

# A Guide to Resources on Emergency Drinking Water Quality

March 2024

## INTRODUCTION

This quick guide provides links to existing materials on drinking water quality that can be used for program planning and implementation. The guide includes many resources including links to textbooks, handbooks and manuals, digital tools, examples of data collection forms, instructional videos, and training materials. Most of the resources listed here are free to view or download.

These materials focus on water quality standards, monitoring, and risk management—including water safety plans. This guide does not include resources related to community and household water treatment options. While many of the resources are not specific to emergencies, practitioners may find they are still applicable to emergency settings.

This guide can be used by a range of professionals including implementers, managers, policy makers, and donors. Each user is encouraged to read through the included resources and determine which best fit their needs.

## WHY THIS GUIDE?

Ensuring water quality during emergencies presents unique challenges, requiring the rapid establishment of monitoring systems, often involving the formation of new teams and field laboratories, which often must be imported. Decisions need to be made on what testing to prioritize and the frequency, balancing staffing and available funding. Programs also need to rapidly react to water quality results, take action, and provide feedback to communities.

While The Sphere Handbook and applicable national regulations provide clear standards, there is a lack of guidance specifically tailored to the initial emergency planning process, particularly in scenarios where chlorination of all water points is not feasible. Additionally, there is limited guidance on appropriate testing frequencies and specific actions to be taken when drinking water sources fail to meet water quality standards. Another critical but often overlooked aspect is the need to plan for sustainability from the outset, ensuring a smooth transition from initial emergency testing to post-emergency monitoring and eventual integration with long-term drinking water quality surveillance programs.

The guide is divided into sections:

- [Water Quality Standards](#)
- [Water Quality Guidelines and Guides](#)
- [General WASH Guidebooks \(containing sections on emergency water quality\)](#)
- [Water Surveillance](#)
- [Water Safety Plans](#)
- [Testing Equipment, Instructions, and Tutorials](#)
- [Digital Monitoring Tools and Data](#)
- [Capacity-Strengthening and Training Courses](#)

You can use these icons to help you find what you need:



**Emergency Focused**



**Includes Example  
Forms/Tools**



**Digital Tool**



**Testing Tutorials Videos**

Many of the tools are offered in multiple languages. Look for these icons to see which languages are available:

**AR** Arabic

**CH** Chinese

**FR** French

**GE** German

**JA** Japanese

**PO** Portuguese

**RU** Russian

**SP** Spanish

**SW** Congo Swahili

**UK** Ukrainian

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# Water Quality Standards



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SP SW UK

## THE SPHERE HANDBOOK

[Learn More](#) • [Download \(0 MB\)](#)

Humanitarian Standards Partnership, 2018



The Sphere Handbook sets out the minimum standards in humanitarian response including for water supply and water quality. The water supply standard 2.2 on water quality states that water is “palatable and of sufficient quality for drinking and cooking, and for personal and domestic hygiene, without causing a risk to health.” Key actions include protecting water sources, regularly renewing sanitary surveys, minimizing post-delivery water contamination, water treatment, and measuring water quality. In the specific case of healthcare settings, the free residual chlorine (FRC) standard is increased from 0.2-0.5mg/l to 0.5-1.0 mg/l. This same standard is applied in the [WHO Classification and minimum standards for emergency medical teams](#), in the [MSF Management of a cholera epidemic](#), and by [Action Against Hunger for nutritional centers](#).



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## MODULAR ANALYTICAL FRAMEWORK FOR QUALITY AND ACCOUNTABILITY

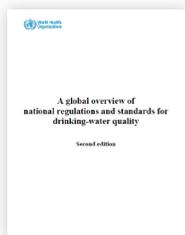
[Learn More](#) • [Download \(1 MB\)](#)

Global WASH Cluster (Lise Lacan (Solidarités Internationales) and James Brown (Oxfam)), 2023



This modular analytical framework provides guidance on monitoring approaches, standards, and indicators to ensure standards for quality and accountability in humanitarian water, sanitation, and hygiene (WASH) responses are met and maintained. The water quality section is based on The Sphere Handbook and adds further contextual guidance.

A [short 4-hour e-course](#) is available on the Agora platform.

