START WITH WATER

Putting water on local action agendas to support global change

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ACKNOWLEDGEMENTS

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ABOUT THIS GUIDE

Through the International Conferences of Local and Regional Authorities on Water, held during each World Water Forum, the World Water Council and its long-standing partners such as United Cities and Local Governments (UCLG), ICLEI – Local Governments for Sustainability and the Global Water Operators' Partnership Alliance (GWOPA)/UN-Habitat are working with local governments to strengthen the capacities of decision makers to deal with local water challenges. Initiatives such as the Istanbul Water Consensus and Daegu Water Action for Sustainable Cities and Regions build on this support by coordinating local and regional authorities around action-led frameworks and declarations. These frameworks, and the subsequent actions taken to implement them, result in more sustainable, equitable and efficient management of water resources and services. Without good water management, urban development is compromised with little chance of being sustained long-term. Today, the major globally-agreed development frameworks, most notably the Agenda 2030 and the New Urban Agenda (NUA), echo this message and place water and sanitation high on the agenda.

This guide, with its recommendations and case studies, is the next step in the initiatives led by the World Water Council through the World Water Forum, and builds on the commitment already made by local and regional authorities to the Daegu Water Action for Sustainable Cities and Regions[1] and the Istanbul Water Consensus[2] (over 1,000 signatories). The Daegu Water Action call identifies two strategies – one targeting local government and the other national – which support local action in order to achieve the water-related goals of the Sustainable Development Goals (SDGs).

This guide provides concrete actions and case studies that governments can learn from, adapt and implement in their own contexts. This guidance material also seeks to respond to the call from local and regional authorities for greater clarity on what global development frameworks mean for the subnational level in terms of water management and how they will support the achievement of sustainable development.

To better understand the role local and regional authorities can play in moving forward on water-related targets within global agendas, the first part of this guide provides an analysis of each framework from a water and local and regional authority perspective. This analysis highlights how water relates to the various targets, goals, indicators and principles of each framework, and identifies action areas where local and regional authorities are called upon to act or contribute to the achievement of these goals.

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[1]   Daegu Water Action for Sustainable Cities and Regions: http://www.worldwatercouncil.org/sites/default/files/2017-10/7th_world_water_forum_-_Daegu-Gyeongbuk_-_Republic_of_Korea_-_Water_Action_for_Sustainable_Cities_and_Regions_EN_0.pdf
[2]   Istanbul Water Consensus: http://www.worldwaterforum6.org/fileadmin/user_upload/iwc/IWC_english_final.pdf

The frameworks covered in the following pages are:

- New Urban Agenda;
- Sustainable Development Goals;
- Sendai Framework for Disaster Risk Reduction;
- Paris Agreement.

The guidance also considers other frameworks, including:

- Daegu-Gyeongbuk Water Action for Sustainable Cities and Regions;
- Istanbul Water Consensus;
- International Water Association (IWA) Principles for Water-Wise Cities;
- Action Framework for Implementation of the New Urban Agenda (AFINUA).

The second part of this guide consists of eight concrete recommendations for local and regional authorities with accompanying case studies. These case studies have been selected to ensure a wide topology and balance (geographical, city size, water characteristics), thereby providing examples that are relevant to all sectors of society. Finally, each of the eight recommendations are cross-referenced with the major global development agendas (see annexes). By providing a common and practical set of recommendations for local and regional governments seeking to contribute to water-related targets, this guide facilitates action as well as the collection and exchange of best practices and tools. This approach also supports greater accountability in monitoring the contribution of local government to specific targets across all frameworks, and shapes communities of practice.

INTRODUCTION

Urbanization is one of the 21st century's most transformative trends. Cities are the dominant force in economic growth, development and prosperity in both developed and developing countries. Throughout the Millennium Development Goal period (2000–2015), cities have been the catalyst in lifting many of the world's poor out of poverty and providing new opportunities for education, employment and prosperity, in part owing to their economies of scale, greater efficiency in resource management, and innovation. Water management is one of the biggest tasks within a city and getting it right is necessary for cities and their inhabitants to both survive and thrive. In many areas of the world, water management falls (fully or partially) under the responsibility of local and/or regional governments, either by mandate or by necessity when responsibilities are unclear or other actors are absent. The actions of local and regional authorities are key in ensuring that all urban dwellers, both new and existing, have the conditions necessary to pull themselves out of poverty by accessing the basic services and rights owed to them. To ensure that this trend can continue and go to the scale required by our growing urban population, subnational governments must be empowered and given the right tools and resources for the job.

