

# Mapping of Rural Water Supply Publications, using AI assistance

## SUMMARY

This document was developed under the Accelerating Sanitation and Water for All (ASWA) programme which is being implemented in eight countries: Burkina Faso, Côte d'Ivoire, Mali, Niger, Mozambique, Nigeria, Somalia and Tanzania, and is funded by the Kingdom of the Netherlands (DGIS). The purpose of this publication is to: (i) identify tools, guidelines and manuals that can be used in the third phase of implementation of the ASWA programme, and (ii) enable the identification of gaps in terms of knowledge products for rural water supply service delivery.

The mapping was supported by Artificial Intelligence (AI) analysis conducted by 'WASH AI', a knowledge assistant and suite of information services driven by AI including the largest WASH information database.

In total 161 relevant publications meeting the criteria were identified and included in a database accessible through the [on-line library of the Rural Water Supply Network \(RWSN\)](#), a knowledge-sharing and collaboration network with over 15,000 members from 168 countries and territories.

The analysis of the relevant publications, using assisted AI, contributed to identify publications that can be used directly during the implementation of the ASWA programme, others that could be used with needed local adaptation, and also identified some knowledge gaps which the ASWA III phase could contribute to bridge.

## Background

The UNICEF programme entitled Accelerating Sanitation and Water for All (ASWA)<sup>1</sup> intends to improve the health of rural communities by increasing accessibility to safe sanitation, safe drinking water and handwashing practices in several countries. In order to improve implementation of ASWA Phase III activities in eight countries (Burkina Faso, Côte d'Ivoire, Mali,

Niger, Mozambique, Nigeria, Somalia and Tanzania), UNICEF requested Ask for Water GmbH to undertake a preliminary mapping of publications and materials that relate to rural water supply service delivery that could be used in the above ASWA countries or other similar contexts.

The aims of the exercise were: (i) to help UNICEF to identify tools, guidelines and manuals that can

<sup>1</sup> The first phase of ASWA ran from 2014 to 2016, and the second phase from 2017 to 2022. Phase III of the project is due to be completed by the end of 2028.

be adopted directly, as well as documents that could be adapted to the local contexts of the aforementioned eight countries and (ii) enable the identification of gaps in terms of knowledge products for rural water supply service delivery.

At inception, it was agreed that the scope would include the “soft aspects” of rural water supplies such as community engagement in planning, design criteria, training on management of the services, management of services by communities, private enterprises (formal and informal), as well as financial planning, setting of tariffs and collection of user fees. Engineering aspects and technical design or water resources management were not part of the scope of the mapping exercise. Types of materials to be included were tools, guidelines, case studies and other practical documents.

This brief report describes the search and selection methods used for the mapping and provides insights into the materials collated. A number of exemplary documents that may be useful for ASWA are also highlighted. This report is accompanied by an MS-Excel sheet listing all of the documents, including their file names, a short summary and other key information. A Google Drive containing the pdf files of all documents has also been established.

## Methodology

An iterative methodology was used to search for, collate and classify the materials, and build up a database of files with a corresponding overview as a MS-Excel workbook.

The first step was to review documents that were already known to the lead consultant and UNICEF. Subsequently, in collaboration with Skat Foundation, the online REAL Water library <sup>2</sup> was

<sup>2</sup> The library contains over 10,000 documents that relate to Water, Sanitation and Hygiene (WASH).

<sup>3</sup> Search for terms: Guideline, Guidance, Tool or Manual

<sup>4</sup> <https://www.ircwash.org/search-site> - on 15 April, the site stated that it had over 7,700 documents.

<sup>5</sup> Filters: Water Supply AND Rural Areas AND (guideline, guidance, tool or manual)

accessed and targeted search undertaken <sup>3</sup>. A manual process of sifting through the records put forward was then used to select what fitted the scope of the mapping exercise. Subsequently, the IRC website <sup>4</sup> was searched using website article tags <sup>5</sup>. As before, this was followed by a manual selection process according to scope. A third search of the World Bank knowledge portal <sup>6</sup> was also done, but by this stage, only ten relevant new publications were found.

In all cases, documents were downloaded, saved with a naming system, with key data entered manually into the MS-Excel workbook. Notably, Google was excluded from the initial search methods but brought in at a later stage when Artificial Intelligence (AI) tools were introduced (Annex 1).

At this stage, the MS-Excel workbook, containing over 130 entries was shared directly with contacts from ten key organisations that are very active in Rural Water Supplies, as well as to two online discussion groups of the Rural Water Supply Network (RWSN) <sup>7</sup>. From these, fifteen people responded with suggested additions and/or ideas of where to look for more materials.

AI tools were used to extract titles and thumbnails of all documents on the PS-Eau website <sup>8</sup>. These were then checked manually, and if found to be relevant and not already included, were downloaded and added to the MS-Excel file. The MS-Excel workbook was subsequently cleaned to remove documents that could not be located, and language duplications. Using the above methods, a total of 161 materials were collated.

In order to analyse the materials, they were initially classified according to the type of publisher, country of origin/global, type of document (e.g., training manual or guideline) and

<sup>6</sup><https://openknowledge.worldbank.org/search?query=&spc.sf=score&spc.sd=DESC>

<sup>7</sup> Data for action and sustainable services.

<sup>8</sup> 1212 documents discovered in total of which 12 were relevant and new.

scope. A taxonomy was developed to classify the scope of the contents. Due to the high number of documents found, coupled with limited human resources, 123 documents (76% of the total) were fully classified for scope of contents.

Several different attempts were made to manually classify the documents, before settling on 28 distinct main themes/topics, each with more than one publication, plus six unique publications.

AI advanced large language models (LLMs) was used for further analysis of the 161 documents collated manually. These models were used to extract concise summaries and classify documents according to the predefined taxonomy of scope of topics described above. A topic and topic description in the taxonomy was used, using a prompt with the Claude-3-Sonnet LLM by Anthropic <sup>9</sup> (Annex 1).

Following the collation of the 161 documents as described above, a programmatic web search using AI tools was undertaken with a focus on countries. Data on these documents have been collated in a second MS-Excel workbook. It should be noted, that due to time limitations, these data have not been reviewed manually to consider relevance to the overall scope of the mapping exercise, nor has there been an analysis of duplication.