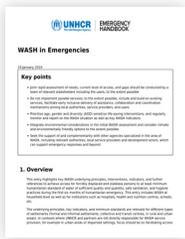


## A GLOBAL OVERVIEW OF NATIONAL REGULATIONS AND STANDARDS FOR DRINKING WATER QUALITY (2<sup>ND</sup> ED, REFERENCE SECTION)

[Learn More](#) • [Download \(972 KB\)](#)

World Health Organization, 2021

National standards can and should be sought from the national authorities. This report includes a reference section that lists all national standards documents identified from 125 countries.



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RU SP

## EMERGENCY HANDBOOK: EMERGENCY WATER STANDARD

[Learn More](#) • [Download \(159 KB\)](#)

United Nations High Commissioner for Refugees, 2020



The United Nations High Commissioner for Refugees (UNHCR) water standard is built on The Sphere Handbook minimum standards and adds some additional guidelines and indicators. Sphere indicators for water quality are applied to camp settings only with an additional target that 95% of tests meet the Sphere targets. The standard adds an indicator for the proportion of people collecting drinking water from protected/treated sources,  $\geq 70\%$  during an emergency and  $\geq 90\%$  post-emergency. The separate [UNHCR WASH Manual](#) stipulates that national standards, where they exist, should take precedence over UNHCR standards unless exceptions are agreed.



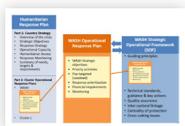
## EVIDENCE-BASED GUIDANCE FOR WATER CHLORINATION IN HUMANITARIAN RESPONSE

[Learn More](#) • [Download \(3.9 MB\)](#)

Médecins sans Frontières (Syed Imran Ali & Jean-Francois Fesselet), 2020



This guidance provides initial context-specific free residual chlorine targets that can be used during an acute emergency before water quality monitoring programs are established. As local water quality monitoring data becomes available, the [Safe Water Optimization Tool](#) can be used to generate site-specific, evidence-based free residual chlorine targets appropriate for the latest site conditions.



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## WASH CLUSTER PLANS AND STRATEGIC OPERATIONAL FRAMEWORKS

[Learn More](#)

Global WASH Cluster / UNICEF



Where a WASH cluster is active, the approach to water quality should be agreed upon by partners and standardized within the cluster strategic operation framework or similar guidance document, such as this [example from Ukraine](#), the [DRC](#), and [Venezuela](#).

## SUMMARY OF STANDARDS

Standard	Context	FRC (≥ mg/l) Chlorinated water (at point of delivery)	Microbio (CFU/100ml) non-chlorinated water	Turbidity (< NTU)	Other
<a href="#">The Sphere Handbook</a>	Emergencies	0.2 - 0.5	< 10	5	-
	Healthcare settings	0.5 - 1.0	-	-	-
<a href="#">UNHCR Emergency Handbook</a>	Emergencies	0.2 - 2.0 for > =95% tests	0 for > =95% tests	5 (chlorinated water)	≥70% HH collected from a protected source
	Post Emergency	0.2 - 2 for > =95% tests	0 for > =95% tests	5 (chlorinated water)	≥95% HH collected from a protected source
<a href="#">WHO Classification and minimum standards for emergency medical teams</a>	Emergency Medical Teams Facilities	0.5 - 1.0	0	5	-
<a href="#">MSF Management of a Cholera Epidemic</a>	Cholera outbreak Public distribution	0.5 (pH≤8) 1.0 (pH > 8)	-	5, or 20 (initial emergency)	-
	Cholera outbreak Treatment Facilities	0.5 (pH≤8) 1.0 (pH > 8)	-	5	-
<a href="#">MSF Evidence based guidance for water chlorination</a>	Emergencies	1.1 - 1.3 (hot, poor WASH) 1.2 - 1.4 (hot, good WASH) 0.6 - 0.8 (moderate, poor WASH) 0.3 - 0.5 (moderate, good WASH)	-	-	-
<a href="#">Action Against Hunger Wash'Nutrition</a>	Health & Nutritional centers	0.5 - 1	0	20 (chlorinated water)	-
	Households in communities affected by undernutrition	-	0	-	-

# Water Quality Guidelines and Guides



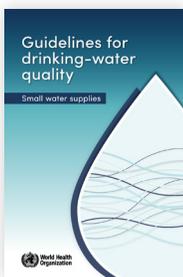
## GUIDELINES FOR DRINKING-WATER QUALITY (4<sup>TH</sup> EDITION)

[Learn More](#) • [Download \(5.1 MB\)](#)

World Health Organization, 2022



This is the global guiding document and authority for the setting of national water quality standards, regulation, and risk management. As well as setting out specific parameter standards, it also provides guidance on how to implement water safety plans and how to establish and implement surveillance systems. Section 6.7 (Emergencies and disasters) specifically addresses the key considerations in emergency contexts.



