


Manual of the Human Rights to Safe Drinking Water and Sanitation for Practitioners

Lead Author: Robert Bos

Contributing Authors: David Alves, Carolina Latorre, Neil Macleod, Gérard Payen, Virginia Roaf & Michael Rouse

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inspiring change

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Robert Bos is a Dutch public health biologist who concluded his 32-year career with the World Health Organization as Coordinator, Water, Sanitation and Health, from 2009 to 2013. During his tenure, the human right to safe drinking water and sanitation was recognized by the UN General Assembly and by the UN Human Rights Council. In the process of developing and formulating water and sanitation targets and indicators for the post-2015 SDG framework, he made a special effort to ensure the human rights principles and criteria were taken into consideration. Since March 2013 he has had a part-time function as Senior Advisor to the International Water Association. Among the tasks included are taking the lead in the preparation of the IWA Manual on the Human Rights to Safe Drinking Water and Sanitation, and its subsequent promotion.

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David Alves is Head of Strategic Projects Department at the Water and Waste Services Regulation Authority (ERSAR), Portugal. He has been involved in several studies in the areas of economic regulation, water services tariff definition, social tariffs, affordability of water services, quality of service regulation and regulatory best practices. He has contributed to several ERSAR reports, articles and other publications on a range of subjects, with special emphasis on the areas of economic regulation, quality of service regulation, strategic planning and efficient use of water, among others. In recent years, he was part of several international groups on the human right to water and sanitation, governance and regulation best practices. Other areas of expertise are project management (IT, strategy, restructuring), economic and strategic policy, water services management and knowledge management. His academic background includes areas such as public administration (MSc), economics (BSc), project management, regulation and competition law, management, utility regulation and strategy.

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Carolina Latorre is a Chilean attorney at law with practice in administrative and corporate law in her country, including regulatory work in addition to litigation on a variety of issues related to regulated industries and natural resources (water rights). After specialising in water law and policy in the UK, she joined the International Water Association in 2013 where she currently works as officer for the Basins of the Future Programme. Among her tasks is that of coordinating the preparation of the International

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Neil Macleod has more than 40 years of experience in the water services sector, with 22 years as the Head of eThekwini Water and Sanitation in Durban, South Africa. He introduced the concept of free basic water for poor families to Durban in 1997 and has worked on rights to water and sanitation issues since then. He has now retired and works as a consultant to several organisations in the water and sanitation sector. He is also an Honorary Research Fellow at the University of KwaZulu-Natal.

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Gérard Payen is an experienced practitioner of water management and delivery of water services. He has been working for 30 years to solve water issues in many countries all around the globe. Today, he works in various capacities to mobilize the international community towards improving water management and achieving the water-related global targets. From 2004 until the end of 2015, he was a Member of the UN Secretary General's Advisory Board on Water and Sanitation (UNSGAB). From 2004 to 2014 he was President of AquaFed, the International Federation of Private Water Operators. Currently he is a member of the Board of Directors of the International Water Association. In his 2013 book "De l'Eau pour Tous!" he analyses the misconceptions in the public opinion that create delays or obstacles to public water policies. Up to 2002, he headed all water activities of the business group that was successively named Lyonnaise des Eaux then Suez to make them (with the brand Ondeo, nowadays named Suez) the world leader in delivering water and wastewater services. Seven million people have gained access to safe drinking water via Ondeo during his tenure.

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Virginia Roaf is an independent consultant specialising in the practical implications of the recognition and realisation of the human rights to water and sanitation for government policy and practice. She has worked as advisor to Catarina de Albuquerque and to Léo Heller, the first and second UN Special Rapporteurs on the human rights to safe drinking water and sanitation. She was the lead writer for Catarina de Albuquerque's Handbook for realising human rights to water and sanitation.

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Michael Rouse offers expert independent advice on water industry matters. He has extensive knowledge and experience of water governance and regulation, including all aspects of audit and enforcement, and the governance issues related to both public sector management and privatisation. Michael is experienced in working with Governments and water and sewerage utility managers, both in the UK and around the world. He has wide knowledge of water technical and operational matters, based on his applied research and development background. He was Managing Director of the Water Research Centre in the UK and Head of the Drinking Water Inspectorate in London. In recent years he has worked on policy, governance and regulation matters in China including Hong Kong, India, Singapore, Malaysia, Egypt, Ghana, Australia, Hungary, Bulgaria and the Ukraine. He is a Distinguished Research Associate at the University of Oxford and manages the Institutional Governance and Regulation module of the University's MSc Course on Water Science, Policy and Management. He is a member of the University's team working on urban water governance issues including the DFID REACH programme on Water and Poverty. He is a Visiting Professor at Tsinghua University, Beijing, and a Visiting Professor at the Shanghai Academy of Social Science. He is a Past President of the International Water Association. The second edition of his book on Institutional Governance and Regulation of Water Services was published in 2013.

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Abbreviations

AquaFed	The International Federation of Private Water Operators
CBO	Community-based organisation
HIV	Human immunodeficiency virus
HRWS	Human rights to safe drinking water and sanitation
IWA	International Water Association
JMP	The WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation
MDGs	Millennium Development Goals
NGO	Non-governmental organisation
PPP	Public–private partnership
PPWSA	Phnom Penh Water Supply Authority
SAGUAPAC	Cooperativa de Servicios Públicos de Santa Cruz Ltda (Bolivia)
SDGs	Sustainable Development Goals
SIG	Services industrielles de Genève (the water and electricity utility of Geneva, Switzerland)
UN	United Nations
UNECE	United Nations Economic Commission for Europe
UNICEF	United Nations Children's Funds
UVW	Unie van Waterschappen (Dutch water authorities)
VIP	Ventilated improved pit latrine
WASH	Water, sanitation and hygiene
WASREB	Water Services Regulatory Board (Kenya)
WHO	World Health Organization
WOPs	Water operator partnerships

Foreword

I am pleased to write a foreword to this Manual on the human rights to water and sanitation for service providers and regulators, an essential tool that many practitioners will find helpful in both understanding and implementing these crucial human rights.

It is my firm belief that we as human rights advocates, and you, the service providers and regulators, share a common goal, which is to achieve water and sanitation for all. The United Nations recognition of the human rights to water and sanitation is having a positive impact on how the water and sanitation sector addresses the many challenges in ensuring adequate access to water and sanitation for all without discrimination.

This can be seen in the newly adopted Sustainable Development Goals, which stipulate universal access to water and sanitation by 2030, with an explicit mention of the human rights to water and sanitation and a focus on women, girls and vulnerable people. This has significant implications for those bodies, organisations and institutions with a responsibility for delivering water and sanitation services.

Service providers and regulators have a central role to play in ensuring that the drinking water, sanitation and wastewater management targets under Sustainable Development Goal 6 on water and sanitation are met by 2030—and there is no time to waste in tackling this. And in meeting SDG 6, and using human rights principles of non-discrimination and accountability, we have a much improved chance of meeting other SDGs, such as Goal 1 on ending poverty, Goal 3 on health, Goal 5 on gender equality and Goal 10 on reducing inequalities.

What needs to be done? This Manual outlines the role that service providers and regulators must play in realising the rights, discussing their responsibility to review their current policies and practice, and make sure that they are in line with the human rights to water and sanitation. The Manual guides service providers and regulators on how to work with governments to remove discriminatory practices, to ensure that there is adequate information available to people using or wishing to use services, and to provide effective complaint mechanisms. These mechanisms, together with appropriate spaces for active, free and meaningful participation, are the correct approach in cases where the service does not comply with the rights to water and sanitation to ensure that there are sufficient avenues for redress, even for those who are not yet receiving a service, but who are within the service provider's reach. This Manual also complements the Handbook on Realising the Human Rights to Water and Sanitation by my predecessor Catarina de Albuquerque, which focuses mainly on State actions.

Foreword

This Manual is a welcome addition to the discussion on what needs to be done to ensure universal access to water and sanitation under the human rights framework, and I encourage all those with responsibilities for ensuring access to these services to engage with this tool. Only by having each actor fulfil his/her role and take his/her responsibilities seriously will we ensure universal access to these essential services.

I am delighted that the International Water Association has devoted so much of its institutional time to explore this issue so thoroughly.

Léo Heller
United Nations Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation


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Chapter 1 Introduction

The adoption in 2010 of United Nations (UN) resolutions[1] recognising the Human Right to Safe Drinking Water and Sanitation has opened new perspectives for the achievement of universal access to water and sanitation services. It has also created new opportunities and challenges for water and sanitation practitioners around the globe. Both the United Nations General Assembly (in July 2010) and the United Nations Human Rights Council (in September 2010) acknowledged that access to safe drinking water and sanitation is a right implied by the established human right to an adequate standard of living. And, that it is linked intrinsically to the rights to adequate housing, to the highest attainable standard of health and to life. On the issue of terminology (Right or Rights) see Box 1.1.

Through the adoption of these resolutions UN Member States have accepted their obligations as the duty bearers for the realisation of the rights. They can therefore be held accountable for progress towards their full realisation. As duty bearers, governments have three types of obligation: to respect, protect and fulfil human rights (see Box 1.2). Human rights to water and sanitation have evolved from an implicit responsibility – under the rights to health, development and an adequate standard of living – to an explicit obligation (Gupta *et al*. 2010).

As applies to all rights pertaining under the International Covenant on Economic, Social and Cultural Rights, the concept of progressive realisation is at the core of the human rights to safe drinking water and sanitation (see Annex A for more details). Clearly, universal access to safe drinking water and sanitation cannot be achieved overnight. The term "progressive realisation" refers to the principle that States, as the duty bearers, are required to act to the best of their abilities and capacity to maximise progress towards a situation where their entire population enjoys human rights without inequalities or discrimination. To achieve this, however, contributions from many actors at the local, national, regional and global levels will be required. Among these actors figure the operators and regulators of drinking water supply and sanitation services, including formal service providers (managers of utilities, whether run as a public or a private enterprise, or as a mixed model); those in charge of semi-formal or informal service delivery such as local non-governmental organisations (NGOs); small-scale informal service

[1]On 28 July 2010 the United Nations General Assembly, at its 64th session, adopted Resolution A/64/292 (The Human Right to Water and Sanitation) http://www.un.org/es/comun/docs/?symbol=A/RES/64/292&lang=E; on 28 September the UN Human Rights Council, at its 18th session, adopted Resolution A/HRC/RES/18/1 (The Human Right to Safe Drinking Water and Sanitation) http://www.un.org/es/comun/docs/?symbol=A/HRC/RES/18/1&lang=E.

Box 1.1 Right or Rights

The official language of the 2010 UN resolutions refers to the human right (*singular*) to safe drinking water and sanitation, taking the provision of drinking water supply and the provision of sanitation facilities and services in unity, as has been the case since the 1977 UN Conference on Drinking Water Supply and Sanitation in Mar del Plata, Argentina. This indiscriminate linking of drinking water and sanitation is increasingly questioned.

In terms of development and investment, the focus on drinking water supply has been to the detriment of the development of sanitation facilities and services. It has also separated sanitation in its narrow sense (i.e. providing facilities to dispose of and manage human excreta) from the wider sanitation landscape including the management of wastewater, solid waste and other physical, chemical and biological factors in the environment that pose a risk to human health. In her Handbook (2014) Catarina de Albuquerque, UN Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation from 2008 to 2014, therefore argued for the rights (*plural*) to water and to sanitation to be addressed as two distinct components within the right to an adequate standard of living. This IWA Manual adopts her pragmatic suggestion, and the abbreviation HRWS refers to the human rights to safe drinking water and sanitation. This facilitates the design of specific criteria and the implementation of specific procedures for each right. And it creates space for efforts aimed at achieving an expansion of sanitation services in terms of availability, accessibility, quality, acceptability and affordability. It also recognises that not all sanitation, even in the narrow sense, is based on water-borne systems. And it allows for more effective links on specific drinking water or sanitation issues between different public sectors, between the public and private sector and between the processes of realising different sets of human rights.

On 17 December 2015, the UN General Assembly resolved this debate in favour of two distinct rights: the right to safe drinking water and the right to sanitation. It adopted by consensus Resolution A/RES/70/169, recognising that 'the human right to sanitation entitles everyone, without discrimination, to have physical and affordable access to sanitation, in all spheres of life, that is safe, hygienic, secure, socially and culturally acceptable and that provides privacy and ensures dignity.'[2]

Box 1.2 Examples of duty bearers' obligations with respect to the HRWS

Respect: the State may not prevent people already enjoying the rights from continuing to enjoy them. For example, the State cannot permit an individual's water supply to be disconnected without respecting due process.

Protect: the State must prevent third parties from interfering with aspects of people's rights to water and sanitation, for example by polluting a water source. Irrespective of whether water services are provided by a public or private sector entity, the State must ensure affordability through adequate price regulation.

Fulfil: the State must ensure that the conditions are in place for everyone to realise their full rights, i.e. it must allocate maximum resources to ensure that all persons are connected progressively to a safe drinking water supply and provided with sanitation services.

[2]http://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=16903&LangID=E#sthash.XEuyj8Lq.dpuf.

providers; drinking water and environmental regulators responsible for maintaining national standards and norms; and those with relevant responsibilities in other national and local government agencies.

The Governing Assembly of the International Water Association (IWA) responded to this and several other international developments at its meeting in Busan, Korea, in September 2012, with the adoption of a Resolution on *Rio+20 follow-up by the International Water Association: Effective Contribution of Water Professionals to the Realization of Commitments made by Governments at the International Level*[3]. It invites the IWA Membership, among a number of other items,

- *to respect and contribute to implementing the human right to safe drinking water and sanitation in all their activities, and to assist utilities, and national and local governments in their efforts to improve water and sanitation services; and,*
- *to develop together operational guidelines for the contribution of water professionals to the practical implementation and progressive realization of the HRWS, […]*

In follow-up to this Resolution, IWA established a Task Force with the remit of producing a practitioners' Manual on the HRWS, and it engaged in a collaborative arrangement to support this activity, notably in close consultation with the team of the UN Special Rapporteur on the Human Right to Water and Sanitation.

The target audience for this Manual is defined, by and large, by the interests of the IWA membership: operators and managers of private and public sector utilities, others with responsibilities for the formal or informal provision of drinking water supply and sanitation services, NGOs and other civil society groups, and government agencies at all levels, dealing with the planning, design, implementation, surveillance and regulation of water supply and sanitation services. Members of this target audience will also be tasked with making contributions towards achieving water and sanitation targets contained in the framework of the Sustainable Development Goals (SDGs, see Annex B).

The objectives of the Manual are the following:

- to introduce its target audience to the principles and concepts contained in the HRWS,
- to clarify to the target audience language and terminology used in the promotion of human rights,
- to point out the value added by the HRWS for utilities, as progressive realisation implies an expansion of the customer base, improvements in relation to operation and maintenance and non-revenue water, and opportunities to increase service levels, and
- to provide guidance on the roles and responsibilities of all actors addressed by the Manual in contributing to progressive realisation of the HRWS, and on how the human rights principles and actions can be incorporated into their essential functions.

In terms of target audience and objectives, this Manual complements the Handbook on Realizing the Human Rights to Water and Sanitation by the first UN Special Rapporteur Catarina de Albuquerque (2014).

At the very start, some common and persistent misconceptions about the human rights to water and sanitation must be eliminated—they are elaborated in Annex A:

(1) The human right to water does not mean that water supply services must be available for free; they must, however, be affordable, particularly for those with little or no income—viable drinking water supply services require a system of cost recovery based on a tariff system that clearly reflects issues of affordability;

[3]http://waterbriefing.org/home/water-issues/item/6301-iwa-pledges-%E2%80%98full-access%E2%80%99-to-safe-drinking-water.

(2) The human rights to water and sanitation do not exclude the private sector from providing these services—in fact, there is no formal human rights position concerning the business model for service provision; and
(3) The human right to sanitation must not be understood as a government obligation to provide citizens with free sanitation facilities. Access to sanitation must, however, be affordable and governments do have the obligation to create a legal and regulatory framework that supports universal access to adequate sanitation.

The aim of this Manual is to promote informed decision-making by operators, managers and regulators in their daily routine, as well as to encourage them to engage actively in the national debates that will take place in many countries where the HRWS is being translated into national and local policy, legislation, and regulation. In most countries, creating such an enabling environment will, in fact, be the first critical step in the process towards the realisation of the rights, followed by the allocation of roles and responsibilities to the various actors at national and local levels.

It is recognised that in many countries service providers and regulators have played an important role in promoting the concepts of equality, non-discrimination, sustainability, accountability, participation and transparency long before the human rights to safe drinking water and sanitation were included in the Covenant on Economic, Social and Cultural Rights. These efforts have come to expression in strategies towards universal access and pro-poor programmes. Now that the human rights to water and sanitation have been formalised, this Manual presents options to systematically address the human rights principles and criteria. It therefore focuses on the implications of the new human rights obligations in terms of new laws and regulations, or updated components of existing legislation/regulation, and the consequences for operations and management by all actors (whether public or private) that specifically address the human rights principles and criteria.

Clearly, even with the readership well-defined, the application of actions and procedures proposed by this Manual will have to take place in a range of different settings: in low-, middle- and high-income countries with different levels of socioeconomic inequality, in countries and regions with different levels of water scarcity or water abundance, under different conditions of infrastructure and levels of asset management, with different geographical, seasonal and transboundary challenges in water availability, different demographics as reflected in, for example, the composition and dynamics of a population in terms of urban, peri-urban and rural sub-groups, and the presence of indigenous communities, and different environmental, cultural and gender equality aspects and requirements for water resources management and use. The various actors have to tailor their approaches to fit the needs of the specific settings in which they operate, bearing in mind the process must ensure a gradual reduction in inequalities and discrimination. Yet, it is envisaged that the result of their efforts will be the same: universal access to water and sanitation that is safe, affordable, reliable and sustainable.

The Manual is structured into an introductory part (Chapters 1 and 3) and an operational part (Chapters 4, 5, 6 and 7). Chapter 2 presents a summary of the key recommended actions for the various main actors. In Chapter 3 the human rights criteria are covered in detail, both for drinking water and sanitation, as well as the five human rights principles. The implications emerging from these criteria and principles are discussed from an operational perspective. Chapter 4 proposes ways by which water and sanitation professionals can contribute to the creation of an enabling environment for the effective implementation of HRWS actions. Chapter 5 provides guidance on how the HRWS can be incorporated effectively into the institutional frameworks of utilities and regulatory bodies. Chapter 6 proposes how actions supporting the progressive realisation of the HRWS can be made part of the essential functions of operators, managers

and regulators. It links the proposed HRWS actions to specific actors. Finally, within this generic framework, many practical issues, hurdles and pitfalls will appear and some of these are discussed in Chapter 7. Annex A provides detailed background information including a reminder of the scale of global drinking water and sanitation challenges, a description of the human rights framework, the events leading up to the adoption of the UN resolutions, an explanation of the concept of progressive realisation and an attempt to straighten out some misconceptions and misinterpretations about the HRWS. Annex B introduces the SDG framework of goals, targets and indicators, with special reference to SDG 6.

Manila, The Philippines © Robert Bos, IWA

Chapter 2 Main operational principles

SYNOPSIS

This chapter presents the operational principles for including human rights considerations into the daily routine of formal and informal service providers and of regulators. It provides the readership with a condensed overview of key concepts, themes, issues and actions that are of immediate relevance to them in their efforts to contribute to the HRWS. It focuses on Chapter 3, and on the main operational chapters of the Manual: 4, 5 and 6.

2.1 INCORPORATING HUMAN RIGHTS CRITERIA AND PRINCIPLES INTO WATER AND SANITATION OPERATIONS

Five principles form the basis for the economic, social and cultural rights: equality and non-discrimination; accountability; sustainability; participation; and access to information/transparency. Both for drinking water supply and for sanitation services the same normative human rights criteria apply: availability, quality, acceptability, accessibility and affordability.

Translating the criteria into operational terms is a challenge, with a different scope and focus for drinking water supply and for sanitation. It applies to formal and informal service provision.

In relation to drinking water supply, availability refers to sufficient quantities and reliability of service provision; quality refers to the need for drinking-water to be free from pathogens and toxic levels of chemicals, in routine and emergency situations; acceptability (which includes appearance, taste and odour) is a highly variable concept, depending on perceptions related to local ecology, culture, education and experience; accessibility refers to the distance or time to a reliable water supply (from the house, but also from the workplace, school or other public places) and whether the services can be accessed by, for example, people with disabilities; affordability refers to the cost of connection and the cost of consumption, and requires concomitant cost recovery and the application of mechanisms to ensure affordability for all.

In relation to sanitation services, facilities must be available to everyone, everywhere, at all times: at home, at the workplace and in public places. Whether private, shared or public, they should be designed at least to basic standards; collection and treatment services should function at an adequate capacity at all times. Quality standards for sanitation facilities refer mainly to the safeguards addressing potential risks of their use; they extend to the safe collection, transport, treatment and disposal of human waste. Acceptability refers to cleanliness and hygiene, and therefore has important public health overtones. It also refers to the type of technology proposed. Standards for accessibility should ensure access to all: women, men, children, the elderly and the disabled; schools require particular attention to separating their

sanitation facilities for boys and girls. Affordability of sanitation services requires a consistent regulatory framework for the range of services, and pro-poor policies and mechanisms to ensure no-one is excluded for financial reasons.

There are no absolute values for any of these criteria that apply globally. Governments will have to establish national standards in line with local natural resource situations, the affordability of risk management measures and local social acceptability, adjusting them as new evidence becomes available.

Clear instructions are needed from public authorities responsible for specifying what is required of regulators and operators, in order to make the human rights principles operational.

- Equality and non-discrimination: within the established legal/regulatory frameworks public authorities/service providers have to ensure that no barriers exist to access by marginalised or vulnerable individuals or population groups, in a consultative process with such individuals/groups and government authorities.
- Accountability: providers' monitoring systems, complaints mechanisms, options for dispute resolution and transparency of budget and operations need to comply with legal requirements.
- Sustainability: drinking water and sanitation services should be economically, socially and environmentally sustainable, and this requires a long-term vision on investment and resource use in operation and maintenance, and the use of early-warning indicators for risks to sustainability that would imply regression in the human rights status.
- Participation: all actions must provide meaningful opportunities for community engagement, in particular for those usually under-represented. Information is only the start of community engagement, which is essential to comply with the human rights criteria.
- Access to information and transparency: public participation can only be meaningful in the presence of full access to information on the relevant technical details of water and sanitation services, and on budget and operations.

Putting the human rights principles and criteria into operation requires that within the legal and regulatory frameworks established by the legislative and executive branches of government, many practical details need to be sorted out in the negotiations and standard contractual agreements between public authorities, services providers and clients. These details include the aspects of rights and responsibilities of individuals and institutions. Progressive realisation of the rights is a task of multiple dimensions that requires monitoring of a series of indicators. In the development of indicators that will be used to monitor progress towards meeting the drinking water, sanitation and wastewater management targets in the framework of the Sustainable Development Goals (SDGs; see Annex B) the HRWS criteria have been considered.

2.2 CREATING AN ENABLING ENVIRONMENT

An enabling environment for the progressive realisation of the HRWS requires enforceable legal and regulatory frameworks (with independent compliance monitoring) and effective institutional arrangements. Steps in the process of creating an enabling environment include the following:

- mapping existing legislation at all levels;
- reform of the legal framework to accommodate HRWS, defining roles, responsibilities and accountability;
- establishing institutional arrangements, including a clear allocation of responsibility to identified public entities for each HRWS principle or criterion;
- creating or strengthening a regulatory framework, supported by agreed standards and norms;

- developing decision-making criteria for resource needs assessment, allocation and use;
- developing guidance on legal and regulatory requirements for monitoring HRWS indicators;
- designing modes of periodic reporting.

It is fundamental that there is a national body mandated to coordinate issues relating to the HRWS, and service providers and regulators should be represented, through their national associations or through national IWA committees, where present. Such coordinating bodies should work closely with national human rights institutions where these exist, and include in their functions a normative role, the identification of gaps and needs in existing legal and institutional frameworks, and the provision of oversight in the harmonisation of monitoring HRWS indicators.

Another important initial step is to make an inventory of and reconcile existing statistical information on drinking water and sanitation. There is a key role for formal service providers and regulators in this connection. They will also be well aware of the existing laws governing water supply and sanitation; in most cases, legislation for the former will be better developed than that for the latter. One objective of legal reform will be to bring the informal service providers into the regulatory framework.

In addition to the need to unambiguously reflect human rights principles and criteria in existing and new legal texts, it will be important to go beyond water and sanitation laws and consider issues like land tenure, gender mainstreaming or development impact assessment from a legal perspective to see how access to and availability of services can be improved. Incorporating the HRWS into national constitutions will enhance legal reform and support a more coherent approach to promoting the rights in all legislation, and, in this respect, service providers and regulators can perform a lobbying role aimed at parliamentarians. The establishment of pro-poor policies and strategies stand out in this context. In high-income countries, they can assist in reviewing international cooperation policies through a human rights lens. From their background of practical experience, they can also signal at an early stage how proposals for legal reform may have unintended adverse effects. At the end of the process of legal reform, institutional arrangements should be put in place that confirm roles and responsibilities and help bridge gaps in the often-fragmented water and sanitation domain.

The HRWS does not express itself in favour of any business model for drinking water supply and sanitation services. Whatever the model is, service delivery must take place under licence conditions or contractual arrangements that will need to have been assessed from a human rights perspective. Regulators have an important role to play in ensuring that human rights are addressed within these licences or contractual arrangements, by assessing performance, efficiency, governance and the quality of services. Indicators under regulator surveillance will need to reflect human rights principles and criteria in a direct way.

The adoption of a collectively agreed code of practice focused on human rights issues would also help to rally service providers and regulators for joint action in support of the HRWS.

2.3 INCORPORATING THE HRWS INTO INSTITUTIONAL FRAMEWORKS

The concept of progressive realisation implies continuous tangible improvements in service provision together with a reduction in discriminatory practices and inequalities in access to water and sanitation, and it also implies maximum resource allocations to actions in its support.

Formal operators (public or private entities operating under the mandate of a public authority) show considerable diversity in terms of their legal status, organisational models, and levels of scale and decentralisation. Yet, this diversity is unified within the legal framework within which they operate. This comes to expression in the mandates and contractual arrangements, licences or concessions under which they operate. A checklist of HRWS considerations for service providers to raise at the negotiating table

where these are worked out intends to ensure that all essential human rights issues are adequately addressed. Among the points on the list feature the adoption of HRWS-relevant performance standards and indicators, an organisation-wide review of structure and functions to identify options for pro-HRWS modifications, stratified baseline surveys of coverage in the mandated area, provisions for information and consultation of the users and strengthening of essential support functions to ensure optimal resource use towards progressive realisation.

Essentially, the institutional set-up for drinking water supply and sanitation regulation should reflect the State's obligations with respect to the HRWS. In many cases, existing standards, criteria, rules and requirements will already support the concept of progressive realisation, but these needs to be systematically checked rule by rule. The example of drinking water quality regulation, as it is in place in several countries, presents the case for how standards and criteria, basically in support of public health, access and collective use, can be strengthened to address all the human rights principles and criteria. Both the WHO-hosted International Regulators Network (RegNet) and the IWA Regulators Forum have provided guidance on the theme of the HRWS. The IWA Lisbon Charter for Guiding Public Policy and Regulation of Drinking Water Supply, Sanitation and Wastewater Management Services lists actions that regulatory authorities can undertake in support of HRWS.

2.4 THE HRWS IN ESSENTIAL FUNCTIONS OF SERVICE PROVIDERS AND REGULATORS

Eight essential functions of service providers and regulators are reviewed for the options to include HRWS principles and criteria: planning and management; legal support; budget, finance and accounts; operation and maintenance; monitoring and evaluation; customer services; communications; and human resources management.

The core concept of progressive realisation of the HRWS has its foundations in proper planning. Public authorities and service providers translate the results of assessing and monitoring developments and trends into targets for coverage, water quality, service levels, cost recovery, operation and maintenance (O&M) and emergency preparedness. The requirement to include the human rights principles and criteria in this process should be incorporated into licences and contracts. There is an important opportunity to include them in masterplans and investment plans for service expansion. The engagement of a dedicated human rights professional as a member of the management team is one option recommended to make this happen.

