aims to support the implementation of the Accelerating Sanitation and Water for All Programme (ASWA), funded by the Netherlands' Directorate-General for International Cooperation (DGIS). In 2021-22, under the partnership, a mapping exercise was undertaken to understand knowledge management and training practices related to national WASH systems strengthening in 19 UNICEF programme country offices¹ and a limited number of sector partner operations in Africa.

The findings were drawn from a desk review and an online survey. Overall, a lack of documentation and evidence was noted around the key building blocks of WASH systems, covering planning, monitoring and learning, and sector financing. Other gaps were noted around sustainability of WASH services, climate resilience and linkages between WASH and nutrition.

Application of knowledge products and the use of knowledge gained from trainings are mostly related to advocating for strengthening WASH systems and the core sector building blocks at the national and sub-national level and prioritizing funding for WASH systems. In all countries, the main audiences with which knowledge is typically shared are immediate sector colleagues and partners.

In most countries, there are enough platforms, events and knowledge hubs to help improve knowledge sharing with key audiences. However, the dissemination of evidence and knowledge products is often not streamlined or does not happen systematically for collective action.

For Knowledge Management (KM) to be prioritized, it is key that national governments and stakeholders realize that documentation, sharing and learning are critical to inform planning and decision-making around WASH programming at all levels. This requires a broader understanding of KM as a crucial driver of systems change among national advocates of WASH systems.

¹ Benin, Burkina Faso, Central African Republic, Côte d'Ivoire, Ethiopia, Ghana, Guinea, Liberia, Malawi, Mali, Mauritania, Niger, Nigeria, Mozambique, Rwanda, Sierra Leone, Somalia, Tanzania and Uganda

Introduction

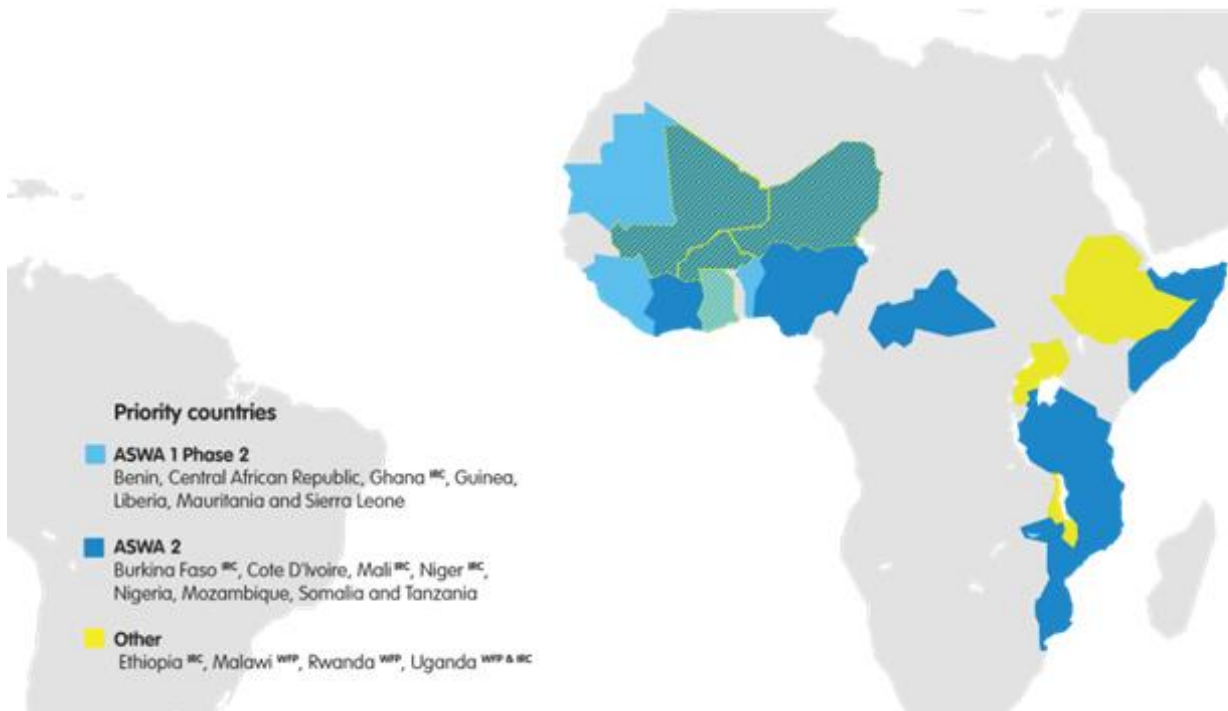
Strengthening water, sanitation and hygiene (WASH) systems needs to be at the heart of any initiative aiming to advance the achievement of Sustainable Development Goal 6 – ensuring availability and sustainable management of water and sanitation for all. To reinforce national WASH systems strengthening efforts in countries, UNICEF, IRC and Water For People launched a *Partnership for WASH Systems in Africa* in April 2021 that aims to support the implementation of the Accelerating Sanitation and Water for All Programme (ASWA), funded by the Netherlands' Directorate-General for International Cooperation (DGIS). Four main results areas were identified for the partnership: capacity building, technical assistance, knowledge management and advocacy.

In 2021, a mapping of key knowledge and training resources and gaps in national WASH systems strengthening was carried out. The aim was to inform action planning, particularly for results

area 2, capacity building, which includes the development of WASH systems and finance-related online training courses and related blended learning opportunities and results area 4, knowledge management, which focuses on the documentation of learning from the partnership's activities and filling documentation gaps in national WASH systems strengthening.

The mapping focused on the following countries: Benin, Burkina Faso, Central African Republic, Côte d'Ivoire, Ethiopia, Ghana, Guinea, Liberia, Malawi, Mali, Mauritania, Niger, Nigeria, Mozambique, Rwanda, Sierra Leone, Somalia, Tanzania and Uganda. In fifteen countries, UNICEF, IRC and Water For People staff were involved in taking a closer look at national WASH systems strengthening knowledge products, evidence, and training gaps and opportunities. In eight countries, public sector and non-governmental organization (NGO) partners also participated, providing a broader perspective on sector knowledge, evidence and capacities.

Figure 1: Countries in the Partnership for WASH Systems in Africa



Source: *Partnership for WASH Systems in Africa*

This technical paper presents the survey methodology that could be widely adopted for undertaking country and regional knowledge and capacity mapping exercises, along with the main findings and recommendations.

Methodology

Mapping focus: Strengthening national WASH systems to accelerate SDG 6 progress

The mapping focused on knowledge products, evidence and capacities supporting national WASH systems strengthening. The study combined two frameworks to understand the latter.

1. Building Blocks used by IRC: For understanding the WASH Systems, IRC uses the nine critical building blocks framework including: institutions, policy and legislation, planning, finance, regulation and accountability, monitoring, infrastructure, water resources management and learning and adaptation. A WASH system is likely to be strongest when all these building blocks are in place and working effectively together at all levels ([Huston and Moriarty, 2018](#)).

2. Building Blocks used by UNICEF/ SWA: The Global Partnership of Sanitation and Water for All (SWA) uses the five building blocks that include sector policy strategy, institutional arrangements, sector financing, planning, monitoring and review, and capacity development as key elements that the sector must have in place to deliver sustainable services and progressively eliminate inequalities in access ([SWA, 2020](#)) as developed in the UNICEF training course [Strengthening Enabling Environment for Water, Sanitation and Hygiene \(WASH\) \(unicef.org\)](#).