## Findings

### Date published

The 161 publications collated were published over 41 years between 1983 and 2024 (Annex 2). Notably, while there were six publications in 1983, the next one was published in 1992, after the end of the International Drinking Water and Sanitation Decade (1981 - 1990). The 1990s and 2000s saw 23 and 26 publications, compared to 68 in the 2010s. Between 2020 and April 2024, there were 37 new publications.

### Type of publishers

In terms of type of publishers, 65% were published by international organisations, 34% by national and 2% by regional organisations. International NGOs (INGOS) published 38 out of the 161 (24%) collated, closely followed by national governments at 35 (22%). Annex 1 provides a detailed breakdown. Of the international organisations, the World Bank has published the most (19) followed by the World Health Organisation – WHO (9), UNICEF (7), WaterAid (7), IRC (6) and WEDC (5). The collation contains a considerable number of publications by national governments and/or regulators from Uganda (9), Kenya (7) and Malawi (5).

### Geographic scope

The collation of 161 publications contains 91 that are for 30 specific countries plus 61 that are general and 9 which relate to specific regions (Annex 3). The relatively low proportion of countries covered (16% of 193 countries recognised by the United Nations) may reflect the search methods used, rather than what is available. However, it also raises questions as to whether countries with relatively few donors, or no large donor-funded national programme have national guidance materials. As noted in the methodology, AI methods were used to discover documents for more countries, but further refinements to this methodology are required to enable sorting for relevance. Arguably, it is actually stakeholders working on rural water supplies in-country that will know the documents that are available.

### Documents and online resources

While most of the collation are in the form of PDF (or MS-Word) documents, seven are in the form of an interactive tools or suite of publications available online (Annex 4). With the first of these published in 2014, such tools appear to be

<sup>9</sup> <https://www.anthropic.com/news/clause-3-family>

becoming more popular. This may be a trend which may well continue in future, at least for organisations that are well-funded.

A closer look at the types of resources

A further manual analysis of the 161 resources provided 28 main types of main themes where more than one resource has been collated as listed below:

1. Finance and financial management (FIN)<sup>10</sup>,
2. Water safety planning (WSP)
3. Gender (GEN)
4. Disability and inclusion, including pro-poor (DIS)
5. Targeting of underserved or minority communities (MIN)
6. Human rights (HUR)
7. Operation and maintenance (MAI)
8. Managing/implementing projects and programmes (PRJ)
9. Implementation of national programmes (IMP)
10. (Small) utility management (UTM)
11. Training of communities (TRA)
12. Extension workers guidance/field guide (EWG)
13. Guidance in popular format for communities (POP)
14. Community management (CMG)
15. Management models and professionalisation (MMP)
16. Self-supply (SES)
17. Private sector enterprises/businesses, including water vendors (PSB)
18. Multiple use services (MUS)
19. Communications/IEC materials (COM)

20. Tariffs (TAR)
21. Water security (SEC)
22. Integrity (INT)
23. Integrated programmes, or working with other sectors (WID)
24. Governance and utility boards (GOV)
25. Water service delivery (WSD)
26. Monitoring and benchmarking (MON)
27. Interventions in emergencies (EME)

There are also three examples of drinking water guidelines (DWQ) in the collation. These will exist for many other countries but were not discovered using the search methods deployed. The most common main theme was training of communities (16), followed by managing/implementing programmes and projects (14) and operation and maintenance (13). Further details are provided in Annex 5. For some of these aforementioned theme, specific guidance is also available at country level. Annex 5 provide several tables with illustrative examples of some of the aforementioned topics at general, regional, national and sub-national levels.

There are also seven resources which had a unique main theme (UNQ), i.e.: community driven water resources management (Southern Africa), a compendium of good practices (multi-country), establishment and management of area mechanic system (Malawi), experience and lesson learning (Nepal), Non-operators guide (USA), effective performance guide (USA) and Guidance on Preparing Water Service Delivery Plans (Africa).

Analysis of documents that clarify project or programme procedures shows that these have undergone significant change over time, reflecting the changes in emphasis and ways of working. In the 1990s, the scope of such guidelines was primarily technology and to some extent

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<sup>10</sup> Three letter references (here and below) refer to coding used in the MS Excel database.

maintenance<sup>11</sup>. More recently such guidelines are considerably broader<sup>12</sup>.

While some documents are older, there are lessons to be learned, in particular in relation to implementation guidance, training manuals and so-called “popular versions,” which set out to provide information directly for water users and communities<sup>13</sup>.

Most publications include three or more sub-topics within their scope, with 14 publications including seven sub-topics. In terms of the sub-topics covered, the five most common are monitoring, planning, management and leadership, finance, and operation and maintenance. Least represented were land, (user) feedback, communications, external support and water safety planning.

Of particular interest at the suites of resources available for a number of countries, particularly Kenya and Uganda. These countries have developed guidance for different aspects of rural water supply, and targeting different stakeholders. These different documents sit alongside and, in general, appear to complement each other – something that could be considered for other countries.

## Discussion and recommendations

In relation to the collation of the 161 documents

The sub-topics for the scope of contents of the publications evolved through the duration of the assignment, finally stabilising. Unfortunately, time did not allow a second round to review documents that had been categorised earlier. It is expected

that a second round would sharpen the analysis further.

The collation is biased towards English language publications, with some publications available in multiple languages, but relatively few which are in another language only. Future searches (which should take advantage of AI tools) should explicitly seek out non-English materials.

The limitations of the manual search methods used means that there may well be more guidance materials available at national level. Should UNICEF wish to prepare a more comprehensive list, it is recommended that targeted searches using key search terms are run for every country of interest (on a search engine) are used, coupled with contacting individuals working on rural water supplies and requesting them for materials and documents. Unfortunately, manual (human) use of search engines are very unlikely to find all of the documents due to the biases of algorithms which favour more popular, and well indexed materials.

Notably, there are other documents, such as position papers, academic papers and case studies that were excluded from this mapping exercise, but which could feed into guidance for ASWA countries. These should be consulted when developing in-country guidance, particularly in relation to context or drawing on lessons for specific aspects of rural water supplies, such as monitoring or finance.

### Document use

As noted at the outset, this mapping exercise has evaluated the extent to which these guidance materials have been accessed, applied, or their effectiveness. This could be an issue for future study.