As drivers of innovation and investment, cities have profound impacts on energy consumption, the global economy, politics, security and human progress. The growth and development of our cities also has implications for the surrounding and rural areas that provide for and rely on cities. Growing urban populations not only increase demand, but also put growing pressure on infrastructure and service provision, and create more pollution. In cities, the strain of growth is felt most by the vulnerable and excluded urban inhabitants, typically those living in informal settlements, women and the infirm. Rising costs in housing forces poorer communities or new arrivals into informal settlements on the outskirts of cities where basic service coverage is limited or of poor quality. A lack of quality sanitation poses severe health risks that place the elderly, young and infirm in greater danger. These challenges, particularly when coupled with the mounting unpredictability of our changing climate, inadequate urban planning and human conflict, mean that getting water right in our cities will be a decisive factor for the future of people and the planet.

In building city resilience to water scarcity and climate change, providing access to safe drinking water and sanitation, and preventing water-related disasters, local and regional authorities are on the frontline of addressing water-related challenges, climate action and equity. From peace-building town twinning to more thematic partnerships between municipalities and global networks of local authorities, the local level of government has been able to harness its agility, proximity to citizens and knowledge of the local context to react quickly and effectively to the changing needs of our urban populations. In many regions of the world, subnational governments are performing well despite a

URBANIZATION IN NUMBERS

TODAY

More than **40%** of the world's population will live in river basins under severe water stress and **20%** of the population will be at risk from floods (OECD Studies on Water Security for Better Lives, 2013).

Only **27%** of the global population (1.9 billion people) use private sanitation facilities connected to sewers from which wastewater is treated (Joint Monitoring Report, WHO/UNICEF, 2015).

One-third of developing countries report that urban utilities lack revenue to fund operations and maintenance (GLAAS report, 2012).

Of the 159 million people that still collect drinking water directly from surface water sources, **58%** live in sub-Saharan Africa (Joint Monitoring Report, WHO/UNICEF, 2015).

BY 2020

Nearly **1.5 billion** people in the developing world will live in slums (UN-Habitat).

70% of the population will live in cities (UN-Habitat, World Cities Report, 2016).

BY 2030

60% of new urban settlements will still need to be built.

Half of the world's inhabitants will live less than 60 km from the sea, and **75%** of large cities will be located on the coast (OECD Studies on Water Security for Better Lives, 2013).

There will be a **50%** increase in demand for energy and water (UN Water, Water and Jobs: Facts and Figures, 2016).
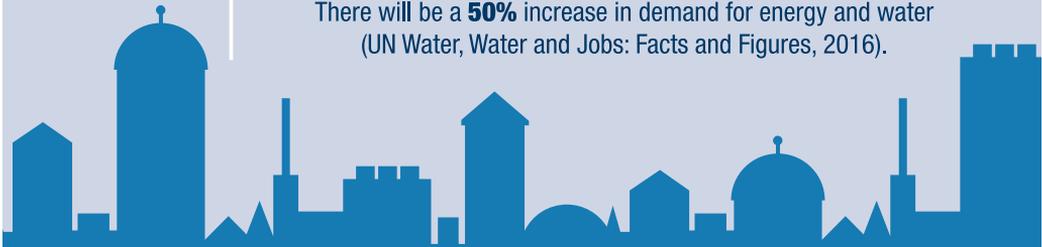
WATER AND SANITATION IN NUMBERS

Of the **90%** "improved water" coverage reported by the Joint Monitoring Committee, **25%** consists of irregular or illegal sources (Joint Monitoring Report, WHO/UNICEF, 2015).