Core legal functions will relate to contractual arrangements with customers, with suppliers and with the mandating authorities. Monitoring compliance with laws and regulations is one important aspect, and this will need to be reviewed as human rights legislation evolves. This covers customer and supplier contracts, but goes beyond the strict boundaries of service delivery per se: for example, pollution of source water by industry, agriculture or individuals affects the human right to safe drinking water and calls for litigation. Such impacts should be addressed in water safety plans proposing stakeholders' risk management activities from source to tap. Liaising with human rights authorities will be a new addition to legal functions, and they will now have to address the translation of HRWS principles into organisation-wide good practice guidance, in terms of accountability rules, the need for transparency, participatory approaches in customer relations and the introduction of sustainability criteria.

In the area of budget and finance, a review of financial flows should help identify options to allocate funds to specific HRWS activities. Different departments will have to be invited to propose new HRWS activities, and the possibility of creating a dedicated fund for HRWS activities should be explored. Costs must remain within reasonable limits and efficiency must be maximised; funding HRWS activities should not be at the expense of investment needed for infrastructure development and service quality supporting

progressive realisation. Community engagement is another way of strengthening the resource base for HRWS activities. Moreover, most importantly, tariff structures need to be evaluated from the HRWS perspective.

With respect to the HRWS there remains a disconnect between water and sanitation policy makers, and those in charge of operation and maintenance. The relevance of HRWS to routine water and sanitation practice is frequently questioned, which is partly explained by the already considerable pressures and challenges service providers are faced with. Yet, the opportunities to contribute to progressive realisation in O&M are great. One starting point may be the development of a compendium of technologies, materials and practices that are compliant with the human rights principles and criteria. Proper asset management and the establishment of realistic maintenance schedules are crucial in the prevention of regression in access and other HRWS criteria. O&M staff can play a vital role in customer relations, and can pick up early-warning signals of risks of regression for lack of adequate maintenance.

Coordination and harmonisation of in-house monitoring activities with national monitoring will not only strengthen the information base at the country level, but also add value to the information on which service providers base their forecasts and plans. It can also be an opportunity to engage constructively with service users. The monitoring of specific human rights indicators may be best placed in an independent national body, such as the national statistics bureau. A service provider's customer base is a unique source of information, and modern technology allows for a range of data collection opportunities. Regular publication of monitoring reports is in line with the human rights transparency principle.

Dealing with complaints in a serious and timely manner is the responsibility of customer services—and in handling complaints, the human rights criteria now also have to be taken into account. Protocols should be readily available to deal with customers in cases of service disruptions or emergencies, and these should explicitly address the needs of vulnerable individuals, households and communities so they are not disproportionately affected.

Incorporating the HRWS into service provision and regulation will require an enhanced communications strategy, aimed at the staff as well as at the customers. Customers should be informed about the nature of the HRWS, about the rights and responsibilities pertaining to them and about complaint procedures. Communications with the human rights community are important to ensure that the organisation stays informed about new developments, and about relevant experiences elsewhere.

The new functions related to the promotion of the HRWS will require an assessment of staff needs, including the formulation of post descriptions and staff performance indicators. The human resources department may need to recruit new staff and will have to develop a human rights staff development and training programme for existing employees.

To conclude, several challenges are addressed briefly: how to include considerations arising from the HRWS in the selection of technical options; how to deal with affordability mechanisms; the correct way to handle credit control; debt collection and service cut-offs; how to achieve simultaneous progressive realisation against the five criteria; how to set geographic priorities for network extension; the issue of land tenure; the use of pre-paid meters; the use of interim standards; and the issue of continuity of supply.

Girls using a pump for drinking water on the island of Sumba, Indonesia © Robert Bos, IWA

Chapter 3 Translating the human rights to water and sanitation into operational terms

SYNOPSIS

This chapter introduces the human rights criteria and principles for safe drinking water and sanitation. It discusses how to bring them to expression in operational terms in a way aimed to satisfy both the human rights community and the water and sanitation practitioners.

A large part of successfully implementing the HRWS relies, indeed, on translating these criteria and principles, which have been formulated in legal language, into a terminology that is readily understood by the providers and regulators of water and sanitation services. These practitioners should be able to apply them in their day-to-day operations without ambiguity. The chapter therefore starts with a brief reflection on definitions.

3.1 DEFINITIONS

Increasingly, communicating across professional, disciplinary and sectoral boundaries is of vital importance. The recent focus on the nexus between water, food and energy is a case in point. Breaking down silos can, however, be a source of confusion, misunderstandings and inefficiency that challenges professionals and non-professionals alike. "Speaking each other's language" is not only about the correct and unequivocal interpretation of terminology, it is also about trust in each other's professional capacities and in the concepts developed in the counterpart's field of expertise.

Colloquial use of terminology is often inaccurate and a source of misunderstanding. In relation to human rights, the terms equity and equality, for example, tend to be used interchangeably by the public at large, but have a clearly defined, distinct connotation in human rights language. Equity is a subjective term referring to a sense of societal fairness; equity is negotiable and may vary in different socio-cultural settings. Equality, on the other hand, is an absolute concept with a clear legal basis: inequalities in access to water and sanitation are not only morally unacceptable, but they are prohibited under international law.

Terms for the basic building blocks of the arguments made in this and subsequent chapters need to be understood in the same way by the diverse readership of this handbook.

One example is that of the terms standard, norm, criterion and indicator. For this Manual they are defined as follows:

- Standard: a value or good practice established by an authority as an agreed target or threshold to strive for, voluntarily or as a legal obligation, often in response to its societal desirability.

- Norm: a standard of development or achievement derived from the average or median achievement of a large group of society as a whole.
- Criterion: an agreed standard or norm on which a judgement or decision is based.
- Indicator: a measure or metric of the state, level or trend of a phenomenon or process.

Another example is that of the terms policy, strategy and programme. These may be interpreted differently in different sectors. In the context of this Manual they are defined as follows:

- Policy: an intended course of action, with clear criteria, to achieve an agreed objective.
- Strategy: the optimal allocation of limited resources to support a policy, programme or process aimed to achieve agreed goals, objectives and targets.
- Programme: a structured plan of projects, activities and events to accomplish agreed objectives or produce agreed outputs.

Five normative criteria (availability, quality, acceptability, accessibility, affordability) and five principles (equality and non-discrimination, accountability, sustainability, participation, and access to information and transparency) serve as benchmarks for the progressive realisation of the HRWS. The criteria are presented and defined separately below for drinking water and for sanitation; subsequently, the principles are discussed.

3.2 THE NORMATIVE HUMAN RIGHTS CRITERIA: DRINKING WATER

3.2.1 Availability

Safe and clean water has to be available for household use, in public buildings and at the workplace. As a criterion, availability refers to both sufficient quantities of water and reliability of service provision. Associated with reliability is continuity, not just for the current but also for future generations. This raises important operational considerations, which are covered under the principle of sustainability, including system robustness and resilience. The criterion of accessibility is related to availability and is considered separately in section 3.2.4.

For household use, water should be available in sufficient quantity to meet requirements for drinking and personal hygiene, and for cooking, food preparation, dish and laundry washing, and cleaning. The human rights framework refrains from providing a global, absolute value to define “sufficient quantity”, as this will depend on contextual factors. An indication for a range of values may be derived from the report of a study by the World Health Organization (WHO 2003), which presents quantities based on levels of service and linked to levels of public health concern—see Table 3.1.

Availability is specifically addressed in the legal framework for water and sanitation services in South Africa. In 1996, the new Constitution of South Africa took effect, with its Chapter 2 presenting a Bill of Rights including three clauses establishing the right to water, with the related functions specified as pertaining to “local government matters”. Followed by the 1997 Water Services Act (which clearly defines “basic water supply” and “basic sanitation”) and the 1998 National Water Act (ensuring priority water allocation for basic human needs), this created the framework for the 2002 Free Basic Water Implementation Strategy, aimed at the provision, for free, of 6000 litres of safe drinking water per household per month (based on demographic statistics: around 25 litres per person per day). Average water consumption in South Africa is higher, and the price for purchasing additional amounts of water is fixed according to incremental tariff blocks. The cost recovery thus achieved is supposed to ensure the operation, maintenance and further expansion of all services. The South-African case is of particular interest because it introduced the human right to water and sanitation into its legislation long before its acknowledgement by the United Nations. Therefore, details of this case are presented in Box 3.1.

Table 3.1 Summary of requirements for water service levels to promote health (l/p/d: litres per person per day; adapted from WHO 2003).

Service level	Access measure	Needs met	Level of health concern
No access (quantity collected often below 5 l/p/d).	More than 1000 metres or 30 minutes collection time.	Consumption—cannot be assured. Hygiene—not possible unless practised at source.	Very high
Basic access (average quantity unlikely to exceed 20 l/p/d)	Between 100 and 1000 metres or 5–30 minutes total collection time.	Consumption—should be assured. Hygiene—handwashing and basic food hygiene possible, laundry/ bathing difficult to be assured unless carried out at source.	High
Intermediate access (average quantity about 50 l/p/d).	Water delivered through one tap on-plot (or within 100 metres or 5 minutes collection time).	Consumption—assured. Hygiene—all basic personal and food hygiene assured; laundry and bathing should also be assured.	Low (provided absence of contamination is rigorously assessed)
Optimal access (average quantity 100 l/p/d).	Water supplied through multiple taps continuously.	Consumption—all needs met. Hygiene—all needs should be met.	Very low

Box 3.1 A timeline of South Africa's road to universal rights to water and sanitation

1994 "Meeting Basic Needs" was one of the four pillars of the Reconstruction and Development Programme of the new, first democratic government of the Republic of South Africa (RSA) that took office in 1994. One basic need was made a priority: access to water supply and sanitation services. At the time an estimated 14 million South Africans lacked access to adequate water supply, and 21 million to adequate sanitation, out of a total population of 39 million.

1996 A new Constitution came into effect in 1996, including a Bill of Rights with a clear reference to the right to water and sanitation:

- Chapter 2, clause 24: "Everyone has the right […] to an environment that is not harmful to their health and well-being".
- Chapter 2, clause 26: "Everyone has the right to have access to adequate housing".
- Chapter 2, clause 27: "Everyone has the right to have access to health care services, […], sufficient food and water, […]."

and acknowledging the concept of progressive realisation by stating: "The State must take reasonable legislative and other measures within its available resources to achieve the progressive realization of these rights."

1997 The Water Services Act (Act 108 of 1997) further defined "basic water supply" and "basic sanitation". Moreover, it established the Constitutional responsibility of municipalities as follows: "Every water services authority has a duty to all consumers and potential consumers in its area of jurisdiction to progressively ensure efficient, affordable, economical and sustainable access to water services."

(continued)

Box 3.1 A timeline of South Africa's road to universal rights to water and sanitation (continued)

1998 The National Water Act sets the legal framework for water resources management and water allocation, including the introduction of the concept of "reserve", as a first priority in allocation—referring to the basic human needs reserve and the environmental reserve for basic ecosystem services.

2002 Standards for basic water supply and basic sanitation emerged from an extended process of consultation at all levels, and became formally part of national legislation with their publication in the South Africa Government Gazette in 2002:
The minimum standard for basic sanitation services is:
The provision of appropriate health and hygiene education; and a toilet which is safe, reliable, environmentally sound, easy to keep clean, provides privacy and protection against the weather, is well ventilated, keeps smells to a minimum and prevents the entry and exit of flies and other disease-carrying pests.
The minimum standard for basic water supply services is:
The provision of appropriate education in respect of effective water use; and, a minimum quantity of potable water of 25 litres per person per day or 6000 litres per household per month at a minimum flow rate of not less than 10 litres per minute; within 200 metres of a household; and, with an effectiveness such that no consumer is without a supply for more than seven full days in any year.

The successful translation of these laws, policies and programmes was driven by multiple factors:

- sound policies with practical roots
- total political commitment at all levels of Government
- a strong technical department: the Department of Water Affairs
- clear roles and responsibilities
- substantial budgetary allocations
- deployment of sufficient technical skills at the right levels
- priority attention to proper planning
- well-designed existing water supply systems with excess capacity
- good marketing and branding
- fast-tracking projects ready for implementation.

1994–2004 13.4 million additional people provided with basic water supply services, 6.9 million additional people with sanitation. To revert a process of regression in access levels for the poorest and most vulnerable households, a basic free water supply of 25 L/p/d; 6000 L/household/month was introduced. The technical, financial and managerial capacity required for the successful implementation of this model was unfortunately not always available at the municipal level.

2011 Almost 20 years after the new Constitution of the RSA laid the foundation for the rights to water and sanitation, the population has increased from 39 million to 51.7 million (2011)—with 91.2% of households enjoying piped water supply in their house or yard, while 60% of households enjoy the benefits of a flush toilet, and 9% have access to a VIP latrine. However, 5% of household still has no facilities at all and has to resort to open defecation.

Extracted from Muller (2014).

As stated, the human rights framework does not propose an absolute value for the availability criterion, yet in view of the public health concerns implied in Table 3.1, this Manual recommends that water service providers should achieve at least the immediate access service level of 50 litres per person per day. It is recognised, however, that this level of availability may not be achievable continuously in areas where water scarcity prevails during part or all of the year. Under such circumstances, the law must prioritise water for human consumption and domestic use over other water uses.

In conclusion, there is no global benchmark for the human rights criterion of availability, in part because of lack of evidence and in part because availability is contextually determined. As for reliability of service, milestones towards what can be referred to as such – ultimately: 24/7 service – remain poorly defined. An arbitrary, but often quoted indicator value for reliability is "and interruption of services of no more than 7 days per annum". Another indicator is the level of preparedness of service providers to emergency situations.

Aspects of immediate concern to regulators should be captured in regulatory frameworks to ensure the availability of drinking water under special circumstances:

- to serve those without a permanent dwelling, such as homeless people or nomadic communities, without any risk of discrimination whatsoever;
- to provide access through water points in institutional facilities (such as schools, hospitals, health and detention centres) in sufficient numbers, to address the specific needs of children, the elderly and the disabled, and of detainees (such as prisoners, refugees and asylum-seekers);
- to support, technically and, where needed, financially, the self-provision (abstraction and treatment) of drinking water for those who do not have a public service at their disposal.

3.2.2 Water quality and safety

As a matter of principle and definition, all drinking water should be free from pathogens and toxic levels of chemicals. Supporting documents for the HRWS refer to the World Health Organization Guidelines for Drinking-water Quality (WHO 2011a) for issues related to the water quality/safety criterion. Absolute safety is an aspirational goal. In real life it is impossible to eliminate all water-associated hazards and their inherent health risks. Acceptable risk levels are linked to social acceptability and to the affordability of managing the risks. The "level of safety/cost" curve is one of diminishing returns. This means that the application of singular standards worldwide is not feasible.

Water safety planning (WSP) is a valuable practice that helps to identify the main risks to drinking water safety and provides a basis for the establishment of priorities for the incremental improvement of standards, set against health-based targets (WHO/IWA 2009; WHO 2011a). The emphasis is on using available financial and human resources optimally to the benefit of most people through the delivery of basic levels of 'safe' drinking water. This WSP concept of incremental improvement is fully congruent with the concept of progressive realisation. Yet, in the context of a rights-based approach, authorities, providers and regulators must pay special attention to the most vulnerable groups for whom the risks from poor quality drinking water are greatest. These include not just the poor and dis-enfranchised in general, and children and the elderly in particular, but also people with a lowered resistance to infectious diseases—those who are HIV-positive and those who have undergone organ transplants.

Drinking water quality management has two distinct entry points, one related to the standards to be met on a day-to-day basis under routine operating conditions, the other related to managing incidents that threaten or affect drinking water quality and may result in disease outbreaks. In both cases the human rights principles must be part of decision-making. In regions with seasonal water scarcity, the urgency of water quality issues may fluctuate with the seasons. Extreme weather conditions may have the same

effect in a condensed timeframe. Under conditions where water quality periodically becomes a critical factor, effective measures must ensure that the burden of poor water quality does not fall on the most vulnerable.

For service providers, the quality of water delivered at the point of supply to the consumers is of primary concern. For piped systems, distribution aspects need to be considered in addition to water resource and treatment aspects (WHO 2014). Household water transport (from the standpipe to the house) and storage carry their own water quality risks, but these are not the responsibility of the water service provider. Nevertheless, in the spirit of participation and communication, providers should advise consumers on the management of these risks through consumer representatives or through local government information systems.

Global monitoring of progress towards the drinking water target under Millennium Development Goal 7 (MDG7) used "the percentage of people using improved sources of drinking water" as a proxy indicator. Improved sources imply a technically-defined assumption that water from such sources has a high probability of being safe. According to this definition, an improved source is one where drinking water is protected from outside contamination, especially from faecal matter. At the start of MDG monitoring in 2000, there were unsurmountable constraints, of a technical and financial nature, on carrying out water quality testing in all countries on a nationally representative basis. It has since been recognized that this limitation has excluded at least one billion people and most likely many more from the global estimates of people lacking sustainable access to safe drinking water.

The indicator for measuring progress towards target 6.1 under Sustainable Development Goal 6 (see Annex B) will address drinking water quality. The indicator, "the percentage of people using safely managed drinking water services", will include a water quality criterion. Reliable and affordable technology has been developed to measure drinking water quality as part of household surveys. The relevant indicator element is "compliance with faecal and priority chemical standards". This also is a minimum requirement of the HRWS and, therefore, its monitoring represents a major contribution to their full realisation.

3.2.3 Acceptability

Acceptable appearance, taste and odour of water are highly subjective parameters, and perceptions of these characteristics depend critically on local ecology, culture, education and experience. Therefore, it is not possible to set clear and objective global acceptability standards. These aesthetic properties are not generally related to water safety: high-risk contaminants are often colourless and may have no taste or odour. The real risks frequently arise from the general public's preference for seemingly clean, tasteless and odourless water which nevertheless may be microbiologically or chemically contaminated, over water that scores poorly on external acceptability criteria but poses no health risks.

3.2.4 Accessibility

Water has to be accessible, including for children, the elderly and the disabled. The distance from the household or the work place to the water source should be within everyone's reach. What does it mean in operational terms to ensure a reliable supply on a continuous basis at home, at work, in school and in other public places?

For household piped supplies to satisfy an intermediate service level (see Table 3.1), there should be a tap or standpipe (or kiosk) providing a reliable water supply within 100 metres, or five minutes total collection time, at specified times of each day (see example from Zambia in Box 3.2). In many instances, continuous (24/7) supplies may not be immediately feasible. Yet, a continuous supply is an essential

Box 3.2 Dealing with accessibility in Zambia

For a long time, informal settlements in peri-urban areas in Zambia were denied any public services as they were considered illegal and candidates for demolition; people living in these informal settlements were liable to eviction. This changed when nearly all the peri-urban settlements were legalised in the late 1990s subject to formal planning. The formal planning was not forthcoming and the burden of diseases due to lack of safe water supply and sanitation facilities was overwhelming. The Government of Zambia promulgated a water supply and sanitation law in 1997 and provided for the establishment of a trust fund that targeted expansion of services to low-income areas. With support from the Government and with cooperating partners supplementing the water utilities, basic water services are now provided to the urban poor, with the Fund helping to secure a price that is regulated and with a guaranteed water quality. Access to water from public kiosks had grown exponentially to nearly 90% by 2010 thanks to the interventions by the Fund.

Source: Osward Chandra (African Development Bank), personal communication.

longer-term requirement to achieve a sustainable service within the limitations of available water resources. Section 3.4.3 on sustainability discusses why 24/7 access is essential in the case of piped supplies. At work, school and public places, the water supply should be accessible throughout the periods the premises are open.

For well supplies, it may not be technically feasible to have wells providing access within 100 metres from the home, but the total collection time should not exceed 30 minutes.

Starting 2016, the WHO/UNICEF Joint Monitoring Programme (JMP) will track progress towards the SDG6 target 6.1: *By 2030, achieve universal and equitable access to safe and affordable drinking water for all.* The indicator, the percentage of people using safely-managed drinking water services, includes accessibility parameters at two levels:

- Basic drinking water services – a source or delivery point that by nature of its construction or through active intervention is protected from outside contamination, in particular from contamination with faecal matter. In the case of water collection points this implies a total roundtrip collection time of no more than 30 minutes including queuing.
- Safely-managed water services – as a next rung on the drinking water service ladder, this parameter measures the percentage of people using an improved water source available on premises, when needed and free of faecal and priority chemical contamination. This parameter is to be measured through household surveys and by regulator surveillance.

The “basic drinking water” level does not comply with the criteria for the human right to safe drinking water; the “safely-managed water services” represents an important step in the realisation of the human right to safe drinking water. The JMP envisages a next higher level to be “sustainable drinking water services”, defined as the percentage of people using a safely-managed drinking water source that reliably provides expected levels of service, and is subject to robust regulation and a verified risk management plan (see Annex B).

3.2.5 Affordability

Water facilities and services must come at a price that is affordable to all people. Although this is a simple statement, its practical implications are complex. It has been stated explicitly that the HRWS does not

mean that services should be available for free. Any service, whether provided publicly or privately, requires sustainable cost recovery, defined as "costs that are recovered so that a water services undertaking can achieve and maintain a specified standard of service, both for the present and future generations" (Rouse 2006). Any cost recovery scheme must include financial resources to ensure at least smooth operations, adequate maintenance and timely replacement of assets.

There is no absolute yardstick for affordability of water, sanitation and hygiene (WASH) services, even though some development agencies apply a threshold in a range of 3–5% of household income, which has its origin in World Bank practice. Such a global yardstick is debatable from a human rights perspective as it ignores income inequalities and contextual differences in purchasing power.

The two important components of service charging are the one for access to the water supply network (the connection charge) and the one for water consumption (the water price). Where access levels are low in rapidly expanding communities, the connection costs can be a significant part of total service cost. They will also be above average for populations in sparsely populated areas. Connection costs may represent a high one-off expenditure for households and one they cannot afford. As a one-off cost, it is a good target for government subsidies. As such, it is to be preferred over subsidising water consumption which benefits those who already have access to a water supply service. Another approach, as taken for example in Chile, is to arrange for the connection cost to be payable in affordable monthly instalments over a longer period of time (in the Chile example: 5 years).

Where a large proportion of the population is already covered, one possible solution may be to include the costs of new connections in the regular tariff of every household serviced. This implicitly means cross-subsidising the costs of new connections. Appropriate technical solutions should be identified for expanding into unserved areas, balancing aspects of affordability and quality of service.

Realistic and fair pricing of connection and consumption charges is a matter for public authorities, often regulators, to be implemented by utilities and other water service providers. Water service providers require that pricing policies reflect practical aspects both of cost recovery and of revenue collection. Water pricing is politically sensitive. It is, therefore, highly desirable to have overall cost recovery levels determined objectively by an independent body. Establishing and updating pricing policies should take into account the providers' advice to government. It may include, for example, advice on the use of cross-subsidies and how government subsidies might be targeted at the poor. The dialogue between providers and regulators should be governed by the human rights principles of transparency and information exchange. Involvement of the public in this dialogue is vital to create broad-based understanding and support for decisions on water pricing regimes that may be inherently unpopular.

Another important determining factor of affordability is method of payment. For those who are living in poverty it is not conceivable to put money aside to pay monthly water bills. Their reality is to meet their basic needs on a daily basis, paying frequently in small amounts. This can be accommodated in several ways: using pre-payment meters accompanied by a lifeline tariff or the establishment of water kiosks where people can purchase 20 litres at a time. The establishment of a network of offices where bills can be paid, franchising payment facilities, for example through supermarket chains, or payment by mobile phone will help maintain transaction costs low.

General subsidies (budget support to utilities) do not encourage water service providers to seek greater efficiency and they are unreliable especially in difficult economic times. Government policy should target subsidies to assist the poor or other disadvantaged groups while keeping the objective of water services becoming financially self-sufficient. A good example of a financially self-sufficient utility, with affordable services for all, is the one serving the capital of Cambodia, Phnom Penh (see Box 3.3).

Box 3.3 The case example of the Phnom Penh Water Supply Authority (PPWSA)

The PPWSA is the public utility mandated to provide drinking water supply services to the residents of Cambodia's capital city. In 1993, only 25% of urban households enjoyed piped water connections, and 73% of the utility's output was non-revenue water. Twenty years later, these figures have improved to a level of 90% access for the cities households, and a reduction of non-revenue water to 6%.

Following an internal restructuring of the Authority when Mr Ek Sonn Chan took over as its General Director in 1993 (focusing on managerial and procedural change and the elimination of corruption), the Authority started a process of outreach. Effective public consultations organised by the PPWSA resulted in people understanding the need for charges to cover costs incurred by service provision, maintenance of the infrastructure and expansion of the system. Through the consultations, users were encouraged to report leakage and illegal connections. Out of 38 informal settlements, 32 were provided with piped water for the first time; in the other six municipal standpipes were installed. These system extensions to poor areas were funded from the utility's revenues, with government subsidies exclusively directed towards connection charges, proportional to levels of poverty. There is ongoing provision for low-income groups; water bills can be paid in instalments. A progressive tariff applies, with a lifeline tariff for the first band of seven m^3/month. Within 13 years since the PPWSA started to develop its own programmes, the utility had become financially self-sufficient. It is an excellent example of progressive realisation.

Source: http://successfulsocieties.princeton.edu/interviews/ek-sonn-chan

3.3 THE NORMATIVE HUMAN RIGHTS CRITERIA: SANITATION

The right to sanitation differs from the right to safe drinking water in its lack of robust technical definitions in international law and the absence of a consistent and stable attribution of institutional and individual roles and responsibilities in governance and service provision. Based on a declaration of the UN Expert Committee on Economic, Social and Cultural Rights, the right to sanitation is commonly understood as the right of everyone to have access to adequate, safe sanitation that upholds the dignity of the user and is conducive to the protection of the environment and public health. This definition was updated by the recent UNGA Resolution A/RES/70/169 (see Box 1.1). The right to sanitation also includes the right of individual households not to be inundated with waste effluent from their neighbours.

The concept of this right is derived from a broader definition of sanitation: the collection, transport, treatment and disposal or reuse of human excreta or domestic wastewater, whether by traditional or simplified collection systems or by installations serving a single household, appropriate to protect public health, human dignity and the environment. This definition further emphasises some of the gaps and ambiguities in our appreciation of what adequate sanitation is and who is responsible for which component along the sanitation chain. The risks to public health and the environment arising from inadequate handling of wastewater and excreta underline the fact that it is not sufficient to collect or remove them, but that adequate treatment, preventing environmental contamination and safeguarding human health, is essential. In this broader concept, sanitation is linked more intricately to various elements in the human rights framework.

Sanitation facilities can serve individual households, they can be shared between households, or they can be public. The disposal of human waste can be on-site (latrines), or through decentralised or centralised treatment plants fed by sewerage networks or tanker trucks periodically emptying septic tanks or sometimes latrines. Ecological sanitation systems, separating urine and faeces for distinct processing

and re-use are becoming increasingly important. Sanitation services can be provided by public utilities, a private enterprise or a public–private partnership. Informal handling of human waste covers a spectrum stretching from on-site, dry composting to the use of domestic wastewater flowing out of cities for small-scale peri-urban agriculture.

The balance between public and private sanitation service provision is determined, in part, by the technical and economic feasibility of the different options. The important added value of the new human rights framework is that it creates the obligation to ensure access to safe sanitation to those people who "fall between the cracks" in this incomplete maze of services, for reasons of inequality or discrimination.

3.3.1 Availability

Safe sanitation facilities must be available to everyone, everywhere: at home, at the workplace and in public places. This criterion should address both capacity and continuity.

Regardless of the type of facility (public, shared or private), sanitation systems should be designed to minimum standards that ensure their functioning is sufficient under normal operating conditions. Realistic safeguards to prevent overflows, blockages and other system malfunctioning must be part of the design. For new infrastructure, extreme weather conditions, including those resulting from climate change, need to be taken into consideration, especially because informal settlements where the poor, vulnerable and those who are discriminated against live are disproportionally affected by such conditions.

In the case of private or shared facilities, the responsibility of operators starts with the evacuation of waste to disposal sites or to treatment plants, which may be central or decentralised. It is the responsibility of public authorities and regulators to establish a framework of enforceable measures that ensure safe sanitation facilities are available:

- in public places in sufficient numbers, addressing the specific needs of men, women and children, the elderly and the disabled;
- to serve those without a permanent dwelling, such as homeless people or nomadic communities;
- in institutional facilities (such as schools, hospitals, health and detention centres) in sufficient numbers, addressing the specific needs of men, women and children, the elderly and the disabled, and for detained people (such as prisoners, refugees and asylum-seekers).