The following grouping of building block definitions was used to understand the knowledge

management and capacity building components of a national WASH system:

- Sector policy strategy (UNICEF/SWA), policy & legislation (IRC)
- Institutional arrangements (UNICEF/SWA), institutions (IRC) and elements of regulation & accountability (IRC)
- Sector financing (UNICEF/SWA), finance (IRC)
- Planning, monitoring and review (UNICEF/SWA), monitoring (IRC), planning (IRC) and elements of regulation & accountability (IRC)
- Capacity development (SWA), learning & adaptation (IRC)
- Infrastructure (IRC)
- Water resources management (IRC)

In addition, the following subthemes have received attention:

- Sustainability of WASH services
- Links between WASH systems and other sectors e.g. nutrition, gender equality, climate resilience
- SDG 6 progress monitoring to date

Definitions: Knowledge management, systems capacities and systems leadership

Knowledge management

According to the UNICEF WASH Knowledge Management Strategy 2017-2021, fulfilling the 2030 Agenda depends on UNICEF's ability to provide governments and other WASH actors with knowledge and expert advice to help ensure their decisions and actions are based on the best information available and deliver the best possible outcomes for children and the poor, as efficiently as possible. This line of thought continues in the [UNICEF WASH Knowledge Management Strategy 2022-25](#).

UNICEF defines KM as a set of strategies, approaches, and tools which involve the interaction of people, processes, and systems to

identify, capture, organize, share, and use knowledge that is critical to the organization (UNICEF, 2017). The findings of this mapping are organized around the four KM pillars identified in the UNICEF WASH KM Strategy 2017-2021:

- Pillar 1: Improving systems for generating knowledge – to apply appropriate methodologies and study designs focusing on services that impact children and improve and standardize quality assurance processes. To ‘know what we know’ and identify key knowledge gaps so that UNICEF can work to fill these.
- Pillar 2: Improving systems for customizing knowledge – to amplify the impact of our knowledge products by strengthening the link between their content and the intended audience; hence to produce ‘right sized’ and digestible knowledge in accessible formats for different audiences and strengthen corporate branding.
- Pillar 3: Expanding networks for dissemination, communication and advocacy of WASH knowledge, while providing the opportunity to engage staff around knowledge, tools and KM systems to increase their uptake.

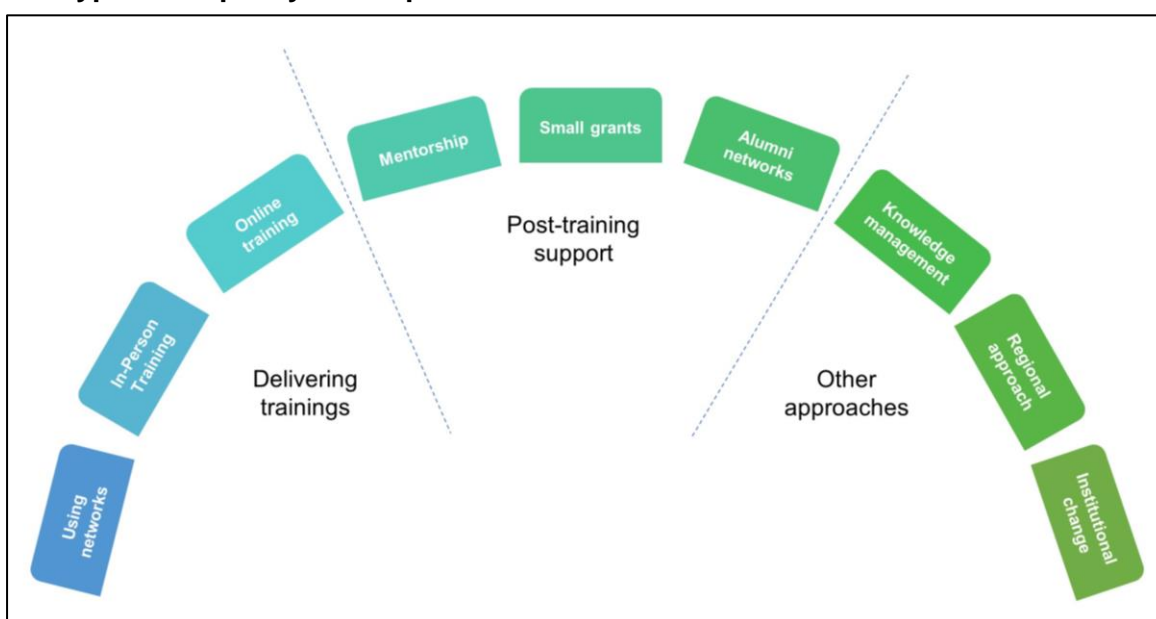
- Pillar 4: Targeting capacity building efforts, to ensure the professional development needs of WASH staff are met and tools to achieve programme objectives are accessible

Systems capacities

Capacity development is a process of change. The use of knowledge is not necessarily ensured by the provision of trainings. As Figure 2 shows, the delivery of trainings is one phase, followed by post-training support activities, such as mentorship or setting up alumni networks. Going beyond trainings toward understanding how learning exchange and the application of knowledge happens, supports developing multiple pathways toward capacity development (UNDP, 2008).

According to a WASH capacity mapping survey conducted in 2019 amongst UNICEF WASH staff, respondents indicated that they have sufficient knowledge of the enabling environment but have interest in trainings related to specific tools, or key topics like finance, sustainability and service delivery models. The mapping sought to extend these findings with additional insights around desired training modalities and an assessment of

Figure 2: Types of capacity development interventions



Source: UNICEF, 2022

how knowledge management and trainings are applied to support systems capacities, organized around the following indicators:

- Use of gained knowledge
- Sharing of knowledge among different audiences and groups inside and beyond organizational boundaries
- Observed impacts associated with participants' gained knowledge ([Cap-Net, 2019](#))

Systems leadership

“Systems leadership is a set of skills and capacities that any individual or organization can use to catalyze, enable and support the process of systems-level change” (Dreier, 2019). As Figure 3 shows, systems leadership consists of three interconnected elements:

- **The Individual:** The skills of collaborative leadership to enable learning, trust-building and empowered action among stakeholders who share a common goal.
- **The Community:** The tactics of coalition building and advocacy to develop alignment and mobilize action among stakeholders in the system, both within and between organizations.
- **The System:** An understanding of the complex systems shaping the challenge to be addressed (Dreier et al., 2019).

Figure 3: The key elements of system leadership



Source: Dreier, 2019

Over time the goal is that participants gain a set of skills and capacities that catalyze, enable and support the process of systems-level change. Systems leadership is built and strengthened.

WASH systems capacities were mapped around systems leadership definitions in the CLEAR framework (Dreier et al., 2019), and The Dawn of Systems Leadership (Senge et al., 2015). See Tables 1 and 2 in Annex 1 for definitions of systems leadership capacities in these frameworks.

Collective action

National systems strengthening requires a broad perspective on and understanding of sector-learning, and knowledge and capacity gaps and needs, going beyond activities internal to UNICEF. To map out capacities around systems change through collective action, the five conditions for collective action identified by Kania and Kramer (2011) were used:

- **A common agenda:** All participants have a shared vision for change, including a common understanding of the problem and a joint approach to solving it through agreed-upon actions.
- **Shared measurement systems:** Collecting data and measuring results consistently across all participants ensures that efforts remain aligned and participants hold each other accountable.
- **Mutually reinforcing activities:** Participant activities must be differentiated while still being coordinated through a mutually reinforcing plan of action.
- **Continuous communication:** Consistent and open communication is needed across the many players to build trust, assure mutual objectives, and create common motivation.
- **A hub (i.e., a backbone support organization):** Creating and managing collective impact requires dedicated staff with specific skills to coordinate participating organizations and agencies.

Data collection

The mapping started with a review of planned and published secondary sources used by UNICEF and sector partners, including:

- Planned and published knowledge products
- Training courses and webinars available and commonly attended, including IRC, UNICEF and external platforms
- Review of internal UNICEF strategies, plans and previous studies on KM and capacity building
- Review of key WASH sector resources on capacity and knowledge product gaps (e.g., 3ie, Leeds University research, WASH-BAT, etc.)

Resources were collected through collaboration with UNICEF Country Offices, and through consulting WASH sector databases and general search engines.

The review included knowledge products and trainings available on national WASH systems strengthening developed since 2015. For any product or training older than 2015 that presents unique, useful evidence, the resource was included. Knowledge products and trainings were classified and linked to systems strengthening building blocks.