Over **2.5 billion** people lack access to improved sanitation. Sanitation projects remain difficult to finance due to low rate of return on investment (Joint Monitoring Report, WHO/UNICEF, 2015).

Each year, **3.5 million** people die due to inadequate water supply, sanitation and hygiene (WHO, World Water Day report, 2017).

Worldwide, **two-thirds** of the sewage from urban areas is discharged untreated into lakes, rivers and coastal waters (Joint Monitoring Report, WHO/UNICEF, 2015).

lack of decentralization and autonomy from other levels of government. The municipal movement celebrated its 100th year in 2015, yet the overriding feeling among many subnational governments is that decentralization and local autonomy have not gone far enough.

For good water management, the challenges for local and regional authorities are most often related to resources (financial, human and natural) and political contexts. Many local authorities are struggling to maintain and improve water services in their cities under these conditions, especially when problems are magnified by cascading hazards: political instability, unclear jurisdiction, ageing infrastructure, competing demands on resources, etc. Investing in water at the local level leads to healthier and more prosperous communities, yet many national governments are often unwilling, unable or unaware of the need to provide the necessary support to local governments to overcome these challenges. Also, the private sector is often unwilling to invest in infrastructure – even though this investment can help make unfavorable markets more favorable – because of expected low returns on investment or political instability. These challenges exert growing pressure on local governments and, therefore, on global water security, resulting in intensified inequalities, unsustainable resource use and a deterioration of the environment.

The achievements of the Millennium Development Goals (MDGs) in water and sanitation were unprecedented, not only in terms of the results but also in their ability to bring together a wide range of actors under a common framework. Local authorities were instrumental in achieving and consolidating these gains. Despite successes in water access, the focus of the MDGs on "improved access" was too open to interpretation and did not consider quality and impact for users and the environment. Renewed

Legend:
- Smaller
- Larger but less than double
- Double or more, but less than fivefold
- Fivefold or more
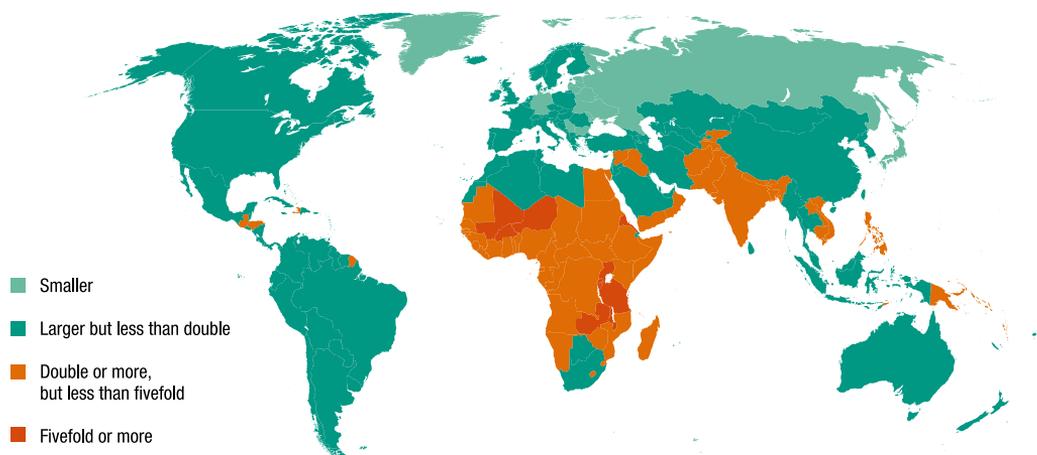
Source: World Economic Forum calculation based on World Urbanization Prospects (2014 revision) data.

Figure 1. Forecasted urban population growth 2010–2050

commitments through globally-agreed frameworks[3] have therefore placed greater emphasis on goals that encompass the social, economic and environmental pillars of development. Water is a cross-cutting theme that relates to all aspects of development, from health to education, gender equality to employment. Water management, in particular the provision of basic services, represents a huge portion of municipal budgeting and programming. Empowering local governments to confidently take a more active role in managing water-related issues is necessary for positive urban transformation.