<sup>11</sup> For example, “Guidelines for rural drinking water supply projects in Afghanistan” from 1996, or

<sup>12</sup> For example, “Guidelines for the Development of Small-Scale Rural Water Supply and Sanitation Projects in East Africa” published in 2005.

<sup>13</sup> For example, “Volta rural water supply and sanitation project: project information booklet” published in 1996 by TREND

## In relation to integrating human expertise in AI-driven topic classification <sup>14</sup>

In the context of employing large language models for document analysis and classification, it is crucial to delineate the role of human expertise clearly within the process. While AI significantly enhances the efficiency and scope of document analysis, the integration of human verification and validation remains indispensable. The value of human intervention cannot be overstated, particularly at strategic points in the analysis process, where specialist knowledge and critical reasoning are required.

AI, especially in the form of large language models, serves as augmented and assisted intelligence rather than a replacement for human judgement. By automating the more labour-intensive aspects of document sifting and preliminary classification, AI can allow human experts to focus on deeper, more nuanced analysis.

Specialists bring a level of analytical depth and reasoning that AI, despite its advancements, has yet to achieve. Their insights are vital in interpreting complex themes and making informed decisions about the relevance and classification of documents. Therefore, ensuring that AI complements rather than supplants human expertise is key to maximising the effectiveness of document analysis methodologies. This approach leverages the best of both worlds—the speed and processing power of AI with the discernment and contextual understanding of human specialists.

## Future uses and potential of Large Language Models for document analysis and classification

The rapid advancements in reasoning of large language models, such as GPT-4, the upcoming GPT-5, and Llama 3 present significant opportunities for enhancing document analysis

and classification methodologies. These models' multilingual capabilities, exemplified by GPT-4's proficiency in 40+ languages, enable the inclusion of a broader range of non-English documents. By leveraging AI to perform thematic extraction, summarization, and translation, valuable insights from multilingual sources could be incorporated into future analysis.

The introduction of AI agents, a multi-step approach to document analysis, holds promise for more granular and quality-focused assessments. By breaking down documents into sections, analysing them individually, and evaluating their quality using AI-powered rubrics or Ground Truth principles, it may be possible to effectively determine overall content. This approach could also be extended to thematic discovery, allowing AI to extract themes organically and build a taxonomy based on the document's content, rather than imposing a predefined structure.

Entity extraction, facilitated by smaller models, can identify organisations, countries, and locations mentioned within the documents. This information can be used to conduct gap analysis and identify underrepresented geographical areas. Combining advanced web searching techniques, which include AI-generated summaries and snippets, could further enhance discoverability across the multilingual web and deeper web sources.

The emergence of multimodal language models, capable of analysing images and diagrams, presents a further opportunity to assess the visual elements within capacity-building documents. This may be able to provide insights into the effectiveness of visual aids in conveying information and enhancing understanding.

As the field of language models continues to evolve rapidly, it is crucial to remain open to novel use cases and applications that may emerge.

<sup>14</sup> Note that this sub-section was written with AI assistance.

## Acknowledgements

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We would also like to particularly thank Olivier Mills of WASH AI, who reached out and kindly used his knowledge and AI tools to compile key data from the documents collated manually, extract information from the PS-Eau website, prepare AI generated summaries and above all was an excellent sparring partner in the journey of searching, mapping and analysing documents.

We would like to also thank the Rural Water Supply Network (RWSN) for hosting the files identified, so they can be accessible not only for ASWA programme staff but also for the broader sector.

## About the Authors

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## Disclaimer

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Its inclusion does not imply any kind of official endorsement from UNICEF. Its appropriate use is the sole responsibility of the readers.

# Annex 1 Further insights into the methodology

## Google search limitations

The initial exclusion of Google in the search methodology was premised on concerns regarding the limitations of Google's search algorithms. The use of Google's search engine, which is heavily reliant on its ranking mechanisms, raised concerns about its ability to surface key documents of significant relevance but potentially low visibility. This concern stems from the observation that Google's ranking algorithms prioritise factors such as page loading speeds and mobile friendliness. These are features which many specialised and organisational documents, particularly those hosted on slower servers in low and middle-income countries, are lacking. Consequently, important documents could reside beyond the initial pages of search results, thereby diminishing the likelihood of their discovery.

Further, Google's rankings are influenced by popularity metrics, which do not necessarily correlate with the relevance or utility of documents within the specialised field of this mapping exercise. This could result in omitting crucial texts that, while pivotal, are not widely cited or linked to other sites.

## Subsequent use of Google using AI

Following the collation of the 161 documents, as described in the methodology section of the main report, a programmatic web search was undertaken with a focus on countries. The methodology was refined to incorporate the use of a SERP API<sup>15</sup>, enabling a tailored search strategy that included specific keywords, a focus on documents mentioning the country by name, and precise search parameters for each country. This programmatic approach facilitated more than 200 distinct searches, with the initial 10 results

from each search collated and documented as an appendix to the main report. A Large Language Model (LLM) was used to extract the year, title, author and organisation from the first two pages of the document.

Sample search, where {country} was replaced with the name of the country:

*intitle:water intitle:{country} "rural" "water" AND (Guide OR Guideline OR Guidance OR Manual OR Tool OR Toolkit OR Toolbox OR Handbook) filetype:pdf*

A second batch of less restrictive searches was performed, where the country name didn't have to be in the title:

*intitle:water {country} "rural" "water" AND (Guide OR Guideline OR Guidance OR Manual OR Tool OR Toolkit OR Toolbox OR Handbook) filetype:pdf*

The second search resulted in 30% duplication which was removed.

## Use of AI for document analysis

A topic and topic description in the taxonomy was used, using the following prompt with the Claude-3-Sonnet LLM by Anthropic (Annex 1).