To complement and validate the desk review and gather further insights, a survey – in English, French and Portuguese - was shared with IRC, UNICEF and Water For People staff. In eight countries, survey respondents included WASH sector partners. Questions focused on understanding:

- Which key audiences, channels (including events and partnerships) exist for knowledge dissemination and promotion at global, regional and country levels?
- What knowledge products and capacities exist, and what gaps are perceived related to national WASH systems strengthening and the subthemes prioritized by UNICEF?

- How existing resources (publications and training courses) are being used?

The questions were developed based on knowledge management, systems capacity, systems leadership and collective action theories presented in the previous chapter.

Limitations of the study

IRC, UNICEF and Water For People knowledge management focal points were invited to share the survey with key partners and complete the mapping - both desk review and survey - on behalf of their offices, based on consultations with colleagues.

This has resulted in the following limitations:

- Survey data is based on a limited number of respondents per country.
- The depth and inclusiveness of consultation with colleagues vary per country.
- Eight countries invited sector partners to participate in the survey, while others include analysis based only on responses from IRC, UNICEF and/or Water For People staff.

Ultimately, this means that for some countries, results are based on a larger variety of responses and are more relevant than others.

Results

Analysis of results is organized around key objectives and questions formulated for mapping related to results area 1 (knowledge products and platforms) and 2 (capacity development).

Under knowledge products and platforms, the following questions guided the analysis:

- What are the key knowledge resources already available, related to national WASH systems strengthening, that *Partnership for WASH Systems in Africa* should use? How are they being used?
- What constraints limit the use of those key resources?

- What are the key gaps where new products would support strengthening national WASH systems including advocacy toward the same?
- What key audiences and opportunities/channels (including events and partnerships) for knowledge dissemination and promotion at global, regional and country levels should *Partnership for WASH Systems in Africa* build on?

Under capacity development, the following questions guided the analysis:

- What (leadership) skills around key themes and knowledge gaps on systems thinking exist and which require training to fill?
- What kind of national WASH systems trainings do people prefer to engage in?

Reflections and recommendations are grouped under the key pillars identified in the 2017-2021 UNICEF WASH KM strategy.

Knowledge products and platforms

Based on a desk review and survey results with replies from UNICEF, IRC, Water For People, public and non-governmental partners, the following paragraphs give an overview of knowledge products relevant for national WASH systems strengthening at global, regional and country levels, and reflect on their use.

Thematic focus part 1: WASH systems and building blocks

Survey replies (n=41 representing HQ WASH, WCARO, 15 UNICEF country offices and sector partners) confirmed the relevance of [374 knowledge products](#) identified in the desk review – planned and completed - for national WASH systems strengthening (See figure 4). While 52 resources have at least mentioned system strengthening, only 36 focus on taking a WASH systems strengthening approach specifically. Examples include a [National WASH systems Assessment of Building Blocks in Uganda](#), IRC's

WASH Systems working papers ([1](#), [2](#), [3](#)), and documentation of [Improving WASH Service Delivery in Small Towns: Systems Approach Implemented in Ethiopia](#). In the desk review, most resources were categorized as primarily focusing on planning, monitoring and review, whereas water resources management, and capacity development/learning and adaptation leave the biggest gaps.

Looking into knowledge product gaps within specific building blocks, the two largest gaps across participating countries, according to the survey, seem to be sector financing and planning, monitoring and review. While the number of planning, monitoring and review related outputs is amongst the highest in the secondary sources compiled, survey results from IRC, UNICEF, Water For People and sector partners reflect on a lack of documentation around:

- National monitoring frameworks: are they in place and regularly reviewed?
- Guidelines for implementing planning, monitoring and review tools.
- A focus on developing new and strengthening existing systems to improve weak sector data generation mechanisms which in turn affect sector performance reviews.
- Lack of reliable data on water supply and sanitation coverage.
- Disaggregated data by age, gender, disability, place of residence, etc.

Figure 4: Number of resources per building blocks based on desk review²

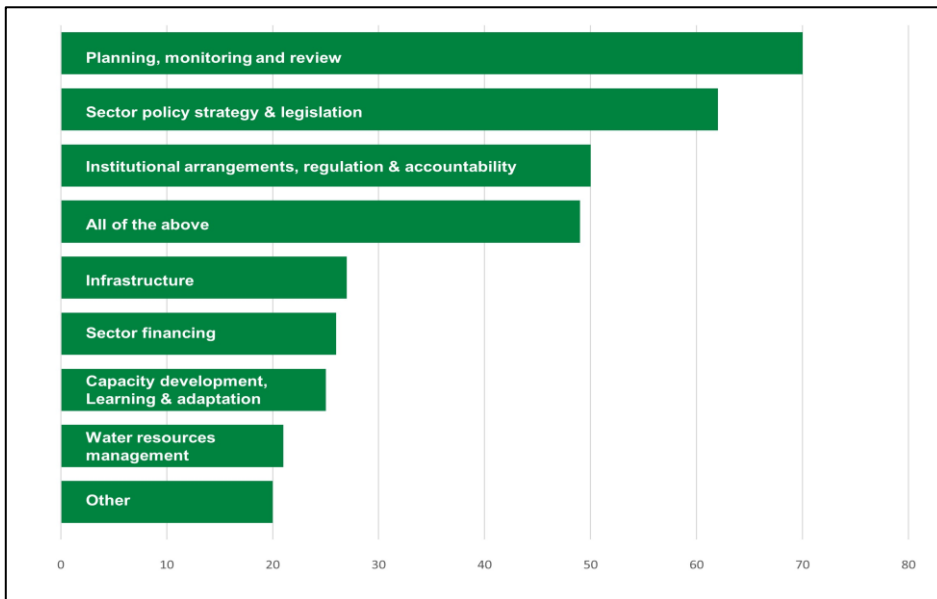
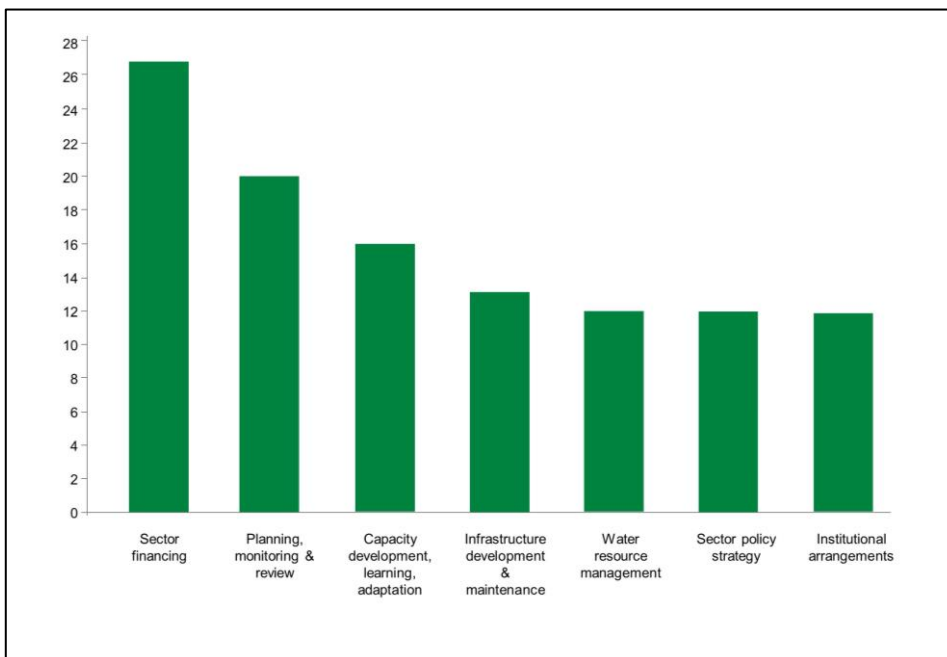


Figure 5: Knowledge product gaps organized per building block based on survey results³



Sector financing was identified as a gap by 27 respondents in 14 responding countries and

WCARO. Countries reflect on a lack of documentation around:

² Covering global and 19 countries in Partnership for WASH Systems in Africa.