The continuity component of availability implies that collection and treatment should function at all times at an adequate capacity, that a well-established and clearly communicated schedule of periodic emptying of septic tanks is deployed, and that in public sanitation facilities and facilities in institutions acceptable hygienic conditions are maintained at all times.

3.3.2 Quality

Quality standards for sanitary facilities should address several safeguards limiting risks associated with their use. Safeguards are location-specific, are linked to the level of sophistication of the facility and take into account the prevalence of different diseases associated with poor sanitation (so-called water-washed diseases). Clear standards and procedures should be defined regarding the minimum hygiene conditions for public sanitation to guarantee their consistent quality. Some specifications for VIP latrines are presented in Box 3.4.

The quality and effectiveness of wastewater management are critical in minimising the several potential impacts on the environment, on public health and on human well-being. Public utilities or private companies operating sanitation services are responsible for ensuring that wastewater is effectively collected, treated and disposed of in compliance with established regulations. Primary concerns driving

Box 3.4 An example of quality sanitation: the VIP latrine

The Ventilated Improved Pit (VIP) latrine, developed and promoted by Professor Peter Morgan, at the time Director of the Blair Research Laboratory in Harare, Zimbabwe, features several safeguards. It consists of a pit, covered by a concrete slab with a hole in it, with a superstructure including a door for access and privacy, and a black ventilation pipe. Its safety features include the slab with the small hole, which allows for proper cleaning and prevents children from falling into the pit, the superstructure, which keeps snakes and other dangerous animals out, and insect screening in the vent pipe, which prevents the pit latrine to become a breeding place for flies. Sunrays on the black vent pipe produce a circulation of air reducing faecal odours and adding to the aesthetic quality of the latrine.

VIP latrines have been widely introduced in rural communities in Africa, Asia and Latin America; they have also been constructed in a grid pattern in the fields of agricultural production systems, especially in areas endemic for schistosomiasis (bilharzia) to serve farmers working in the fields.

Sources: Morgan 2011; Chimbari 2012; Chimbari *et al*. 1993.

these regulations relate to direct risks of faecal contaminants to the population, as well as to risks of drinking water source contamination. The role of regulatory bodies with respect to wastewater management is rapidly evolving, and in some countries well-defined.

3.3.3 Acceptability

Sanitation facilities and infrastructure should be well-managed to avoid adverse impacts on the well-being of individuals and communities, and on the environment. Perhaps even more than for water supply services, acceptability of sanitation facilities has strong cultural overtones. However, no-one wants to use a facility that is filthy, unhygienic and smells bad. For example, some of the reversal reported from community-led total sanitation (CLTS) projects which promoted dry pit latrines has its origin in issues linked to acceptability considerations (Kunthy and Catalla 2009). In Box 3.5, relevant analyses of supply chain and demand drivers, as a basis for marketable sanitation designs, are presented in detail. In general terms, the role of operators and regulators in connection to acceptability needs further definition. Their role is obvious, however, with respect to the maintenance of public facilities under their direct responsibility.

3.3.4 Accessibility

Standards for public sanitation services should be established, to ensure access for all: men, women, children and disabled people. Measures should include safeguards against harassment and assault, especially at night.

With respect to access to waste management infrastructure, public and private operators alike need to apply transparent criteria for entitlements to connection to a sewerage system, or conditions that need to be met to allow for effective waste removal from septic tanks. For private or shared sanitation facilities, the responsibility for ensuring access for all lies within the individual household or the households sharing a facility. In the absence of private or shared facilities, the public authorities, where feasible in partnership with a private sector entity, should guarantee access to public facilities within a reasonable distance.

The provision of sanitation in schools needs to pay priority attention to the gender aspects—absence of separate facilities for boys and girls infringes on the right to education, as it has been shown to keep girls from attending. The absence of sanitation facilities in health centres provides a stark example of how the right to sanitation and the right to health are intertwined (Bartram *et al*. 2015).

Box 3.5 Cambodia: supply chain and demand assessment as a basis for sanitation design

The global data on access to sanitation presented by the WHO/UNICEF Joint Monitoring Programme (JMP) in 2010 placed Cambodia with only two other countries outside of Africa south of the Sahara as having a rural sanitation coverage below 20% - with 80% of the population living in rural areas. This has serious consequences in terms of public health, the environment, water resources quality, economic development and human dignity. The World Bank's Water and Sanitation Program therefore initiated assessments of sanitation supply chains and of demand for sanitation. Surveys were undertaken in a representative transect of rural and urban populations, including villages that had been exposed to community-led total sanitation (CLTS). Both assessments revealed the importance of acceptability in the selection of options.

Potential supply side interventions considered in the surveys included low-cost latrine designs, availability of components and materials to upgrade sanitation facilities over time, better coordination of the efforts of different actors in the supply chain, and greater engagement of micro-finance institutions.

On the demand side, the potential interventions tested included stimulation of demand through informed awareness creation, financial schemes – such as payment in instalments – to increase affordability and demand among the poor, promotion of collective purchases which create economies of scale and social pressure, and smart subsidies with co-payment by the recipient to underline the real value of latrines.

The survey results underscored the importance of the desirability of certain options. In a ranking of desirable facilities, dry latrines score below open defecation in the field; a wet flush latrine is considered the most desirable among low-cost options. This finding was supported by the earlier work of Kunthy and Catalla (2009) showing a reversal of dry latrine use back to open defecation of over 50% in some villages. The conclusion from the demand side analysis was: promote pour-flush latrines, which are also more marketable, keep the choices limited in terms of design options, and focus on true aspirations to make investing in sanitation relatively attractive. From the supply-side perspective it was clear that no dramatically new design was needed, but rather an improvement in the production process that makes the pour-flush latrines more affordable and therefore easier to market.

Source: Rosenboom *et al*. 2011.

3.3.5 Affordability

Most of the principles referred in section 3.2.4 on affordability of access to safe drinking water also apply to sanitation services (see also Box 3.6). To be affordable, the cost of sanitation services should be proportionate to the households' disposable income. This proportion not only depends on several socioeconomic factors, but is also contextually influenced by cultural perceptions. Moreover, the concept of willingness to pay will have greater prominence in the affordability of sanitation services than for drinking water supply services, as sanitation is often not a priority expenditure compared to water, food and medicine. It is generally assumed that facility ownership is an incentive for households to invest, to the extent possible, in its maintenance.

In many countries there is no explicit tariff for sanitation because of the existence of mechanisms for cross-subsidising from the revenues from drinking water supply services. This has its roots in the fact that there is a greater willingness to pay for drinking water supply than for sanitation services. Also, combined billing can contribute to cutting administrative costs. In many instances it is, however, recommended to maintain a separate tariff-setting, specified billing and a distinct cost-recovery mechanism

Box 3.6 Considerations with respect to affordability of both water and sanitation services

In his 2015 report to the UN Human Rights Council, Léo Heller, the UN Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, highlights issues related to the affordability criterion. Several of these are of immediate relevance to providers and regulators (see also section 7.2 of this Manual). The central theme revolves around the question of maintaining a balance between the economic sustainability and the affordability of services. Dr Heller argues for a shift in thinking, including in the philosophy of service providers: universal affordable services must be the starting point, and economic instruments must be re-designed to achieve the objective of reconciling economic sustainability with this. Several actions and topics are important in this connection:

- **Costs**: a sound analysis of costs will allow the redesign of economic instruments to promote affordability; these include not only the capital, investment costs and recurrent, operational costs, but also the costs of corruption, poor governance and deficient management, and the cost of inaction.
- **Standards**: affordability standards in support of regulation and tariff setting can only be defined in local contexts and in a participatory manner.
- **Disconnection**: in the case of non-payment of services, the burden is on the provider to prove that customers are not paying because they are unable to; and disconnecting households is only permissible if there is evidence of deliberate non-compliance without financial obstacles to paying. Before introducing pre-paid water meters as a way to achieve payment compliance, affordability and the availability of minimum quantities of water in cases where a household is unable to afford the service, must be carefully investigated (see also section 7.3 of this Manual).
- **Mechanisms to ensure affordability in practice**: providers must assist governments in developing and accurately targeting these mechanisms, which include appropriate pricing, tariff structure design and subsidies. In Dr Heller's paper, the challenges around targeting are described in detail and they are relevant to providers and regulators.
- **Tariff schemes**: the design of the tariff scheme is fundamental in achieving universal affordability: flat rates, uniform volumetric tariffs, differential pricing and connection charges all need consideration from the affordability perspective. Monitoring and regulation have to ensure adaptive management of tariff schemes.

Source: 2015 Report of the UN Special Rapporteur.[4]

for sanitation, in order for users to acknowledge the value of the service that is provided, but also for the sake of transparent accounting for each of the services. This should help reduce under-investment in sanitation which perpetuates the gap between service provision for water supply and for sanitation.

There are mainly two kinds of cost for sanitation services for end-users: the connection charges typically represent a bigger affordability challenge as a single instalment; therefore, they represent a higher obstacle to accessing the service. When the public service is widely accessible, priority should be given to subsidy mechanisms targeted to deal with this challenge. On the other hand, if no public service is available, public support for the installation of on-site sanitation facilities is a viable option, provided it targets those in need and is accompanied by a campaign promoting the use of the facilities. A regulatory framework should be in place to ensure the periodic emptying of on-site solutions, such as septic tanks, at an affordable price.

[4]Report of the UN Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, 30th session of the UN Human Rights Council, August 2015: "*Affordability of water and sanitation services*". http://www.ohchr.org/EN/Issues/WaterAndSanitation/SRWater/Pages/AnnualReports.aspx.

3.4 HUMAN RIGHTS PRINCIPLES

3.4.1 Equality and non-discrimination

Water and sanitation services must be provided without any form of discrimination. Water and sanitation service providers therefore must ensure that they do not put in place, or continue, systems that might exclude marginalised individuals and groups, and those at risk of becoming marginalised. Further, service providers must work with local, municipal and, where appropriate, national governments to ensure that everyone is able to access safe water and adequate sanitation services, regardless of income levels. A good practice will ensure that priority is given to people having a basic level of access rather than improving service levels for those who already enjoy this level of access. Those who are living with a disability, or who are caregivers for those with a disability, and those who are living on precarious land or without settled land tenure must still have access to adequate water and sanitation services. Within the legal and regulatory frameworks created by the public authorities, service providers have the responsibility of discussing these needs with the affected individuals and communities, as well as with the relevant level of government, and ensuring that these needs are met, identifying and managing any specific barriers to achieving this.

Challenging issues in the context of equality and non-discrimination, such as formal restrictions in connecting households without land tenure, or the correct procedures in situations where households are unable to pay for services, are dealt with in Chapter 7.

3.4.2 Accountability

States are obliged to respect, protect and fulfil the rights to drinking water and sanitation, and should be held accountable for meeting these obligations to the people effectively under their governance. Accountability can take many forms, but will include monitoring, complaints mechanisms, dispute resolution and transparency. Service providers must ensure that their monitoring systems, including monitoring of water quality and risk of pollution, and of levels of affordability, comply with government standards and instructions received from public authorities. It is also in service providers' interests to ensure that there is an effective complaints procedure for the users of its services, such that the service provider is able to understand the adequacy of service provision, can identify measures to improve the service, and will foster good relations with its customers. Data and information should be publicly available on issues such as water quality, reliability of service and the pricing or tariff structure.

3.4.3 Sustainability

Water and sanitation services should be economically, environmentally and socially sustainable so that future generations can enjoy their human rights to safe drinking water and sanitation. Public authorities and service providers must look beyond the short-term goal of extending access to water and sanitation services and expand their customer-base, and must consider how resources are going to be ensured for operation and maintenance in the long-term. In the case of sanitation, it is important that they understand that sustainability and effectiveness of the service will also require consideration of good hygiene behaviour. This may require education and promotion of hygienic practices, including practices of water transport from a standpipe and household storage. Public authorities and service providers are responsible for ensuring that this is integral to their planning procedures; their responsibility does not end with the mere provision of a facility or service. It is useful for them—not only from a human rights perspective!—to consider relevant indicators that would serve as an early-warning for risks to long-term sustainability.

This will help avoid regression. These indicators would include financial, operational, institutional and social parameters, such as the following:

- whether there are sufficient resources to cover medium- and long-term operation and maintenance costs;
- whether a human resource base with adequate capacity to continuously maintain a system is secured (IWA 2014: finding 13, page 34);
- whether adequate systems exist for longer-term financing;
- whether the system is supported by a regulatory body to monitor water quality, continuity of service and other critical indicators; and
- whether the population using the service understands the service and what is required of them to keep it working—including a willingness to pay or to report defects such as leaking pipes.

3.4.4 Participatory processes

All actions that have an impact on people's access to water and sanitation services must provide meaningful opportunities for community engagement. Users, particularly those who are generally under-represented, including women, ethnic and racial minorities, and marginalised groups, must have an opportunity to participate meaningfully in decision-making as it relates to their access to safe water and sanitation. Public Authorities and service providers have the responsibility to ensure that the users of the service, and those affected by decisions made about the type of service, are kept informed and are able to participate in a meaningful way in this process of decision-making. This is as relevant at the level of the point source, or type of latrine, as it is for the prioritisation of where providers should extend their services to include new users or improve existing services.

Participatory processes can also be of relevance in connection with issues of affordability—the involvement of communities in the work needed to extend water and/or sanitation services can substitute monetary transactions, but care must be taken to properly assess the opportunity costs to community members and ensure their work is honestly valued against the services they receive.

From another perspective, participation implies the engagement of those managing formal or informal water and sanitation services or of those with responsibilities of a regulatory nature, with politicians, policymakers and others charged with giving shape to the national legal and policy frameworks for the HRWS. Such a dialogue will ensure that criteria and procedures contained in such frameworks are rooted in the reality on the ground, reflect exceptional situations of inequality and discrimination as captured from the day-to-day operations in service delivery and do not create expectations that cannot be fulfilled.

3.4.5 Access to information and transparency

Transparency and access to information are essential for participation to be meaningful. In the context of water and sanitation services, access to information can include information on water quality, water pricing and tariff structures, on the availability of subsidies for particular population groups and individuals, on systems for paying bills, as well as on macro-budgeting issues, such as existing and planned national/regional programmes and budgets for water and sanitation services.

Transparency in water and sanitation service delivery requires that insights are provided into the budgeting process, including budget monitoring, budget allocation and expenditure, and which areas or population groups are to be prioritised in service delivery. This is in line with the principle of progressive realisation, which requires States to be able to demonstrate and report on tangible progress in a planned

process, using maximum available resources, even as they themselves do not have to deliver the services but delegate them to public or private providers.

3.5 BASIC CONSIDERATIONS FOR OPERATIONALISING THE RIGHTS

3.5.1 Population make-up

The majority of the global population (close to 60%) benefit from water supply services that are organised by public authorities. A significantly smaller proportion benefits from public sanitation services. In many cases these water and sanitation services are delivered by public providers. In other cases, the delivery of services is delegated to private companies with clear operating instructions. In several countries services are independently regulated in accordance with agreed standards and norms. Where public services are available, individual water-users are unlikely to have alternative options that are cheaper. These services have a *de facto* (factual) if not a *de jure* (legal) monopoly. However, State obligations under the HRWS imply actions that may not be included in the traditional way of service delivery. These additional actions include, among others, ensuring an alternative service in case of major disruption, maintaining the water safety when a new contaminant emerges, identifying all those who do not benefit from the existing public service and ensuring satisfactory access, organising cross-subsidies or direct subsidies to those who are unable to fully pay for connections and services, and detecting and solving inequalities in access. In brief, delivering conventional water supply through public systems and operations is not sufficient to ensure that each individual enjoys access to water and sanitation in a way that satisfies the human rights requirements. Specific action by public authorities is required. The following are some illustrative examples.

- When water is supplied by private tanker trucks, the water-users can only rely on the safety of the water if its origin and the cleanliness of the tankers are controlled by public authorities.
- As wastewater networks are more expensive and technically-constrained than drinking water networks, in many urban areas (for example, Manila, the Philippines) piped water systems exist next to personal, on-site sanitation facilities such as septic tanks. In rural areas, on-site sanitation is common.
- The price charged to the individual user for water supplied by a formal water utility may differ significantly when it is delivered through a public standpipe from when it is delivered to the owner of an apartment building who then charges the individual tenants. Under such different circumstances, affordability must be verified and ensured; this is not necessarily a task for service providers, but rather for regulators with responsibilities for the proper application of housing and rental regulations.

Another large part of the global population, billions of individual water-users, must rely on the provision of water supply and sanitation services and facilities with no form of operational government involvement. In this informal context they share water resources with others, they buy water from informal service providers, their sanitation facilities are maintained by private contractors and there is no public technical support for whatever systems they may be using. Although in these cases public authorities do not directly deliver the service, as duty bearers for the HRWS their obligations remain the same and they are accountable for progressive realisation. This implies that, for this informal sector and for small community water supplies, they must verify that water and sanitation services are available and acceptable to all, that everybody benefits from satisfactory access to these services and facilities, that the quality of water delivered to users meets national standards, that the service provision chain does not result in unaffordable prices and, across all these criteria, that inequalities and discrimination in service delivery are eliminated. It also implies that, where situations or conditions are deemed unsatisfactory, public authorities need to enforce remedial or corrective action. As the cost-effectiveness of water treatment

Box 3.7 Regulator experiences from Zambia

In Zambia the regulator has allowed a 3% solidarity levy on the water tariff, the proceeds of which are to go towards the improvement of sanitation facilities and services in the peri-urban areas. The funds have been ring-fenced and the water utility can only use them to implement regulator-approved plans for improved sanitation in the designated areas. Significant amounts of money have been raised for this cause. The initiative faced a major challenge, though: the water utility lacked sufficient capacity to work on low-cost sanitation in peri-urban areas and this proved a major impediment. In the end, in response to an outbreak of cholera in one of the peri-urban areas, a portion of the funds generated was used to control the spread of the epidemic.

The regulator in Zambia also made an effort to involve consumers in monitoring the performance of service providers. It established water watch groups consisting of representatives from the general public, who were educated in understanding the service level agreement the water utilities had entered into with the regulator. The water watch groups were able to collect many unresolved complaints and facilitated a dialogue between the service providers and their customers to address the issues. As an immediate result quality of service and revenue collections (particularly in low-income areas) improved and corrupt water utility workers were exposed. Any issues that remained unresolved were reported to the regulator for enforcement.

Source: Osward Chandra (African Development Bank), personal communication.

and transport is optimised through collective actions that allow for economies of scale, generally public authorities will have no other option but to extend formal water delivery under the auspices of a regulatory body to all "unserved" people progressively or, alternatively, to integrate informal providers into a formal framework. An example from Zambia of creative regulator initiatives is presented in Box 3.7.

For completeness' sake, it is necessary to mention the third group of individuals who are in a position to benefit from drinking water supply and sanitation using their own private means without external service provision. This refers to people living in remote or isolated areas who have their own water sources and on-site sanitation facilities. Depending on location, their numbers may vary significantly. In some parts of the world (Western Europe) this group may be relatively small, in other parts (rural Asia, the Americas) it may be substantial in size. For this group the obligations of the public authorities, and the associated expenditures, should focus on ensuring that individuals are protected from poor service conditions: drinking water quality must be checked regularly to ensure it complies with national standards, the individual facilities must be checked not to infringe on the rights of others or negatively affect the environment and, when public services are shown to be cheaper, they must consider substituting the private supplies and facilities through some kind of technical support.

3.5.2 Organising effective interactions between rights-holders, operators and authorities

Many practical details need to be sorted out before the process of realisation of the HRWS becomes operational. The elimination of inequalities between different users, and of discrimination and exclusion are the biggest challenges. Some practical examples of operational details at the level of individual water-users that need to be clarified are listed below. They will be revisited in the next chapters.

- Is a household obliged to connect to an existing network if it benefits from a satisfactory alternative option; should it contribute to the cost of this network even without using it?

- Is it compulsory to have a metered connection before receiving drinking water piped into the home?
- Through what mechanism should individuals be informed in case of water safety incidents (contamination or service disruption)?
- How should individuals who use a public standpipe be informed of the regulated price of water?
- What procedure should be followed in case of non-payment of water or sewage bills, and is there a reliable method to distinguish between users who are unwilling to pay and those who are unable to pay?
- What should be allowed as the maximum time between a request for an individual connection and the connection and supply becoming operational?
- How can a judicious and just use of subsidies be stimulated?
- How should users file a complaint, and what should be the follow-up procedures?

These operational details are usually described in standard contractual documents that are given to water-users by the responsible water authority or the operator to whom service delivery has been delegated. The process of standardising these documents will need to apply a human rights lens. It must be ensured that contracts comply with the human rights criteria and principles, and that salient issues, such as effective complaint mechanisms, are effectively addressed.

3.5.3 Practical aspects of rights and responsibilities

For the pursuit of progressive realisation to become truly operational, both individual and institutional responsibilities need to be recognised.

Individual responsibilities include abstaining from actions that prevent others (individuals or communities) from enjoying their rights, contributing to the cost of the service according to capacity to pay and, on a voluntary basis, reporting on conditions that are in conflict with the extension of the rights or lead to wastage of the services.

Institutional responsibilities of the implementing entities (national authorities, local authorities and service operators) imply that they have a legal basis allowing them to perform their duties—for example, the right not to be prevented from supplying water to informal settlements. Progressive realisation also implies, however, that authorities demonstrably maximise the resources allocated to achieve human rights objectives. To ensure that essential functions of providers (public authorities and operators of whatever nature) and regulators can be performed properly, effectively, sustainably and equitably, utilities have to substantiate the arguments for limitations to their operations, imposed, for example, by resource constraints.

The success of operationalising the rights depends on the careful identification, allocation and separation of the roles of all parties. Public authorities responsible for drinking water supply are not necessarily the same as those responsible for ensuring affordability of the service. In Chile, for example, ensuring affordability comes under the responsibility of the Ministry of Social Affairs and is managed through a system of subsidies. It is therefore strongly suggested that, in addition to defining roles and allocating responsibilities, it is necessary to define the conditions under which each party will be able to perform the functions it has been charged with and the means for their implementation. These need to be accompanied by corrective mechanisms in case the conditions are not conducive to optimal performance. It should also be recognised that the duties implied by the responsibilities transfer a certain number of risks to the party. For operators dedicated to operationalising the HRWS, such risks include abuse by customers, corruption and poor governance; some examples are given in Box 3.8.

Taken to extremes, many of the examples of abuse and incompetence will lead to a serious degradation of the water sources and of the infrastructure, and to a decline in the quality of service delivery.

Box 3.8 Examples of problems encountered by operators that need to be addressed in order to realise the HRWS

- A user capable of paying refuses to do so or bribes an agent of the service operator in order to pay a reduced price. This places an extra burden of cost incurred to all users and/or prevents the water operator from having the resources necessary to properly maintain the public water system.
- Unmetered, connected users waste water or do not repair leaks in private networks thus compromising water availability for others.
- Household meters are damaged or by-passed by water-users who want to avoid contributing to the cost of public water supply services.
- Faced with intermittent service, users try to improve their access to water by connecting an electric pump to the network to get more water. This causes negative pressure in the network leading to infiltration by potentially polluted groundwater affecting the quality of water for all users.
- A subsidy system in place to support poor households in paying their water bills is used improperly or even abused by well-off households.
- National or local government institutions refuse to pay the bills for the provision of water to, for example, ministries, the town hall, or to schools or parks, thus adding an extra burden on all other users and seriously compromising cost recovery and sustainability.
- The local authority is eligible for a state grant for capital works, but because the government in power has changed, this payment is withheld and the necessary investments are not realised.
- The operator has started an expensive new infrastructure project in accordance with the contract programme but the public authority refuses to pay the agreed instalments.
- Liquid or solid waste is dumped by individuals or entities in places where it endangers the quality of drinking water sources.
- Individuals pump water from private wells and discharge it after use into public sewerage networks without contributing to the cost of this public infrastructure.
- Individuals or entities pump significant volumes of water from underground aquifers without the necessary authorisations, thus jeopardising the water resources of other users or causing the intrusion of external contaminants (like seawater) into the aquifer.

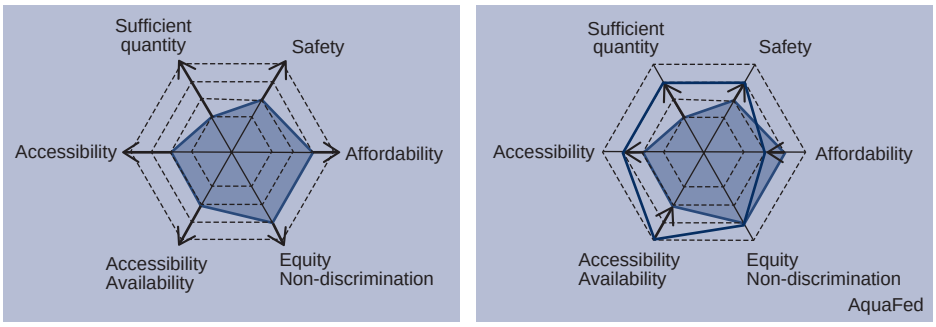
Source: Gérard Payen, personal communication.

3.5.4 Monitoring progress

There is no single index to measure progress against all the various criteria and elements of the HRWS. There are several indicators that can vary independently. For example, access to unserved areas can be extended without improving water quality or vice versa.

Progressive realisation is a task of multiple dimensions. It must address progress for each criterion and principle of HRWS. Therefore, monitoring progress requires the use of a series of indicators, at least one per HRWS criterion.

Figure 3.1 illustrates the specificities of monitoring progress of the human right to safe drinking water in a theoretical example. This example assumes an investment programme that aims to upgrade and expand an existing system. Water rates are increased to fund the investment. The infrastructure is improved and expanded effectively. However, in the absence of a pro-poor mechanism, the average affordability of water supply services has decreased.



Initial situation (in green): progress is needed on all criteria

End of programme (in blue): progress was made on four criteria—one has regressed

Figure 3.1 Example: monitoring progress resulting from an investment programme that aimed at upgrading and expanding an existing water system.
Source: Aquafed 2015.

Details of monitoring activities to be undertaken by operators and regulators will be addressed in Chapter 6.

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Chapter 4 An enabling environment for the human rights to water and sanitation

SYNOPSIS

Governments have to create and strengthen the enabling environment for the progressive realisation of the HRWS, fostering a clear allocation of roles and responsibilities of the different actors within the national context. All actors can contribute to the creation of such an enabling environment. The process envisages the facilitation of coordinated efforts to update and expand the legal and the regulatory framework for drinking water and sanitation service delivery, and the promotion of effective institutional arrangements. Together these ensure independent guidance for the identification of gaps and needs, on regulatory standards, norms and good practice, on procedures to correctly manage financial and human resources, and on monitoring progress as measured by indicators related to the HRWS criteria and principles.

This chapter highlights the contributions that water and sanitation practitioners, public authorities and regulators can make to the creation and functionality of an enabling environment, based on their expertise and experience. They will be able to add value to the processes of formulating legislation, design of regulations and strategy development, establishing institutional arrangements and to help avoid pitfalls and unnecessary hurdles, to bridge gaps and to highlight opportunities.

Huge differences exist between countries around the world with respect to the development of policy, legal and regulatory frameworks in general and for human rights in particular. The contributions that service providers, regulators and NGOs can make to strengthening frameworks for the human rights to safe drinking water and sanitation will, accordingly, vary widely, and an assessment of options to contribute within the national context should be the starting point of any constructive efforts.

4.1 INTRODUCTION

The universal human rights are divided into civil and political rights, and economic, social and cultural rights, each governed by its respective international, legally binding treaty known as a Covenant (see the Annex for more details). The individual freedoms guaranteed by the Covenant on Civil and Political Rights require governments to take measures ensuring the associated freedoms are respected, protected and maintained.

Economic, social and cultural rights, on the other hand, are in many instances about individuals' entitlements to basic needs in terms of goods and services. The right to an adequate standard of living covers access to safe drinking water and sanitation, as well as access to food and housing. The rights to safe drinking water and sanitation also are linked to the right to health.

Compared with the civil and political rights, the resource dimensions of these economic, social and cultural rights are of a different order of magnitude. In most cases, governments, as duty bearers, cannot bring their universal enjoyment to immediate effect, hence the concept of progressive realisation, explained in Annex A. This provides governments with a modality to achieve gradual progress towards the goal of enjoyment of the rights by all, within their national socioeconomic reality. However, it also stipulates that governments have to demonstrate that they maximise resource allocation in the pursuit of progressive realisation and that they leave no room for regression on progress already achieved.