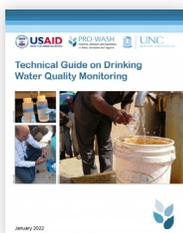
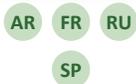
## GUIDELINES FOR DRINKING-WATER QUALITY: SMALL WATER SUPPLIES

[Learn More](#) • [Download \(4.2 MB\)](#)

World Health Organization, 2024



These Guidelines focus on establishing drinking-water quality regulations and standards that are health based and context appropriate and on proactively managing risks. The guidance is intended primarily for decision-makers at national and subnational levels with responsibility for developing regulatory frameworks and supporting programmes related to these activities. The guidelines are accompanied by the WHO's 2024 [Sanitary inspection packages](#).

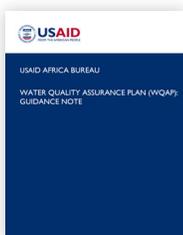


## TECHNICAL GUIDE ON DRINKING WATER QUALITY MONITORING

[Learn More](#) • [Download \(28 MB\)](#)

PRO-WASH, 2022

This guide was developed to support USAID Bureau for Humanitarian Assistance (BHA) funded partners to improve drinking water safety. The guide is a relevant and quick-start manual to implement a water quality monitoring program consistent with USAID's Water Quality Assurance Plan (WQAP). The guide covers planning, analyzing, and using results from water quality monitoring. The guide's focus on priority water quality parameters, along with its concise and easy-to-read format, makes it a valuable resource for emergency contexts as well.



## WATER QUALITY ASSURANCE PLAN (WQAP) GUIDANCE NOTE

[Learn More](#) • [Download \(130 KB\)](#)

USAID Africa Bureau, 2018



A WQAP is a tool USAID partners use to monitor and improve water quality and service through standardized monitoring. A WQAP identifies potential water quality issues, what to monitor and why, how often to monitor, and sets out how to respond when water quality issues are identified. The WQAP is a tool designed for monitoring water quality in small-scale drinking water systems, primarily in rural settings. The WQAP may not be the best tool or may be inadequate for managing water quality risks associated with large-scale activities in urban settings; other tools may be better suited.

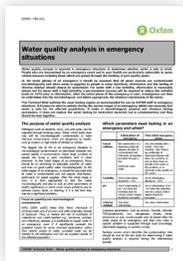


## RAPID ASSESSMENT OF DRINKING-WATER QUALITY

[Learn More](#) • [Download \(1.4 MB\)](#)

World Health Organization and UNICEF, 2012

This publication explores the extent to which water from “improved” water sources (as defined by the Joint Monitoring Programme) is safe. It is a useful manual for large-scale representative sampling and testing. It includes guidance on survey design, what and how to test, sanitary inspections, data management, analysis, and how to use findings to inform national policy.

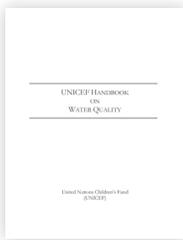


## WATER QUALITY ANALYSIS IN EMERGENCY SITUATIONS

[Learn More](#) • [Download \(356 KB\)](#)

Oxfam, 2008

This technical brief provides a short 7-page overview of water quality in emergency situations. The brief guides on which parameters to test in the initial and post-initial phases of an emergency, a suggested frequency, and outlines the main methods of microbiological and chemical testing used at the time.



## UNICEF HANDBOOK ON WATER QUALITY

[Learn More](#) • [Download \(1 MB\)](#)

United Nations Children’s Fund, 2008

This older handbook on water quality, provides a detailed technical guide to all aspects of water quality. It includes sections on monitoring and surveillance, measuring water quality, and preventing contamination.



Photo Credit: Tearfund

# General WASH Guidebooks



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## COMPENDIUM OF WATER SUPPLY TECHNOLOGIES IN EMERGENCIES

[Learn More](#) • [Download \(14 MB\)](#)

German WASH Network and the University of Applied Sciences and Arts Northwestern Switzerland School of Life Sciences (Arno Coerver, Lorenz Ewers, Eric Fewster, Declan Galbraith, Robert Gensch, Jay Matta, and Maryna Peter), 2021

This compendium of water supply technologies for emergencies, supported by the Global WASH Cluster, includes a section on “monitoring and quality control” as part of the cross-cutting issues. There are sections on water quality monitoring, water safety, risk management, data flow, and information and communication technology.



