UN WATER

Compendium of Water Quality Regulatory Frameworks: Which Water for Which Use? Summary

About the Compendium

Water quality issues are complex and dynamic in nature and need urgent attention and action. Improving efficiency of water use requires regulatory frameworks that better reflect how different water uses require different water qualities, such as water from industrial processes being reused in agriculture. Drafting regulatory instruments to better manage water qualities that are 'fit for purpose' can benefit from the wide range of standards and guidelines currently available.

The Compendium of Water Quality Regulatory Frameworks is a UN-Water initiative developed in collaboration with the International Water Association (IWA) and the United Nations Environment Programme (UNEP). It aims to fulfil the objectives of UN-Water's Thematic Priority Area on Water Quality, by supporting governments and other stakeholders to address challenges that contribute to water quality targets defined through successive World Water Forums and several key objectives in the Rio+20 Communiqué. The Compendium will provide relevant information for the preparation of a framework that guides the use of water quality that is fit for purpose.

The Compendium is an overview and analysis of a variety of selected water quality guidelines, standards and regulatory frameworks for different uses and geographical regions. The overall objective is to contribute towards improving access to information on water quality requirements for different uses, promoting efficient use and, ultimately, reducing water use conflicts. The Compendium offers an integrated and descriptive analysis of each selected law and policy, while also considering complementary instruments, management approaches and lessons learned on implementation.

What is the Compendium?

It is a reference tool of laws and policies regulating water quality for different uses at a variety of geographical scales. The Compendium is a living document that will continuously improve its aims as information about policy and legal instruments and their implementation is updated by the users.

The Compendium provides a basis by which to assess policy and regulatory instruments, and to identify what makes an efficient and effective guideline, standard, regulation or policy.

Who will use the Compendium?

The immediate target group of the Compendium are public officials and regulators – decision makers at large. The development process of the Compendium has also established a network of water quality experts and practitioners promoting the wise use of different water qualities for various purposes. The Compendium can also be used by a wider audience of water quality experts, practitioners, academia and the general public.

Overview of Water Quality Regulatory Instruments

The Compendium contains a selection of recent water quality guidelines and standards for different uses. These guidelines and standards adopt various forms – binding and non-binding – with common characteristics and approaches that make them innovative, practical and effective in promoting the wise use of water resources.

The selected instruments are from a variety of sectors including drinking water, agriculture, bathing water, ecosystems and hydropower.

Examples from each region provide an overview of current water quality instruments applicable at different geographical scales.

To date, the Compendium comprises 46 law and policy instruments, which have been analysed in more depth. Together, they cover a comprehensive range of water uses.

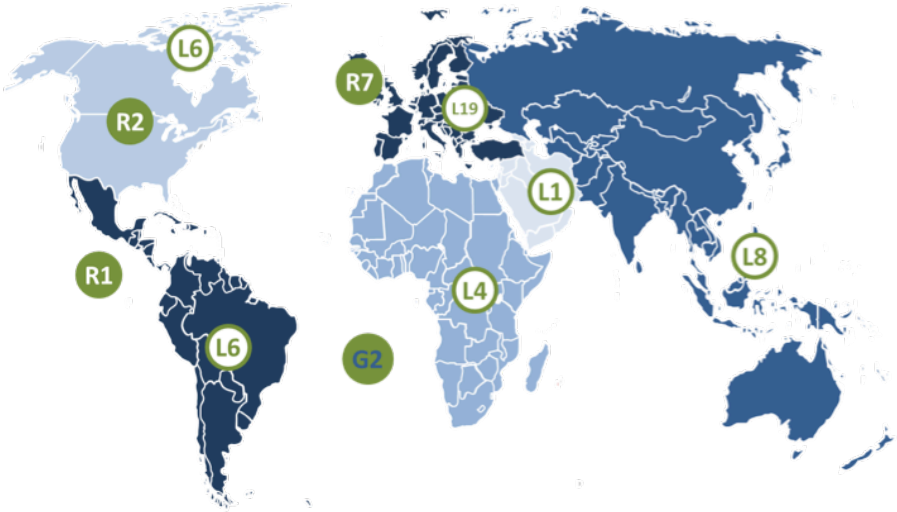

Figure 1 Regulatory instruments and case studies included in the Compendium according to geographical scale (G: Global; R: Regional; L: Local)