*You are given a partial document to read in <doc>, and a list of topics and definitions in <topics>*

*Your role is to extract the title, write a 40 word summary, and tag it with topics. Only tag it with topics that are significantly covered by the document (for example, covered in the table of contents or mentioned a lot). It can have more than 1 but should have at most 3 or 4. Use the topic list and definitions to tag. ONLY use the topics from the provided list. Then if there is a significant topic that is not on the list, add it to "Other". Once you have the topic, write out a specific (3 to 4 words) subtopic for it. All in English. Your response is a JSON object with title and topics as keys e.g.*

*{ "title": "Rural Water Supply Guidelines", "summary": "...", "topics": [{ label: "Technology", specific: "Technology options"}, ...] }*

*ONLY give me the JSON string, nothing else, no comments.*

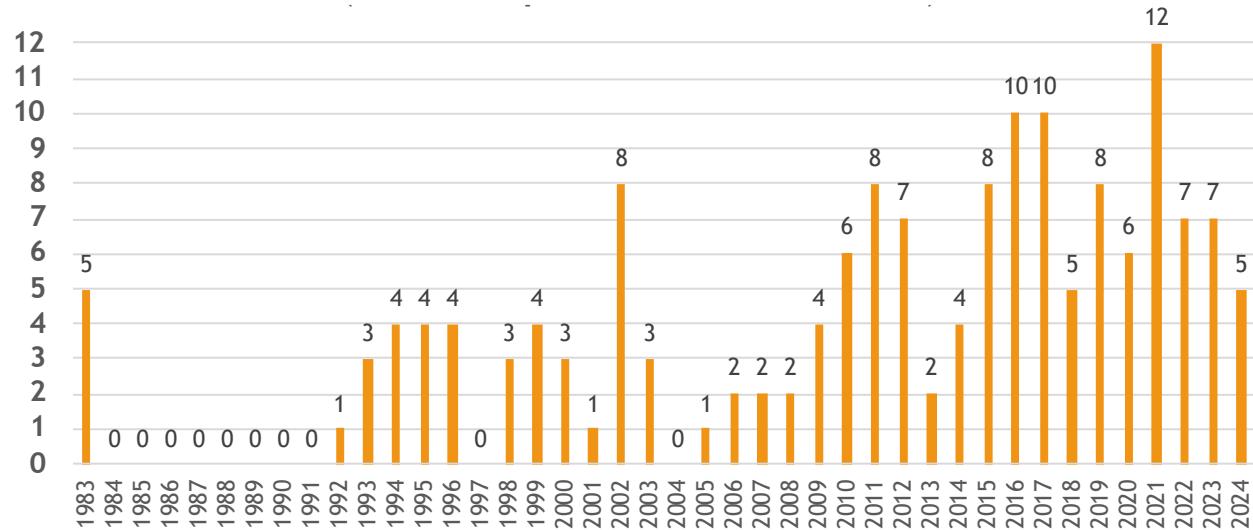
<sup>15</sup> <https://serpapi.com>

A notable limitation was the reliance on the initial 1500 words of documents (by choice due to cost and effectiveness of running the full document), typically including the table of contents, which may not comprehensively represent the document's full thematic scope. Another limitation is requesting the model to do two tasks, the summarization and topic extraction in one shot. This could limit the quality for each task.

To address this in future methodologies, a more granular 'multi-step' approach is recommended, whereby documents are segmented into smaller sections for more detailed term and summary extraction and thematic analysis. Initial trials with models like Claude-3-sonnet and GPT-4<sup>16</sup> yielded promising results, underscoring the potential of refining this approach to enhance thematic and topical alignment in document classification.

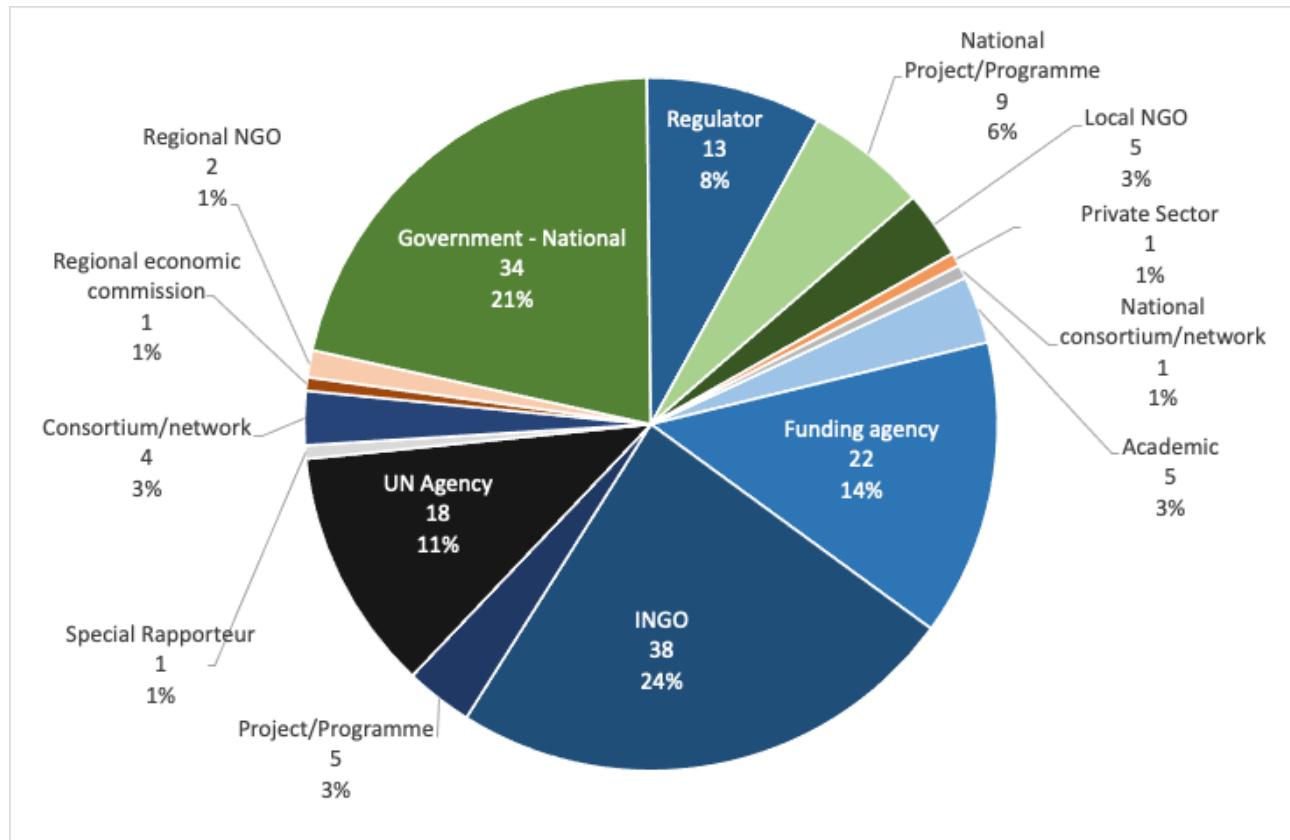
## Annex 2 Year of publication and publishers