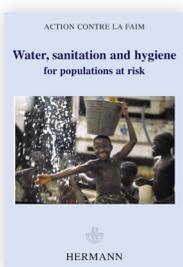
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## PUBLIC HEALTH ENGINEERING IN PRECARIOUS SITUATIONS

[Download \(11 MB\)](#)

Médecins sans Frontières (Joos Van Den Noortgate and Peter Maes), 2010

This guidance book includes a chapter on water supply that includes specific technical briefs on protection water sources (2.04, 2.08), water sampling (2.11), water analysis (2.10), measuring turbidity (2.13), and monitoring chlorine (2.22).



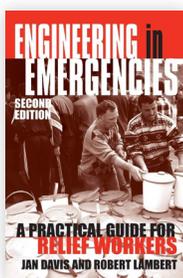
FR SP

## WATER SANITATION AND HYGIENE FOR POPULATIONS AT RISK

[Learn More](#) • [Download \(13 MB\)](#)

ACTION CONTRE LA FAIM, 2005

This guidebook on emergency WASH includes an extensive chapter on water quality and analysis, including standards, sampling, analysis options, and recording and interpretation of results.



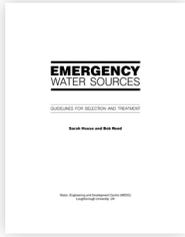
## ENGINEERING IN EMERGENCIES

[Learn More](#)

RedR (Jan Davis and Robert Lambert), 2002

This book was developed in collaboration with RedR and Engineers for Disaster Relief. It inspired many subsequent the WASH guidebooks. It provides an overview of water quality.





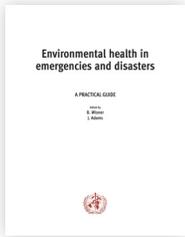
## EMERGENCY WATER SOURCES

[Learn More](#) • [Download \(15 MB\)](#)

Water, Engineering and Development Centre (S. J. House and R. A. Reed), 2004



This guide includes a chapter (section 4) on water quality assessment and analysis routines. It includes suggestions for how to identify priority chemical contaminants. There is also a chapter (section 5) on the equipment needed for water analysis.



## ENVIRONMENTAL HEALTH IN EMERGENCIES AND DISASTERS

[Learn More](#) • [Download \(4 MB\)](#)

World Health Organization (B. Wisner and J. Adams), 2002



This book deals with environmental health during the disaster-management cycle. It provides an overview of water quality and testing in emergencies.

AR CH



# Water Surveillance



## SANITARY INSPECTION PACKAGES FOR DRINKING WATER

[Learn More](#) • [Download \(7.2 MB\)](#) • [Individual Packages](#)

World Health Organization, 2024



This new resource provides 13 sanitary inspection packages, quick checklists that can be used to identify risk factors and prompt corrective action. The checklists are accompanied by short technical fact sheets. This associated publication is a supporting tool for the “Guidelines for drinking-water quality: small water supplies”.



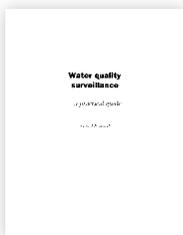
## USAID/BHA WATER QUALITY SURVEILLANCE PLAN

[Learn More](#) • [Download \(95 KB\)](#)

United States Agency for International Development Bureau for Humanitarian Assistance, 2020



An annex to the USAID/BHA [Emergency Application Guidelines](#), this sample water surveillance plan is expected to be utilized by BHA partners for all critical water quality control points. The matrix template includes the water quality parameters to be tested, the targets, the frequencies, the reporting protocol, and any remedial actions.