³ Covering global, WCARO and 15 countries in Partnership for WASH Systems in Africa. The figure shows the number of

respondents who have expressed that a certain building block is missing relevant knowledge products.

- Underfunding of the sanitation and hygiene sectors (e.g., Benin).
- Availability of evidence to promote the financing of the sector, such as WASH expenditures and finance flows at local and national levels.
- Monitoring of budgets allocated and expenditures for WASH from different sources (e.g., Ethiopia, Mauritania, Rwanda).
- Innovative financing models for WASH and documentation of specific approaches.

Thematic focus part 2: Priority themes

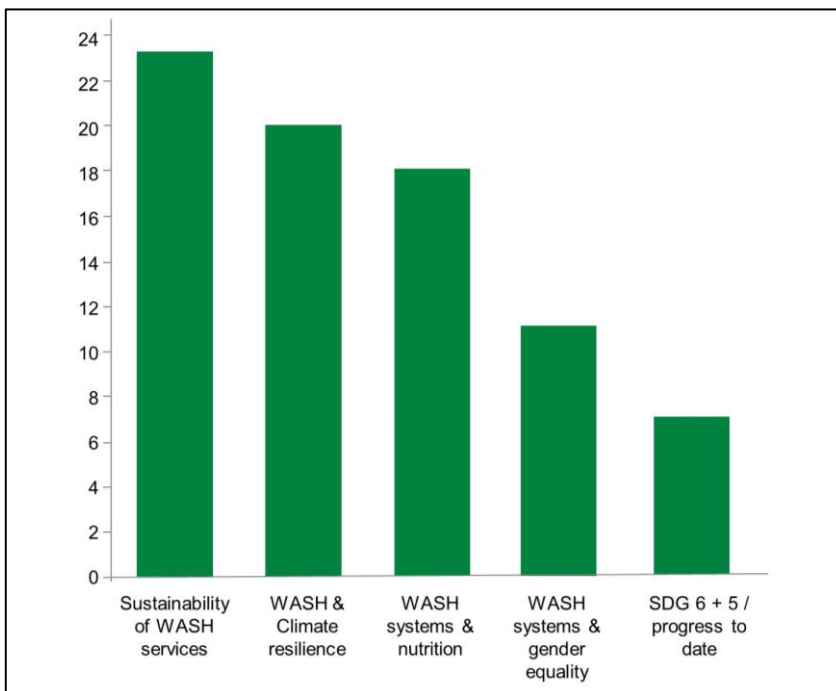
When looking at key themes identified by UNICEF as priorities under the programme, resources related to linkages between WASH and nutrition, WASH and gender equality and leveraging finance for WASH are those that have the fewest publications. Survey responses suggest the largest documentation gaps are sustainability of WASH services, climate resilience and linkages between WASH and nutrition (See figure 6).

For sustainability of WASH services, countries reflect on a lack of documentation around:

- Management, maintenance and rehabilitation of WASH infrastructure, including a focus on roles and responsibilities of service authorities and service providers in ensuring continuity of services (e.g., Central African Republic, Rwanda).
- Addressing quality of infrastructure development, use of inadequate materials for construction, weak design, and implementation at scale (e.g., Ethiopia).
- Conducting and documenting sustainability checks (e.g., Niger).
- The nexus between promoting emergency-development-peace and WASH needs increased attention (e.g., Somalia).

For the climate resilience and WASH theme, respondents reflect on a lack of evidence and documentation around:

Figure 6: Knowledge product gaps organized per key UNICEF theme based on survey results⁴



⁴ Covering global, WCARO and 15 countries in Partnership for WASH Systems in Africa.

- Climate risks in the WASH sector and adaptation methods relevant for African contexts and specific country contexts (e.g., Burkina Faso, Mali).
- Studies on the impact of climate change on different types of vulnerability (e.g., Burkina Faso).
- Integration of climate resilience into sectoral policies (e.g., Mauritania).

Linkages between WASH and nutrition offer opportunities for filling documentation gaps, especially at the global level. In addition, nutrition interventions do not yet adequately consider existing WASH expertise, which can be supported by guidance documents around what approaches and drivers can be established for joint programming.

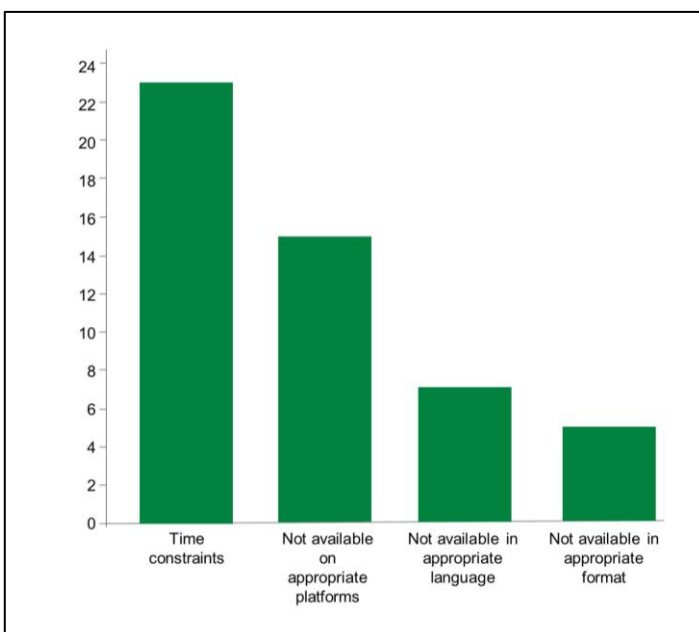
Use of available knowledge products happens in several ways. Application of knowledge is mostly related to advocating for WASH systems at the national level and prioritizing funding for WASH systems. Whereas sharing of knowledge mostly happens through formal conversations, speeches or presentations at conferences, at capacity building programmes, working directly with communities and through document sharing.

Research, academic, school and educational programmes are where knowledge sharing around WASH systems strengthening is least common. Knowledge is primarily shared with immediate colleagues and partners in a particular country.

As Annex 1 shows, ample platforms, events and knowledge hubs exist for a strategic approach to improve knowledge sharing with key audiences. However, the review of secondary sources suggests that the dissemination of evidence and knowledge products is often not streamlined or does not happen systematically.

Constraints with using evidence and knowledge products are related to time limitations of staff, as well as the lack of up-to-date and accessible national repositories which compile existing key resources. Oftentimes resources are hosted through multiple platforms and access errors (such as broken links) are common (see Figure 7). Language accessibility is a particularly common challenge at the global level, where key resources are often only available in English.

Figure 7: Survey results showing constraints with using knowledge resources compiled in the desk review



Capacity development

National WASH systems strengthening trainings that survey participants have actively engaged with include the WASH Bottleneck Analysis Tool (BAT), the WASH Systems Academy and systems trainings facilitated by WaterAid. Other trainings mentioned address elements of WASH systems strengthening but do not necessarily take a holistic approach to understanding the system.

Use of knowledge gained from trainings happens through raising awareness on applying systems thinking in WASH, advocating for WASH systems at the national level and prioritizing funding for WASH systems. Whereas sharing of knowledge mostly happens through formal and informal conversations and during collaborative projects with partners. Knowledge is primarily shared with immediate colleagues and in-country partners.

In terms of **existing skills and needs around WASH systems building blocks**, the findings suggest that sector policy strategy has the strongest skillsets in the sector with experts available to provide inputs into and implement government strategies and policies. (See figure 8). For further capacity development, sector financing comes out as a clear focus area. Possible focus areas mentioned for strengthening capacities around this building block were mobilization of local resources, finance and fundraising strategies for WASH, utilization of resources, incorporating sector financing into programme activities, monitoring budget allocations and expenditure, innovative financing models, financial sustainability of interventions.