List of Selected Regulatory Instruments

	Date	Name	Status	Country
Global	2011	World Health Organization Drinking Water Quality 2011	In use	All
	2006	World Health Organization Safe Use of Wastewater 2006	In use	All
Africa	2006	Kenya Water Quality Regulations 2006	In use	Kenya
	2002	Morocco Water Quality Standards for Irrigation 2002	In use	Morocco
	1996	South Africa Aquatic Ecosystems 1996	In use	South Africa
	1996	South Africa Domestic Use 1996	In use	South Africa
Asia-Pacific	2011	Australia Drinking Water Guidelines 2011	In use	Australia
	2006	Australia Water Recycling Guidelines 2006	In use	Australia
	2013	China FAO Control Water Pollution from Agriculture 2013	In use	China
	2006	China Standards for Drinking Water Quality 2006	In use	China
	2005	Japan Water Reuse Guidelines 2005	In use	Japan
	1997	Korea Water Quality and Ecosystem Conservation Act 1997	In use	Korea
	2001	Russia Requirements for Drinking Water Quality 2001	In use	Russia
	1991	Russia Quality Standards for Feed Water and Steam 1991	In use	Russia
Europe	1999	Belarus Requirements for Drinking Water Quality 1999	In use	Belarus
	2006	EU Bathing Water Directive 2006	In use	European Union
	1998	EU Drinking Water Directive 1998	In use	European Union
	2006	EU Shellfish Water Directive 2006	Repealed	European Union
	1991	EU Urban Waste-water Treatment Directive 1991	In use	European Union
	2000	EU Water Framework Directive 2000	In use	European Union
	2006	EU Groundwater Directive 2006	In use	European Union
	2008	EU Environmental quality standards for surface water 2008	In use	European Union
	2011	France Misting Systems Guidelines 2011	In use	France
	2007	France Water Safety Regulation 2007	In use	France
	2013	France Cooling Tower Regulation 2013	In use	France
	2006	France Harvested Rainwater for Domestic Use Regulation 2006	In use	France
	2014	France Irrigation with Reclaimed Water Regulation 2014	In use	France
	2001	Germany Potable Water Ordinance 2001	In use	Germany
	2012	Kosovo Drinking Water Quality Instruction 2012	In use	Kosovo
	2014	Moldova Water Supply and Sanitation Strategy 2014-2018	In use	Moldova

Europe	2002	Romania Drinking Water Quality Law 2002	In use	Romania
	2007	Spain Reclaimed Water Use Decree 2007	In use	Spain
	2004	Turkey Regulation on water pollution control 2004	In use	Turkey
Latin America And The Caribbean	1983	Caribbean Protocol on Land Activities 1983	In use	*
	2000	Brazil Conama Resolution 274, Recreational Water Quality 2000	In use	Brazil
	2005	Brazil Conama Resolution 357, Surface Water Quality Guidelines 2005	In use	Brazil
	2008	Brazil Conama Resolution 396, Grownd water Quality Guidelines 2008	In use	Brazil
	2011	Brazil Conama Resolution 430, Effluent Quality Regulations	In use	Brazil
	2011	Brazil Ordinance No 2914, Drinking Water Quality 2011	In use	Brazil
North America	2012	Canada the Metal Mining Effluent Regulations 2012	In use	Canada
	2012	Canada Recreational Water Quality 2012	In use	Canada
	1996	Canada Drinking Water Quality 1996 (2012)	In use	Canada
	1997	Texas Use of Reclaimed Water 1997	In use	United States
	2004	US EPA Guidelines for Water Reuse 2004	Repealed	United States
	2012	US EPA Guidelines for Water Reuse 2012	In use	United States
*	2009	Jordan Water Strategy 2009	In use	Jordan

* Western Asia

* Barbados, Colombia, Cuba, Costa Rica, Dominica, Dominican Republic, France, Jamaica, United Mexican States, Netherlands, Panama, St. Lucia, Trinidad and Tobago, UK, USA, Venezuela

Summary Of Key Findings

1. Local and specialised instruments provide sound guidance for applying different water qualities for different uses. There still needs to be coherence between sectors and geo-graphical levels. Reference to global guidelines in local regu-latory implementation provides a consistent framework.

2. Effective regulations require that the implementing authority acts with independence and sufficient powers to enforce regulations, whether the authorities are centralised or delegated to the regional or local level. However, compliance is better achieved when users trust the implementation and enforcement processes. This can be promoted with transparency and access to information. The IWA Lisbon Charter can be used as a point of reference for institutional and regulatory framework development. It provides a set of guiding principles for sound public policies and regulation for water services including water quality.

3. At a local or catchment level, guidelines and standards are only as good as the capacity of those implementing and controlling them. Investing in adequate training makes the difference between a good regulatory text and actually controlling water quality. Developing practical and user-friendly tools for implementation can facilitate the task.

4. The enabling environment of the different water quality regulations is important. When deciding on an approach to regulate water quality for different uses, decision makers need to take part in cross sector/cross boundary dialogues. A clear definition of roles and competencies is pivotal to in-volve all relevant stakeholders in such dialogue.

5. Economic affordability and feasibility can be compatible with better water quality standards. Nonetheless, to support enforcement, finance and investment in implementing water quality instruments are needed during the drafting process.