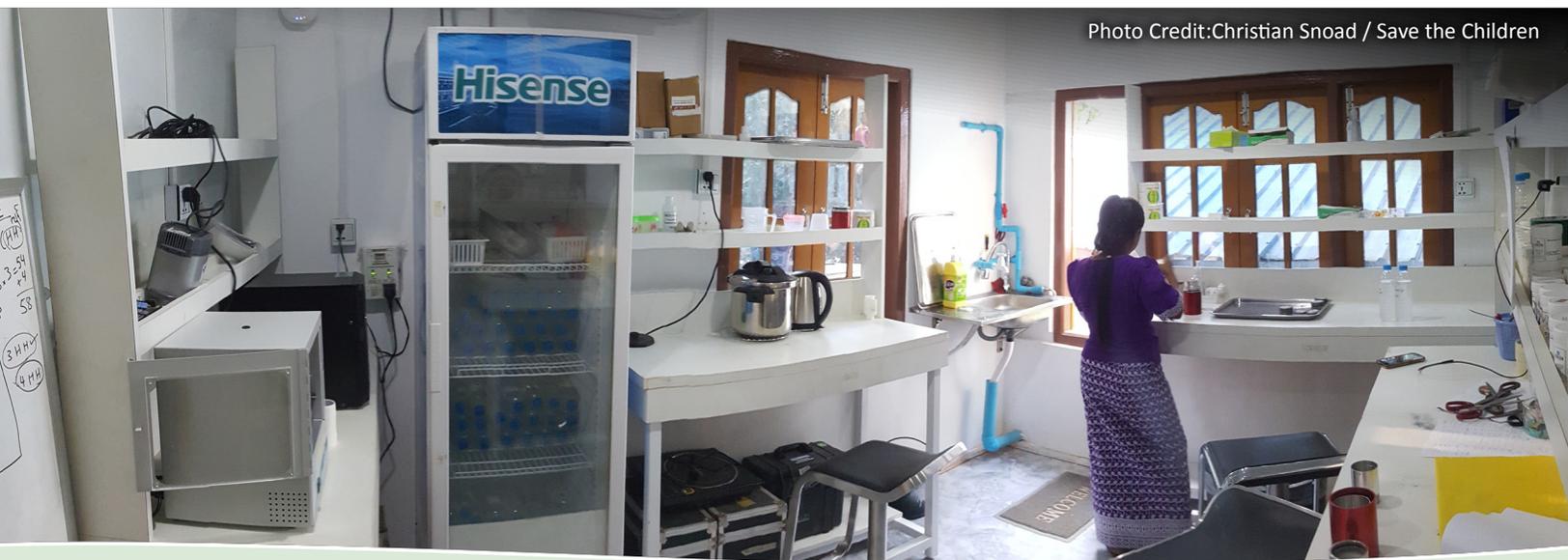
## WATER QUALITY SURVEILLANCE: A PRACTICAL GUIDE

[Learn More](#) • [Download \(275 KB\)](#)

Water, Engineering and Development Centre (Guy Howard), 2002

This guide is designed to help staff who undertake surveillance and monitoring of water supplies in developing countries. It provides simple information on how data may be collected and explains the use of equipment and inspection techniques. It also provides example forms, guidance on how monitoring data can be used to improve water supplies and water handling, and how reporting of information can be used to initiate dialogue with communities.

Photo Credit: Christian Snoad / Save the Children



# Water Safety Plans

Water Safety Plans (WSPs) are a risk-based preventative approach to manage the protection, monitoring, and remedial actions of drinking water and are recommended in the World Health Organization (WHO) Guidelines for Drinking Water Quality. While they are not commonly used in emergency settings, The Sphere Handbook does stipulate that key actions in an emergency response include protecting water sources, ensuring safe water, conducting sanitary surveys, and minimizing post-delivery contamination. A small selection of available resources are included below.



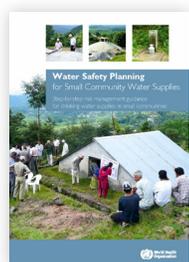
## WATER SAFETY PLAN MANUAL

[Learn More](#) • [Download \(3 MB\)](#)

World Health Organization and International Water Association, 2023



Updated in 2023, this key manual for water safety planning provides a step-by-step risk management approach for drinking water supplies. The manual provides practical guidance, examples, and tools to support water suppliers in developing and implementing WSPs to help protect the health of all users. For emergency contexts, the small community water supplies guide is more suitable.



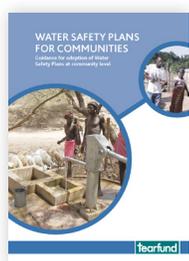
## WATER SAFETY PLANNING FOR SMALL COMMUNITY WATER SUPPLIES

[Learn More](#) • [Download \(2 MB\)](#)

World Health Organization, 2022

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This practical guide focuses on developing and implementing WSPs for small community water supplies. Primarily aimed at government officials and non-governmental organizations involved in drinking-water activities, it empowers communities to enhance the safety and quality of their water systems. The guide complements WHO's drinking-water quality guidelines and provides a lighter alternative to existing manuals for larger water supplies.