In terms of **skills and needs around priority themes**, respondents expressed that sustainability of WASH services is where most skills exist but also where further capacity development is still needed, along with linkages between climate resilience and WASH (See figure 9).

In terms of what kind of national WASH systems strengthening **training formats** sector stakeholders are looking for, blended learning initiatives seem increasingly popular but face-to-face and online trainings are also still appreciated. Preferred trainings are those that directly address capacity gaps, that apply a participatory approach to support joint sector learning, that provide enough examples to support improvement of practical application of systems strengthening approaches, and that include continuous mentoring from sector experts. Several countries mentioned creating nationally relevant versions of the WASH Systems Academy.

Figure 8: Skills and capacity gaps by WASH systems building block based on survey results (y axis shows green # of yes replies to skills, orange # of yes replies to gaps)

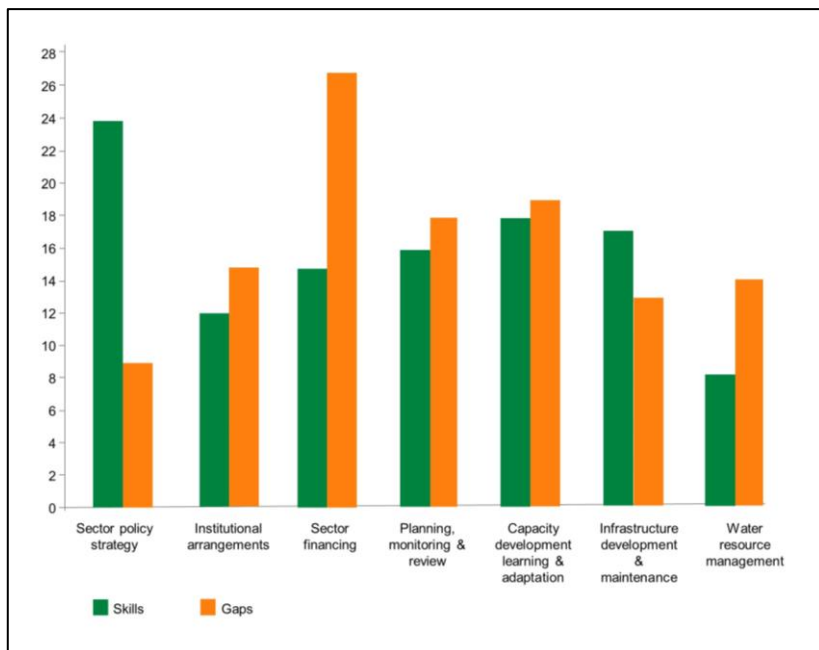
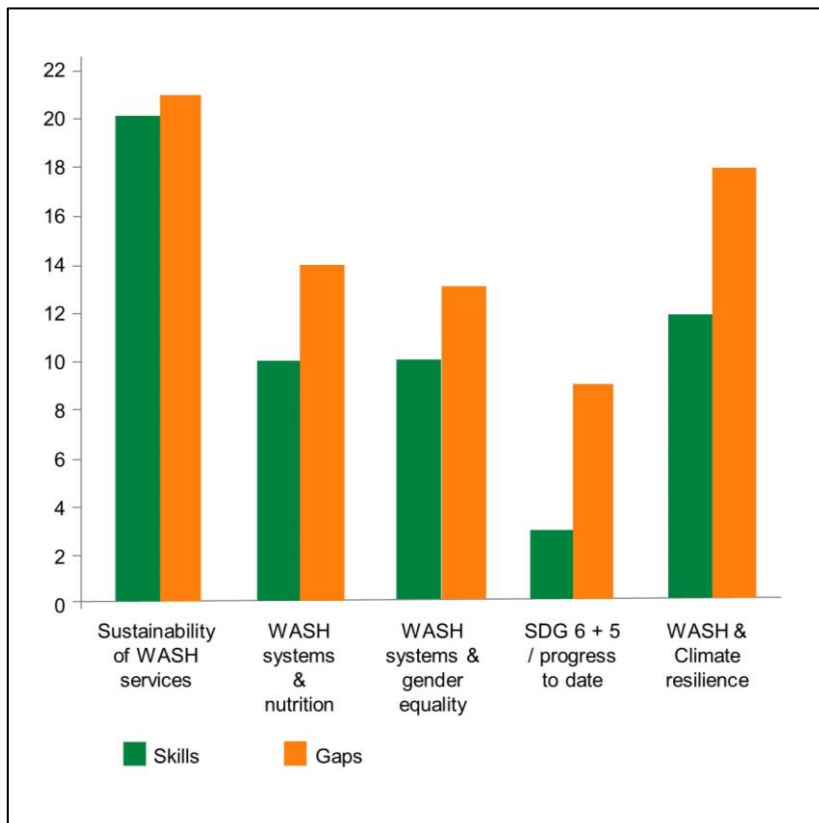


Figure 9: Skills and capacity gaps by priority theme based on survey results



Discussion

This chapter formulates key recommendations for the WASH sector organized under the four KM pillars.

Reflections on pillar 1: Improving systems for generating knowledge

KEY MESSAGE

- *Systematically integrate KM in water, sanitation and hygiene sector planning, monitoring and evidence generation*
- *Strengthen sector coordination to develop joint sector products and knowledge that can influence key sector decisions and reduce duplication of efforts.*
- *Strengthen the existing KM platforms with clear guidance on how the sector can collaborate on joint documentation initiatives based on gaps and needs, and improve systems for generating and publishing lessons learned.*

For country WASH sectors to improve systems for generating knowledge, it is imperative to plan for initiatives that generate evidence around national WASH systems strengthening gaps and to develop joint sector products that capture newly acquired and existing knowledge around the same. Where gaps have not been mapped out or validated, it is key to consult partners to better understand sector needs and plan accordingly.

In countries where ample resources have been generated and there is general buy-in for the importance of generating knowledge, a frequently observed bottleneck is inadequate coordination, resulting in duplication of efforts. Therefore, it is recommended to prioritize KM as an integral step in project and programme design and planning.

In some countries – Central African Republic, Guinea, Mali, Mozambique, Rwanda, Somalia, and Tanzania - no established WASH knowledge

hubs exist. Without such coordination mechanisms, the identification of knowledge gaps and opportunities for improving systems for generating knowledge meets significant barriers. However, where initiating and maintaining such platforms is not realistic, adding knowledge management as an agenda point to other sector coordination platforms (not necessarily focusing on knowledge development specifically) is recommended.

In some cases, platforms that can support joint sector efforts to improve KM exist but do not put central attention to this area (e.g., WESNET and DWA in the Country Collaboration Group in Malawi; UWASNET in Uganda). Therefore, the recommendation is to elaborate the mandate of these platforms to provide clear guidance on how the sector can collaborate on joint documentation initiatives based on gaps and needs, and to improve systems for generating and publishing lessons learned.

Where multi-stakeholder, multi-level platforms for learning do exist and are maintained, attracting support and resources for sustaining KM and learning platforms is a continued challenge. A strategic approach to KM in the sector, supporting prioritization of learning topics, and production of resources based on mapping knowledge gaps can minimize duplication and support maximizing the impact of KM.

Cross-sector KM coordination receives little attention, which is of importance for addressing priority topics where there is nexus between WASH and other areas (climate change, nutrition, gender).

In terms of developing new products for the sector, opportunities for *Partnership for WASH Systems in Africa* include building on this mapping and other key initiatives, such as the national WASH systems assessment in Uganda, and a building block and capacity assessment in Rwanda. An example is developing good practice

cases of government-led platforms that effectively support KM in the sector.