Much of the implementation of these new and revised commitments must be led or initiated by national governments, but there is once again a long to-do list for the local and regional authorities, not least in water-related issues. Subnational levels of government have already expressed their commitment to these goals, most visibly throughout the Habitat III process building up to the adoption of the New Urban Agenda. There is, however, an equally strong call for guidance, strategies and support to help cities achieve these commitments.

The World Water Forum is the foremost platform for the coordination of global efforts in water-related issues and has led the way in enabling the dialogue with and between local and regional authorities. This guide builds on existing commitments made by local and regional authorities, and responds to their call for greater clarity on what global development frameworks mean for the subnational level in terms of water management and how they, the authorities, can support sustainable development.

Ratio of withdrawals to supply

- Low stress (<10%)
- Low to medium stress (10-20%)
- Medium to high stress (20-40%)
- High stress (40-80%)
- Extremely high stress (>80%)
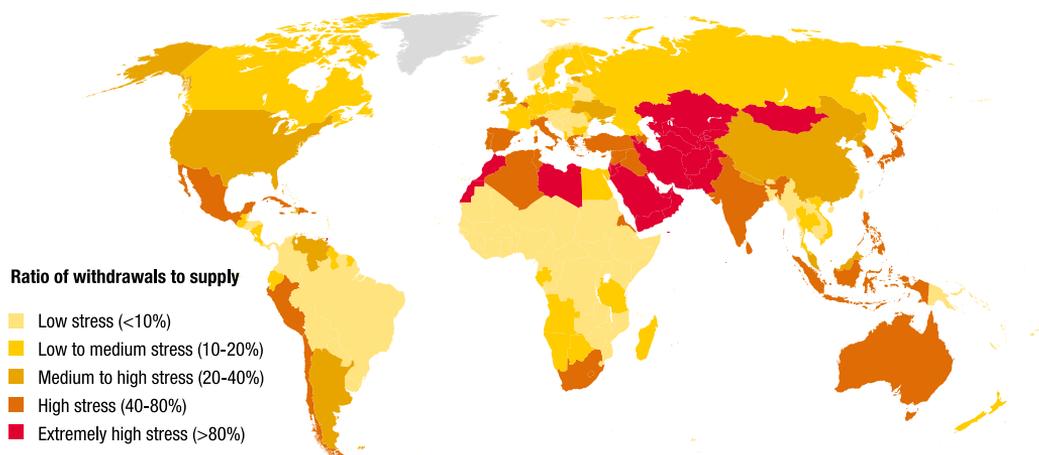
This map shows the average exposure of water users in each country to water stress, the ratio of total withdrawals to total renewable supply in a given area. A higher percentage means more water users are competing for limited supplies.

Source: World Resources Institute Aqueduct (aqueduct.wri.org), Gassert et al. 2013.

Figure 2. Water stress by country

[3] The Sendai Framework for Disaster Risk Reduction, the 2030 Agenda including the 17 Sustainable Development Goals, the Paris Agreement and, most recently, the New Urban Agenda.

GLOBAL FRAMEWORKS

New Urban Agenda

Sustainable Development Goals

Sendai Framework for Disaster Risk Reduction

Paris Agreement

Other frameworks

NEW URBAN AGENDA

In December 2016, the United Nations General Assembly endorsed Resolution A/71/235: 'Implementation of the outcome of the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) and strengthening of the United Nations Human Settlements Programme (UN-Habitat)'.[4] The resolution states, among other things, that the General Assembly:

1.   Welcomes the adoption of the outcome document, entitled 'New Urban Agenda', by the United Nations Conference on Housing and Sustainable Urban Development (Habitat III), held in Quito from 17 to 20 October 2016;

3.   Recognizes the importance of promoting and taking concrete action for the full, effective and timely implementation of the New Urban Agenda at the global, regional, national, subnational and local levels;

9.   Reaffirms that, by readdressing the way cities and human settlements are planned, designed, financed, developed, governed and managed, the New Urban Agenda will help to end poverty and hunger in all its forms and dimensions, reduce inequalities, promote sustained, inclusive and sustainable economic growth, achieve gender equality and the empowerment of all women and girls, in order to fully harness their vital contribution to sustainable development, improve human health and well-being, foster resilience and protect the environment.