The first phase in the process of progressive realisation is for governments to create an environment conducive to meeting the obligations implied by the HRWS for the benefit of all people living in their territory. Currently (2015), many governments are at a stage of planning or implementing this first step. Several governments have spearheaded the effort (some even before the international legal framework came into force), either by incorporating the HRWS into their Constitution (South Africa, Kenya and Uruguay were among the first of a growing number of examples) or by adopting laws aimed at achieving universal coverage. Their experience may serve others to accelerate the process.

An enabling environment for the HRWS includes the formulation of national and local legislation, regulatory frameworks to uphold standards, norms and good practice, institutional arrangements between public sectors at different levels of government and with public and private service providers, and guidance on procedures for the management of financial and human resources and for the monitoring of progress towards achieving the universal enjoyment of the HRWS, based on the internationally agreed criteria and principles.

The governance of modern States distinguishes three separate branches: the legislative, the executive and the judiciary branches. Laws are designed and adopted by the legislative branch; their correct application is verified independently by the judiciary branch. Within the legal framework, the executive branch can issue regulations, which together make up the regulatory framework. Compliance with regulations is verified by independent regulatory bodies.

Steps in the process of creating an enabling environment include the following:

- Mapping and analysis of the existing legislation at all levels of government.
- Reforming the legal framework to accommodate actors' responsibilities and accountability in line with the obligations implied by the HRWS, at all levels of government.
- Establishing effective institutional arrangements.
- Creating effective regulation.
- Developing guidance on assessing and managing resource needs incurred by legislation and regulation.
- Developing guidance on implementing the legal and regulatory requirements for monitoring indicators for HRWS criteria and principles.
- Periodic reporting on status, trends and developments in legislation, institutional arrangements and the regulatory framework.

Within the legal and regulatory frameworks, a number of issues will need to be defined: adequate technical standards, rules for contracts between service providers and users, minimum standards of good practice for quality of service, instruments to ensure affordability for all users and complaints mechanisms available to all users.

4.2 FUNDAMENTAL STEPS

One action for governments to undertake is the establishment or strengthening of a functional structure at the national level to coordinate the implementation of the above steps. Progressive realisation of the

HRWS involves many actors at different levels. The design of a framework that supports the efficient implementation of these steps requires participation by all actors, within their individual mandates and authority. This is in line with the human rights principle of participation.

At all levels of government, relevant public sector institutions, private sector entities and civil society including the rights holders should all contribute, from the perspective of their interests and comparative advantages, to the creation of this enabling environment within which they themselves will have to cooperate. Clearly, water utilities and providers of sanitation services (private and public, including local government), informal providers of water supply and sanitation services (NGOs, unlicensed small enterprises and individuals) and regulators should be part of such a coordinated effort.

A national coordinating body for the creation or strengthening of an enabling environment for the HRWS may take different forms. In several countries, national water supply and sanitation boards dating back to the International Drinking Water Supply and Sanitation Decade of the 1980s continue to function, and their mandate and composition can be adapted to take on tasks related to the realisation of the HRWS. In other countries, national economic planning boards may provide the coordinating capacity. By their nature these coordinating bodies are used to working across sectoral and institutional boundaries, and planning is key to progressive realisation.

Over 100 countries have national human rights institutions in the form of human rights commissions or human rights ombudspersons (WaterLex 2014). These institutions have two core functions: the independent review of the nation's human rights commitments, and addressing grievances or complaints alleging human rights violations. The role of these national human rights institutions with respect to the rights to the HRWS needs to be enhanced, and one option for this is the adoption of General Comment 15 on the right to water (2002). This should result in the incorporation of these bodies among the mainstream water governance institutions in countries.

In countries where national human rights commissions exist, they are either part of the government structure or exist as NGOs. Their membership should include a range of relevant public institutions, from different levels of government, as well as members of academia who can influence policy formulation and guidance. It is desirable that service providers, regulatory bodies and NGOs also take part in such committees.

Whatever form a national coordinating entity may take, it should be able to support the creation of an enabling environment based on the experience of its members and their broad perspective on a range of human rights issues. Based on regional agreements, such as the Protocol on Water and Health under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes of the United Nations Economic Commission for Europe (UNECE)[5], inter-ministerial committees operate in several countries that can provide a "home" for the coordination efforts leading to the desired enabling environment for HRWS. Under the UNECE Protocol (which, incidentally, achieved global status in 2015) Finland, Hungary and Norway are, for example, among the countries that have established such a committee. National coordinating bodies for the implementation of the SDGs may also have a role to play. Another option is to create a new coordinating entity dedicated to the HRWS. Such an entity should be carefully designed to include representatives of all parties concerned.

The involvement of formal water and sanitation operators in such coordinating bodies would best be achieved by representation through national associations of water and sanitation utilities; alternatively, national committees of IWA could become involved. Getting the informal service providers involved is more challenging, as they make up a more heterogeneous group with a lower level of organisation, if at

[5]http://www.unece.org/fileadmin/DAM/env/documents/2000/wat/mp.wat.2000.1.e.pdf; the protocol is administered jointly by UNECE and WHO.

Box 4.1 A proposed list of tasks for a national body to coordinate the progressive realisation of the HRWS

In each country, the legislation and regulations should facilitate a national HRWS coordinating entity:

- To propose accurate definitions of the content of the rights in a range of settings, including at home, at the workplace, at schools, in hospitals and health centres, at public places such as markets and transport hubs, and in detention centres and detention camps.
- To identify gaps and needs in existing legal and institutional frameworks as a basis for proposals to facilitate full realisation of the rights through the appropriate organisation of public authorities, including
  - Allocating tasks to the different national and local public authorities that have to contribute to the realisation of the rights, and clarifying which public authority is responsible for addressing which criterion or element of the rights, and for which activities.
  - Ensuring the appropriation of adequate means of implementation (financial and human resources) for all relevant public authorities.
  - Organising mechanisms of effective interaction between right-holders, public authorities and service providers.
  - Accurately defining the rights and responsibilities of all, including the duties of the rights holders.
- To organise monitoring of indicators for progress towards attaining each criterion and principle of the rights.

all. It would be a mistake, however, to ignore them in the process of creating strategic policy, legal and regulatory frameworks for the HRWS, since in many instances they will continue to have an important role to play.

The functions of this coordinating body, whatever form it may take, with respect to the HRWS are summarised in Box 4.1.

In addition to a dedicated effort towards legal and institutional reform, and towards strengthened regulation, key actors in delivering water and sanitation services may also engage in more conventional lobbying of politicians involved in the legislative process, such as members of parliament, or in the formulation of regulations, such as mayors.

Another initial step before screening and reforming the legal framework is to analyse and, where possible, provide an input into updating the national drinking water and sanitation statistics, and to create or update an inventory of water sources. The objective is to review this information through a human rights lens, in order to detect disparities in the distribution of availability and reliability, access, and levels of safety, affordability and acceptability within the overall population, and within population groups.

In most countries there will be a range of statistical datasets on drinking water and sanitation. Public works authorities should have information on the status and functionality of infrastructure. Service providers should have information on customer compliance with paying their bills. However, the more correlational information needed to reveal the above disparities tends to come from nationally representative household surveys and censuses carried out by national bureaus of statistics. Disaggregation of datasets can show the different service levels available to different population groups, the divide in access between rural and urban populations as well as between the formal and informal urban populations, and what impact past efforts to increase coverage have had on the situation of people with different

income levels (usually represented as wealth quintiles, 20% segments of the population according to agreed wealth indicators).

There is an important role for service providers and regulators in this process, even if the datasets they collect usually do not by themselves allow for this type of disaggregation (most provider surveys will have a narrow focus with specific objectives) or are not nationally representative (in many countries regulators lack the capacity to extend surveillance beyond urban areas). More restricted datasets can, however, add valuable information to the outcome of the broader household surveys and censuses because they may go more in-depth on specific issues and are collected with greater frequency. The outcome of dedicated studies by local governments, academic institutions or NGOs on the conditions of vulnerable groups will further add to the overall picture and can be used to formulate specific local policies.

The efforts by a coordinating body to create or strengthen an enabling environment should address reconciliation of datasets from different sources, engaging, in particular, service providers and regulators, in order to obtain the strongest possible evidence base for legal, policy and institutional reform that addresses inequality, discrimination, poor accountability, and lack of sustainability, participation and access to information.

4.3 ANALYSIS AND REFORM OF EXISTING LEGISLATION

The body of law governing water issues is large and diverse. In general terms, these laws address the protection, development and management of the resource base, the various uses of water resources for different purposes, and the roles, responsibilities and entitlements of the actors and users. With respect to drinking water, overarching national legislation will be elaborated into more specific articles of law and local government (by)-laws, and into detailed standards, norms and good practices under the oversight of regulatory bodies. National authorities as a rule combine legal obligations and preferred policy options into national strategies, which guide the use of limited resources in the context of the law to achieve agreed policy objectives.

In most countries, sanitation legislation is likely to be less well-developed. Sanitation is most often addressed in the broad context of environmental or public health legislation rather than by stand-alone, dedicated acts of law. For networked sanitation systems (sewage systems) regulatory frameworks are likely to exist at the local government level; this is often not the case, however, for *in situ* sanitation and for the disposal of the faecal sludge they produce, and in rural areas.

Formal providers of drinking water and sanitation services, whether public or private, should be well aware of the national legal framework within which they operate, and the opportunities and the restrictions it entails. Informal operators, on the other hand, may be ill-informed about legal aspects and are less likely to have easy access to the relevant information. One objective of legal reform in response to the new human rights obligations will be to bring these informal operators into the legal framework and convey clear and understandable messages to them.

In reformulating legal texts, clear and accurate definitions of the human rights criteria and principles are of the essence. Any ambiguity will lead to misunderstandings among actors about their roles and responsibilities, and to confusion among the rights holders about what they can expect from national and local authorities and from service providers. Such ambiguity will also leave the responsibilities of the rights holders less than clear.

It is one issue to review the existing legal framework pertaining to drinking water and sanitation services with a view to possible human rights reforms, it is another to explore how the human rights principles introduce linkages to areas of legislation traditionally not considered of predominant relevance to water and sanitation services. For example, legislation on land tenure and the associated entitlements

or obstacles to water connections and sanitation services take on more prominence in a human rights context. Or, another example, requirements for gender-segregated sanitation facilities in schools and health centres may become an issue requiring specific new legislation. Legislation for environmental and health impact assessment of development policies and projects may contain elements on public participation and mechanisms to achieve this (such as public hearings), which can be incorporated into the planning component of water resources development and into the process of formulating drinking water and sanitation master plans. Legislation in support of other human rights objectives, for example health, can be gleaned for lessons to be learned and applied to drinking water and sanitation laws in relation to equality and non-discrimination, accountability, participation, sustainability and transparency.

In a few countries the first step towards creating a legal framework for the HRWS has been to enshrine the rights within the national constitution. The Republic of South Africa is an often-quoted early adopter of the HRWS as part its new 1994 Constitution, admittedly at a unique moment in the country's history (see Box 3.2). Other countries, such as Kenya (see Box 4.2), have gone through a process of legal and regulatory reform before anchoring the achievements in the country's Constitution. In as much as operators can influence the legislative process through their participation in a national coordinating body or by lobbying parliamentarians, it is recommended they aim for the formulation of sectoral legislation first, as this will have an immediate practical impact. This recommendation does not want to play down the importance of including the HRWS in the constitution (the ultimate anchor and cross-sectoral

Box 4.2 Legal and regulatory evolution in Kenya

Kenya's Water Act took effect in 2002 and establishes and defines the duties of the Water Resources Management Authority, regulates the ownership and control of water and makes provision for the conservation of surface and groundwater and the supply of services in relation with water and sewerage[6].

Every water resource is vested in the State, but subject to any rights of user granted by or under this Act or any other written law (section 3). The Minister shall have control over every water resource in accordance with provisions of this Act (section 4). The Water Resources Management Authority is established under section 7 as a body corporate. […]. Remaining provisions of Part III concern public water use schemes and community projects for use of water and drainage of land, the approval of use of water (water rights), drainage and waterworks, and the conservation of groundwater. A Water Services Regulatory Board is established under section 46 as a body corporate. The Board shall issue licenses for the provision of water services, provide standards for such services and carry out other functions in relation with water supply outlined in section 47. The national water services strategy adopted under section 49 shall provide for a national monitoring and information system on water services (section 50). The Minister may constitute Water Services Boards under section 51. These Boards shall provide water services or delegate functions to water service providers (sec 55). Other provisions of Part IV concern rights and duties of holders of licenses to provide water and some other matters relating to water supply […].

(continued)

[6]http://faolex.fao.org/cgi-bin/faolex.exe?rec_id=029540&database=faolex&search_type=link&table=result&lang=eng&format_name=@ERALL.

Box 4.2 Legal and regulatory evolution in Kenya (continued)

In an interview in October 2013, engineer Robert Gakubia, Chief Executive Officer of the Water Services Regulatory Board (WASREB), reflected on the evolution of legal and regulatory frameworks in Kenya. Here follow some excerpts:

> *[…]*
> *[After the Act took effect in March 2003] of course we set up the institutions, the separation of different roles, separating policy, regulation and service delivery. The Act improved the accountability mechanisms by clarifying roles and responsibilities. Its implementation was guided by human rights principles. The message to the institutions was very clear on what they were supposed to be doing. […] In Kenya we have a multiplicity of oversight agencies, which on the one hand is good, because they also check on each other, but on the other hand people might complain that there is so much caution. From the situation we were coming from this scrutiny was very important and I am talking from personal experience—I have been a public officer for all my life and I cannot tell you how important it is to build accountability which has not been there. This was the reason why all these institutions were created with very clear separations. So the resistance was, of course, expected, but little by little we have built the critical mass to drive the change. Now, people are getting to understand the meaning, because a lot of the principles that guided the reform are now in the Constitution. You simply have to operationalize those principles, so the Constitution comes in to enhance and strengthen the work we have been doing in the reform. You may know that Kenya declared water a human right as a first step of implementing the national strategy. Now the Constitution requires that every public policy has to be based on human rights principles. […] [The legal and regulatory framework] actually developed and evolved step by step. [When human rights were mentioned], I used to say: of course, people have a right to life, even by the Constitution, but it was important to say it explicitly for water and sanitation, because now people start to ask questions such as who should deliver this right, and by asking those questions they become more aware of the responsibilities the State, the various State agencies and other actors have. The responsibility was, at the time, with the Ministry of Water Resources and we set up a team, the Water Sector Reform Secretariat. That team was responsible for driving the reform process, of course with political support. They made sure when conflicts arose they were addressed and sorted out through capacity development, so the institutions could understand why we need this and why we have to do it like this [At the start] there was a mix of engagement and of some trepidation or even fear. But to a large extent that had to do with people feeling comfortable, people being inside their comfort zone. But you see, when we started questioning performance, then they were forced outside of their comfort zone. We were questioning: are you really performing, who are you responsible for, these were the kind of questions and then they realized, hey, we need to ask ourselves these questions. And I continuously stress the point that this is where the Constitution has helped us: its adoption in 2010 introduced the articulation of the national values and principles of governance and a comprehensive bill of rights. Because the Constitution is very clear that if a right is not being met, then the State has the burden to prove that it cannot meet the right for some particular reason. And that is when the State itself has to start questioning its way of working, so the allocation of resources and the allocation of responsibilities become issues of which they realize they require monitoring to see how best to deal with them. […]*

In a post-script in January 2016, Robert Gakubia adds: *Over the past two years we prepared a draft Water Bill which was passed by one House of Parliament in July 2015. It is now being deliberated in the other House of Parliament. The bill retains and emphasizes the strong role for regulation in water service delivery. A number of contentious issues remain, primarily because of the political devolution brought about by the Constitution of 2010. These issues have to do especially with the role of some institutions under devolution (water services were devolved to the counties) and, not least, whether regulation should be implemented at sub national [county] or national level. This being a political process there are political dynamics as well. In any case, for the successful implementation of the progressive realization of the right to water and sanitation, an effective regulatory framework is essential but not sufficient on its own.*

Sources: FAOLEX—the legislative database of the Legal Office of the Food and Agriculture Organization of the United Nations; Robert Gakubia, personal communication.

reference point), but the process of constitutional change can be lengthy and the adoption of laws for rapid application may have a more immediate impact on progressive realisation.

The legal status of water operators may also need review to identify situations where it unnecessarily puts constraints on opportunities to pursue human rights objectives. In the majority of cases, the legal status will be straightforward—formal operators are either public or private entities, regulated by public authorities. In some cases, however, water and sanitation services are provided by international or local NGOs or by cooperatives, whose legal status and its implications may be less transparent or do not fit a standard mould. For example, the biggest operator in the rapidly expanding city of Santa Cruz de la Sierra in Bolivia, Saguapac, is a cooperative with mixed public and private characteristics, and it is expected that updates in its legal status will open new opportunities for initiatives in support of the HRWS.

A legal framework for the HRWS will have specific policy implications. The resource base of institutions with a responsibility to act will need careful consideration. In many countries, this will imply allocation of funds to local governments and to water authorities.

In this context, pro-poor policies are important. Several countries have pro-poor policies that aim to enhance the possibility for vulnerable individuals living in marginalised communities to meet their basic needs. This is often accompanied by legal provisions for national or local funding to support initiatives addressing the needs of the poor. A review of national legislation provides an opportunity to assess the effectiveness of pro-poor policies and laws in addressing the HRWS. The affordability criterion, in particular, can be highlighted in this connection, by focusing on the development and dissemination of low-cost solutions, by strengthening technical and vocational training, by promoting financial incentives, direct subsidies (for example, to cover connection costs for the poor) or cross-subsidies, and by investing in monitoring and surveillance systems to strengthen the database on access and availability in informal peri-urban settlements and among the rural poor. Service providers can be supportive of such initiatives as part of their social responsibility programmes, by indicating where financial incentives would be most effective, by promoting a judicious use of subsidy mechanisms, by providing technical cooperation to informal providers and by complementing monitoring data with any relevant information they may have at their disposal.

In the same vein, water and sanitation operators in high- and some middle-income countries can play a role in initiatives to implement policies of their government's bilateral cooperation agencies aimed at promoting the HRWS. In the context of international cooperation they can provide valuable technical inputs to enhance capabilities and capacities in low-income countries to extend water and sanitation services, with special attention to equality and non-discrimination. The model of Water Operator Partnerships (WOPs) can be applied usefully in this context. Similarly, the functions of regulatory bodies in developed economies can be emulated, appropriately adapted, to low- and middle-income settings, through international cooperation.

In the narrower context of regional cooperation, countries sharing more or less the same set of challenges and opportunities can agree on a joint approach towards developing legal frameworks that set the standards and norms for progressive realisation of the HRWS. An example of such a catalysing regional agreement is the earlier mentioned Protocol on Water and Health of the UNECE[7], under which at least 25 governments, including those in eastern Europe, the Caucasus and Central Asia (where, in 2006, an estimated 140 million people lacked a household connection for drinking water, 41 million lacked access to improved sources and 85 million to improved sanitation facilities), have signed up to

[7]http://www.unece.org/?id=2975.

objectives and criteria largely overlapping with those of the HRWS. Regional agreements are particularly useful to emphasise the legal, regulatory and programmatic needs of small-scale community or private operators, whose voice may not necessarily be heard at the national political level, but whose cumulative potential to contribute to progressive realisation at the regional level is hard to ignore.

4.4 INSTITUTIONAL ARRANGEMENTS

Legal reform to accommodate the requirements for progressive realisation of the HRWS criteria and principles will have to be made operational through a comprehensive agreement on roles and responsibilities. The level of complexity to arrive at such an agreement will depend on the specific institutional architecture in each country. As a rule, the responsibilities for drinking water supply are well defined but fragmented; those for access to water for unserved people are often non-existent. Responsibilities for sanitation are less well defined and their sectoral affiliation is often unstable. Legal reform will create opportunities to overcome these weaknesses. Institutional arrangements will help to bridge the gaps and enhance communications to improve coordination and eliminate overlaps.

The legislative and executive branches of national government must ensure throughout the country and for all population groups that the protection and progressive realisation of each HRWS principle and criterion is allocated to a clearly identified entity, and that this entity has adequate means of implementation at its disposal. The relation between governance structures and responsibilities is not always obvious. Lack of clarity in the allocation of responsibilities may result in HRWS issues ending up unattended to. For example:

- Normally, a public authority is responsible for organizing drinking water supply and sanitation services to households in a territory, including the progressive expansion of such services – however, it is not a foregone conclusion that they will also initiate access to safe drinking water and sanitation in schools, hospitals, and other public buildings. Even more challenging is the question who takes responsibility for the obligation to make safe drinking water and sanitation services available to the inhabitants of informal settlements, whatever their legal status may be.
- Drinking water quality and safety are usually the responsibility of the Ministry of Health, but progressive realisation with respect to this HRWS criterion remains in most cases the responsibility of the public authorities in charge of organizing water supply services.
- Affordability may be ensured through tariffs decided by the public authority responsible for organizing drinking water supply, but this responsibility may also be part of the remit of other institutions, such as the Ministry of Social Affairs, the Ministry of Finance or a local government agency (see Box 4.3).

In emergency situations a clear allocation of responsibilities will be of crucial importance. An adequate, reliable and satisfactory service delivery may be disrupted for unforeseen circumstances (a burst pipe, toxic pollution of the water source, power failure, or a natural disaster such as an earthquake, landslide, volcanic eruption or flood). A coordinated preparedness plan formulated by the operators (or, optimally, by an association of operators) must define which public body is responsible for alternative water supply to the population for different types of disruption: the local authorities or a national emergency scheme. Any such preparedness plan should include considerations that address the criteria and principles of the HRWS—an emergency situation is not an excuse for overlooking human rights issues.

Focusing on the perspective of service operators and regulators, several options to strengthen institutional links have to be assessed. In the next sub-section, the emphasis will be on operators, and it is followed by a sub-section on regulation.

Box 4.3 Examples of pro-poor funds from Chile, France and Zambia

In urban Chile, water and wastewater services are supplied by regional water operators under the responsibility of the Ministry of Public Works. A solidarity mechanism that targets the poor is funded by another ministry and operated by municipalities fully independent from the service delivery chain.

In France, the delivery of public water and wastewater services is the responsibility of municipalities. A type of subsidy, referred to as a solidarity mechanism, allows for paying water bills for those people who are the most financially deprived. This mechanism is partly funded and fully operated at the departmental level, the next level of administration above municipalities.

In Zambia a Trust Fund was established to support extension of services to the urban poor by the deployment of public standpipes at kiosks. The funds to establish the Trust Fund came from development partners, government and water utilities. A solidarity levy on the water bills of all customers served to generate funds for sanitation extension among the urban poor.

Sources: Gérard Payen (Chile, France), and Osward Chandra (AfdB; Zambia), personal communications.

4.5 SERVICE DELIVERY

In many countries, public and private operators are organised in a national association (just like many at the international level are organised in IWA and/or in AquaFed). Such national associations should include the HRWS on their agenda and review the implications for their members' roles and responsibilities. This will ensure a common and consistent approach in operators' interactions with other actors. Where such a national association does not yet exist, the HRWS requirements may provide an incentive to establish one.

A link with the national coordinating entity charged with creating and strengthening an enabling environment for the progressive realisation of the HRWS will be critical. It is essential that service providers actively participate in this debate, to contribute sound evidence and their knowledge of ineffectiveness or perverse effects of existing frameworks and arrangements, to represent their interests, and to ensure their roles and responsibilities are clearly and correctly defined. They have important experience and expertise to contribute to the debate. This coordinating entity will also provide a neutral platform on which operators can interface with public authorities, regulatory bodies and civil society in a transparent way.

Private sector providers of drinking water supply and sanitation services are licensed by the national, regional or local authorities, and therefore have an official link to government. Increasingly, such licenses take the form of performance contracts which offer an opportunity to include actions that contribute to the realisation of HRWS targets. Even if they are not in the form of performance contracts, the national authorities must include HRWS obligations in the licenses, in line with their obligations (and eventual accountability) as duty bearers. How this translates into specific actions within operators' essential functions is a question addressed in Chapter 6.

In addition to the links to the licensing authority, which may be a water ministry, a department of local government (for municipality-level services) or a regulator, operators need to establish links with other national or local authorities. On general human rights issues this will be with ministries of foreign affairs or justice, on issues of affordability with social affairs ministries or social affairs departments at the local government level, on issues of drinking water quality with ministries of health or municipal health

departments, and on issues of water resources with ministries of the environment or their counterparts at local government level.

Once areas of cooperation have been identified and agreed, a useful way of confirming them is through a memorandum of understanding that defines scope, timeframe, responsibilities for specific actions and resource implications.

Finally, the link between service providers and their customers also can be considered under institutional arrangements, especially in countries where there is a strong consumer protection agency. Any contract between service provider and customer should stipulate the conditions of service delivery, the rights and responsibilities of both parties and complaints mechanisms that define recourse, redress, arbitration and sanctions. These contracts also offer the opportunity to clearly lay out the responsibilities of users as rights holders in the context of HRWS.

In order for any of these contracts or memoranda not to become obstacles to the HRWS themselves, they should be periodically reviewed and updated. A level of flexibility has to be built into the framework of institutional arrangements, so it can respond to the expansion or decrease of populations, to trends in long-term water availability, to changing weather patterns, to the gradual increase of service levels linked to general socioeconomic progress and development, and to new technologies creating new delivery options. Figure 4.1 summarises the tasks and relationships of the actors involved.

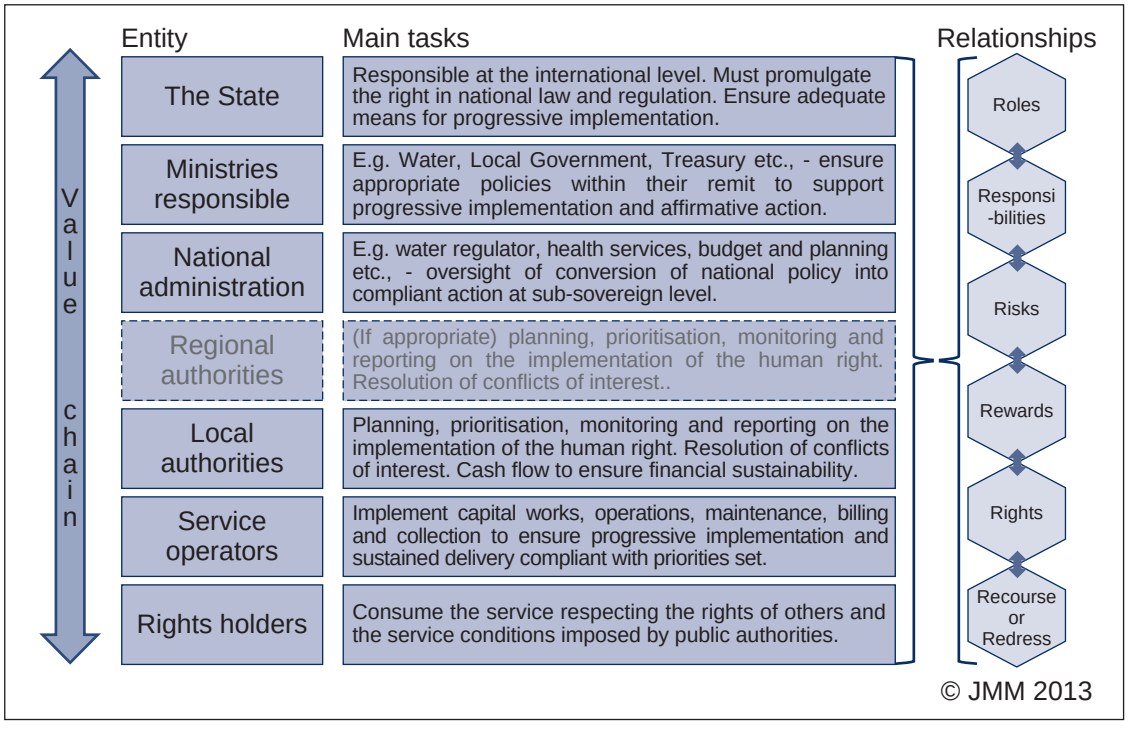

Figure 4.1 The value chain for realising the rights to water and sanitation. Source: AquaFed, as presented by Gérard Payen at the 3rd IWA Water and Development Congress and Exhibition, Nairobi, October 2013.