Reflections on pillar 2: Improving systems for customizing knowledge

KEY MESSAGES

- *Be bold and move away from lengthy, written knowledge product formats when other formats are likely to increase impact and reach.*
- *Be more inclusive with choice of language(s).*

There is little variety in the format of knowledge products, as the majority is in writing and most are reports, briefing notes or academic publications. The length of reports is a factor for usability with even summary reports and guidelines regularly exceeding 15-20 pages. A recommendation is therefore to reflect on the impact of written versus the potential of other formats when developing new KM initiatives and to consider a selection of priority resources to be re-created in formats that are different, context-appropriate, shorter, more digestible, and visually appealing.

Often noted were constraints with key global WASH systems strengthening-related resources only being available in English. It is recommended to review these resources and identify those of national relevance that would benefit from production in different languages and formats.

Best practice examples include spin-offs of written formats with audio-visual formats, such as the [Good practice for WASH in Ghana : meeting the targets for water, sanitation and hygiene by 2030](#) publications, collated by the National Development Planning Commission together with IRC Ghana. This is one of a series of documents that are initiated by, co-produced with and co-

branded by government, increasing ownership, use and dissemination of these resources.

Reflections on pillar 3: Expanding networks for dissemination, communications and advocacy

KEY MESSAGE

- *Create a repository of key sector resources where these are not yet in place, or revive those that are most appropriate, often government-owned platforms.*
- *Identify audiences and develop dissemination plans per KM initiative in the activity design phase to improve use of resources*

While respondents mostly listed online sources (e.g., UNICEF, IRC, Sanitation and Water for All, social media, government websites, and academic journals) for finding and sharing national WASH systems strengthening related knowledge, the mapping identified issues with the general availability of knowledge on appropriate online platforms (information is available in a variety of spaces, sometimes only internal to UNICEF) and keeping these platforms up to date. Therefore, the recommendation is to create a repository of key sector resources where these are not yet in place, or revive those that are most appropriate, often government-owned platforms (specific platform suggestions for countries have been made in the subsequent chapters). Key national WASH systems related resources that already exist have now been compiled into a single overview and can inform the development of a repository and streamlined communications channels through well-established and known platforms in country WASH sectors.

Implementation of KM initiatives regularly stops at the completion and publication of a resource and takes place at the end of a process rather than in the early phases of project design, planning and implementation. Setting objectives, identifying

audiences, and developing dissemination plans per KM initiative are key for improving the use of resources and capitalizing on the efforts of creating knowledge resources to fill sector gaps, and inform decision-making for sector development.

Sharing knowledge products and knowledge gained from trainings is primarily directed at immediate colleagues and partners, but where existing platforms provide a space for sharing (see Annex 1), knowledge does tend to reach beyond an organization and/or country. Respondents in Ghana have expressed a need for improving advocacy skills which in turn can support using evidence and products more effectively.

For *Partnership for WASH systems in Africa*, the overview of key platforms, partnerships and events (See Annex 1) shows the opportunities for knowledge sharing that exist in the sector. Some country cases could benefit from more detail on which specific websites, social media channels, newsletters and partnerships are most tactical to target for improved knowledge sharing. Another follow-on opportunity is further mapping out cross-sectoral platforms for dissemination, communications and advocacy.

Reflections on pillar 4: Capacity building

KEY MESSAGE

- *Systems leadership concepts are an important addition to WASH systems strengthening training initiatives.*
- *Blended training initiatives on WASH systems strengthening need to be tailored to country contexts.*

The mapping has identified capacity building areas for each country's WASH sector. National WASH systems strengthening related training initiatives should take these findings into account

and develop materials that can support practical development needs of the sector.

Creating nationally relevant versions of the WASH Systems Academy was mentioned by several countries. *Partnership for WASH Systems in Africa* can use the gaps identified in this mapping to develop such initiatives, taking the increasing demand for blended learning opportunities into account.

While the practical application of WASH systems strengthening approaches is preferred, systems leadership concepts do require training. The recommendation is to extend the WASH Systems Academy basics course with a chapter on systems leadership concepts – theory as well as what these mean in practice.

For *Partnership for WASH Systems in Africa*, opportunities exist to fill knowledge and capacity gaps identified in this mapping through initiatives the partnership has to offer, such as blended learning trainings of the WASH Systems Academy, tailored to country contexts.

Conclusion

The role of improved knowledge management around WASH systems related resources and evidence in the WASH sector globally is seen to support learning skills, efficiency, and innovation. Knowledge management enables others to learn more intuitively, make evidence-based decisions, avoid duplication of efforts and allows for innovation through knowledge-sharing structures, processes, and tools.

This mapping has examined national WASH systems strengthening related knowledge products and trainings across 19 IRC, UNICEF and Water For People countries of operation. It has identified key resources, and in 15 countries, also looked at opportunities for filling gaps in the availability and accessibility of knowledge products, evidence and trainings to support national WASH systems strengthening.

Main thematic knowledge gaps were identified around sector financing, sustainability of WASH services and climate resilience and WASH.

Systemic limitations include:

- Lack of systems (leadership) capacities
- Time constraints to invest in knowledge or capacity building (e.g., due to lack of resources or low priority given by leadership for knowledge management initiatives)
- Accessibility of resources (e.g., due to risks with the use of technology)
- Availability of resources that inform evidence-based decision-making

If any of these apply, access to knowledge is immediately compromised. If knowledge repositories are not accessible, if no knowledge development and sharing strategies and sector coordination exist, the risk of duplication of efforts, and working in silos persists.

For knowledge management to be prioritized, it is key that national governments and stakeholders realize that documentation and knowledge sharing are critical to WASH programming at all levels to support learning and inform planning, decision-making, financing, monitoring and more.

Improvements can be made by incorporating knowledge, evidence and training gap identification, joint and customized knowledge development and sharing with the right audiences at the right time into WASH systems strengthening initiatives.

This requires a broader understanding by national WASH systems champions of knowledge management as a critical driver of systems change

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Acknowledgements

This report is based on inputs received from IRC, UNICEF and Water For People staff in Benin, Burkina Faso, Central African Republic, Côte d'Ivoire, Ethiopia, Ghana, Guinea, Liberia, Malawi, Mali, Mauritania, Niger, Nigeria, Mozambique, Rwanda, Sierra Leone, Somalia, Tanzania and Uganda. Furthermore, we would like to thank public and non-governmental organization partners in Benin, Burkina Faso, Ethiopia, Ghana, Malawi, Mauritania, Rwanda and Tanzania for contributing to the online survey and broadening the perspectives of the study. We thank John Butterworth for peer review, and Sterenn Philippe (IRC) for copy-editing and design. This work was carried out under the IRC, UNICEF, Water For People Partnership for WASH Systems in Africa, funded by the Netherlands' Directorate-General for International Cooperation (DGIS).

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Annex 1

Table 1: Basic definitions for understanding systems leadership in the CLEAR framework (Dreier et al., 2019)

Systems leadership capacity	Definition
Convene and commit	Systems-change efforts often begin in response to a serious problem or challenge within a complex system. Stakeholders who have found that they cannot solve this problem alone are motivated to begin exploring, with others, how to change the existing system dynamics. Dialogue among diverse stakeholders – often with quite different interests and perspectives – can lead to the recognition of a shared interest and highlight the potential value of taking collective action.
Look and learn	To change a complex system, stakeholders must first understand how the system works – the components, actors, dynamics, and influences that together create the system and its current outcomes. This requires learning and inquiring with an open mind. Most stakeholders have experienced and learned about the system from one point of view. Truly understanding its many dimensions requires absorbing new information and learning from other stakeholders’ viewpoints and perspectives. This means constant dialogue, underpinned by radical and empathic listening, enabling each actor to have a deeper appreciation of the multiple perspectives on a particular system.
Engage and energize	Complex systems function as they do because they are full of life – made up of people, other species, and elements that interact with each other and their environments. They are living systems. Relationships between people profoundly influence the ways in which their living systems behave. People who are inspired to work toward system change will seek to exercise their influence, personal capabilities and access to resources to influence the direction and manner of change. Doing that in concert with other actors magnifies the impact. As a result, building and nurturing relationships between stakeholders in a system, and encouraging them to get engaged and energized, is a key role of the Systems Leader.
Act with accountability	Making systems change a reality requires action that demonstrably influences the system or drives specific outcomes. In large-scale systems-change initiatives, a wide array of stakeholders throughout the system can take action in a decentralized manner, in pursuit of a shared goal. Systems leaders can galvanize and support distributed, multi-stakeholder action that is self-directed but aligns with the broader network’s shared vision and goal. At the same time, they need to be able to demonstrate results and encourage mutual accountability for both individual actions and collective impact.
Review and revise	Systems change is an ever-evolving process of adaptive experimentation, learning, growth and change. It is important for systems-change initiatives to embrace these dynamics with an agile, flexible, innovative and learning-centered approach. That encourages stakeholders to apply innovations with a spirit of entrepreneurship – testing new approaches, evaluating the results, learning from the outcomes, and applying those learnings to a strengthened approach in the next round.