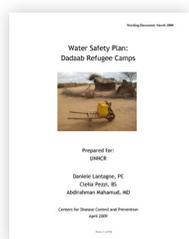
## WATER SAFETY PLANS FOR COMMUNITIES

[Learn More](#) • [Download \(746 KB\)](#)

Tearfund (Frank Greaves and Claire Simmons), 2011

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Tearfund's guidelines focus on helping communities self-manage and establish WSPs for sustainable access to safe water. This is a trainer-of-trainer guide for enabling communities to develop and manage their own WSPs. The approach can be used for new or existing water services and is suitable for communities with both high and low levels of literacy.



## EXAMPLE OF A WATER SAFETY APPROACH FROM AN EMERGENCY

[Download \(1.2 MB\)](#)

Centers for Disease Control and Prevention, 2009

Water safety plans are not commonly used in emergency settings. This example from the Dadaab refugee camp, which was established in 1992 and grew to around 240,000 people, was developed by a team from this national public health agency in the United States.

Training courses related to water safety plans can be found in the [training section](#).

# Testing Equipment, Instructions, and Tutorials

COMING  
SOON

## SELECTING WATER QUALITY FIELD TEST KITS: CRITERIA AND PERFORMANCE CONSIDERATIONS

World Health Organization, Mid-2024

This document is in preparation and is due to be released in mid-2024.



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## PRODUCT SHEETS FOR DRINKING WATER QUALITY

[Learn More](#)

Centre for Affordable Water and Sanitation, 2023

This is a collection of 29 product information sheets covering examples of commonly used drinking water testing equipment used in humanitarian and development settings. The collection includes equipment for chemical, microbiological, and physical testing as well as sample collection. The list is not comprehensive but intended as examples of products that may be available. We recommend searching for similar items available in the local context.



## EXAMPLE OF WATER QUALITY TEST KITS

[Download \(725 KB\)](#)

PRO-WASH, 2022

This short technical guide provides an outline of the main field kits commercially available for testing of microbiological, chemical, and physical parameters. The guide includes 25 products along with some topline notes on their advantages, limitations, and characteristics. The guide is just a sample of equipment available from manufacturers.



## UNHCR WATER QUALITY VIDEO SERIES

[Learn More](#)

United Nations High Commissioner for Refugees, 2022

This is a series of four short videos available on YouTube showing how to use the (i) digital chlorine photometer, (ii) manual Chlorine color wheel comparator, (iii) turbidity tube in the field, and (iv) UNHCR water quality field test kit.



## OXFAM SUPPLY CENTRE

[Learn More](#)

Oxfam, 2022

These are how-to and explainer videos for some of the products that humanitarian organizations can purchase from the Oxfam Supply Centre.

- [Emergency Water Testing Overview](#)
- [Measuring Turbidity by Turbidity Tube or Digital Turbidimeter](#)
- [Pooltester vs Digital Photometer](#)
- [Multiparameter Chemical Photometer](#)





## PRO-WASH VIDEOS

[Learn More](#)

PRO-WASH, 2022



These are two short instructional videos developed as part of the [Water Quality Training Course](#).

- [How to Take a Water Sample](#)
- [Inside a Water Quality Laboratory](#)



## WEDC VIDEO SERIES

[Learn More](#)

Water, Engineering and Development Centre, 2017



This is a series of four short guide videos available on YouTube and accompanied by guide notes for:

- [Water Sampling Video and Guide](#)
- [Measuring the Turbidity of Water Video and Guide](#)
- [Membrane Filtration Test for Faecal Contamination of Water Samples Video and Guide](#)
- [Measuring Concentrations of Chemicals in Water Video and Guide](#)



## MANUAL FOR WATER QUALITY TESTING

[Learn More](#) • [Download \(2.6 MB\)](#)

Multiple Indicator Cluster Surveys, 2017



This manual was developed for staff carrying out field water quality testing as part of nationally representative Multiple Indicator Cluster Surveys. It provides step-by-step instructions with photos for the E. coli testing method employed by these teams, membrane filtration with single-use funnels, and Compact Dry Plate media. A video demonstration of the test method is available on [YouTube](#).