4.6 REGULATION

The roles and responsibilities of regulatory bodies or "regulators"[8] (economic, drinking water quality, environment) have a strong bearing on the way operators deliver their services.

The executive branches of national and local governments establish regulations within the national legal context. Regulators interpret the laws and regulations in practical terms and are key to implementation, monitoring, reporting and enforcement. In the drinking water and sanitation context, economic regulators are concerned with finance and tariff setting; in so doing, they are in a position to influence the planning function. They have to ensure that tariffs are affordable, but at the same time that the required investments can be financed, and that adequate provision is made for maintaining serviceability of systems for sustainability to avoid regression. In some countries, for example Portugal, they also have a capacity-building role. Drinking water quality regulators can be part of an economic regulatory body, but more commonly are part of the ministries of health. They advise governments on appropriate interim and long-term standards, promote water and sanitation safety plans and ensure that effective monitoring is in place. They have a key role in reporting drinking water quality and in the investigation of incidents. In many low- and middle-income countries, regulator surveillance is limited to urban areas. Environmental or specific wastewater regulators monitor discharges to waterways and are important in reducing the impact of waste on the quality of drinking water sources and the environment.

The role of regulators goes beyond that of mere policing. Strengthening the evidence base through targeted studies helps the design and adjustment of norms and standards. For example, studies by the Bolivian regulator led to the introduction of the "tarifa justa", a tariff system that takes into account affordability and capacity to pay. The information collected by regulators can also feed back into the legislative system to support the evolution of policies and laws. In Kenya, the regulator reviews consumer profiles together with the water utility, and decides whether a raise in tariffs is feasible, how bill collection can be made more efficient and where water kiosks can fill the gap for those who are not connected to the distribution network and can only pay in small instalments on a day-to-day basis. Clearly, any special tariff to accommodate the affordability question will have to ensure that full cost recovery, essential for sustainability, is addressed effectively. In the province of Santa Fé in Argentina, the regulator has instigated a solidarity programme in urban areas with low sewerage coverage, where inhabitants join in a monthly lottery—the community is mobilised around a public works programme implemented by themselves and the lottery determines each month which community members will get a connection to the sewerage system.

The 2002 Water Act of Kenya has bestowed the regulatory body WASREB with a list of responsibilities that include the following:

- to set and verify minimum service levels for adequate service quality;
- to set tariffs for affordability and financial sustainability;
- to institutionalise consumer engagement through citizen volunteer groups for a strengthened consumer voice;
- to establish corporate governance standards in operator enterprise that foster efficiency and professionalism;

[8]The IWA Lisbon Charter on public management and regulation defines a regulatory authority, a regulatory body or regulator as a public authority responsible for applying and enforcing standards, criteria, rules or requirements—which have been politically, legally or contractually adopted—exercising autonomous authority over the Services, in a supervisory capacity—see section 5.4.

- to provide guidance on utility clustering for the commercial viability of services; and
- to carry out performance monitoring and public reporting for transparency and for the accountability of the various actors in service provision.

Even with this comprehensive package of responsibilities, WASREB now has to further increase its efforts, in particular in the area of monitoring, to ensure that the information it collects reflects the access situation on the ground, allows improved targeting of efforts to extend services or increase service levels in underserved areas, and to intensify public reporting on progress in realising the rights.

Increased monitoring and surveillance require the development of reliably measurable indicators. Many countries have been developing and measuring indicators for decades; this has been stimulated further by the need to monitor the drinking water and sanitation target during the period of the Millennium Development Goals (2000–2015) and which is now expected to accelerate and intensify in response to the HRWS and to the efforts towards the Sustainable Development Goals (2015–2030).

The interaction between regulators and service providers is a delicate one. In a context of mutual trust, regulators must be able to sanction operators who fail to meet the norms and standards, but they should also be open to the capacity development needs of operators and support them in efforts to improve performance.

Importantly, regulators should provide guidance on assessing and managing resource needs incurred by legislation and regulation. For financial resources this means working to ensure that budget appropriations accompany new laws, that there continues to be support for regulatory functions, and that cost recovery is strengthened with a view to better asset management. For human resources it means regulator engagement in human resource analysis, addressing gaps and redundancies in operators' human resource base, and the identification of new human resource needs. The recent IWA analysis of human resources gaps in drinking water, sanitation and hygiene provides evidence of the needs in terms of education, training and staff deployment to support efforts towards universal coverage (IWA 2014; see Box 4.4).

In their holistic review of water utilities' structures and operations, regulators must ensure the human rights perspectives are addressed throughout, in assessing performance, efficiency, governance and the quality of services delivered. This is particularly important with respect to types of governance where members of the senior management or board members are political appointees without specific professional qualifications in drinking water and sanitation service provision.

Box 4.4 Highlights from an IWA analysis of WASH human resources gaps and needs

- In 10 countries reviewed there was a shortfall of 778,000 trained water and sanitation professionals needed to reach universal coverage.
- Mozambique needs to double the number of trained water professionals, an additional 11,900 people; 62% of the shortfall was in the sanitation sector.
- Ninety-eight per cent of Ghana's human resource shortfall was in the sanitation sector.
- Women are massively underrepresented in the sector, on average on 16.7% of the water and sanitation sector workforce in 15 countries was female.
- Bangladesh, a country close to achieving Millennium Development Goal (MDG) water and sanitation targets, requires an additional 44,000 water sector professionals to reach universal coverage.

Source: IWA 2014.

Examples of regulations to be contemplated include the following categories:

Quantity: the minimum amount of safe water to be accessible (1) at home, (2) at the work place, (3) in public buildings (schools, hospitals, prisons), (4) when the public service is disrupted (power shortage, burst pipes, flooded installations) and (5) in case of water scarcity (drought, disaster).

Availability: for beneficiaries of public water networks, the minimum number of hours a day during which water should be running from the tap (this may differ between households and collective standpipes).

Quality: the characteristics of water required for it to be considered safe for public consumption (number and conditions of quality tests). Measures to cope with public water supply that is unsafe (e.g. boiling alerts). Precautionary actions if one of these characteristics is not satisfactory (excess of salt, arsenic, fluoride).

Affordability: set appropriate, contextual definitions for "affordable" and "unaffordable". Define conditions under which individuals or households are entitled to apply for a subsidy to make their water supply affordable to them.

Access: when a water mains bursts or electric power is interrupted, so is public water supply. This may last days or even weeks. What alternative service is guaranteed? Is the safety of the water that is distributed/sold by water tankers guaranteed, are arrangements in place for the delivery of bottled water?

Access: where a public water or wastewater piped network goes through an inhabited area, individuals should know if they have the right to be connected to this network (and under what conditions).

Accessibility: in urban settlements, the establishment of a maximum distance (or number of floors) between a household and the closest source of safe water.

Accessibility: in isolated unserved areas, define the conditions for individuals to get water from a neighbouring community.

Similarly, in the strengthening of regulations for sanitation and wastewater management, these HRWS criteria-related categories need to be considered.

Finally, water utilities and regulatory bodies can strengthen their commitment and that of their staff to the realisation of the HRWS by adopting a collectively agreed code of practice, such as the IWA Bonn Charter for Safe Drinking Water[9]. In fact, the Bonn Charter, although focused on issues of drinking water quality management and formulated before the negotiations on the HRWS were concluded, contains ample reference to relevant issues. It does refer explicitly to rights issues when describing the roles and responsibilities of governments, and in its conclusion states, "Access to good, safe drinking water should be the right of every human being". The Charter further cites accountability, transparency, progressive realisation, affordability, accessibility and availability among its principles and in its operational paragraphs. It lists obligations of governments, water suppliers, regulators and consumers. The IWA Lisbon Charter on Public Policy and Regulation for Drinking Water Supply, Sanitation and Wastewater Management was adopted by 85 government representatives at the 7th World Water Forum in Korea in April 2015. It is introduced in more detail at the end of Chapter 5.

Chapters 5 and 6 go into further depth on how the actions responding to these and other issues will be incorporated into the operational and institutional framework and into the essential functions of service providers and regulators.

[9]http://www.iwawaterwiki.org/xwiki/bin/view/Articles/Bonncharterprinciplesforsafedrinkingwater.

Domestic water use at a pump in a village near Luang Prabang, Lao People's Democratic Republic (LPDR) © Robert Bos, IWA

© Catt Liu/unsplash.com

Chapter 5 Incorporating the human rights to water and sanitation into the operational and institutional framework of service providers and regulators

SYNOPSIS

At the core of progressive realisation of the HRWS is the way by which service providers put into practice the human rights criteria and principles in their day-to-day operations. This chapter introduces the various models of service delivery and the associated institutional arrangements specific to promoting the HRWS. It provides a checklist of issues that drinking water and sanitation operators may want to use in the process of restructuring their organisation and in negotiations with national authorities. The chapter concludes by addressing the framework for regulators to play their role in relation to respecting, protecting and fulfilling the HRWS.

5.1 INTRODUCTION

Governments are the ultimate duty bearers for the obligations related to the human rights to safe drinking water and sanitation. Yet, their direct role in service provision may be limited or non-existent. Their principal task is to create the enabling environment to support other actors in optimally performing the tasks related to their responsibilities for the common good of drinking water supply and sanitation. The HRWS does not prescribe or even express a preference for a model for service delivery, it simply demands that government actions, including the actions delegated to third parties, are carried out in compliance with the HRWS criteria and principles.

The key principle of progressive realisation of the HRWS (see Annex A) does not only imply a steady and tangible reduction in inequality and discrimination in service delivery, but also a maximum resource allocation to the actions supporting this progressive realisation. This applies to direct government actions and delegated actions alike.

5.2 SERVICE PROVISION MODELS

The nature and size of entities engaged in water and sanitation service provision show a high level of diversity.

It is the norm, in any given territory, that a public authority has the overall responsibility for the delivery of drinking water/sanitation services. This may be a ministry, another institution part of the central Government, a department of a local government or a dedicated institution such as a water board. Its primary role is to establish a policy framework, formulate regulations, fix targets, priorities and tariffs, and to ensure that these services are delivered effectively to end-users. The authority and capacity to

organise public water services is usually attributed to this entity by law. Obviously, it has to respect the HRWS. The public authorities with the overall remit to ensure protecting and fulfilling the different criteria and principles of the HRWS may be different from the public authority responsible for service delivery, although the latter usually plays a major role in progressively extending access to all.

Different types of operator contribute to the delivery of these services. In a considerable number of areas the population receives services through more than one, as, for example, in the case of a public utility that mandates another operator to undertake part of the service or one operator selling water in bulk to another.

From the perspective of the HRWS, the type of public authority responsible for delivery of the services falls into one of three categories with respect to the effective supply of water/sanitation services. The nature of the relationship between the responsible public authority and the water operators contributing to delivering the service determines the differences between these three categories:

(1) the public authority delivers these services directly to water-users. In this case, the authority and the operator are the same legal entity;
(2) the public authority mandates (or authorises) and regulates a third party, public or private, to deliver the service (partly or totally) to water-users and provides it with the appropriate instructions;
(3) the service is delivered by operators whose activity is not organised and not regulated (or only loosely regulated) by the public authority.

Service providers pertaining to the first two categories act with an official mandate. They are referred to as “formal operators”. Service providers in category (3) are referred to as “informal operators”.

From the HRWS perspective these categories also differ, because the actions to be taken by the public authority responsible for water/sanitation services are different (AquaFed 2010):

- Those in the first category must satisfy by themselves the State’s obligations to fulfil the HRWS progressively while respecting it; and, protect it where it is already satisfied.
- Those in the second category must ensure that the State’s obligations to fulfil the HRWS are satisfied progressively by the operators under their mandate; ensure that these operators respect the HRWS; and, protect the HRWS where it is already satisfied.
- Those in the third category must protect the HRWS and ensure that the HRWS is respected by informal operators. However, this authority often lacks the capacity to enforce the expansion of the service to all, as required by progressive realisation of the rights.

There is also considerable diversity in the legal status of formal service providers. They can be State-owned and managed, pertaining entirely to the public sector, they can originate from investment with private capital, pertaining entirely to the private sector, or they can be based on a model anywhere in between these two ends of the spectrum, including parastatal organisations, city-owned corporations, public–private partnerships or customer-based cooperatives. In addition, non-governmental organisations and community-based organisations can fill the gaps for communities where services are not yet provided by either public or private entities. Globally, service providers with full or partial State ownership are in the majority.

Just as there is a great diversity in organisational and business models, there is also diversity in scale and levels of decentralisation: apart from situations where the provision of water and sanitation services is a State monopoly, there are some countries with a limited number of regional providers, and others where the responsibilities for service provision have been devolved to the local or district level, resulting in large number of relatively small providers. Yet, all these models fit within legal and regulatory frameworks set up by governments, and all contractual arrangements, licenses or concessions to provide

water and sanitation services also have to fit within these national frameworks, or within the local legal/ regulatory frameworks that are derived from national frameworks.

In addition, informal service providers – individuals or small informal enterprises – often have the largest part of their customer base among marginalised, vulnerable or underprivileged communities, where neither public nor private organisations, nor even NGOs, have an outreach. There are also informal service providers in potentially wealthier areas where there is no public service. Services organised by property developers independently from public networks, by industries in towns built for their workers, or by non-regulated NGOs and CBOs fall into this category as well. The informal service providers are probably hardest to engage in actions supporting the progressive realisation of the HRWS. Yet, it is also the group most critically linked to the households and individuals suffering from inequality and discrimination, such as those in informal settlements in peri-urban areas, often outside of municipal jurisdiction or concessional supply area. By definition, they operate outside of existing regulatory frameworks. Their operations are tolerated to a varying extent in different countries. Tolerance is inspired by the recognition that they provide services that would otherwise be lacking - services with a reasonable level of reliability, although often not adhering to established tariffs and quality standards.

5.3 CATEGORIES OF INSTITUTIONAL ARRANGEMENTS

Similar to the wide spectrum of organisational models, a range of institutional arrangements make these models work. The State, as the duty bearer for progressive realisation of the HRWS, must ensure its obligations are effectively allocated, accompanied by the provision of effective jurisdiction, capacity and capability development. In essence, the relevant public authority must organise the work of the formal providers under is mandate effectively.

The simplest situation is where the provision of water supply and sanitation services is the exclusive responsibility of a government organisation within or affiliated with a ministry. In this case, the mandated Minister will have a direct say over the incorporation of HRWS criteria and principles into the management processes of the organisation, to ensure government obligations are adequately met. There is an important role for parliament in such cases, to ensure that the political leadership adheres to the HRWS criteria and principles. In some settings, parliaments may establish independent verification mechanisms of a temporary or permanent nature. The role of parliament also opens up important lobbying opportunities for providers of water and sanitation services, including NGOs, to promote HRWS issues.

This arrangement can also be effective at a different level of government, when the provision of water supply and sanitation services is the exclusive responsibility of a local government department. In this case it is crucially important there is an effective chain between central government (usually the Ministry of Internal Affairs or of Local Government), the local government and the specific department in charge of service provision, in terms of transfer of information and resources specific to the progressive realisation of the HRWS.

One step away from this is the parastatal organisation, with the status of responsible authority, operating independently from any of the ministries, but under the supervision of a government-appointed board. The mission, roles and responsibilities of the board and management will be defined in a constitution or charter compatible with the relevant part of the legal framework. The board oversees whether the organisation's operations are carried out satisfactorily within the boundaries of the given license or mandate. The national level (government and parliament) has the possibility (and in fact, as part of its international commitments, is obliged) to include HRWS as an issue to be regularly scrutinised by the board, so as to ensure that effective steps in progressive realisation are being made by the management, and no regression occurs.

Public–private partnerships (PPPs) are arrangements that ensure the delivery of public services in a defined territory, funded and operated through a partnership between the relevant public authority and one or more private sector entities. PPPs for the provision of water supply and sanitation services are based on contractual agreements between the responsible public authority and one or more private sector entities, covering service obligations (such as tariffs), operational responsibilities, the capital investment shares of all parties, as well as the arrangements for sharing often substantial financial, technical and operational risks. Public sector operators acting in competitive markets may also be the "private party" of a PPP contract.

In many instances the public authority responsible for organizing services in a territory mandates a public entity that is not under its direct legal control. For example, a local government may use a public utility organized by another local government or by several local governments. In that case the responsible authority provides a licence to operate or signs an agreement with the external utility. Another example is that of a private entity that owns the water and sewerage infrastructure and delivers services according to a licence/authorization issued by the responsible public authority (as is the case for water supply and wastewater management in England and Wales, or in Chile).

Within the contractual arrangements, governments, as the duty bearers for the HRWS, have to ensure not only that the relevant criteria and principles are addressed as part of the process of progressive realisation, but also that government obligations are transferred, as appropriate, to the private sector partners. The concept of maximising resources for progressive realisation of the HRWS is critical in this case. Efficiencies gained should translate into a more rapid progressive realisation. At the same time, the various mechanisms open to government to contribute to the PPP also offer opportunities to specifically promote HRWS objectives, in a way that helps overcome financial obstacles that may otherwise impede affirmative action by the private sector partners. Any HRWS-specific arrangements will have to be anchored firmly in the PPP contractual agreement.

The negotiations about the objectives, scope and detailed contents of the license/contract should leave ample room to consider the effective incorporation of HRWS issues. The fulfilment of government obligations towards HRWS can be supported by the incorporation of service conditions and targets, infrastructure expansion objectives, rights-specific performance indicators (i.e. reduction in inequalities), dedicated reporting as well as tariff mechanisms of (cross)-subsidies that benefit the underprivileged and people living in remote areas.

Cooperative utilities (entities operating under a government concession, managed as a private enterprise but owned by the customers; example: Saguapac in Santa Cruz de la Sierra, Bolivia) are a special case with many similarities to the above categories, since the government has to impose HRWS obligations through a licence to operate. The case of Saguapac is a cooperative model based on a public–private arrangement: public for the property of the assets and private because the company's shares are owned by its customers. Its governance is rooted legally in the Bolivian General Law on Cooperatives. A major challenge in Santa Cruz (estimated population 2.4 million) is the expansion of sewage coverage, which currently stands at only 38% - from a human rights perspective this requires a focus on peripheral communities, but these fall outside the jurisdiction of Saguapac and the level to which it can perform functions for the smaller cooperatives operating there is limited by law.

The Handbook on Realizing the Human Rights to Water and Sanitation by Catarina de Albuquerque provides a checklist for government authorities of the HRWS issues that need to be addressed in negotiations over any contract, concession or licensing document, from the government perspective. It is presented in Box 5.1 because it is important that providers and regulators are aware of the checklist of recommended issues used by their counterparts at the negotiating table. A checklist developed for this Manual of considerations for agencies providing the services under whatever kind of contractual arrangements is presented immediately after this box.

Box 5.1 Checklist for national/local authorities

1. A clear definition of service providers' human rights responsibilities with respect to the human rights to water and sanitation.
2. Explicit integration of human rights standards, including:
   a. Water quality standards and targets that protect human health (as laid down in the WHO Drinking Water Quality Guidelines).
   b. Service level targets to be met, including affordability, accessibility, safety, acceptability, sustainability.
3. Performance targets that include delivering services to unserved and underserved areas, and specify investment plans to address inequalities in access between different areas.
4. Incentives to deliver services to disadvantaged areas or households.
5. Clarity on how tariffs or other charges are set. Clarity on pro-poor pricing arrangements, subsidies and alternative methods of payment, and protection for low-income households in times of economic or other crises. Disconnections permissible only after full review of reasons for non-payment, with a ban on disconnections due to inability to pay.
6. Relevant information about the service must be available to users, and transparency should not be undermined by commercial confidentiality.
7. Meaningful participation of those for whom the services are intended in decisions that will affect their enjoyment of the human rights to water and sanitation.
8. A clause obliging service providers to ensure training in the necessary skills and knowledge for municipalities and regulatory bodies to fulfil their regulatory roles.
9. Clarity about how profits for shareholders can be limited and are regulated.
10. Clear monitoring and oversight mechanisms that scrutinise compliance with the established standards.

Source: Albuquerque, C. de (2014) Realizing the Human Rights to Water and Sanitation: a Handbook by the UN Special Rapporteur Volume: Planning processes, service providers, service levels and settlements.

Utilities and other providers must abide by the HRWS and contribute to their realisation in their service area. This implies considering the HRWS both when they interact with public authorities and in their operations. The following checklist presents the issues that may be raised in contract/licence/mission negotiations with public authorities.

Checklist for utilities and other providers

1. Request a clear set of goals and policy objectives relating to the progressive realisation of the human rights to safe drinking water and sanitation, as appropriate within the overall remit of the organisation/enterprise.
2. Agree on performance standards and indicators that relate to these goals and to the HRWS criteria and principles, to monitoring compliance and progressive realisation in the service areas.
3. In situations with multiple service providers, request clarity on their respective roles in relation to the HRWS policy and obligations of public authorities.
4. Present an in-depth overview of the structure and functions of the organisation/enterprise to identify options for modification and strengthening in favour of the full integration of visible and effective HRWS actions, and establish a routine of periodic review of the structure and functions for further incremental improvements in this respect.
5. Emphasize the need for baseline surveys of coverage by the drinking water supply and/or sanitation services in the mandated area or area under jurisdiction, with a focus on marginalised and

underprivileged groups, informal communities and individuals/groups with special conditions (handicapped, elderly, HIV-positive individuals, homeless, institutionalised people).

6. Analyse existing baseline survey data to determine, for the various customer groups, which criteria and principles require priority attention and discuss these needs.
7. Present the options for corporate in-service training programmes to enhance awareness, knowledge and capacities with respect to the HRWS of all staff throughout the organisation/enterprise.
8. Request and define the context of community awareness programmes as part of the customer relations activities to educate current and potential future customers about the HRWS and in particular, their position as rights-holders and the implications in terms of rights and responsibilities.
9. Present options to strengthen essential support functions (human resources management, a monitoring system, a customer complaint mechanism, anti-corruption measures, liaison with national human rights authorities, with other relevant public sectors and with a possible national regulator) to ensure optimal resource use for the progressive realisation of the HRWS.

5.4 THE REGULATORY FRAMEWORK

The regulatory framework for drinking water supply, sanitation and wastewater management services is a combination of standards, criteria, good practice, rules and requirements that have to be respected by service providers, and of institutions that apply and enforce them. As defined by the IWA Lisbon Charter, regulations are established by the executive branch of government at central and local levels (see Chapter 4) to create, limit or constrain a right, create or limit a duty, or allocate a responsibility. Regulation can take many forms; drinking water regulation, for example, sets quality standards and norms, and good practice rules for those mandated to supply drinking water as a “common good” service. A regulatory framework is a set of government-decreed rules within the broader legislative framework.

As a mechanism to create, limit or constrain rights, regulations are a powerful tool available to governments in the promotion of the human rights to safe drinking water and sanitation. Past experience shows that regulations are not always used to their maximum potential or to the best advantage of all stakeholders. Specific challenges raised by national experts and regulators on drinking-water supply and sanitation include:

- regulations tend to be developed from an engineering and operational perspective, neglecting the public health perspective such as the exertion of authority for public health surveillance and associated responses;
- even in some high-income countries, regulations may be non-existent, incomplete and/or outdated;
- in the current integrated (“from source to tap”) risk assessment and management approach to ensure water quality there may be a disconnect between regulations for old-style drinking water supply, and regulations for the environmental safeguarding of water sources; and,
- the regulatory framework for drinking water quality may lack clarity regarding jurisdiction, legal mandates and authority, including gaps and overlaps.

Essentially, regulatory frameworks should be constructed in such a way that they support all State obligations with respect to HRWS implementation. Therefore, standards, criteria, rules or requirements that must be respected by service operators must be compliant with all HRWS criteria and principles and contribute to their progressive realisation. The fact that these were adopted for specific purposes without explicit mention of HRWS criteria or principles does not mean that they do not respect these criteria and principles. On the contrary, many existing regulations contribute to the progressive realisation of the HRWS, but this must be verified rule by rule. This is the task of Government and its regulatory bodies.

Furthermore, regulatory bodies should check that their own activities are compliant with all HRWS criteria and principles.

An example of such review is presented below. This relates to the regulatory framework of drinking water quality[10].

Many (but by far not all) countries have a regulatory framework and a corresponding regulator for drinking water quality. In some countries the functions of drinking water regulation are embedded in the functions of an economic regulator, who also covers drinking water tariffs. In some regions (Latin America, Europe) drinking water regulators are organised in regional associations.

In line with the recommendations of the WHO Drinking Water Quality Guidelines, regulation of drinking water quality at the point-of-use alone is inadequate and inefficient for a robust protection of public health. Multiple elements from source to consumers, including oversight and management, are key determinants of drinking water quality and their coordinated management plays an important role in protecting public health.

Therefore, the following elements of drinking-water quality management should be covered by regulations in order to safeguard public health:

Protection of Public Health

- Consideration of, and reference to, the WHO Stockholm Framework (WHO 2006) and WHO Guidelines for Drinking Water Quality (WHO 2011a).
- Adequacy of supply (i.e. quality, availability, accessibility, affordability, acceptability and reliability), including drinking-water quality standards.
- Surveillance for potential water-borne illness events to identify, as a minimum, those responsible for collecting and sharing information and responding to such events.

Source Water

- Source water protection, including pollution prevention (land use zoning and policies), protection zones of springs, protection of well-heads, application of codes of practice, and watershed management.
- Water abstraction and use, such as permits allowing for the withdrawal of water from surface and groundwater sources, protection from over-withdrawal and associated tariffs.

Infrastructure

- Materials and fittings, including treatment chemicals, materials that come into contact with water from the point of collection to the point of distribution, water meters and water treatment devices used in households.
- Commissioning and decommissioning of wells, boreholes, water treatment facilities and other infrastructure.
- Design and construction of water treatment facilities and plumbing systems, including environmental impact assessments.

Water treatment and delivery

- Minimum treatment standards, including identifying allowable concentrations of substances and setting performance targets, based on assessment of source water quality and processes and practices used to treat the water.

[10]http://www.who.int/water_sanitation_health/dwq/sheet1.pdf?ua=1.

- Operation and maintenance of drinking water supplies to confirm that the chain of supply is operating properly and that appropriate water quality standards are met.
- Occupational health and safety programmes to protect workers from occupational hazards, such as handling and using chemicals and working in confined spaces.
- Standards for delivering non-piped water, including bulk transportation and storage.

System assessment and enforcement

- Verification and operational monitoring, for example testing of finished water quality by authorised laboratories to confirm compliance with targets.
- Creation of a key performance indicators system linked to benchmarking.
- Inspections of, for example, drinking water supplies and installations, to identify hazards and assess risks, as part of the water safety plan (WSP) audits (WHO/IWA 2015).
- Consumer satisfaction: feedback from consumers whether drinking water is safe, acceptable, physically accessible in sufficient quantities and affordable, and the service is reliable.
- Enforcement powers, including authority to act and penalise non-compliance with regulations.

Operation and management procedures

- Codes of practice, training and, where appropriate, certification of operators, inspectors, engineers, laboratories, plumbers and other relevant stakeholders.
- Emergency planning and response which, as a minimum, defines roles and responsibilities in the event of possible and confirmed water contamination and water-borne illness events.
- Health promotion and education, for example for water supply managers and operators, and households and other water supply users on the treatment and storage of drinking water.
- Record keeping and information sharing.

Clearly, the above listing covers many of the criteria and principles of the HRWS in a conventional sense of water quality and service levels, but does not address the issues of equality, non-discrimination, accountability, sustainability, transparency and stakeholder participation. It is therefore important that drinking water regulators review their functions for the further incorporation of HRWS considerations.

In 2011, the WHO-hosted International Network of Drinking Water Regulators (RegNet) agreed on a statement concerning the HRWS (WHO 2011b, page 24). The statement's section reflecting the regulators' perspective on the implementation of actions in support of the rights is presented in Box 5.2.

Finally, the recently adopted and endorsed IWA Lisbon Charter[11] complements these recommendations, in Article four, with a list of HRWS-relevant responsibilities for regulatory authorities:

> "Article four of the IWA Lisbon Charter for Guiding the Public Policy and Regulation of Drinking Water Supply, Sanitation and Wastewater Management Services.
>
> Based on the principles of competence, professionalism, impartiality, accountability and transparency, the corresponding activities of regulatory authorities with relevance to the human rights to water and sanitation are as follows:
>
> 4.1 Ensure that at all stages, from design and tendering processes, contracting, service management, contract amendment and termination, are carried out in strict compliance with legislation and with

[11]http://www.iwa-network.org/downloads/1428787191-Lisbon_Regulators_Charter.pdf.