Table 2: Basic definitions for understanding systems leadership in The Dawn of Systems Leadership (Senge et al., 2015)

Systems leadership capacity	Definition
The ability to see the larger system	In any complex setting, people typically focus their attention on the parts of the system most visible from their own vantage point. This usually results in arguments about who has the right perspective on the problem. Helping people see the larger system is essential to building a shared understanding of complex problems. This understanding enables collaborating organizations to jointly develop solutions not evident to any of them individually and to work together for the health of the whole system rather than just pursue symptomatic fixes to individual pieces.
Fostering reflection	Reflection means thinking about our thinking, holding up the mirror to see the taken-for-granted assumptions we carry into any conversation and appreciating how our mental models may limit us. Deep, shared reflection is a critical step in enabling groups of organizations and individuals to actually “hear” a point of view different from their own, and to appreciate emotionally as well as cognitively each other’s reality. This is an essential doorway for building trust where distrust had prevailed and for fostering collective creativity.
Shifting the collective focus from reactive problem-solving to co-creating the future	Change often starts with conditions that are undesirable, but artful system leaders help people move beyond just reacting to these problems to building positive visions for the future. This typically happens gradually as leaders help people articulate their deeper aspirations and build confidence based on tangible accomplishments achieved together. This shift involves not just building inspiring visions but facing difficult truths about the present reality and learning how to use the tension between vision and reality to inspire truly new approaches.

Annex 2

WASH systems audiences, partnerships, platforms and events to inform Partnership for WASH Systems in Africa initiatives

Based on responses to the following open questions from 15 countries (responses from UNICEF, IRC, Water For People and partners), UNICEF WCARO and Global/HQ offices:

1. Who are your key audiences for sharing knowledge products and evidence for national WASH systems strengthening?
2. What partnerships are the most strategic / relevant for you for knowledge management work on national WASH systems strengthening?
3. What platforms and / or channels (e.g. social media, websites, newsletters) are the most strategic / relevant for you when looking for key WASH related knowledge / evidence?
4. What platforms and / or channels (e.g. social media, websites, newsletters) are the most strategic / relevant for you when disseminating key WASH related knowledge / evidence?
5. What are the key global/regional/national events for sharing knowledge products and evidence related to national WASH systems strengthening?
6. Please list any South-South learning platforms and exchanges that are relevant and strategic for national WASH systems strengthening.
7. Is there a national WASH resource or knowledge center / knowledge hub? If yes, who operates it and what do you think is the usefulness of such a resource centre/hub?

KM theme	Aggregated responses
Audiences for KM	<ul style="list-style-type: none"> • Government: central and decentralized at all (local, regional, national) levels, ministries of water supply, sanitation, health, education, finance and economic cooperation (prioritized in 14/17 countries, RO and Global/HQ) • NGOs working on WASH – international and national (prioritized in 12/17 countries, RO and Global/HQ) • Technical and financial partners / donors / national WASH systems funders (prioritized in 8/17 countries, RO and Global/HQ) • Academic institutions focusing on capacity building of government, on WASH, such as the Ethiopia Water Technology Institute (prioritized in 7/17 countries, RO and Global/HQ) • Civil society, including children, adolescents and young people, indigenous communities, women groups, users of WASH services (prioritized in 6/17 countries, RO and Global/HQ) • Bilateral (USAID, JICA) and multilateral organizations (AfDB, World Bank), UN Agencies (prioritized in 5/17 countries, RO and Global/HQ) • Private businesses, WASH operators, service managers (prioritized in 5/17 countries, RO and Global/HQ) • Coordination offices such as the One WASH National Coordination Office in Ethiopia, or the District Wide Approach Country Collaboration Group and a Journalist Network in Malawi were mentioned. And finally, Guinea and Somalia refrained from listing audiences as no formal mechanisms exist for reaching them with knowledge products (for national WASH system strengthening).
Partnerships for KM	<p>While partnerships with government institutions are still prioritized in 9/17 responses, coordination amongst different audiences receives increased attention through partnerships with and participation in sector coordination mechanisms, multi-stakeholder platforms, PPPs and networks where knowledge gets developed and shared.</p> <p>At global level, the following types of partnerships are seen as key for KM regarding national WASH systems strengthening:</p> <ul style="list-style-type: none"> • Partnerships for the generation of WASH evidence and gaps to inform global, regional and national policies and strategies • Partnerships for documenting best practices to promote inter-agency sharing and learning • Partnerships for building national capacity on system strengthening to strategically position WASH in global and national development agenda • Partnerships for sharing evidence (Global Partnership for Hand Washing with Soap/Hand hygiene)
Platforms for finding WASH systems evidence	<p>While in 13/17 cases platforms mentioned remained general (e.g. social media, websites, webinars, newsletters, e-mails, publications, knowledge sharing workshops, networking with partners, internal information platforms Teams, Sharepoint), the specific platforms for finding WASH systems evidence are the following (<i>the numbers in brackets indicate how many times these platforms have been mentioned by respondents</i>)</p> <ul style="list-style-type: none"> • UNICEF platforms: public website (3), Sharepoint (3), Yammer (2), WASH bulletin (2) • IRC platforms: website (4), Amplify newsletter, whatsapp group, WASH Systems Academy (2) • Other websites: UN Water (2), USAID, World Bank (2), African Development Bank, MEA website EauBurkina, OMS.org, SIWI websites (SIWI and World Water Week), Sanitation and Water for All website (2), JMP WASH Data (3), GLAAS, REPAM, Google searches (4), End Water Poverty, PSeau (website and newsletter) • Knowledge and learning hubs: Sanitation Learning Hub (2), AMCOW knowledge hub, SuSanA (2) • PTF WASH newsletter Mali • Sector groups: Grupo de Água e Saneamento (stakeholders sector group in Mozambique)