**Figure A2.1: Number published annually to April 2024 (from 159 publications with dates)**



<sup>16</sup> <https://openai.com/gpt-4>

**Figure A2.2: Breakdown of type of publisher (161 publications)**



**Table A2.1: Number published -per decade (from 159 publications with dates)**

Decade	Number collated
1980s	5
1990s	23
2000s	26
2010s	68
2020 - April 2024	37

**Table A2.2: Publisher type**

Geographic area	Number
International	93
Regional	3
National	63
<b>Total</b>	<b>161</b>

**Table A2.3: List of publisher and number in collation (bold indicates > 5 publications)**

Publisher Name	Number
ACF - Action Contre la Faim	1
AFDB - African Development Bank - Water Partnership Program	1
Australia National Health and Medical Council	1
BKH Consulting Engineers	1
CDC - Centers for Disease Control and Prevention, the Public Health Service, the U.S. Department of Health and Human Services, or the American Water Works Association	1
CIEH - Comite Inter-africain d'Etudes Hydrauliques	2
CMMU - Community Management and Monitoring Unit	3
Community Water and Sanitation Division	1
Consult BiD and Aid Environment	1
COWASH	2
CRS - Catholic Relief Services	2
CWSSP - Ministry of Housing, Construction & Public Utilities	2
Department of Drinking Water Supply, Government of India	1
Environmental Health Project (EHP)	1
EWURA - Energy and Water Utilities Regulatory Authority	1
FAO and UNICEF	1
Global WASH Cluster partners and German WASH Network	1
Helvetas	1
Hygiene Improvement Project (HIP) and USAID	1
ICE, Oxfam and WaterAid	1
<b>IDA - International Disability Alliance</b>	1
Indian & Northern Affairs Canada	1
Inter Aide	1
<b>IRC</b>	<b>6</b>
IWA - International Water Association	1
IWC - International Water Centre	2
IWMI - International Water Management Institute	1
Jammu & Kashmir Local Government and Rural Development Department (Pakistan)	1
Malteser International	1

Publisher Name	Number
MEDA Water	1
<b>Ministry of Agriculture, Irrigation and Water Development (Malawi)</b>	<b>2</b>
<b>Ministry of Irrigation and Water Development (Malawi)</b>	<b>1</b>
<b>Ministry of Water &amp; Sanitation (Malawi)</b>	<b>1</b>
<b>Ministry of Water Development (Malawi)</b>	<b>1</b>
Ministry of Jal Shakti (India)	1
Ministry of Local Government and Housing (Zambia)	1
Ministry of Rural Development, Government of India	1
Ministry of Water Resources (Sierra Leone)	1
Mvula Trust	2
<b>MWE - Ministry of Water and Environment (Uganda)</b>	<b>8</b>
<b>MWLE - Ministry of Water, Lands and Environment (Uganda)</b>	<b>1</b>
National Water Resources Council (Philippines)	1
NWASCO - National Water Supply and Sanitation Council (Zambia)	1
Office of the Prime Minister, Community Development Department, Tanzania	1
Oromia Water, Mineral and Energy Resources Development Bureau (Ethiopia)	1
Oxfam	1
<b>PURC - PUBLIC UTILITIES REGULATORY COMMISSION</b>	<b>1</b>
Ministry of Water (Republic of Tanzania)	1
Rural Community Assistance Partnership (RCAP)	3
RVWRMP - Rural Village Water Resource Management Project	3
RWSN (Rural Water Supply Network)	1
SADC - DANIDA	1
Servicio Nacional de Saneamiento Ambiental (SENASA)	1
Sustainability through agriculture and micro-enterprises (SAM)	1
Swedish Committee for Afghanistan (SCA)	1
Teaching-aids At Low Cost (TALC)	1
The Water Trust	2
TREND	1
UNDP-World Bank	1
<b>UNICEF</b>	<b>7</b>

Publisher Name	Number
United Nations Special Rapporteur on the right to safe drinking water and sanitation.	1
USAID/Sustainable WASH Systems Learning Partnership (SWS)	1
<b>USEPA - United States Environmental Protection Agency</b>	<b>5</b>
WASH Alliance	1
WASH Cluster	1
WASH Consortium	1
WASREB - Water Services Regulatory Board (Kenya)	7
Water and Sanitation for Health Project (WASH)	2
Water Mission	1
<b>WaterAid</b>	<b>7</b>
WaterAid and Aguiconsult	2
WaterAid and ISF-UTS	1
<b>WEDC</b>	<b>5</b>
<b>WHO - World Health Organisation</b>	<b>9</b>
WIN - Water Integrity Network and SWSC - Swiss Water and Sanitation Consortium	1
<b>World Bank</b>	<b>19</b>
World Bank - Netherlands Water Partnership	1
World Vision	3
ZIMWASH	1
<b>Total</b>	<b>161</b>

## Annex 3 Geographic scope

**Table A3.1: Geographic scope of the publications collated**

General / Regional	Number	Country-specific	Number
<b>General</b>		<b>National</b>	
<b>Total General</b>	<b>61</b>	Afghanistan	1
		Australia	1
		Bangladesh	1
		Burkina Faso	2

General / Regional	Number	Country-specific	Number
<b>Regional</b>		Canada (First Nations)	1
Africa	2	Democratic Republic of the Congo	1
Africa - Southern	1	Ethiopia	6
East Africa	3	Ghana	3
Latin America and the Caribbean	1	Fiji and the Solomon Islands	1
Middle East	1	India	6
Pacific Islands	1	Indonesia	1
<b>Total Regional</b>	<b>9</b>	Pakistan	2
		Kenya	11
		Malawi	5
		Mali	1
		Nepal	4
		Paraguay	1
		Peru	1
		Philippines	2
		Sierra Leone	2
		Sierra Leone and Liberia	1
		Solomon Islands	1
		South Africa	2
		Sri Lanka	2
		Tanzania	3
		Timor-Leste	2
		Uganda	11
		USA	9
		Zambia	6
		Zimbabwe	1
		<b>Total National</b>	<b>91</b>