Box 5.2 The expert opinion of RegNet members on implementing human rights activities for water and sanitation

Non-State actors, such as individuals, private enterprises and NGOs have a role to play in implementing the HRWS. These roles and responsibilities need to be defined, although the overall responsibility remains with the State. To meet its human rights obligations with regards to water and sanitation, the State could provide for an administrative, financial and legislative framework through the following actions:

1. **Adopt a strategy** for providing services and accelerating access to water and sanitation, especially for the disadvantaged, using targeted pro-poor policies and instruments. A national strategy could detail how to reach the urban poor, the marginalised and vulnerable groups in society and encourage their participation in the institutional setup of the water services sector.
2. **Encourage meaningful participation** in the decision-making processes at different levels and within formalised structures while ensuring access to relevant information, such as water quality data and tariffs to all. Various participation mechanisms at the national, regional and local levels could be put in place, such as community-based organisations in rural areas. However, in the case of excluded or marginalised people, capacities often need to be strengthened before people can fully exercise their right. Empowering the poor might require awareness-raising campaigns and capacity development.
3. **Reform public policies and plans** to prioritise resources, implement strategies and to monitor performance. Water policies need to be designed to prevent discrimination and to foster equitable access to water supply and sanitation. The need for the participation of the unserved could be reflected in water sector legislation and in all official documents.
4. **Introduce a pro-poor water tariff structure** to fulfil obligations to facilitate access to water and sanitation services with the goal of assisting those most in need. Expenditure for water and sanitation services should not exceed five percent of a household's income. Subsidies for basic water supply and sanitation must be provided where necessary as part of a sustainable financing policy. A special basket funding mechanism could be created to improve the situation of the poorest in urban and rural areas. Water service providers could be given access to funding to extend their services to informal urban settlements.
5. **Establish clear responsibilities** among the water sector institutions. Separated and clearly allocated responsibilities between the various institutions described through regulation will help establish checks and balances. Replace informal service providers with formal service providers that can then be brought within the regulatory regime.
6. **Establish appropriate water quality monitoring systems**, combined with regulatory enforcement, to ensure safe water quality standards.
7. **Establish a regulator** for the water sector to protect citizens from unequal access to water. The regulator also oversees the monitoring efforts of the service providers and demands corrective measures in cases of non-compliance.
8. **Establish a mechanism to empower consumers and the unserved** to organise themselves to become a formalised negotiating partner for their service and provide feedback to sector institutions.
9. **Adopt a customer service approach** and set up adequate complaints mechanisms, for example customer service desks, surveys. Unresolved consumer concerns may be addressed through appropriate corrective measures or enforced through regulation.
10. **Promote the licensing of abstractions** (water withdrawal from natural water resources), metering of consumption, and the introduction of a pro-poor water tariff structure for the consumption of drinking water and for sanitation standards. These measures are designed to increase equitable access and reduce water wastage and move towards sustainable ecological sanitation.

Source: WHO 2011b.

any pre-existing contract, such as in the case of delegation or concession of the services to third parties;

4.2 Supervise tariff schemes to ensure they are fair, sustainable and fit for purpose; promoting efficiency and affordability of prices together with a level of cost recovery that meets the requirements for economic and financial sustainability; enabling service providers to adequately perform operation and maintenance activities, considering infrastructure, environmental and resource costs;

4.3 Oversee and promote the provision of a suitable quality of services to users, ensuring compliance with standards, norms and best practices for the benefit of public health and the environment;

4.4 Address the interface between service providers and users, in order to ensure the protection of consumers' rights, safeguard the right to submit complaints and due process, and improve the quality of the relationship between service providers and users;

[…]

4.7 Collect, analyse and disseminate accurate information on the implementation of public policy of the sector and on the performance of service providers; enable a culture of transparency, providing reliable, concise, credible information that can be easily interpreted by all, covering all operators, regardless of the management system adopted for service provision;

[…]"

Locals collecting water from a pump in a community in Limpopo close to the Zimbabwe border in South Africa (2007) © Robert Bos, IWA

Chapter 6 The human rights to water and sanitation in the essential functions of service providers and regulators

SYNOPSIS

This chapter reviews eight essential functions of water and sanitation service providers in detail, identifying options for the incorporation of HRWS actions. Water and sanitation master plans and investment plans are robust tools to introduce HRWS principles. In particular, they offer opportunities for utilities to cooperate with banks and other investors. Planning is key to successful progressive realisation. Legal support should address HRWS in contractual arrangements, and legal departments will have to deal with compliance issues as well as to liaise with the human rights community. Analysis of budget and financial flows will allow optimisation of resource allocations to the HRWS. Similarly, a review of materials and technologies in use will help put operation and maintenance in a human rights mode. Monitoring by utilities will have to be reconciled with other monitoring activities in the national context, highlighting human rights indicators. Customer-oriented management should focus on user-friendly complaints mechanisms, and communications to customers should clarify their position as rights holders. Human resources management plays a critical role in the development of corporate capacity in HRWS across the utility.

6.1 INTRODUCTION

Drinking water service providers are tasked with the extraction of source water, the treatment of that source water to drinking water quality standards, and storage and distribution of drinking water to customers while safeguarding quality standards. Sanitation service providers are tasked with the collection of human waste through sewerage systems or through the servicing of on-site sanitation facilities, the treatment of human waste and its safe disposal. Whatever their model, utilities have to perform several essential functions to comply with the task of providing water supply and sanitation services within established boundaries, over an agreed period of time and in accordance with agreed performance indicators. These essential functions are listed below and for each of them, the options and opportunities to include HRWS criteria and principles will be discussed.

- Planning and management.
- Legal support.
- Budget, finance and accounts.
- Operation and maintenance.
- Monitoring and evaluation.

- Customer services.
- Communications.
- Human resources management.

6.2 PLANNING AND MANAGEMENT

The adjustments to corporate policies and strategies, referred to in the previous chapters, to accommodate the requirements of the HRWS should focus on several issues that will guide the various departments within the organisation in pursuing their individual HRWS targets.

Thus far, most formal service providers and management boards have remained largely unaffected by the changing policy landscape in response the need to address progressive realisation. In practice, they already contribute significantly, but the HRWS components of policy and regulatory frameworks, institutional arrangements and operational approaches will need to be developed in a systematic way.

In several countries, NGOs directly or indirectly involved in drinking water, sanitation and wastewater management services have started employing rights-based standards and monitoring the impacts of advocacy efforts. This has led to a consolidation of efforts to hold duty bearers accountable for their obligations. The management of utilities will benefit from liaising with these NGOs because it is a first opportunity to adopt and apply lessons learned, and it allows the harmonisation of actions and the testing of proposed approaches against the realities of running a utility.

The UN resolutions recognising the HRWS have galvanised civil society efforts, so that NGOs are now increasingly seen as integral to the process of progressive realisation. The role of NGOs in training and education of the rights holders on the principles of the HRWS is another good reason for service providers to liaise with them.

In many low- and middle-income countries, a similar liaison of service providers with representatives of external support agencies may be fruitful as well. Many bilateral agencies for international cooperation now have their operations decentralised to the level of recipient countries, through the embassies of their respective countries. Their country-specific aid policies emphasise sector-wide approaches within which drinking water/sanitation and human rights issues fit well together—efforts to strengthen and expand services with a human rights focus are therefore likely to successfully make an appeal to their support.

For those service providers operating under a concession, contract or license, it is important to plan for a strengthening of their negotiating skills in the area of HRWS. On the one hand, public utilities will want to use the HRWS arguments to argue for specific funding or for the approval of funding mechanisms that support action specific to the full realisation of the HRWS; on the other hand, utilities will want to bring to the negotiating table the evidence-based arguments and insights to limit HRWS goals and objectives to what realistically can be achieved.

Planning and management revolves around translating results of assessment and monitoring of developments and trends into medium- and long-term targets for coverage, water quality, service levels, cost-recovery, and operation & maintenance, as well as preparedness for emergency situations. The human-rights-based approach now introduces the new principles of equality and non-discrimination as well as the need to view conventional issues such as quality, service levels and affordability through a human rights lens. The development of different scenarios will allow maximisation of resources (both financial and human resources) in support of attaining HRWS objectives.

There is an important opportunity to include HRWS criteria and principles into masterplans and investment plans for drinking water and sanitation service expansion. Master and investment plans are robust tools to take the HRWS into consideration and select optimal alternatives, especially in developing countries with scarce resources. Multilateral development banks have a key role to play in this respect. In Bolivia, for example, municipalities and other local governments increasingly work in the context of

master plans: studies to plan future investments are carried out with international support, principally from the Inter-American Development Bank[12]. Such studies and the resulting masterplans must include a focus on vulnerable people and marginalised communities, including attention for settlements that are considered illegal.

To ensure an effective and sustained human rights input into all these planning and management functions, it is recommended that large utilities appoint a dedicated human rights professional to their management team. Small to medium-sized utilities may want to co-opt the services of a human rights professional on an *ad hoc* or periodic basis, or add human rights responsibilities to the post descriptions of members of the existing management team.

The Handbook "Realizing the Human Rights to Water and Sanitation" by the former UN Special Rapporteur Catarina de Albuquerque covers the integration of the HRWS into planning processes comprehensively and distinguishes the following steps: assessment and analysis, setting targets and developing plans of action, allocating roles and responsibilities to different actors, implementation, and monitoring and evaluation. The present IWA Manual covers the first two steps under planning and management in this section (confined to the utility context, the broader clarification of roles and responsibilities at the national level is addressed in Chapter 4), and operation and maintenance, and monitoring and evaluation in sections that follow.

Planning for actions in support of progressive realisation of the human rights by utilities and other providers is not done in isolation; it will have to be done in tune with the national coordination entity discussed in Chapter 4.

Service providers will have information concerning existing infrastructure and connections, total water production and non-revenue water, frequency and location of leaks and bursts, the metering system and their customer base. This information will need updating to make it relevant from the human rights perspective: within the service area individual households and communities without access will need to be counted and mapped, and an assessment will need to be made of the obstacles preventing their incorporation into the network (e.g. unaffordable connection costs, land tenure issues, level of acceptability of piped water as a convenience commodity).

Based on the situation analysis corporate policy and operational initiatives need to be formulated and linked to specific human rights targets.

Many utilities have already in place a pro-poor policy, which sets decision-making criteria for outreach to underprivileged, marginalised and poor communities. The wording of such policies may need to be reviewed so it is clear that they are not about charity but about complying with human rights. Their implementation will rely either on subsidies or on the engagement of the communities to contribute to service extension in kind.

Planning and operating procedures, such as the pre-feasibility and feasibility studies for new infrastructure development, will need to take human rights criteria into account—and these should therefore be explicitly included in the terms of reference for such studies. Utilities also will have to participate in the planning of development projects that may affect their services, for example energy or agriculture projects in the watershed where their source water comes from, and they have to ensure that the HRWS of their customers are not adversely affected by such developments. This means that representatives of the utility must insist on a HRWS component to be included in the environmental/health/social impact assessments of such projects.

In some countries situations exist where a large urban utility lacks the mandate to service households in surrounding peri-urban communities, whether formal or informal, because these do not fall under the

[12]Claudia Vargas, independent consultant in water and sanitation, Bolivia; personal communication.

municipality's jurisdiction. While the utility cannot provide services to these communities, it can provide technical assistance to community or NGO initiatives for small community water supplies. The assistance can go beyond strict technical issues and become a vehicle for the promotion of the HRWS. This is a management issue that requires timely planning and effective decision-making.

Preparedness for emergency situations – either "internal", such as the catastrophic failure of a dam, source pollution, the burst of a distribution mains or the breakdown of a treatment plant, or "external" owing to a natural disaster, such as a flood, landslide, hurricane, earthquake, volcanic eruption or tsunami, or because of civil strife or war – is essential for any service provider. Risk profiles will indicate where to focus preparedness and resilience measures. Such preparedness plans now also need to take into account the impacts of emergency situations on inequality and on discrimination and the need to extend the scope of emergency responses with a HRWS component. In a state of emergency, the most vulnerable are usually the hardest hit, also when it comes to drinking water supply and sanitation services, and specific interventions will be needed to prevent the impact on these groups from being exacerbated.

6.3 LEGAL SUPPORT

Formal service providers will have a legal advisor or even a legal department; smaller ones may have to rely on the services of a legal firm. The core legal functions will relate to contractual agreements: the contracts with customers (water-users), the contracts with suppliers, contractual institutional arrangements, and the contractual agreements with national or local government authorities granting the provider the right and the duty to undertake drinking water supply and/or sanitation service delivery. This last function is addressed in the previous chapter.

Contractual agreements have to comply with the legislation in the country where the utility operates, and they will need to be adapted when relevant laws change. Compliance with contractual agreements will need to be monitored, and the legal department/advisor will have to take action in cases where customers/suppliers do not comply, and prepare a proper response in case the service provider itself is accused of non-compliance with its legal obligations.

The principles of the HRWS will have their bearing on a utility's legal practices. In a considerable number of cases this will focus on customer contracts, in particular the conditions for being connected to public networks and late or non-payment of bills for water and sanitation services. *In extremis*, the conventional response to substantial payment arrears has been to disconnect the non-complying customer from these services (in countries where the law permits such action). The recognition of the HRWS has a bearing on the provider's response options and legal departments/advisors of utilities will have to design procedures that comply with human rights principles. This issue is addressed in Chapter 7.

There are other compliance issues that may need to be seen in a new light. Actions by customers that jeopardise or interfere with the enjoyment of the rights by other customers will also need to be addressed through legal action. A common example, in situations where piped water supply services are unreliable, or where they are provided only periodically (like twice a week) – in themselves of course conditions that do not meet human rights criteria – is the acquisition by some customers of a pump to rapidly fill their rooftop tank or other domestic reservoir the moment water is available. This creates negative pressure in the system, hampering delivery to customers without such a device and enhancing the risk of pipe collapses and contamination (and thereby affecting the key human rights criterion of water quality).

(Sub)-contracts with suppliers need similar oversight—the products and services supplied must not only meet the contractual specifications and requirements to the letter, but they should also constitute the best options from a human rights perspective, in other words: there should be a tangible effort by suppliers

to positively affect equality and non-discrimination. This can come to expression in design, cost, durability and other characteristics (see also sub-section 6.4).

Actions by third parties adversely affecting a utility's capacity to deliver drinking water services (as contractually agreed and in line with HRWS principles) also need a response from the legal department/advisor. For example, pollution of source water by industry, by agriculture or by individuals calls for litigation.

A new essential function for legal departments/advisors is that of liaising with the national authorities on human rights issues, based in ministries of justice or ministries of foreign affairs (see Chapter 4). This liaison should ensure the proper translation of the criteria and principles of international law, as reflected in national policies, laws and regulations, into the legal practices of service providers. It should also ensure that relevant information from providers contributes to a realistic process of national legislation. It is critical, particularly for larger providers and for trans-national companies delivering drinking water supply and sanitation services, to stay informed about and document the jurisprudence around the world as it evolves in relation to the human rights to safe drinking water and sanitation.

More than the technical criteria imposed by the HRWS on service provision, the human rights principles will need to be translated by the legal department/advisor into good practice guidance for the organisation: there may have to be sharpened rules for accountability both within the organisation and towards the outside world, the need for transparency and information sharing will need to be translated into rules for communications, participatory approaches in provider/customer relations need promoting and sustainability criteria will have to be inserted where they are lacking. The issue of corruption deserves special attention in this connection. Any distortion of normal service delivery because bribes or other favours are accepted by staff will be detrimental to the pursuit of human rights objectives and will need to be countered by severe sanctions.

Most importantly, the spirit of the HRWS has to be reflected by continuous efforts to reduce inequality and discrimination within the customer base served as well as, internally, in the human resources policies and practices of the company.

6.4 BUDGET, FINANCE AND ACCOUNTS

The internal structure and procedures supporting the budget, finance and accounts activities of a drinking water supply and/or sanitation provider may vary according to the organisational model. All utilities will focus on cost-recovery for operation, for asset management and maintenance, and for the extension of services. Private utilities will focus, in addition, on maintaining a profit margin securing attractive returns for investors and eliciting further investments. The State, as the duty bearer responsible for realising the HRWS, has to ensure that operational, investment and financial costs, as well as profit margins remain within reasonable limits while efficiency is maximised, so that on the one hand much-needed investment in water and sanitation infrastructure and services is secured, while on the other hand resources allocated to reduce and eliminate inequality and discrimination are maximised and HRWS criteria are met. In its oversight function, the responsible public authority has to ensure the planned investments are effectively carried out, while water prices are maintained at affordable levels.

The financial flows into and out of utilities need to be analysed to identify options and opportunities to better contribute to the progressive realisation of the HRWS, as well as the obstacles to and constraints on achieving this objective.

First, a review of the current situation should result in proposals for the re-allocation of existing funds to optimise support for HRWS-associated activities. In other words, a first effort should focus on structural changes in budget and finance at no extra cost.

Next, the ideas for specific additional HRWS actions coming from departments or individuals within the organisation (addressing among other issues: operations, maintenance, communications and monitoring) will have to be reviewed by management, checked against new policy and strategic frameworks, prioritised and budgeted for. Small and medium-sized providers may explore how cooperation in carrying out some of these ideas can lead to economies of scale. The need for additional human resources with specific HRWS tasks has to be translated into budget-lines as well.

Government support may be sought for some of the additional costs, but for other items the new expenditures will have to be matched with new income. In this context, options for cross-subsidisation from income out of higher service levels to cover the cost of connecting or otherwise servicing the vulnerable and marginalised communities and households need to be explored. Such changes in financial flows need to be fully transparent and communicated clearly to the customer base, and where necessary they need to be reflected in the contractual arrangements with customers.

The HRWS should be part of all strategic, planning, investment and operational activities. It may therefore be necessary to establish a special unit with responsibilities for the comprehensive implementation of HRWS principles and the correct application of HRWS criteria. This will allow for clear priority setting, and it will ensure that items outside of the core operations of a utility (such as effective communications, in-service training on the application of HRWS criteria and principles for staff, or research and development with a specific HRWS perspective) can be boosted. Governments may channel their earmarked subsidies (for example, earmarked to support one-time connection costs for eligible households) through such a fund and add weight to the need for compliance with transparency and accountability principles.

Another way of strengthening the resource base is the engagement of communities themselves through contributions they can make in kind. Examples of how a pro-poor policy can be effected this way are given in various sections of this Manual. This approach comes with the caveat that its opportunity costs (in other words, what other productive or social activities do the community members have to forgo to contribute to such a programme?) must not be overlooked.

A key aspect linking the HRWS to budget/finance/accounts is that of tariff structures, which must be detailed, transparent and easy to understand. Universal affordability is key. Usually, tariffs for new connections and for water consumption are fixed by public authorities. In several countries, these tariff structures are set or must be approved by the economic regulator. In those cases, it is for governments to require regulators to design/accept tariff structures and set/accept tariffs that reflect the HRWS criteria and principles effectively. Where no such regulatory mechanisms exist, formal service providers will have to negotiate with government authorities directly to come to a tariff structure that will address the issue of affordability satisfactorily (see Chapter 3). Therefore, responsibility and accountability in these cases refer straight back to the duty bearer.

6.5 OPERATION AND MAINTENANCE

Water and sanitation policymakers have frequently raised the issue that there is a lack of consideration of the HRWS at the local level, while local systems operators, utilities and management boards have frequently referred to a lack of relevance of the HRWS to day-to-day water and sanitation practice.

Even without considering the HRWS, service providers indeed face a range of challenges in service delivery. The delivery of acceptable services to on-site sanitation systems, for example, will have to rely on a stable human resource base (in a work environment with little or no real job incentives), will require investment in proper equipment (tanker trucks) and its maintenance, will need access to the septic tanks and latrines of households in densely populated informal settlements and will have to rely on functioning treatment plants where faecal sludge can be deposited. In addition to these challenges, sanitation providers

in this example will now also have to consider the affordability and reliability of their services, match their business plan to service what is already not an easy market to operate in with principles of non-discrimination (either imposed through regulation or self-imposed) and ensure their services are delivered while applying the principles of accountability, transparency and sustainability. In this example in particular, where small private enterprises play a key role, government assistance may be required to ensure the multiple issues are addressed simultaneously and lead to updated, sustainable standard operational procedures.

The explicit or implicit HRWS targets developed through corporate planning and management will need to be pursued through a utility's operations and maintenance.

A good start is for the operations department to develop a compendium of technologies, materials and practices that are compliant with human rights criteria and principles. They should be feasible for use and application in the local context and they should be sustainable in the environmental, social and economic sense. Establishing a list of infrastructure designs and materials that maximise adequate services at the lowest possible cost sustainably is a further extension of such a compendium.

Too often, operations are driven by considerations of where progress can be made easiest or where operations will have the greatest returns. These should be substituted by considerations of how all groups particularly the most vulnerable people can be reached and where the greatest reductions in inequality are feasible.

For many of the technical activities in the day-to-day routine – dealing with pressure issues and leaks, checking on meter accuracy, and verifying water quality along the production and delivery chain – it is difficult to make generic recommendations on how HRWS issues can be introduced, and individual utilities will have to assess what is relevant and feasible under local circumstances.

Proper asset management and the establishment of realistic maintenance schedules are crucial in the prevention of regression in access and other HRWS criteria. It is easier and more efficient to plan and budget for regular maintenance than to deal with emergencies that result from a lack of maintenance. Effective customer relations and, particularly in underprivileged areas, community involvement in the reporting back on the functioning of the system will help perceive early-warning signals of where maintenance is not adequate and the risk of regression is real.

Rational savings in replacement materials, without sacrificing quality and durability, and taking into account resilience with respect to more extreme weather events resulting from global climate change will help stretch the budget to allow for further extensions to underserved and unserved populations.

6.6 MONITORING AND EVALUATION

As a rule, existing utilities will have monitoring and evaluation procedures in place, aimed at measuring progress towards their organisation's objectives, using performance and output indicators. This monitoring often emphasises the status of infrastructure and the quality of drinking water at the point of delivery. There may be value in including records of complaints collected at customer centres and information fed back by bill collectors in utility monitoring.

Formal operators that are distinct from responsible public authorities monitor all the performance indicators that are prescribed in their license/contract agreement. When these indicators are related to a HRWS criterion or principle, for example when they track the service expansion or the improvement of water safety, or the location of unserved people, these monitoring activities are essential to the progressive realisation of the HRWS.

Yet, there may be other monitoring and surveillance programmes ongoing in a country that assess access and use of drinking water and sanitation services and facilities, drinking water quality or the quality of surface water and groundwater sources.

It is therefore important to first explore to what extent monitoring and evaluation efforts can be coordinated at a national level, what needs to be done to achieve comparability of datasets and what gaps remain after national reconciliation and integration of all these activities. This implies identifying the various actors on the national and international monitoring stage—in many countries this process was already set in motion by the WHO/UNICEF Joint Monitoring Programme (JMP), which tracked progress towards the water and sanitation targets contained in the framework of the MDGs. Important actors who can provide nationally representative datasets include national bureaus of statistics, drinking water regulators (although in some cases their surveillance coverage is limited to urban areas), health authorities and country offices of UN agencies and the World Bank. Academic institutions may also have robust datasets, but often these are focused on specific areas or specific population groups and therefore not nationally representative. They may be valuable, however, for the purpose of triangulation.

The new Sustainable Development Goals (SDGs; see Annex B) include targets for universal access to safe and affordable drinking water and sanitation. These include elements relevant to HRWS criteria and principles. The related indicators will have to be tracked in all countries.

Once a viable level of coordinated monitoring efforts at the national level has been achieved, then the remaining gaps with respect to HRWS criteria will need to be identified and addressed. Public authorities responsible for water/sanitation services will allocate operational targets to service providers mandated by them and request adequate reporting of progress made. They will also request that service providers report on indicators that are under the responsibility of other HRWS institutions, as appropriate. Utilities can then decide how to best expand their monitoring activities in a way that serves their corporate interests as well as the interest of promoting the HRWS.

The measurement of specific human rights indicators, namely the reduction of inequality and discrimination, can be undertaken under a utility's monitoring programme, but it may be viewed as more neutral if it is executed by an independent national body such as the national statistics bureau.

A utility's customer base is an important and unique source of information, and modern technology allows data-mining on behavioural trends, the coverage of water and sanitation issues in twitter messages, and economic aspects such as willingness to pay for certain service aspects.

The principle of transparency requires that monitoring outcomes are regularly published and made available to national and local authorities, to the customer base and to the public at large—the internet is an efficient medium for this. Such openness is of importance for the public image of the utility and adds to the credibility of its other corporate responsibility activities.

6.7 CUSTOMER SERVICES

Utilities should actively promote customer-oriented management through attitude change that ensures every customer is valued. For the rights holders (in the case of the HRWS: the users of drinking water and sanitation services) a low-threshold mechanism of recourse is essential. Without a user-friendly complaint mechanism people will lose their faith in the utility's sincerity in adopting a human-rights-based approach, they will lose their faith in the human rights concept at large or they may be incentivised to take their case to court—which may be time-consuming, expensive and possibly detrimental for the utility's image.

It is therefore worth investing in strengthening the customer services, in dealing with complaints in a serious and timely manner, and at the same time reaching out to those customers who are faced with problems in meeting their payment obligations towards the service provider. Monitoring of behaviours and being alert to early warning signs of people being unable to pay their bills allow for a proactive approach in customer management.

Customer services can also take on an additional service approach—for example, in areas where a utility is temporarily or structurally incapable of ensuring 24/7 provision of safe drinking water, it may inform its customers of the proper use of household water treatment and provide them with the necessary materials and equipment. Household water treatment does not replace a reliable supply service, certainly not in human rights terms, but in the course of progressive realisation it is an effective stop-gap intervention that can contribute significantly to an improved health status.

In the case of emergencies or other incidents, when services are seriously disrupted, customer services and communications departments must have protocols ready to secure alternative services with clear communications to the customers about the nature of the disruption, its expected duration and the alternatives offered. Again, such protocols must pay explicit attention to the way vulnerable individuals, households and communities should be protected from being disproportionately affected by service disruptions.

6.8 COMMUNICATIONS

Any utility large enough to have a communications department should have that department formulate a new communications strategy for the promotion of the HRWS. This should cover: providing information to staff, customers and to the general public, information to associations of water and sanitation practitioners at the national and international (IWA) level, and reports to the national/local authorities who themselves have to report progress in the progressive realisation of the HRWS to the national/international community. It should also cover internal communication needs on the relevance of HRWS within utility operations and management.

Staff should be informed about the human rights obligations, and how these translate into the way the utility operates. Bringing staff members together to discuss the implications in their day-to-day work has an important learning objective. This can be supported by a range of information materials, from flyers to videos.

Communications to customers should inform them about the nature of the HRWS, the new policies and strategies of the provider with respect to the progressive realisation of the HRWS, and what the customer's rights and responsibilities are in this new context. Communications should be designed for specific target audiences, bearing in mind levels of literacy and using cultural customs such as local theatre and puppet shows.

As the HRWS is a new component in the international human rights framework, it is also important to document experiences and communicate these to the human rights community. This will help establish communication channels that will also be of benefit to the further evolution of the issue within the utility. At the international level, IWA can play a significant role here. It can help create a body of information about experiences applying the HRWS—what works and what does not work.

Perhaps most importantly, regular direct or indirect communications to the national authorities should report on progress made towards the goal of universal enjoyment of the rights to water and sanitation. Only with such factual inputs will the government be able to present an aggregated picture of progressive realisation of the HRWS in the country.

6.9 HUMAN RESOURCES

New functions related to the promotion of the HRWS in various departments of a utility will require an assessment of additional staff needs, including the formulation of post descriptions and related performance indicators, the recruitment of staff for these positions and the training of existing staff. New staff must

have excellent communications skills, not only to promote HRWS concepts within the utility, but also in their contacts outside of the utility.

Human resource development and management has a critical role to play in strengthening a provider's performance with respect to promoting the human rights to safe drinking water and sanitation. Medium- to large-sized utilities will have a department dedicated to staff recruitment, development and training.