Platforms for sharing WASH systems evidence	<p>While in 11/17 cases, platforms mentioned remained general (e.g. learning alliances, scientific papers, websites, workshops, conferences, newsletters, newspapers, technical meetings and sector working groups), the specific platforms for sharing WASH systems evidence are the following:</p> <ul style="list-style-type: none"> • <i>The numbers in brackets indicate how many times these platforms have been mentioned by respondents</i> • UNICEF platforms: website (2), Sharepoint (3), Yammer (2), WASH Bulletin • IRC platforms: website (3), social media (2), WASH Systems Academy (2), Amplify newsletter • Other websites: REPAM, World Bank, SWA, Pseau, Agenda for Change, UN Water, JMP, SIWI, World Bank, African Development Bank • Knowledge and learning hubs: AMCOW, SuSanA, Sanitation Learning Hub • USAID T/WASH Telegram in Ethiopia • Joint Sector Reviews in e.g. Malawi • Grupo de Água e Saneamento (stakeholders sector group in Mozambique) • PTH WASH newsletter Mali • Radio Hotspot, broadcasted emissions, community work (UMUGANDA) in Rwanda <p>Direct mailing to or networking meetings with key partners are also important avenues for sharing WASH systems evidence.</p>
Events for sharing WASH systems evidence	<p>International and regional events of relevance:</p> <ul style="list-style-type: none"> • AfricaSan (8), Africa Water Week (6), Africa Water Association (AfWA) Conference / Annual review (2), All Systems Go symposia (5), AMCOW (2), Colorado WASH Symposium, Conference of the Parties to the United Nations Framework Convention on Climate Change (2), Global Handwashing Day (7), Global Menstrual Hygiene Day (2), International Women's Day, IWA symposium, RWSN (2), SACOSAN, Safe Water Strategy e-learning series, SWA Mutual Accountability Mechanism, Sector / Finance Ministers Meeting preparatory process and meeting (4), UNC Water and Health Conference (2), UNICEF WASHnet meetings (3), WEDC WASH conference (4), World Environment Day, World Toilet Day (9), World Water Day (8), World Water Week (9), World Water Congress, World Water Forum (6), WSSCC <p>National events of relevance:</p> <ul style="list-style-type: none"> • Benin: National Hygiene and Sanitation (l'HAB) Day, Session of the national assembly (session de l'assemblée nationale), Commemoration of the days (les commémoration des journées) • Burkina Faso: National structured dialogue sessions of the Green Climate Fund, Sessions of the National Council for Sustainable Development, Sessions of the National Decentralisation Council, Sessions of the National Council for Gender Promotion • CAR: SWA and Africasan initiative at national level • Ethiopia: National Water and Energy Week, T/WASH regional and national MSPs, OneWASH MSF • Ghana: Mole WASH Conference, National Level Learning Alliance Platform • Malawi: National Joint Sector Reviews, Water and Environmental Sanitation Network Learning events (National), Africa-San • Mauritania: Annual review of the Ministry of Water and Sanitation, Quarterly meetings of WASH actors (through the Network for Water and Sanitation Actors in Mauritania) • Mozambique: Grupo de Água e Saneamento (stakeholders sector group), Revisão Anual Conjunta (RAC, national joint review meeting for Government & sector partners) • Tanzania: National Sanitation Day, National Annual Environmental Health Conference • Uganda: Uganda Water and Environment Week, UWASNET Annual WASH Conference

Learning platforms (South-South)	<p>No South-South learning platforms are known to exist in Mozambique, Niger and Somalia. Key learning platforms in other responding countries:</p> <ul style="list-style-type: none"> • Benin: SWA, IRC, national water information system (SNIEAU) • Burkina Faso: African Water Forum, Climate Change Platform, Global Water Partnership, Climate and Clean Air Coalition. More examples available under the Burkina Faso chapter. • Ethiopia: Africa Water Week, Africa Sanitation Task force/Under AMCOW, Events led by the African Union, South to South learning platform with Brazil here • Ghana: AfricaSan, Africa Water Week, Mole WASH conference, The National Learning Alliance Platform (NLLAP), RWSN • CAR, Guinea: Agora with selected training courses available to partners • Malawi: DWA (District Wide Approach) Country Collaboration Group, Exchange between Welthungerhilfe Country Programmes, SWA CSOs learning webinars, AfricaSan • Mali: AMCOW; Global Water Partnership at regional level • Mauritania: REPAM, AMCOW, JMP • Rwanda: ESAWAS, AFUR, AFWA, AMCOW, SWA coordination mechanisms, regional platforms (EAC, SADC, etc), Water Utility platform. However, even though the African Ministers' Council on Water Sector working groups (AMCOW) bring together people for key sector discussions, a clear regional platform which summons stakeholders to share knowledge is not known to exist. • Tanzania: Regional Fit For School Programme, World Water Week, WASHNet, WEDC Conference, Africa San Forum (AMCO-San) • Uganda: Africa Water and Sanitation Week, Africa Water Association (AfWA) Conference, Safe Water Strategy e-learning series, IRC Global Talks series, Uganda Water and Environment Week, UWASNET Annual WASH Conference • Global: UNICEF EARPO and Singapore Joint Training programme
National knowledge hub	<p>No national hub exists in CAR, Guinea, Mali, Mozambique, Rwanda, Somalia, and Tanzania. In other responding countries, a combination of various hubs are seen as the national knowledge hub:</p> <ul style="list-style-type: none"> • Benin: IRC training on strengthening WASH systems, National Water Institute, the National Water Partnership, UNICEF, the departments in charge of monitoring and evaluation in the Ministries. • Burkina Faso: It is not a center but rather a knowledge management unit within the Ministry of Water and Sanitation; National Centre for Scientific and Technological Research (CNRST)/Institute for the Environment and Agricultural Research of Burkina Faso (INERA); La Direction Générale des Etudes et des Statistiques Sectorielles (DGESS) du Ministère de l'Eau et de l'Assainissement (MEA), à travers le site EauBurkina • Ethiopia: There is no fully accountable national knowledge Hub, however there are websites that host good national WASH knowledge products. e.g. https://www.cmpethiopia.org/ or the Ethiopian Water Technology Institute, which is a centre operated by the Government and is essential for standardizing different capacity building trainings and materials. It can offer technical but also managerial trainings. <i>Please note that 2 respondents indicated that there is no national knowledge hub in Ethiopia.</i> • Ghana: IRC, National Level Learning Alliance Platform (NLLAP) • Malawi: WESNET (very useful, but not used to its full potential) and DWA (District Wide Approach) Country Collaboration Group (collaboration just started) <i>Please note that 4 respondents have noted that no national knowledge hub exists in Malawi.</i> • Mauritania: REPAM was mentioned to fulfil this role. <i>Please note that 2 respondents no national knowledge hub exists in Mauritania.</i> <p>A clear nationally active knowledge hub exists in:</p> <ul style="list-style-type: none"> • Niger: PSEau manages a WASH knowledge hub • Uganda: Currently hosted by Network for Water and Sanitation (NETWAS) but lacks funding for maintaining active role

Annex 3

The following tools and resources were used to carry out the mapping. These can be adapted to develop similar exercises in other contexts.

1. Knowledge and Capacity Mapping Methodological Framework
2. Format for desk review analysis
3. Survey Tool in English, French and Portuguese

You can find the link to these resources [here](#).

About the Series

UNICEF's water, sanitation and hygiene (WASH) country teams work inclusively with governments, civil society partners and donors, to improve WASH services for children and adolescents, and the families and caregivers who support them. UNICEF works in over 100 countries worldwide to improve water and sanitation services, as well as basic hygiene practices. This publication is part of the UNICEF WASH Learning Series, designed to contribute to knowledge of good practice across UNICEF's WASH programming. In this series:

Discussion Papers explore the significance of new and emerging topics with limited evidence or understanding, and the options for action and further exploration.

Fact Sheets summarize the most important knowledge on a topic in few pages in the form of graphics, tables and bullet points, serving as a briefing for staff on a topical issue.

Field Notes share innovations in UNICEF's WASH programming, detailing its experiences implementing these innovations in the field.

Guidelines describe a specific methodology for WASH programming, research or evaluation, drawing on substantive evidence, and based on UNICEF's and partners' experiences in the field.

Reference Guides present systematic reviews on topics with a developed evidence base or they compile different case studies to indicate the range of experience associated with a specific topic.

Technical Papers present the result of more in-depth research and evaluations, advancing WASH knowledge and theory of change on a key topic.

WASH Diaries explore the personal dimensions of users of WASH services, and remind us why a good standard of water, sanitation and hygiene is important for all to enjoy. Through personal reflections, this series also offers an opportunity for tapping into the rich reservoir of tacit knowledge of UNICEF's WASH staff in bringing results for children.

WASH Results show with solid evidence how UNICEF is achieving the goals outlined in Country Programme Documents, Regional Organizational Management Plans, and the Global Strategic Plan or WASH Strategy, and contributes to our understanding of the WASH theory of change or theory of action.

Readers are encouraged to quote from this publication but UNICEF requests due acknowledgement. You can learn more about UNICEF's work on WASH here: <https://www.unicef.org/wash/>

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