6. Rapidly evolving technology and infrastructure for improving water quality require flexible and responsive regulators (e.g. when validating new water treatment technologies). An overarching framework for validating innovations can support the replication of good practices and capacity building. The role of regulators is crucial in providing timely and effective responses; thus institutional and management set-tings need to be coherent with such a framework.

7. Drafting and implementation processes can benefit from lessons learned in similar geographies. Reference to other jurisdictions by decision makers can identify opportunities for replicating best practices or possibilities for inter-institutional cooperation or institutional strengthening. The Compendium provides a starting point for this type of collaboration.

Table 1 Criteria for analysis or guiding questions

Chapter	Criteria for Analysis
Chapter 1: Scope	• What is the scope of the instrument? • What is the background of the law or policy instrument? How were they developed; what is their history? • Towards what outcome are the water quality instruments working? • For what type of water use is the instrument developed? • What is the geographical scope of reference: global, regional, catchment, local or national? • What are the pre-conditions of application? What is needed for it to be implemented? What type of legislation is usually in place? What capacity is required for implementation?
Chapter 2: Management framework used to apply the instruments	• Who is applying the instruments? What is the involvement of public or private entities relevant to management and application of the instruments? • What is the involvement of public or private entities relevant to related policies for the application of the instruments? • Which public or private entities are subject to the instruments? • What methods or approaches are used to apply the instruments? • Do the instruments refer to aquatic freshwater ecosystems? What are the specifics? • What other guidelines need to be considered? • Why do other guidelines need to be considered?
Chapter 3: Parameters, Indicators and Thresholds	• What parameters do the guidelines cover? • To what type of source are the guidelines applicable?
Chapter 4: Implementation	• What are the gaps in the application of the instruments regulating water quality (i.e. insufficient provisions, scope or lack of regulation)? • What measures are taken to enforce these instruments? • What are some emerging issues (e.g. suggestions of changes, harmonisation)? • What are some of the challenges (e.g. inadequate rules) and opportunities regarding their implementation?

Structure of the Compendium

The Compendium divides the analysis of the instruments into four descriptive chapters with their respective methodologies and key findings. The content of each chapter answers the questions set by the criteria for analysis, ending with a set of conclusions and lessons learned extracted from the instruments currently available in the database.

What can be found in this document?

Part I of the Compendium provides an overview of selected laws and policies regulating water quality for different uses in geographical scales.

The information about each instrument has been consolidated into a database organised into chapters, including the following:

- Scope of law and policy instruments;
- Management frameworks;
- Parameters, indicators and thresholds adopted for different uses; and,
- Implementation of water quality guidelines.

A narrative in this document accompanies each chapter in the database and facilitates its navigation. Part I also contains 'Criteria for assessment', which is a checklist of what makes a particular law or policy a good instrument to regulate water quality.

Part II of the Compendium contains case studies which showcases best practices and different methodological ap-proaches to regulate water quality requirements for different uses.

A Glossary of Terms is provided to clarify the meaning of a certain approach or analysis, especially where there is contradictory information or different approaches.

Annex I provides an in-depth description of the methodology used to develop the Compendium and analyse the law and policy instruments. This annex includes details on the working groups, which consisted of water quality experts from developing and developed countries, as well as policy makers and practitioners. Annex II contains the templates used to collect and analyse information from the experts. Annex III has a list of the regulatory instruments that have been analysed in depth as part of the Compendium.

The details of these instruments are in the database and references are made throughout the Compendium narrative. Annex IV has a list of complementary reports and projects, some of which are under the umbrella of the UN-Water Thematic Priority Area on Water Quality (as is the Compendium).

How to use this document

The user can choose to explore the Compendium following the order established in the narrative. The different sections of the text will guide the reader from descriptive and generic topics in Chapter 1 towards more analytic aspects and experiences in Chapter 4.

Chapters have been designed to serve as thematic stand-alone documents that can be accessed by clicking the respective heading in the table of contents.

A summary of the case studies can be accessed directly, in alphabetical order, by reading Part II. Additionally, the reader can access a particular case study by clicking the link 'read full case'.

The reader can display the database through hyperlinks within each chapter and at the beginning of Part I. The database can be downloaded completely or by chapter as Microsoft Excel files, where each row corresponds to a different regulatory instrument. Different chapters within the database are related by the column 'ShortName', which repeats in each section to indicate that the information belongs to the same instrument.

Each section or chapter will contain information in text format but also hyperlinks to attached materials (Microsoft PowerPoint presentations, Adobe Acrobat PDF files, Microsoft Word files, etc.) and websites by clicking the respective cell.

The database can also be accessed using Microsoft Access. This version of the database allows the reader to search for specific information and focus on one legal instrument at a time.

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Database

Direct Download

List of Selected (analysed) Guidelines

List of Guidelines for Future Analysis

Complete Database

[*MS Excel*] [*MS Access*]

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