The human resources department should initiate a programme of planning, developing, implementing and evaluating education and training for existing staff, in response to needs arising from new technological developments, from new legal and regulatory requirements and from internal reorganisations. The recognition of the HRWS constitutes an obvious rationale for the development of an in-service training component which aims to create awareness of the nature of the HRWS, convey the criteria and principles of the HRWS and the associated obligations implied for the day-to-day management and operations of the utility.

Adult learning with a clear objective of connecting the different parts of the organisation to most efficiently address the HRWS issues should be based on the principles of problem-based learning. Learning seminars and workshops should be structured around the utility's essential functions offering opportunities to discover how and when HRWS can contribute and strengthen the corporate model.

IWA studies on human resource issues in drinking water supply and sanitation services have resulted in several recommendations that reflect human rights principles (IWA 2014). For example, to enhance community buy-in in water and sanitation projects in informal settlements, it is recommended to hire people from these communities as an affirmative action under the operator's recruitment programme.

6.10 IN CONCLUSION

More than from any of the specific recommendations presented in the previous sections, HRWS criteria and principles will benefit from an organisation-wide change of mentality, so that every staff member in his/her day-to-day activities has the human rights criteria and principles clearly in mind.

This change in mentality will have to be fostered by the management of the utility, and will have to pervade the entire organisation. Frequent progress reporting will provide the government with the required evidence for progressive realisation and will help build a perception among the rights holders that their service provider is worthy of their trust. Reporting success stories, especially in the initial phases of the process, will help motivate staff and customers.

Like the human rights to water and sanitation themselves, the process of integrating the human-rights-based approach into the routine practice of utilities will be one of progressive realisation. It can be expected to take several years before utilities can claim they have truly absorbed the criteria and principles of the HRWS to their full extent.

In connection with essential utility functions, and in particular with the assessment of different service types and levels using human rights criteria and principles, the 2015 report of the UN Special Rapporteur on the Right to Safe Drinking Water and Sanitation provides important insights and information—especially on how the realisation of the human rights is influenced by the way in which these different types of service are delivered[13].

[13]Léo Heller, UN Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation. The 2015 report to the UN General Assembly: Different types and levels of services and the human rights to water and sanitation: www.ohchr.org/EN/Issues/WaterAndSanitation/SRWater/Pages/AnnualReports.aspx.

Water meters have been installed in this community in Yemen outside of Sanaa but, because of the price of water, metered water is only used for drinking. For all other uses women continue to go to the well (2006) © Robert Bos, IWA

Chapter 7 Addressing sensitive practices, dealing with challenges and avoiding pitfalls

SYNOPSIS

Even when the national policy and institutional frameworks for the HRWS are in place, the HRWS-related functions have been defined, the associated roles and responsibilities have been distributed with clear definition of scope and boundaries, and HRWS criteria and principles have been incorporated into essential functions, service providers, regulators and other water and sanitation practitioners will be faced with unexpected challenges, sensitive issues and unforeseen circumstances to deal with.

Communication is critical and central in the search for optimal solutions.

Water is essential for survival, for economic development and to sustain critical environmental services—the provision of drinking water supply and the management of human waste interfaces with the underlying processes in a myriad of ways, usually determined by local contexts. Therefore, progressive realisation of the HRWS is riddled with uncertainty. Moreover, processes within the human rights framework are not operating in isolation—they may encounter policy and legal inconsistencies, unfounded public perceptions and social barriers, contradictions, or even perverse impacts.

This chapter presents several sensitive issues, challenging conflict situations and potential pitfalls, with suggestions how to address them. Acknowledgement of the HRWS is a recent event, and as realisation of the rights progresses, more sensitive issues will come to light, and more experience will be gained on how to deal with them. Challenges, conflicts or dilemmas covered in this chapter include selecting from technical options, affordability mechanisms, service cut-offs, credit control and debt collection, multi-criteria monitoring, setting geographical priorities for network expansion, land tenure, the use of pre-paid meters, derogations to standards and continuity of services.

7.1 TECHNICAL OPTIONS

In the provision of drinking water and sanitation services there are no one-size-fits-all solutions. When considering technical options for the extension of coverage or the upgrading of service levels, public authorities and service providers will use several decision-making criteria. Many of these will be financial and economic: the investments needed for the different options, combined with the financial implications of operating the system and managing the assets, and the opportunity costs of selecting one option over others. Investment in automation technology, for example, may have to be offset against savings in the human resource base. The decision to invest in service upgrades for one set of customers may have as a result that service expansion plans have to be put partly on hold. Yet savings or extra income resulting

from the upgrade may increase the future expansion potential. The socioeconomic conditions of the target populations will determine the level of feasible cost-recovery, and levels of acceptability or attractiveness of different technologies will influence willingness to pay. Along the value chain of water and sanitation services, there will be more opportunities for cross-subsidising as levels of sophistication increase in the process of service upgrading.

From now on, the HRWS criteria and principles will have to be taken into account in the decision-making over technical options as well. In some cases this may simplify decision-making: certain options will not be compatible with the new criteria. Or, the impact of certain technical options will favour progressive realisation of the rights so prominently that this overrules arguments in favour of other options. In a substantial number of cases, however, the additional criteria may add further complexity to the process of weighing pros and cons—large service providers may decide, therefore, to establish a separate screening office to ensure all proposed plans, projects and activities are given due consideration from the human rights perspective. Small and medium-sized providers may want to rely on consultants or establish a link with national human rights institutions for advice on the human rights dimensions of their plans and projects. In all cases, public participation, and effective communication and access to information are essential human rights principles to be applied. The affected communities should be presented an honest picture of the gains to be had from the different technological options, but also of their disadvantages, costs incurred and opportunities forgone by choosing one over others. This requires a customer-oriented approach from public authorities and service providers; it also requires strong regulation by an independent authority.

The UN Special Rapporteur focused his 2015 report to the UN General Assembly[14] on the different levels of service and their related technologies. He considered connections to a piped network, communal and shared facilities, and individual on-site solutions. His report considers these types of services in conjunctions with different management models, including utilities; small-scale service providers, with or without a mandate from the State; and, self-supply. He found that the realisation of the HRWS is influenced by the way in which these various types of services are delivered and the extent to which the State has oversight of the service provided.

In rapidly expanding cities (particularly in low- and middle-income countries) or in cities where large backlogs exist in water and sanitation service provision, it may not be possible to provide the same level of service to all communities. Population density is a key factor determining the practicality and affordability of selecting service level options for implementation.

In dense informal settlements, access may present a fundamental problem and therefore standard services may only be accessible on their fringes or in particular areas that have been cleared of dwellings to allow the construction of facilities. This means that specific technologies such as flexible overground pipes may be necessary to provide safe drinking water and fulfil the HRWS in these settings.

In sparsely populated areas, a network of sewers may not be a viable option because of the high cost per household served. In that case on-site solutions are preferable. Geographic stratification is necessary to ensure that technologies “fit-for-purpose” are installed.

7.2 AFFORDABILITY MECHANISMS

Applying the HRWS affordability criterion means that responsible water authorities organise water services in such a way that they are affordable for all categories of users. This does not mean that water for domestic consumption should be free of charge. Apart from those who are totally destitute, everyone

[14]http://www.un.org/en/ga/search/view_doc.asp?symbol=A/70/203.

can afford to make a proportionate contribution to help cover the cost of the water and sanitation service they receive. The fact is that the poor who are unserved by a formal private or public provider often pay considerably more per litre of water to informal service providers (water vendors) than those receiving a formal service (and frequently for water of a poorer quality). Where sanitation services are poor or lacking, the underprivileged pay the price in terms of a degraded environment, ill health and high child mortality.

In his 2015 report to the UN Human Rights Council, Léo Heller, the current UN Special Rapporteur on the Right to Safe Drinking Water and Sanitation, strongly pleads for a shift in thinking about the economics and financing of water supply and sanitation services, from an exclusive focus on cost recovery, whether full or partial, to a combination of human rights and economic perspectives applying the principle that services must be affordable to all (see Box 3.6). These two types of perspectives are not contradictory. It is feasible to reconcile them if the service provider can fully recover its costs (with complementary fiscal subsidies if needed) and if cross subsidies and fiscal subsidies targeting the poorest make the tariffs affordable to the different categories of users.

Solidarity with those denied their rights is part of the HRWS and, in the case of formal service delivery, several mechanisms to enhance affordability for all can be put to function: funding by other users through cross-subsidies or from public budgets through direct or indirect subsidies, incentives for providers to focus their investments on the most vulnerable and marginalised, regulation of tariff structures and tariff setting, and the promotion of payment facilities. Mechanisms to optimise affordability will be subsidiary to a broader set of measures aimed to ensure that everybody can have reliable access to a sufficient quantity of safe water and adequate sanitation services.

Affordability is an issue that cuts across all countries, from low-income countries with poor water and sanitation coverage, to high-income countries where access to water and sanitation is close to 100% but where there continue to be poor, marginalised and discriminated population groups and individuals. A range of systems aimed at ensuring affordability are implemented across the world. However, they do not all have the same impact with respect to the progressive realisation of HRWS.

The HRWS requires that all different individual situations must be considered by the responsible water authorities. In particular, they must check the affordability of the following:

- charges for drinking water consumption by water users connected to piped networks;
- charges for obtaining water at a public standpipe, including the part retained by the standpipe operator;
- prices that are charged by official or informal tankers and other alternative vendors, including those who resell water supplied to them by the formal water utility;
- new connection charges to water and wastewater networks;
- charges for waste collection, in particular whether these reflect the inherent value of the waste as a resource.

Experience shows that subsidy mechanisms that are set up with the intent to ensure affordability of services are far more efficient at achieving this objective if they target poor people rather than serve for the benefit all users. The design and implementation of specific, dedicated services for the poor is not recommended—experience shows that services specifically designed for the poor usually turn out to be poor services. In any case, it is essential to check if subsidies work as initially intended and benefit those who are most in need. There are several options for targeted subsidy mechanisms available.

Rising block tariffs are used both to provide ‘lifeline’ tariffs to help the poor, with top band tariffs aimed at managing demand. Lifeline tariffs are difficult to set: if they are too high the payments for the highest block are insufficient to subsidise the lifeline amounts. In South Africa a block tariff approach has been shown to be successful by limiting the first tariff blocks for free water to those on a register of low income consumers.

Block tariffs entirely based on fixed volumes fail to ensure affordability in areas where several families share the same tap and therefore jointly constitute a big consumer. This difficulty can be circumvented if the service provider is in the position to know the number of individuals that benefit from each tap, which requires detailed housing records. In Israel, where good records are available, large households receive additional amounts at the 'social' tariff. The introduction of a volume-differentiated tariff provides an alternative way of structuring consumption subsidies. According to this type of tariff structure, consumers are charged the unit price for the last block of their consumption, irrespective of the number of blocks. Only households that limit their consumption to the lower blocks are entitled to a subsidy; those consuming above that threshold pay the higher tariff for all of its consumption (Trémolet and Hunt 2006; Wichelns 2013). In the case of large families or several families sharing the same tap, the problem of affordability becomes more acute with this tariff structure. To address this, in Portugal, for example, the regulator has recommended the creation of a specific "large households" tariff, which aims to correct this distortion by allowing for a lower block tariff when the number of people in a household is over five.

General subsidies to water service providers based on consumption help those who already benefit from a public water service and those who use most water, but do not help in any way those who are not yet served. For that reason, policies must differentiate between types of water users and address their respective needs for affordability. People who do not benefit from full formal services tend to pay more for access to alternative services. They should therefore be prioritised for public-funded subsidies. Affordability mechanisms may include income subsidies, regulations and subsidies for tankers, reduced tariffs at standpipes, and subsidised equipment for household storage.

A key challenge for unserved households may be their financial capacity to connect to piped networks when such services are extended into their neighbourhood or settlement. New customers are generally charged a connection fee usually reflecting the real cost incurred. This is not a realistic option in poor areas, particularly in informal settlements and slums, where a connection fee is not affordable for the inhabitants. As a result, not only do these people not benefit from network extension, but they remain in a situation with high consumption costs and poor services. Subsidising new connections assists the poor directly and reduces the equality gap.

Beyond subsidies, operators can take other measures to enhance affordability. Efficiencies such as economies of scale can help lower the cost recovery threshold. Legal and administrative boundaries can be removed. Billing and payment systems can be designed to match the cash flow patterns of the poor. A business plan with clear coverage targets and differentiated services levels will help support the drive towards greater affordability.

Affordability is not just related to the cost itself but also to methods of payment. The poorer members of society are unable to save. They require methods of payment which do not involve large sums of money at any one time. Consideration should be given to the use of frequent small payments with low transaction costs. This can be through pre-paid metering systems (see section 7.7), by creating payment facilities in supermarket chains or by mobile-phone-based accounts such as those that are used extensively in parts of East Africa.

Both the affordability and sustainability criteria of the HRWS must be combined when deciding tariff structures. Indeed, subsidies to users that are not compensated by other revenues threaten the economic sustainability of the service provider, thus creating a risk that the subsidised service loses its viability or its quality.

7.3 CUT-OFFS, CREDIT CONTROL AND DEBT COLLECTION

Non-payment of drinking water supply and sanitation services poses providers with the challenge to distinguish between those customers for whom the prevailing tariffs are truly unaffordable and those who

are simply unwilling or forgetting to pay—making this distinction is a delicate matter and needs to be done in a legitimate and non-stigmatising way.

The loss of revenue because of non-payment impacts the provider's capacity to ensure network extension and proper operation and maintenance. Raising tariffs to make up for lost revenue creates the risk of entering into a vicious circle and of expanding the group of customers for whom the service is genuinely unaffordable.

Whenever a customer falls into arrears, providers should attempt to contact the user to understand the reasons for his behaviour. If the user has financial difficulties in coping with payments, the service provider should facilitate the payment of the amount outstanding for such a customer. In some cases this can be achieved by allowing the debt to be paid off in instalments over an agreed period of time. If a family falls significantly into debt such an arrangement may not be feasible. It can create a situation of hopelessness and in those cases the customer may give up paying altogether.

Total disconnection of the water supply should be viewed as a measure of last resort. Rights-based laws, policies and regulations must describe the steps of consultation, recourse and rectification in a process that eventually leads to restrictions of services or disconnection. If at all, absolute disconnection should be reserved only for those customers who deliberately tamper with the water connection to access more than the basic quantity required for meeting essential needs. In some settings, this challenge has been addressed by the use of flow restricting devices that allow a pre-determined quantity of water to be supplied each day. This may, however, not be authorized in some countries.

Before taking action to cut the water supply or sanitation service in reaction to non-payment, customers should be given the right to enter into an administrative process that allows them to discuss their situation with the utility and agree on a course of action to address the repayment of the debt. Options may include the following:

- pay the outstanding water and sanitation charges in arrears plus all current charges in full;
- enter into a credit agreement to re-pay the debt over an agreed period of time;
- in the case of truly entitled families, enter into an agreement where the volume of water supplied is limited to a basic daily amount and the current amount due is paid in full each month, with the arrear amount being written off in monthly instalments as long as the current account is paid in full and on time each month.

Examples of such procedures can be found in the Flemish part of Belgium, where a local administrative committee invites customers with payment arrears to explain and justify non-payment before making a cut-off decision, and in France where a 2004 law (updated in 2013) requires a procedure where the right-holder requests assistance from an administrative committee (Fond Solidarité Logement) in case of inability to pay—this procedure has to be completed before any cut-off decision can be made.

Customers who tamper with a restricted supply on more than one occasion even though they can afford the service should have their water connection removed altogether. Customers would then have two options to facilitate the re-instatement of the water supply:

- pay the outstanding debt in respect of water services charges in full (including all charges) plus the prevailing costs of a new water connection and penalty charges;
- apply for the installation of a flow-limiting device and enter into a credit agreement. In this case, the connection costs and penalty charges would have to be paid immediately.

All illegal connections that are found should be removed and owners and or occupiers of the property may be prosecuted in a court of law. The reasons for their lack of regular access should be investigated. Sanctions or disciplinary measures in relation to non-payment of sanitation services are more difficult, as customers may revert to other ways of disposing of their waste, including open defecation. Such

undesirable practices may be outlawed, but in reality the capacity to enforce such laws may be poor or non-existent.

In the event of a major family event (birth, wedding, funeral), it must be possible to make an application for temporary relief whereby the flow-limiting device may be removed for a specific period. The application should be supported by a community leader or local political representative. It is advisable for an administrative charge to be applied to cover the cost of restoring the supply temporarily.

The legal capacity to perform cut-offs after completing due diligence procedures is essential for public services, rather than the actual cut-offs; it is a matter of perception by the customers that the threat of a cut-off is real. This perception has an important preventive impact.

In some countries, a cut-off of water and sanitation services can result in serious other repercussions for families. In extreme cases, parental responsibilities may be considered not complied with and children may be taken from their families to foster homes. It is important for providers in their management of customer relations to bring such consequences to the attention of households who are in arrears; but it is equally important to be extremely cautious about cutting off services in situations where this may initiate a down-going spiral in the family situation.

Some countries have adopted legislation that bans disconnection as a reprisal for non-payment altogether. This may lead to abuse which, if substantive, in fact undermines progressive realisation of the enjoyment of rights by all. The costs incurred to service providers by court cases or debt write-offs affect their capacity to invest in operation and maintenance, and in service extension/upgrades. The unfairness of having the costs incurred by those abusing the rules passed on collectively to those conscientiously paying their bills will eventually translate itself into inequalities and lead to a general decline in willingness to pay. Rather than adopting a draconian approach to dealing with non-payers, a balanced policy of service restrictions will benefit service providers and customers alike, with optimal consideration of the HRWS.

7.4 SIMULTANEOUS PROGRESSIVE REALISATION AGAINST VARIOUS CRITERIA

The principle of progressive realisation foresees tangible progress against all criteria. Public authorities have to set targets for each of the criteria, and look for synergies between actions to attain them. Clearly, if, for example, availability of safe drinking water is improved, it makes sense to build on this and invest in improving accessibility—the two would be mutually re-enforcing.

There are, however, also situations where it is more difficult to weigh the positive outcomes of efforts towards achieving a specific target against their inadvertently adverse impact on achieving targets related to other criteria. Investment to guarantee 24/7 operations of a water supply system will have immediate spin-offs for the improvement of water quality, but it is often argued that this implies short-term opportunity costs: ensuring 24/7 operations will need resources that cannot be used for a further expansion to extend coverage to unserved groups or may negatively affect the level of affordability of services. This is a false argument. Without 24/7 operations, systems cannot be extended because of high losses and low pressure. Unless this is recognised and the necessary investments are made, existing systems will deteriorate, regression will occur and there will not be sufficient water available to expand the coverage.

With respect to sanitation, it may be more feasible to expand a sewerage system gradually, by linking to decentralised treatment plants in a modular way rather than make a one-time massive effort around a single centralised treatment plant. The question then arises: what is the cost of offering acceptable interim sanitation to the communities that are waiting for a connection?

It is in such situations that the cross-cutting HRWS principles need to be taken into consideration. Choices between different options will need to be seen in the light of their impact on reducing inequality and discrimination. This will require a sound mapping of inequalities and discrimination, so that the decisions can be evidence-based.

7.5 SETTING GEOGRAPHIC AND INVESTMENT PRIORITIES

The legal framework does not prescribe the rules governing priority setting. Priority setting, in the end, is a political or a management process. This process can now benefit from the transparent inclusion of human rights principles, in particular equality and non-discrimination. Progress towards the HRWS targets cannot be uniform, equally balanced between all criteria and all parts of the population. Any significant action or investment will benefit a specific part of the population and probably not for all the criteria simultaneously.

As the process towards achieving the agreed targets takes its course, the priority setting may be challenged by people who have interests in seeing alternative combinations of criteria or principles being pursued. Furthermore, improvements by addressing one criterion may be to the detriment of efforts addressing another. For example, improving "access" through building a piped water network in a slum may result in decreased availability of water to those who are already connected to the existing network unless additional inflows of safe water from the source can be guaranteed. Having reliable distribution network models is essential for a reasonably accurate prediction of the impact of changes on how water is distributed.

Examples of challenges in priority setting follow.

- Extending the water service. When funds are available to extend the public water network, there may be dilemmas in the selection of target areas. How to select which unserved area should be connected first? The outcome may differ depending on whether criteria are applied from a strictly socioeconomic development perspective or from a human rights perspective. One approach might favour extending services to a new industrial zone to promote jobs and the economy, while the other might seek to provide services to an existing slum. Having a master plan in place for the medium- to long-term may help overcome these short-term dilemmas.
- Upgrading an existing system. When trying to restore a degraded system in a big city, it may be decided that it is more important to concentrate on repair of a leaking network than to invest in improving water quality management at the water treatment plant. This would make sense from a sustainability perspective because of the waste of resources that the loss of water from a network with extensive leaks and subject to inflow of polluted groundwater represents. Also, without maintenance of the existing network, its further expansion is hard to envisage. Others may argue, however, that rehabilitation of a network requires considerable capital investment, and that improving treatment and prioritising continuous disinfection will contribute significantly to the progressive realisation of the HRWS at a lower cost.
- Maintenance and/or improvements. A very common challenge results from the need in many cities to maintain, renew and possibly upgrade existing water networks and to create, simultaneously, new networks to supply taps or standpipes in unserved areas. Both are necessary from a human rights perspective. The people who already benefit from a public service should have this service maintained without degradation to respect the principle of "non-retrogression". Those who do not benefit from a public service may live under such precarious conditions that providing even a mediocre service would be a relief to them. The allocation of financial resources to either existing

public systems or to unserved will always present a challenge. The critical human rights indicator will be which of these two actions contributes most to the reduction of inequality. From a practical perspective, however, it may be more realistic to improve the reliability of water supply to existing served areas before embarking on extensions of the coverage, which could result in reduced service reliability for a greater number of people. Yet it is unacceptable for service providers to use this argument to postpone the process of extending coverage to the underprivileged indefinitely. The aim should be for those already enjoying a service to pay for any improvement in service level through the tariff. For the service provider this may imply the need to borrow capital. The cost of borrowing (i.e. the interest payments) should be met by those receiving the service through the tariff and should not disadvantage the unserved.

Making the appropriate decisions in these situations will be a challenge and usually requires letting human rights principles weigh in heavily while balancing a combination of technical, social, economic, public health and political considerations.

In differentiating between areas or population groups, it is necessary to have a clear policy that sets out the parameters that will determine the levels of service that are acceptable in any given area, as well as the manner in which these services could be upgraded in future. This 'ladder' concept of progressive realisation will make it possible for public authorities and service providers to develop a medium- to long-term development plan for upgrades over time, as affordability levels and the density levels within an area gradually increase.

7.6 LAND TENURE

In many low- and middle-income countries, the situation of land tenure adds a layer of complexity to efforts of progressive realisation of the HRWS. Yet, millions of people have set up home in informal settlements, without a legal entitlement to the land.

Governments will struggle against such situations, either because they aim to protect vested interests or areas reserved for public investment, or because the areas are prone to natural hazards. In either case, governments need to contain a situation that could further run out of hand. As a result, several countries have legislation prohibiting the extension of services to families living in informal settlements or who are squatting. Such legislation is incompatible with the HRWS, because it denies the individuals' rights to access to safe drinking water and sanitation. In such situations, service providers are only left with the option to work with government on legal and policy reform. Frequently, there are conflicts between rights, like property rights or safety regulations. The HRWS must, however, be respected. This may imply temporary solutions with specific technical options to make water and sanitation available to the inhabitants until the land tenure situation is resolved or they move elsewhere. Some governments may be reluctant to provide drinking water and sanitation services on a temporary basis because it may be perceived as a settlement right. In Morocco and Bangladesh, for example, this obstacle has been circumvented by adding a clause to user contract in which the users recognize that temporary access to services does not imply any settlement right whatsoever. Such contracts are signed before the service is actually provided.

At the other end of the spectrum, countries where the HRWS has been incorporated into the Constitution, or where laws and strategies have been adopted that *de facto* support progressive realisation towards the rights, service providers willing to extend their services may find themselves in a complex legal situation with land owners and inhabitants of informal settlements. Legislation on land tenure may include measures to counteract speculation, overturning ownership if original destination plans are not complied with within a given time frame. In such cases the informal settlements may be formalised, opening the way to "legal" provision of water and sanitation services. The legal proceedings may be long and

Box 7.1 Access to water, land tenure and human rights in Mumbai, India

A recent report in the *Bulletin of the World Health Organization* (Subbaraman and Murthy 2015) illustrates the fact that legal, institutional and policy barriers are often greater obstacles to expanding access to drinking water than monetary or technical challenges.

In 2012, the global population of urban slum dwellers amounted to over 860 million people. In India, a distinction is made between notified and non-notified slums. In some cities in India those living in notified slums (i.e. slums that are recognised by government authorities) are entitled to land tenure, as well as access to city services, including drinking water supply. In 2012, 59% of slum settlements were non-notified.

Mumbai, with arguably the largest slum population of any city in the world (over 6 million of its 12 million inhabitants live in slum settlements), has a policy that bases the divide between notified and non-notified slums on a cut-off date: all slum household who settled on State of municipal-owned land before 2000 can obtain notified status. Those settled on central Government-owned land cannot benefit from this policy and remain non-notified.

Differences in these populations come to expression in community health status, and in the affordability of water: water purchased from water vendors in non-notified slums is over 40 times more expensive than water provided by the municipal water utility to residents of notified slums.

After years of litigation, in December 2014 the Bombay High Court ordered the city government to extend access to Mumbai's water supply to residents living in non-notified slums. The court order uses a human-rights-based framework, holding that the right to water is central to the right to life guaranteed by the Constitution of India. It also states that water access should not be tied to the property rights of a slum, thereby disentangling security of tenure from the right to water.

Source: Subbaraman and Murthy 2015.

cumbersome, and in the process the landowner may take action to develop the land in accordance with the original destination plan—and forcing eviction on the informal settlers. Government should recognize that the HRWS must be satisfied irrespective of whether or not illegal settlers move to another location (legally or illegally). They should not block formal service providers from delivering services to illegal settlers. Often service providers lack the necessary decision-making power, and governments should therefore issue explicit authorisations to service providers to address the water and sanitation needs of illegal settlers at least temporarily, irrespective of the views of the land owners.

An active role for formal service providers in this context is not easy to envisage, if public authorities do not want them to provide any service in informal settlements. Informal service providers and national or international NGOs may be better equipped to tackle these issues and provide some interim solution for drinking water supply and sanitation. There is, however, an important role for drinking water regulators—they can coordinate with the regulatory counterparts on land tenure issues to ensure the framework for regulation is harmonised and informal settlers can enjoy their rights to water and sanitation.

7.7 PRE-PAID METERS

Pre-paid meters have been used successfully in ensuring that a customer only gets what they have paid for and significantly reduce the personnel cost and human error in reading meters and delivering bills. They provide the opportunity for water users to pay as they go and specific tariffs can be applied. They also make it possible for people to manage their consumption according to their needs. They have a downside in that there is no interaction between the service provider and its customers, and significant

social issues may arise from time to time. In areas where tendencies to tamper with installations may be prevalent, use of pre-paid meters may result in high unaccounted water use (non-revenue water) through illegal connections. The irregular income patterns of the low-income groups may complicate the use of pre-paid meters. Pre-paid meters have been used successfully, however, among the commercial and middle-income customers with capacity to pay in advance.

7.8 INTERIM STANDARDS

Standards are tools that help to achieve objectives. They should not be confused with the objectives themselves. National standards are often based on international guidelines or performance measures, but how they are set should take into account the current performance situation in that country. It should be recognised and accepted that there will be interim stages before performance according to the "gold standard" can be achieved. This is particularly important in the context of the HRWS since the failure to reach specific standards must not be confused with rights violations. Setting interim national standards is consistent with progressive realisation.

For example, the WHO Guidelines for Drinking Water Quality define recommended guideline values for chemical and biological substances that may be present in drinking water. These values are set to maximise the probability that compliant water is safe for human consumption. The long-term target for all should be for compliance with the standards that have been successfully adopted in high-income countries. In many parts of the world, water is, however, often unsafe to drink and setting and even achieving lower interim standards would already result in significant health improvements for all. In contrast, the high level of investment to achieve the best international standards in countries in which water supplies are currently intermittent, and many people do not receive any level of public service, would have additional health benefits to a few at the detriment of many. This would slow down progress towards the realisation of HRWS. This is why temporary local derogations to standards or, more appropriately, the adoption of achievable interim standards (milestones), are a common approach by authorities responsible for public health. This approach is not only in line with HRWS requirements but provides for more rapid progress towards providing an improved service to all.