## TECHNICAL NOTES ON WASH IN EMERGENCIES

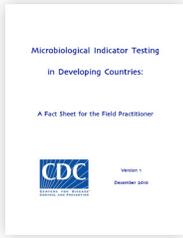
[Learn More](#)

World Health Organization and Water, Engineering and Development Centre, 2013



These 15 concise, four-page illustrated notes, first created in 2011 and updated in 2013, offer practical and evidence-based advice for addressing emergency-affected populations' water, sanitation, and hygiene requirements of. Technical Note 11 provides a simple four-page guide to "measuring chlorine levels in water supplies". You can also explore [illustrated mobile notes](#) designed for smartphones and tablets.

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## MICROBIOLOGICAL INDICATOR TESTING IN DEVELOPING COUNTRIES

[Learn More](#) • [Download \(460 KB\)](#)

Centers for Disease Control and Prevention, 2010

This is a fact sheet intended to provide guidance for practitioners, researchers, evaluators, and others interested in testing for microbiological contaminants in developing countries. Includes information on what to test for, details on the most common testing methods in 2010 and quality assurance and quality control measures.



## PRODUCT SPECIFIC GUIDANCE

Explore the wide selection of how-to videos that can be found on YouTube for most of the testing equipment commonly used in emergency settings, including videos produced by:

- [Palintest](#): How-to videos for various chemical tests conducted with a photometer.
- [Lovibond](#): How-to videos for chlorine pool-tester, chlorine photometer, chlorine, comparator disk, and others.
- [DelAgua](#): Series of eight short videos covering how to use a turbidity tube, chlorine and pH pool tester and how to use the DelAgua portable microbiological test kit.
- [Hach](#): How-to videos for digital turbidimeter and pH probes.

*\*This is just a sample of resources available from manufacturers. PRO-WASH & SCALE does not endorse specific manufacturers.*



Photo Credit: Tearfund

# Digital Monitoring Tools and Data



## WATER POINT DATA EXCHANGE

[Learn More](#)



This platform is not a digital collection system in itself but aims to be a standardized repository for data collected by governments, non-governmental organizations, and researchers regardless of the collection tool or system. Data is first cleaned and harmonized using a data standard to create a consistent dataset. Currently, it collects water quality data for fecal coliforms only. Datasets in this platform can be found on the [Humanitarian Data Exchange \(HDX\)](#).



## mWATER PLATFORM

[Learn More](#)



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The mWater platform digital app allows water points and their characteristics to be recorded and updated, including the results of water quality testing. A large amount of water point data is publicly available.

\*Multiple other data collection tools exist that could be set up to collect the results of water quality tests.



## SAFE WATER OPTIMIZATION TOOL

[Learn More](#)



Developed by York University together with Médecins Sans Frontières, this is a digital water quality modeling tool to help emergency response teams optimize chlorination to ensure that free residual chlorine levels are sufficient to protect against pathogenic recontamination all the way to the point of consumption.



## WHO UNICEF JOINT MONITORING PROGRAMME

[Learn More](#)

The Joint Monitoring Programme developed the service ladder for drinking water and the definitions of water service levels that are used to report on Sustainable Development Goal 6 progress. National data on water that is “free from contamination,” is available for some countries.



## KOBO TOOLBOX

[Learn More](#)



Kobo Toolbox is one of many freely available digital survey tools that could be used to create forms for reporting water quality and surveillance information.

# Capacity-Strengthening and Training Courses

Below are freely available training courses and capacity resources. Other paid courses exist from various providers.



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## INTRODUCTION TO DRINKING WATER QUALITY TESTING WORKSHOP

[Learn More](#)

Centre for Affordable Water and Sanitation, 2023



This collection provides everything you need to plan and run an in-person 4 or 5-day workshop on drinking water quality testing. The package includes a trainer manual, lesson plans, participant workbook, PowerPoint slide decks, and background reading materials. The course tools should be adapted to suit facilitator styles and the local needs of the audience.



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## WATER QUALITY TRAINING COURSE

[Learn More](#)

PRO-WASH, 2022



This 5-day training course package is designed to be delivered by in-person training, ideally with access to a water point for sampling and fieldwork. The training course materials include a facilitator's guide, lesson plans, PowerPoint slide decks, and two short videos. The course is designed to be accompanied by the PRO-WASH [Technical Guide On Drinking Water Quality \(2022\)](#).