## Annex 4 Format

**Table A4.1: List of six online tools (multiple publications)**

Year	Title	Publisher	Link
2014	Violence, Gender and WASH Toolkit	WaterAid	<a href="https://violence-wash.lboro.ac.uk">https://violence-wash.lboro.ac.uk</a>
2017	The Integrity Management toolbox for small water supply systems	WIN - Water Integrity Network and SWSC - Swiss Water and Sanitation Consortium	<a href="https://waterconsortium.ch/results/the-integrity-management-toolbox-for-small-water-supply-systems-an-approach-to-address-governance-and-management-challenges-of-community-managed-water-supply-systems/">https://waterconsortium.ch/results/the-integrity-management-toolbox-for-small-water-supply-systems-an-approach-to-address-governance-and-management-challenges-of-community-managed-water-supply-systems/</a>
2023	Improving water, sanitation and hygiene sustainability with life cycle costing	WaterAid	<a href="https://washmatters.wateraid.org/publications/improving-water-sanitation-and-hygiene-sustainability-with-life-cycle-costing">https://washmatters.wateraid.org/publications/improving-water-sanitation-and-hygiene-sustainability-with-life-cycle-costing</a>
2024	Technical, Managerial and Financial (TMF) Capacity Resources for Small Drinking Water Systems	USEPA - United States Environmental Protection Agency	<a href="https://www.epa.gov/dwcapacity/technical-managerial-and-financial-tmf-capacity-resources-small-drinking-water-systems">https://www.epa.gov/dwcapacity/technical-managerial-and-financial-tmf-capacity-resources-small-drinking-water-systems</a>
2024	Simple Tools for Effective Performance (STEP) Guide Series	USEPA - United States Environmental Protection Agency	<a href="https://www.epa.gov/dwcapacity/simple-tools-effective-performance-step-guide-series">https://www.epa.gov/dwcapacity/simple-tools-effective-performance-step-guide-series</a>
2024	Reliable Planning of Hygiene Promotion Interventions in Emergencies	Global WASH Cluster partners and German WASH Network	<a href="https://www.emergency-wash.org/hygiene/en/">https://www.emergency-wash.org/hygiene/en/</a>
2024	Resource Page on Disability-Inclusive WASH	Various	<a href="https://www.internationaldisabilityalliance.org/DisabilityInclusiveWASH">https://www.internationaldisabilityalliance.org/DisabilityInclusiveWASH</a>

## Annex 5 Categorisation of main theme

**Table A5.1: Main theme and frequency**

Main Theme	Code <sup>17</sup>	Frequency
Training of communities	TRA	16
Managing/implementing projects and programmes	PRJ	14
Operation and maintenance	MAI	13
Finance and financial management	FIN	13
Implementation of national programmes	IMP	12
Gender	GEN	9
Extension workers guidance/field guide	EWG	8
Management models and professionalisation	MMP	7
Unique	UNQ	7
Integrated programmes, or working with other sectors	WID	6
Disability and inclusion, including pro-poor	DIS	6
Community management	CMG	5
Water security	SEC	4
Governance and utility boards	GOV	4
Monitoring and benchmarking	MON	3
Communications/IEC materials	COM	3
Private sector enterprises/businesses, including water vendors	PSB	3
Tariffs	TAR	3
Water safety planning	WSP	3
Human rights	HUR	3
Drinking water guidelines	DWQ	3
(Small) utility management	UTM	3
Multiple use services	MUS	2
Integrity	INT	2
Self-supply	SES	2
Guidance in popular format for communities	POP	2

<sup>17</sup> In order to aid searching on the MS Excel workbook, each type of document has a three-letter code, which is also given in the table titles below.

Main Theme	Code <sup>17</sup>	Frequency
Interventions in emergencies	EME	2
Targeting of underserved or minority communities	MIN	2

**Table A5.2: Examples of documents that focus on finance and financial management (FIN)**

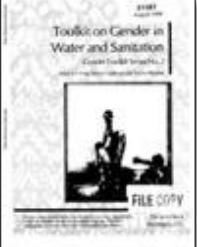
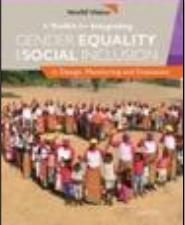
Thumbnail	Title ( <i>augmented by purpose where required</i> )	Country	Year	Publisher
<b>General</b>				
	Helping communities manage their water finances: a manual for extension personnel working in rural or peri-urban communities	~	1993	Water and Sanitation for Health Project (WASH)
	Guidelines for User Fees and Cost Recovery for Rural, Non-Networked, Water and Sanitation Delivery	~	2010	AFDB
	Developing water, sanitation and hygiene (WASH) finance strategies: a guide	~	2022	UNICEF
	Improving water, sanitation and hygiene sustainability with life cycle costing <i>Toolbox on life-cycle costing - includes an overview document, a series of excel tools (area-wide and single use) and case studies of application of the tool</i>		2023	WaterAid
<b>National</b>				
	The Basics of Financial Management for Small-community Utilities <i>Provision of guidance to enable utilities to effectively manage the finances of their systems and be financially self-supporting</i>	USA	2021	Rural Community Assistance Partnership (RCAP)

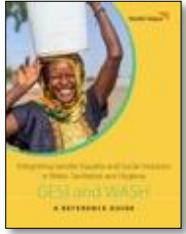
Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
	Financial viability for rural and small systems <i>Provides information on ten key management areas, how to conduct system assessment process based and information on how to prioritize areas for improvement, while developing measures of progress that can help small systems with performance enhancement.</i>	USA	No date	USEPA - United States Environmental Protection Agency
	Setting Small Drinking Water System Rates for a Sustainable Future	USA	2015	USEPA - United States Environmental Protection Agency

**Table A5.3 Examples of documents that focus on Water Safety Planning (WSP)**

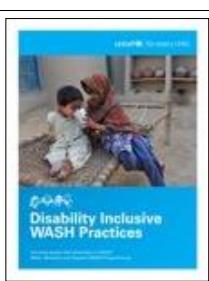
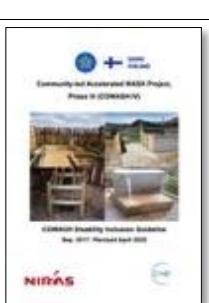
Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
<b>General</b>				
	Water Safety Plan Manual	~	2023	WHO
<b>Regional or National</b>				
	Drinking Water Safety Planning: A Practical Guide for Pacific Island Countries	Pacific Islands	2020	WHO
	Guideline on Water Safety Planning	Kenya	2019	WASREB