The WHO Guidelines themselves suggest this approach, well aware that fixing a global "gold standard" will encourage non-compliance. Sovereign countries are recommended to establish realistic water quality standards and good practice for water quality management, through the formulation and implementation of water safety plans. Such plans start with the establishment of acceptable health-based targets (see Annex A).

7.9 CONTINUITY OF SUPPLY

In many low- and some middle-income countries it is common practice for water supplies to be rationed by hours of supply in sequence across sections of piped water supply systems. From the system's perspective, this may have two adverse effects. Rationed supplies require depressurisation and pressurisation of water mains in the distribution system. One consequence of this practice is that the pipes deteriorate more quickly, making them more susceptible to bursts, to increased leakage and to greater losses due to non-revenue water. Another consequence is that for periods of time there is no or negative pressure in the system, so there can be infiltration of the system by contaminated water. From the water user's perspective, in addition to health risks and unreliability of access, there additional costs are incurred since users have to equip themselves with local –private or communal- storage capacity.

Both consequences have implications for HRWS related to the criteria of availability, safety and affordability. More importantly, however, this practice initiates a downward spiral of service and has significant implications for the demand on water resources. The downward spiral results in a regressive service and loss of the human right to those affected. The achievement of continuous supplies (so-called 24/7) in the State of Karnataka in India resulted in a requirement for less source water even though the whole population now receives a safe continuous supply[15]. This has important implications for investment as additional source water and treatment capacity are not required.

Another experience related to reliability and continuity of service, also from India, shows how dengue fever, originally an urban disease, expanded into some of the rural areas because of the introduction of piped water supplies. As the piped water supply service was highly irregular and intermittent, people started to store water much more intensely as when they had been collecting water from wells, creating the necessary breeding places for the dengue mosquito vectors. As a result of this development, the transmission of the disease gradually extended into parts of rural India.

Although 24/7 can be seen as part of meeting the HRWS requirement of continuity of supply (which can also be achieved through local storage) continuity of pressure is essential to avoid system deterioration, a decline in service level and contamination.

[15]The Karnataka Urban Water Sector Improvement project. 24×7 water supply is achievable. World Bank Water and Sanitation Program Field Note. September 2010. https://www.wsp.org/sites/wsp.org/files/publications/WSP_Karnataka-water-supply.pdf.


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Annex A Context and contents of the human rights to safe drinking water and sanitation

SYNOPSIS

This Annex reflects on the HRWS in the context of the current global and national drinking water and sanitation challenges and their public health dimensions. It explains the principles of the human rights framework and presents a brief overview of the events leading up to the adoption of the human rights resolutions in 2010. It introduces the concept of progressive realisation, and concludes with an attempt to demystify issues around the HRWS and to clarify common misconceptions.

A.1 THE SCALE OF THE GLOBAL DRINKING WATER AND SANITATION CHALLENGES

The global situation of people's access to drinking water and sanitation is among the best monitored and analysed development issues in the world. A long history of monitoring (which started after the UN Conference on Drinking Water Supply and Sanitation in Mar del Plata, Argentina, in 1977) culminated in focused attention on specific global indicators during the period of the Millennium Development Goals (MDGs) with internationally agreed water and sanitation targets. These MDG targets and indicators left ample room for improvement. However, the methodology of nationally representative household surveys that include questions on access to and use of improved sources of drinking water and improved sanitation facilities provided, at least, an up-to-date global picture of status and progress in the numbers of people without access to these sources and facilities.

We know, therefore, that in 2015 globally an estimated 663 million people lacked access to improved drinking water sources and an estimated 2.4 billion lacked access to improved sanitation facilities (UNICEF and WHO 2015). The household survey approach allows for data disaggregation between regions and between rural versus urban populations. It also makes it possible to attribute levels of access to water and sanitation to wealth quintiles[16] of national populations. This disaggregation reveals, for example, large regional discrepancies (in 2013, an estimated 325 million of the 748 million people without access to improved water sources lived in Africa south of the Sahara). Over 1 billion people continue to

[16]Wealth quintiles are 20% segments of a population indexed for their relative wealth. Wealth quintile analysis is a tool to assess equity (a subjective concept), but not necessarily equality (a legal concept).

practice open defecation, mainly in the South Asian sub-continent and in Africa south of the Sahara. Yet, we also know that between 1990 and 2013 globally an estimated 2.3 billion people gained access to improved drinking water sources, and that in 2013 56% of the global population enjoyed a piped water connection on premises (WHO/UNICEF 2014).

The indicators measured do not fully address qualifiers contained in the MDG target definition, such as sustainability of access and safety of drinking water. Improved sources of drinking water are not a precise proxy for water quality based on technical characteristics. Extrapolations from a limited number of country studies (the Rapid Assessments of Drinking Water Quality or RADWQs[17]) indicate that a much larger group than the 663 million without access to improved sources at the end of the MDG period lacks access to safe drinking water. Worldwide, this group is estimated to number between 2 billion and 4 billion people (Onda *et al*. 2012). In 2014, a global assessment based on multi-level modelling, applied to 319 studies published between 1990 and 2013, estimated that 1.8 billion people use a faecally contaminated source of drinking water (Bain *et al*. 2014). For other parameters, such as reliability or affordability neither global targets nor global indicators existed during the MDG period. This is likely to change when the SDGs take effect. Similarly, collecting and analysing data through a human-rights-based approach will change our understanding of the global situation with respect to access to safe drinking water.

The national datasets used by the WHO/UNICEF Joint Monitoring Programme for Drinking Water Supply and Sanitation (JMP) originate from national bureaus of statistics and generally show important discrepancies in access to improved sources and facilities between different regions within a national territory, and important inequities when linking data on access to data on wealth status. The underlying causes, which are likely to include forms of discrimination, are not revealed by these datasets.

National datasets often show inconsistencies, depending on who is collecting the data, for what purpose and how parameters are defined and measured. The information provided by utilities, often aimed at maintaining an inventory of infrastructure to manage their assets may be hard to reconcile with the information derived from household surveys by national bureaus of statistics on access and use. Many countries do not have comprehensive drinking water quality information and if they do, it frequently is for specific types of provision. In low- and middle-income countries surveillance by regulators is generally confined to formal urban settings. Comparison of datasets from different countries is obstructed by differences in definitions or different interpretations of definitions for the indicators used.

Importantly, with few exceptions none of the monitoring and surveillance approaches include indicators for the basic human rights principles, equality and non-discrimination.

For countries to be held accountable in terms of progress towards the realisation of the HRWS, substantial strengthening of national monitoring and surveillance capacities will be needed, to enhance the scope and to ensure coherence and consistency in addressing all HRWS criteria. This will require a process of harmonisation of methods and procedures, and the monitoring of indicators for all drivers of inequality, not just economic status, to reveal the fundamental causes of inequalities and discrimination.

Providing access to safe and clean drinking water and basic sanitation has its roots in 19th century public health thinking. In the second half of the 20th century, perceptions expanded to consider water and sanitation as basic needs, and as engines for development. Economic analyses of investments in piped water supply and sanitation on the premise or in the home do point to public health benefits, but they predominantly highlight the gains from reducing the opportunity costs incurred by fetching water over great distances (Hutton *et al*. 2007). Yet, in a majority of countries the bottom line for WASH efforts, both in terms of targets and indicators, and as reflected by the regulatory and institutional frameworks

[17]http://www.wssinfo.org/documents/?tx_displaycontroller[type]=water_quality_reports.

Box A.1 The most recent facts on the burden of water-borne diseases

Recent estimates by the World Health Organization (Prüss-Ustün *et al*. 2014) of the burden of diarrhoeal diseases attributable to the lack of access to WASH services or to their poor quality show a significant decline over previous estimates. There is strong evidence that the number of deaths due to diarrhoeal diseases has dropped considerably since 2004 because of a combination of their improved management (especially the use of oral rehydration therapy) and expanded access to safe drinking water and basic sanitation. Earlier, WHO and UNICEF (WHO 2013) reported that diarrhoeal disease deaths of children under five declined by over 50% between 2000 and 2011—the latest estimate of under-five annual mortality is 645,000. These figures result from efforts to monitor progress towards MDG4 on reducing under-five mortality.

The analysis of exposure rates and pathways focused on low- and middle-income countries, where it was estimated that in 2012 502,000 diarrhoeal disease deaths were associated with inadequate drinking water and 280,000 with inadequate sanitation, out of a total of 1.50 million diarrhoeal diseases deaths that year. In addition, it was estimated that 297,000 deaths could have been prevented by the promotion of hand hygiene, although the statistical significance of this estimate is less robust.

Together, after statistical elaboration excluding double-counting associated with the overlap between the two attributable fractions, the number of deaths attributable to inadequate drinking water and sanitation in 2012 is estimated at 685,000. This figure does not include water-borne infectious diseases other than diarrhoeal diseases, other water-washed (i.e. sanitation associated), water-based or water-related vector-borne diseases, nor does it reflect the impact of environmental enteropathy and associated malnutrition caused by repeated or permanent water-associated intestinal infections. The analyses to arrive at an update of the total number of deaths attributable to poor drinking water, sanitation and hygiene are still ongoing. Estimates published by the WHO 2004 gave a number of 3.4 million deaths annually.

Broken down by region (and focusing on low- and middle-income countries only) it is clear that both in terms of annual mortality (number of deaths per year) and in terms of burden of disease (days of life lost due to premature death and days of healthy life lost, expressed as Disability-Adjusted Life Years or DALYs) Africa south of the Sahara continues to carry the greatest burden both in absolute and relative terms, followed by South and South-East Asia, and with the Eastern Mediterranean region in third place.

Sources: Prüss-Ustün *et al*. 2014.
WHO (2013).

for the management of drinking water supply and sanitation, remains the protection and promotion of public health. The most recent statistics produced by the WHO are presented in Box A.1.

Now, a new argument has been added to the imperative of providing universal coverage of drinking water and sanitation services. In 2010, the United Nations acknowledged access to safe drinking water and sanitation as a distinct right within the International Bill of Human Rights. This acknowledgement confirms this right to be derived from the right to an adequate standard of living and inextricable linked to the right to the highest attainable standard of physical and mental health, as well as to the right to life and human dignity.

To understand the significance of this development for governments and, in the particular context of this Manual, for drinking water and sanitation practitioners as defined in Chapter 1, this Annex contains an explanation of the human rights framework and the rights-based approach to development follows.

A.2 WHAT IS THE HUMAN RIGHTS FRAMEWORK?

The human rights framework emerged under the auspices of the United Nations in the wake of the Second World War with the adoption of the Universal Declaration of Human Rights in 1948. The treaties that are part of this framework are international, legally binding instruments to tackle inequality and discrimination. The universal and egalitarian human rights are divided into (1) civil and political rights and (2) economic, social and cultural rights, each governed by an internationally binding treaty known as a Covenant. The International Covenant on Economic, Social and Cultural Rights was drafted in 1954 and took effect in 1966. By 2013, it had over 160 parties: governments that either signed, or signed and ratified, the Covenant. It includes the right to an adequate standard of living, initially with an explicit reference to food, clothing and housing.

A process of negotiations, led by the UN Human Rights Council (formerly the UN Commission on Human Rights), aims at making the scope and focus of the rights under the Covenant more explicit. Through the adoption, in 2003, of General Comment 15 on the right to water, the Committee for Economic, Social and Cultural Rights re-interpreted the Covenant under its responsibility to include the right to water[18]. This position has now been re-affirmed by the adoption of Resolutions by the UN General Assembly and the UN Human Rights Council in 2010, which extended the formulation to include sanitation as well (see Box A.2).

Governments of UN Member States are the duty bearers when it comes to meeting the human rights obligations: to respect, protect and fulfil the rights. This does not necessarily imply the State's direct involvement in the actions required (in the case of water and sanitation: the provision of adequate

Box A.2 Excerpts from the UN resolutions on the human right to safe drinking-water and sanitation

UN General Assembly Resolution 64/292 (28 July 2010) "… *recognizes the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights.*" It recognises "… *the commitment of the Human Rights Council to water and sanitation*" and it re-iterates "… *the commitment of nations to halving, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation*", as one of the targets under the Millennium Development Goals.

Resolution A/HRC/RES/18/1 adopted by the UN Human Rights Council (28 September 2010) recalls the UN General Assembly Resolution, and affirms that "… *the human right to safe drinking water and sanitation is derived from the right to an adequate standard of living and inextricably related to the right to the highest attainable standard of physical and mental health, as well as the right to life and human dignity*", and re-affirms that "… *States have the primary responsibility to ensure the full realization of all human rights, and that the delegation of the delivery of safe drinking water and/or sanitation services to a third party does not exempt the State from its human rights obligations*".

Sources: http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/64/292 and http://www.ohchr.org/ENG/Issues/WaterAndSanitation/SRWater/Pages/Resolutions.aspx.

[18]Committee on Economic, Social and Cultural Rights, General Comment 15, The right to water (Twenty-ninth session, 2003), UN Doc. E/C.12/2002/11 (2002), reprinted in Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies, UN Doc. HRI/GEN/1/Rev.6 at 105 (2003).

services); rather, governments should create the conditions that enable a range of actors to make their contribution to the full realisation of the rights. This includes the creation of a national legal framework, the establishment of an institution or institutional arrangements to coordinate and monitor human rights actions, public awareness campaigns explaining the nature and boundaries of the human rights to the rights holders and the stimulation of additional education and training curricula aimed at preparing water and sanitation professionals to integrate the human rights criteria and principles into their daily routine.

In this context, the role of those providing or regulating drinking water and sanitation services can cover multiple objectives:

- actions to ensure that the criteria and principles of the human rights to water and sanitation are effectively addressed;
- monitoring and surveillance of the impact of these actions, in particular on the reduction of inequalities and discrimination; and
- assessment of proposed elements of human-rights-based policies, legislation and regulation, so that feed-back to the authorities helps maximise the intended impact on human rights criteria and principles, with due consideration of hurdles and obstacles to the day-to-day delivery of services that may be created inadvertently.

Human rights are a corner stone for public policy, and increasingly the economic, social and cultural rights are considered as important as the civil and political rights. Poverty generally goes hand in hand with inequality and discrimination. Human rights are increasingly influencing policies for international cooperation and development, including through the so-called rights-based approach to development. While adding legal and moral arguments to development assistance, human rights also raise the issue of resource constraints on recipient governments to fully respect, protect and fulfil the rights in accordance with their obligations.

Clearly, in adopting an approach that fully embraces the principles underpinning the human rights to safe drinking water and sanitation, service providers similarly will need to consider the resource implications. They will need to include a new set of criteria in their decision-making processes for resource allocations. Their role in promoting the human-rights-based approach in partnership is dual: the already mentioned assessment of and advice on policies, legislation and regulation proposed by national and local authorities, as well as the effective information of their customers, the rights holders, about the nature, scope and contents of their rights in the context of the framework.

A.3 A BRIEF OVERVIEW OF EVENTS LEADING TO THE ADOPTION OF THE UN RESOLUTIONS IN 2010

The main landmark events leading to the UN resolutions acknowledging the rights to safe drinking water and sanitation have been mentioned in the previous section. For a better understanding of the rationale behind this process, the timing of events and the current implications of these resolutions, it is useful to provide a slightly more detailed historical perspective.

The human rights to water and sanitation were not explicitly included in the original Covenant on Economic, Social and Cultural Rights, negotiated in the 1950s and 1960s, and adopted in 1966. A new awareness of the potential threats to the supply of safe drinking water and the contribution of poor sanitation to diminishing quantities of good-quality water, led to decision by the United Nations to declare the 1980s as the International Decade of Drinking Water Supply and Sanitation, with an aspirational goal of achieving universal coverage by 1990. While the 1977 Mar del Plata Conference referred to the need

to establish the right to water, no relevant indicators were included in Decade monitoring. Several mindset shifts took place during the Decade, paving the way for the recognition of safe drinking water and sanitation as a human right 20 years later:

- a shift in focus from purely infrastructure-centred understanding of the challenges faced, to a comprehensive economic, social, institutional and governance perspective;
- a shift in thinking about water and sanitation as a sectoral public health issue to a cross-sectoral development issue with multiple dimensions;
- a shift in the perception of drinking water and sanitation from one of two inextricably linked issues, to a recognition that they are issues in their own right sharing certain determinants and impacts. Amalgamating drinking water and sanitation ultimately has been to the detriment of sanitation, as underscored by the fact that sanitation was not even considered in the initial formulation of the MDG targets, nor in the early attempts to formalise the human right to water.

With the world population meanwhile expanded to over 6 billion at the turn of the millennium, the first concrete step towards acknowledging safe drinking water and sanitation as a human right was the adoption, in 2003, by the Committee for Economic, Social and Cultural Rights (CESCR) of General Comment 15 on the "right to water". The CESCR is the treaty body responsible for monitoring State compliance with the International Covenant. Its General Comments are authoritative interpretations of the Covenant. General Comment 15 states that the "right to water" is implicit in Article 11 of the Covenant, which confirms the right to an adequate standard of living. Sanitation was considered as part of the "right to water" in the 2006 UN Draft Guidelines on the "right to drinking water and sanitation". In 2010 the CESCR re-affirmed the inclusion of sanitation in this interpretation and established the links to the rights to adequate housing, to health and to life. This was rapidly succeeded by the adoption of the UN resolutions in the same year, achieving unequivocal recognition of the rights to safe drinking water and sanitation by the UN Member States.

A.4 PROGRESSIVE REALISATION AND ITS IMPLICATIONS

The term "progressive realisation" refers to the principle that States, as the duty bearers, are required to act to the best of their abilities and capacity to maximize progress towards a situation where their entire population enjoys human rights without inequalities or discrimination. It is included in Article 2 of the International Covenant on Economic, Social and Cultural Rights which puts the duty on each party "… to take steps […] to the maximum of its available resources, with a view to progressively achieve the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures".

In the context of the HRWS, this concept acknowledges that the ultimate goal of universal coverage cannot be attained overnight. Yet, States have the obligation to demonstrate tangible progress on all criteria and principles. Progressive realisation rules out deliberately regressive measures (such as those that may be considered under an austerity scheme at times of financial or economic crisis) that impede the gradual extension of the right to all, in particular those that contribute to a further deepening of inequalities. When resource constraints seriously limit the capacity of a State, special measures may be needed to provide, at least, minimum essential levels in the provision of safe drinking water and sanitation, such as programmes targeted at the most vulnerable or at those subject to discrimination.

In her 2013 report to the Human Rights Council, the UN Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation links the principles of progressive realisation and non-retrogression to the sustainability of the extension and improvements in service delivery (see Chapter 3). The explicit

incorporation of human rights targets, standards and norms into drinking water and sanitation policies will be an effective buffer against retrogression at times of crises (Albuquerque 2013).

Interestingly, guidance on some critical drinking water parameters, such as drinking water quality, has evolved along the principle of progressive realisation, even if the term as such is not used. The WHO Guidelines for Drinking Water Quality (WHO 2011a) have adopted an integrated risk assessment and management approach which allows individual WHO Member States to adopt politically and socially acceptable health-based targets (see Box A.3) in an incremental way.

A.5 DEMYSTIFYING HUMAN RIGHTS TO SAFE DRINKING WATER AND SANITATION

In spite of a powerful communications campaign by the first UN Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation, Catarina de Albuquerque, several misconceptions and misunderstandings continue around the questions of what the rights imply and what they do not imply.

The fundamental concept of progressive realisation has been explained in the previous sub-section. Other questions frequently arising include the following.

In the context of the HRWS, do States have to provide water and sanitation services to their population free of charge?
No, the HRWS does not imply the free provision of water and sanitation services. The formulation of the rights refers to affordability, meaning that people should contribute reasonably within their means, financially or in kind. For those whose rights are jeopardised by their inability to contribute, governments should create facilitating arrangements. Contributions in return for water and sanitation services should not be at the expense of the enjoyment of other rights (i.e. affordability is relative to the capacity to purchase other essential goods and services under the broad human rights umbrella).

Does the HRWS exclude private service provision?
No, the human rights framework does not prescribe any particular organisational model of service provision. States, as the duty bearers, must ensure access for all, and must put in place an adequate regulatory framework, including effective monitoring, surveillance and complaint procedures, that prevents public and private actors from committing human rights violations.

Is there a hierarchical relationship between the right to water and the right to sanitation?
No, the human rights to safe drinking water and to sanitation hold equal status. The recent (2015) adoption of the UN General Assembly Resolution recognizing the two rights as separate but inter-connected re-affirms this: access to safe and to affordable drinking water and sanitation are crucial for the quality of life, for health and for dignity. The lack of adequate sanitation is a major cause of contamination of drinking water sources. A reduction in the burden of water-borne and water-washed diseases requires action to improve both drinking water and sanitation services. Water is not necessarily an element of an effective sanitation system, but safe water is essential for domestic purposes including drinking, cooking, washing and hygiene.

Is everyone – even those living in remote areas – entitled to piped water and a flush toilet connected to a sewerage network?
No, States have to ensure that services comply with the human rights criteria and principles, but it is recognised that the technologies used in the delivery of water and sanitation are contextual. States

Box A.3 Water Safety Plans

The WHO Guidelines for Drinking Water Quality are based on the concept of integrated risk assessment and management along the entire chain of events from collecting water for consumption from a source to its delivery to the consumer. This concept is made operational through water safety plans (WSPs). The primary objectives of a WSP in ensuring good drinking water supply practice are the prevention or minimisation of contamination of source waters, the reduction or removal of contaminants through treatment processes and the prevention of contamination during storage, distribution and handling of drinking water. These objectives are equally applicable to large piped drinking water supplies, small community supplies and household systems. A WSP has three components guided by health-based targets:

(1) a *system assessment* to determine whether the drinking-water supply chain (up to the point of consumption) as a whole can deliver water of a quality that meets identified targets. This also includes the assessment of design criteria of new systems;
(2) appropriate means of *operational monitoring* for each of the control measures identified as part of a collective and incremental risk management package, to ensure that any deviation from required performance is detected in a timely manner;
(3) *management and communication plans* describing actions to be taken during normal operation or at times of incident conditions, and documenting the system assessment at all stages, for all aspects and under all conditions.

This risk assessment and management approach aims to meet health-based targets, a subjective measure determined by the burden of local water-related diseases, by the local capabilities and capacity to prevent and/or control them, and by the social/political acceptability of threshold options for disease incidence. Similar to the HRWS, practitioners are expected to ensure gradual progress towards higher standards and better practices linked to lower acceptable risks to health. Establishing health-based targets requires (and, hence, stimulates) effective collaboration between water practitioners and public health professionals. In the absence of agreed health-based targets, practitioners, at a minimum, should seek to establish basic microbiological, chemical and physical parameters that indicate the quality of water in relation to risks to public health.

Linked to these targets, they should develop corresponding water quality standards and best practice rules that befit the prevalent socioeconomic reality. The globally recommended guideline values for (micro)-biological, chemical and physical contaminants and pollutants remain in place as the ultimate goal. The attainment of that goal is an incremental process in which governments upgrade the health-based targets, standards, norms and procedures in line with their socioeconomic development. The instrument for implementing this process is the water safety plan.

Source: WHO 2011a.

therefore have a margin of discretion to promote measures and ensure appropriate services most suited to local circumstances.

Is 20 litres of safe and clean drinking water sufficient for the full realisation of the right to water?
No, 20 litres per person per day is not sufficient to remove health risks associated with a lack of adequate access to water. Full realisation of the right requires at least 50–100 litres per person per day (see Table 3.1; WHO 2003).

Annex B The sustainable development goals

B.1 INTRODUCTION

In September 2015, at a special session of the UN General Assembly, Heads of State adopted the proposal for a new set of international development goals, the Sustainable Development Goals (SDGs). The SDG framework consists of 17 Goals, with 169 targets – building on the MDGs that governed development planning and implementation between 2000 and 2015. The SDGs go beyond the MDGs in terms of ambition, scope and spirit – they embrace universality (they set targets for high-, middle- and low-income countries alike, and aim to "leave no-one behind"); they address all three pillars of sustainability (the economic, social and environmental aspects); and they are geared towards transformation rather than progress.

A dedicated water and sanitation goal in part of this framework: SDG6, Ensure Availability and Sustainable Management of Water and Sanitation for All. This Goal covers all water and sanitation issues, not only drinking water and sanitation as target 7C of the MDGs did. This comprehensive approach underlines to increasing importance of water scarcity, concerns over water quality and competition for water sources by different sectors. The human right to safe drinking water and sanitation was the only human right specifically referred to in the report of the UN Secretary-General supporting the SDG proposals[19]. The human rights criteria overlap importantly with the indicators for targets 1, 2 and 3 under SDG6.

B.2 SUSTAINABLE DEVELOPMENT GOAL 6: ENSURE AVAILABILITY AND SUSTAINABLE MANAGEMENT OF WATER AND SANITATION FOR ALL

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

[19]UN (2014). The road to dignity by 2030: ending poverty, transforming all lives and protecting the planet. https://sustainabledevelopment.un.org/majorgroups/post2015/synthesisreport

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.
6.4 By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of fresh water to address water scarcity and substantially reduce the number of people suffering from water scarcity.
6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.
6.6 By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
6a By 2030, expand international cooperation and capacity building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.
6b Support and strengthen the participation of local communities in improving water and sanitation management.

In this context, 6.1 to 6.6 represent the outcome targets, and 6a and 6b represent the targets for the means of implementation.

Other SDGs also address water issues, notably SDG11, and SDG10 aims to reduce inequalities between and within countries.

B.3 THE PROPOSED INDICATORS

Under the umbrella of UN-Water, the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP) has developed indicators for targets 6.1 and 6.2 that incorporate technological advances since the start of the MDGs (for example, on measuring drinking water quality as part of household surveys) and reflect the criteria and principles of the human rights to water and sanitation.

It has developed more refined ladders both for drinking water services and sanitation services at home, which make the following distinctions:

DRINKING WATER SERVICE LADDER

Level	Indicator
Sustainable	Percentage of population using a safely-managed drinking water source that reliably provides
Basic	Percentage of the population using an improved drinking water source with a total collection time of no more than 30 minutes for a round trip, including queueing.
Unimproved	Percentage of the population using a drinking water source that is not adequately protected from outside contamination, particularly faecal matter, or is not easily accessed (>30 minutes collection time including queueing)
No service	Percentage of the population using surface water (river, dam reservoir, lake, pond, stream, canal, irrigation canal)

LADDER FOR ACCESS TO SANITATION AT HOME

Sustainable	Percentage of the population using a safely-managed sanitation facility that reliably provides expected levels of service, and is subject to robust regulation and a verified risk management plan.
Safely-managed	Percentage of the population using a basic sanitation facility where excreta are safely disposed in-situ or safely transported and treated off-site.
Basic	Percentage of the population using an improved sanitation facility not shared with other households.
Shared	Percentage of the population using an improved sanitation facility not shared with other households.
Unimproved	Percentage of the population using a sanitation facility that does not hygienically separate human excreta from human contact or is shared with other households.
No service (open defecation)	Percentage of the population practicing open defecation (defecating in bushes, fields, open water bodies or other open spaces).

More information on the monitoring of drinking-water and sanitation monitoring can be found at www.wssinfo.org

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Manual of the Human Rights to Safe Drinking Water and Sanitation for Practitioners

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The *Manual of the Human Rights to Safe Drinking Water and Sanitation for Practitioners* aims:

- To introduce the principles and concepts contained in the United Nations resolutions recognizing the Human Right to Safe Drinking Water and Sanitation (HRWS)
- To clarify the language and terminology used in the promotion of human rights, and
- To provide guidance on the roles and responsibilities for everyone who contributes to the progressive realization of the HRWS, and on how the human rights principles and actions can be incorporated into their essential functions.

The Manual highlights the human rights principles and criteria in relation to drinking water and sanitation. It explains the international legal obligations in terms of operational policies and practice that will support the progressive realisation of universal access.

The Manual introduces a human rights perspective that will add value to informed decision making in the daily routine of operators, managers and regulators. It also encourages its readership to engage actively in national dialogues where the human rights to safe drinking water and sanitation are translated into national and local policies, laws and regulations. Creating such an enabling environment is, in fact, only the first step in the process towards progressive realisation. Allocation of roles and responsibilities is the next step, in an updated institutional and operational set up that helps apply a human rights lens to the process of reviewing and revising the essential functions of operators, service providers and regulators.

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