The course comprises four modules: (i) an introduction, (ii) water sampling, (iii) how to plan and manage with data, and (iv) ensuring water quality. The modules are delivered through 16 classes, each of around 2 hours, and a mix of discussions, lectures, games, and quizzes. The course includes supporting materials for participants, such as field data sheets, a field data capture form, an example of a WQAP, and sample Excel data.



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## E-LEARNING COLLECTION: LEARN ABOUT DRINKING WATER QUALITY TESTING

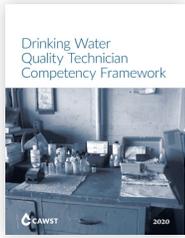
[Learn More](#)

Centre for Affordable Water and Sanitation, 2022



This recent collection of short e-learning tools and job aids was developed to help humanitarian and development workers test the quality of drinking water under field conditions. The collection includes a mix of 17 mini e-learnings, six demonstration videos, documents, and a checklist. The collection covers the fundamentals of water quality testing, how to sample, testing methods, and interpreting results.

The course comprises five sections: (i) water quality and health, (ii) risks assessment through sanitary inspections, (iii) water sampling, (iv) water quality testing methods, quality control and data recording, and (v) data management and analysis.



## WATER SAFETY PLANNING FOR URBAN WATER SUPPLY SYSTEMS: AN INTRODUCTION

[Learn More](#) • [Download \(8 MB\)](#)

Centre for Affordable Water and Sanitation, 2020

The 52-page competency framework developed by CAWST is designed to assess and guide the professional development of dedicated drinking water quality technicians. The tool enables technicians to understand the expected competency level for each category, develop a personalized learning and development strategy, and gain insights into how water quality testing can contribute to improved water supply systems.



## WATER SAFETY PLANNING FOR URBAN WATER SUPPLY SYSTEMS: AN INTRODUCTION

[Learn More](#) • [Enroll](#)

World Health Organization

This short online course outlines the principles and steps of the water safety planning approach and presents the success factors that underpin effective and sustainable implementation. It also highlights how water safety planning can strengthen resilience to climate threats.



## WATER SAFETY PLANS – TRAINING PACKAGE

[Learn More](#)

World Health Organization and International Water Association, 2012

This training package includes a 5-day training outline, a WSP training workbook, a PowerPoint presentation, and a facilitator handbook. Designed around 13 learning modules, it is based on the WHO/IWA WSP Manual and Quality Assurance Tool. The materials provide comprehensive step-by-step guidance on risk management for drinking water supplies. Facilitators are encouraged to update and adapt the content to their local context for maximum relevance and effectiveness.

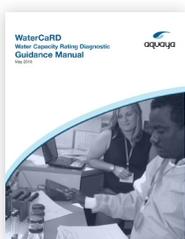


## WATER SAFETY PLANNING: AN INTRODUCTION

[Learn More](#)

Tearfund, 2023

This self-led online course, lasting 40 minutes, offers an introduction to water safety planning, highlighting its significance in ensuring community water supply safety. It covers water safety, contaminants, and water safety plans, including their development steps. The course features case studies, a video on the six stages of water safety plan development, and interactive activities for practical application in creating a community water safety plan.



## WATER CAPACITY RATING DIAGNOSTIC GUIDANCE MANUAL

[Learn More](#) • [Download \(1.2 MB\)](#)

Aquaya, 2016

This resource provides a framework for scoring the five critical components of monitoring programs: accountability, staffing, finances, equipment & services, and program structure. The tools include a guidance manual, questionnaire, observation checklist, and tool score.



## RECOMMENDED CITATION

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## COVER PHOTO

Seifu Assegid / Save the Children

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## CONTACT INFORMATION

This is a living document: please contact PRO-WASH & SCALE with suggestions for additional resources to be considered for inclusion in this guide, to add to or correct any of the entries, or to give us feedback.

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## ABOUT PRO-WASH & SCALE

**Practice, Research, and Operations in Water, Sanitation, and Hygiene and Strengthening Capacity in Agriculture, Livelihoods, and Environment (PRO-WASH & SCALE)** is an initiative funded by USAID's Bureau for Humanitarian Assistance (BHA) and led by Save the Children. PRO-WASH & SCALE aims to strengthen the design, implementation, and overall effectiveness of key sector-specific interventions. Our work focuses on food and nutrition security activities in emergency, early recovery, risk reduction, and resilience settings. We collaborate with implementing partners to enhance the impact, sustainability, and scalability of BHA-funded WASH, integrated water resource management, agriculture, natural resource management, and livelihood activities.

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