**Table A5.4 Examples of documents/websites that focus on Gender (GEN)**

Thumbnail	Title ( <i>augmented by purpose where required</i> )	Country	Year	Publisher
<b>General</b>				
	Toolkit on Gender in Water and Sanitation	~	1996	World Bank
	Violence, Gender and WASH Toolkit (website)	~	2014	WaterAid
	Gender-Responsive Water, Sanitation and Hygiene: Key elements for effective WASH programming	~	2017	UNICEF
	A Toolkit for Integrating GENDER EQUALITY AND SOCIAL INCLUSION in Design, Monitoring and Evaluation	~	2020	World Vision
	Integrating gender equality into community water, sanitation and hygiene projects – guidance notes	~	2022	WaterAid

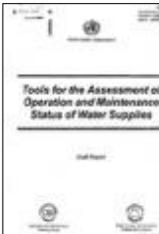
	<p>Integrating Gender Equality and Social Inclusion in Water, Sanitation and Hygiene - A reference guide</p>	<p>~</p>	<p>2022</p>	<p>World Vision</p>
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**Table A5.5 Examples of documents that focus on disability and/or inclusion (DIS)**

Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
<b>General</b>				
	<p>Disability Inclusive WASH Practices</p>	<p>~</p>	<p>2017</p>	<p>UNICEF</p>
	<p>WASH Safety and Accessibility Toolkit</p>	<p>~</p>	<p>2023</p>	<p>WASH Cluster</p>
	<p>Resource Page on Disability-Inclusive WASH (website)</p>	<p>~</p>	<p>2024</p>	<p>Various</p>
<b>Regional or National</b>				
	<p>COWASH Disability Inclusion Guideline</p>	<p>Ethiopia</p>	<p>2022</p>	<p>COWASH</p>

	Guideline for WASH SDG project staff to support LGIs in rolling out the Pro-Poor Strategy for Water and Sanitation Sector 2020 in Bangladesh	Bangladesh	2021	WASH Alliance
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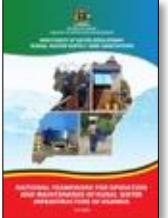
**Table A5.6 Examples of documents that focus on maintenance, or operation and maintenance (MAI)**

Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
<b>General</b>				
	Handpump maintenance: guidelines for organising handpump maintenance systems	~	1983	IRC
	Models of management systems for the operation and maintenance of rural water supply and sanitation facilities	~	1993	Water and Sanitation for Health Project (WASH)
	Tools for the assessment of operation and maintenance status of water supplies	~	1994	WHO
	Operation and Maintenance of Rural Water Supply and Sanitation Systems: A Training Package for Managers and Planners	~	2000	WHO

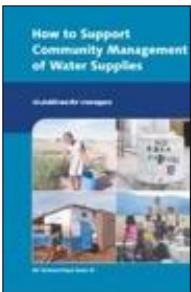
	Linking technology choice with operation and maintenance in the context of community water supply and sanitation: a reference document for planners and project staff	~	2003	WHO
	Operations and Maintenance of Rural Infrastructure in Community-Driven Development and Community-Based Projects: Lessons Learned and Case Studies of Good Practice	~	2015	World Bank
	A Roadmap for System Strengthening for Professionalized Rural Water Maintenance Services	~	2021	USAID

#### National

	Rural water supply programme: preventive maintenance manual and schedule for functioning systems <i>(publication in Spanish: "Programa de agua rural : manual de mantenimiento preventivo y propuesta de calendario de acciones para los sistemas en fucionamiento")</i>	Paraguay	1983	Servicio Nacional de Saneamiento Ambiental (SENASA)
	National Guidelines for Sustainable Operation and Maintenance of Hand Pumps in Rural Areas	Zambia	2007	Ministry of Local Government and Housing (Zambia)
	Protocol for Centralised Drinking Water Systems in First Nations Communities - Standards for Design, Construction, Operation, Maintenance, and Monitoring of Centralised Drinking Water Systems	Canada (First Nations)	2010	Indian & Northern Affairs Canada
	Operation and Maintenance Manual for Rural Water Supplies	India	2011	Operation and Maintenance Manual for Rural Water Supplies

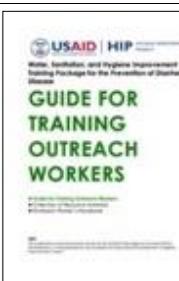
	Rural Water Supply Volume III: Operation and Maintenance Manual	Philippines	2012	National Water Resources Council
	A national framework for operation and maintenance of rural water infrastructure in Uganda	Uganda	2020	Ministry of Water and Environment (Uganda)

**Table A5.7 Examples of documents providing guidance in relation to community management (CMG)**

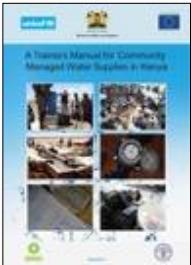
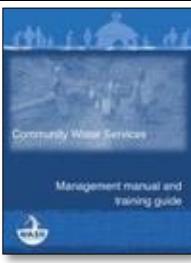
Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
<b>General</b>				
	How to support community management of water supply systems: guidelines for managers.	-	2002	IRC
	Managing Water locally – an essential dimension of community water development		2011	ICE, Oxfam and WaterAid
<b>National or sub-national</b>				
	Community management handbook	Ghana	1995	

	Management manual for community participation in the activities of Oromia rural water supply and sanitation projects	Ethiopia	1998	Oromia Water, Mineral and Energy Resources Development Bureau (Ethiopia)
	Compendium of tools to support community water management in Fiji and Solomon Islands	Fiji and Solomon Islands	2022	International Water Centre

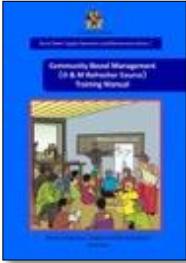
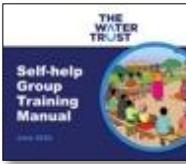
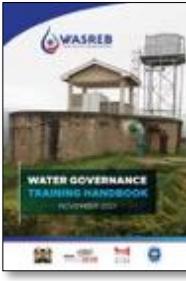
**Table A5.8 Examples of documents providing guidance to train extension staff and outreach workers for communities (TRA)**

Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
<b>General</b>				
	Supporting Community Management: A Manual for Training in Community Management	-	2002	IRC
	Guide for Training Outreach Workers	-	2009	Hygiene Improvement Project (HIP) and USAID
	Safe Water Committee Training Guide		2016	Water Mission

## National or sub-national

	<p>Village water points: manual for training of village extension workers: installation, utilisation, maintenance. Booklet 1 and 3 (<i>publication in French</i><sup>18</sup>)</p>	<p>Burkina Faso</p>	<p>1983</p>	<p>CIEH - Comite Interafricain d'Etudes Hydrauliques</p>
	<p>Community participation: strategies and tools: a trainers' manual for the rural water supply and sanitation sector in Pakistan</p>	<p>Pakistan</p>	<p>1994</p>	<p>UNDP-World Bank</p>
	<p>Trainer's manual: training workshop for district staff on their duties of coordinating mobilisation activities for the RUWASA project</p>	<p>Uganda</p>	<p>1992</p>	<p>MWLE - Ministry of Water, Lands and Environment (Uganda)</p>
	<p>A Trainer's Manual for Community Managed Water Supplies in Kenya</p>	<p>Kenya</p>	<p>2012</p>	<p>FAO and UNICEF</p>
	<p>Community Water Services Management Manual and Training Guide</p>	<p>DRC</p>	<p>2015</p>	<p>WASH Consortium</p>

<sup>18</sup> Manage water in the village Le point d'eau au village : manuel de formation des formateurs villageois : Mamenagement, utilisation, entretien. Livret 1. Gerer l'eau au village -

	Community Based Management (O & M) Refresher Course Training Manual and Toolkit	Malawi	2015	Ministry of Agriculture, Irrigation and Water Development (Malawi)
	V-WASHE Training Manual	Zambia	2017	Sustainability through agriculture and micro-enterprises (SAM)
	Self-Help Group Training Manual	Uganda	2020	The Water Trust
	Water governance training handbook	Kenya	2021	Water Services Regulatory Board (WASREB)

**Table A5.9 Examples of documents providing overall guidance for programmes and projects (PRJ)**

Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
<b>General</b>				
	Water supply and sanitation project preparation handbook. Volume 1. Guidelines	-	1983	World Bank

	DFID Guidance Manual on Water Supply and Sanitation Programme	-	1998	WEDC
	Designing Water and Sanitation Projects to Meet Demand. <ul style="list-style-type: none"> <li>- Book 1 Concept, principles and practice</li> <li>- Book 2. Additional notes for policy makers and planners</li> <li>- Book 3. Ensuring the participation of the poor.</li> </ul>	-	2002	WEDC
<b>Regional</b>				
	Guidelines for the Development of Small-Scale Rural Water Supply and Sanitation Projects in East Africa	East Africa		CRS - Catholic Relief Services
<b>National</b>				
	Guidelines for rural drinking water supply projects in Afghanistan	Afghanistan	1996	Swedish Committee for Afghanistan (SCA)
	Guidelines for the development of small-scale rural water supply and sanitation projects in Ethiopia	Ethiopia	2003	CRS - Catholic Relief Services
	Multi-Village Pooling Project in Indonesia: Handbook for Community-Based Water Supply Organizations	Indonesia	2011	World Bank
	Rural Village Water Resources Management Project, Phase III Project Implementation Guidelines	Nepal	2018	RVWRMP - Rural Village Water Resource Management Project

**Table A5.10 Examples of documents that provide guidance in popular format for communities (POP)**

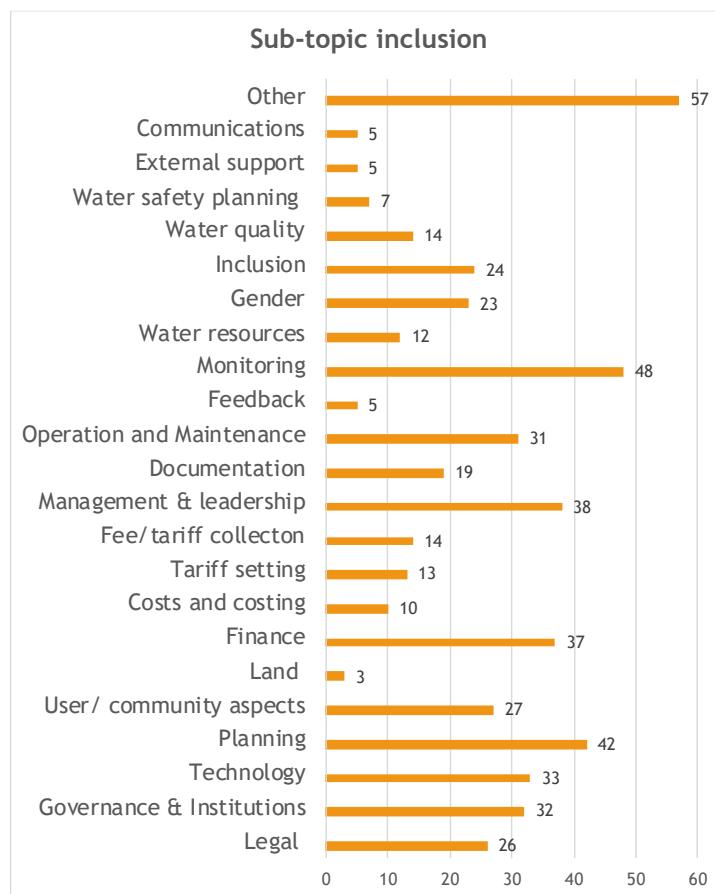
Thumbnail	Title (augmented by purpose where required)	Country	Year	Publisher
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**National**

	Volta rural water supply and sanitation project: project information booklet	Ghana	1999	TREND
	A Community Resource Book for the Water and Sanitation Sector	Uganda	2007	MWE - Ministry of Water and Environment

## Annex 6 Sub-topic inclusion

**Figure A6.1: Frequency of inclusion of sub-topics in 123 out of 161 publications**



## 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.

*COVID-19 WASH Responses* compile lessons learned on UNICEF's COVID-19 response and how to ensure continuity of WASH services and supplies during and after the pandemic.

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