The New Urban Agenda sets global standards for sustainable urban development, and reshapes thinking on how we plan, manage and live in cities. This framework is a guide to how cities can not only help drive the wealth and success of a country, but can also support the health and well-being of their inhabitants as well as the environment. Central to the NUA's approach is strengthening capacity at the local level and increasing decentralization. Roles, responsibilities and resources are clearly defined through national urban plans, resulting in more coherent policies as well as more efficient use of resources allocated to urbanization.

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[4]   Resolution A/RES/71/235 adopted by the UN General Assembly:
http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/71/235

Implementing the NUA in Latin America and the Caribbean

The Regional Action Plan (RAP) for the implementation of the New Urban Agenda in Latin America and the Caribbean 2016–2036 proposes interventions and actions, as well as relevant policy priorities, to promote sustainable urban development in the region. The region needs routes, methodologies and tools to guide urbanization and the RAP offers a context-specific roadmap for the national, subnational and city level. As one of the first practical RAPs, the approach stands to be replicated in other regions across the world.

Reflecting global urbanization trends, cities are increasingly presenting themselves as the new stage for addressing critical water management issues. The objectives and targets of the New Urban Agenda are founded on the potential of cities to play an active role in sustainable development – and water-related issues are no exception. The recurring water-related action areas for local and regional authorities include:

Inclusivity

Cities cannot continue to be places where inequalities are exacerbated. Ensuring basic services to all inhabitants is the first step in ensuring human rights for all and equal opportunities for prosperity. Those living in informal settlements are severely disadvantaged and service providers and local governments must find ways to bring them into formality. Water is a common resource that belongs to everyone. All stakeholders must be engaged with and committed to planning, managing and developing cities; this particularly applies to those stakeholders who are traditionally excluded and not given an adequate voice. Local and regional authorities are ideally placed to support participatory management of water and sanitation by communities, including slum-dwellers, owing to their proximity to city inhabitants.

Basic services

With new technology comes new opportunities to treat and provide water and sanitation more efficiently. Given the large-scale construction required to cater for new city inhabitants over the coming decades, fit-for-purpose water systems must be planned and implemented, with water quality adapted for domestic or industrial uses. Alongside new infrastructure, existing systems must also be maintained. Local and regional authorities can insist that developers adopt water-sensitive approaches and ensure training is available to municipal staff and partners.

City housing

Newcomers and those living in informal settlements must have access to quality housing, accompanied by basic services. Addressing the housing shortage in many cities requires a multi-sector and multi-level response. Water is the most essential resource for human life, required for building and maintaining housing as well as for meeting the daily needs of communities. Water can no longer be considered exclusively from a service provider perspective – development must be water-considerate from planning through to construction. Retrofitting water-sensitivity is ineffective and costly and can be avoided by ensuring water-considerate construction from the outset.

Consumption patterns

Owing to their density, cities can make substantial energy savings in transportation of goods and services, including water. Urban planning and recycling can result in closed energy and water cycles. Raising awareness around the value of water among multiple users for varied uses must also be taken seriously if consumption patterns are to become more sustainable. Local and regional authorities can work with their communities to spearhead campaigns around water and harmonize supply and demand for different uses.

Water and leisure

Most of the world's cities are coastal or situated along rivers. Water is a source of leisure for urban residents, and local and regional authorities must ensure that such natural spaces are safe, accessible and generally available for inhabitants.

Protecting ecosystems

Cities are the biggest consumers of natural resources, including water, and produce the most waste. Cities should minimize their impact on the environment by taking only what can be sustainably removed from the water cycle and returning it downstream in a suitable condition for nature to reintegrate it. This approach often requires coordination between neighboring cities and communities. Local and regional authorities can lead this dialogue.

Urban resilience

Water-related hazards are more likely in urban settings (floods, water stress, drought) because the flow and absorption of water is fundamentally altered by city infrastructure, such as buildings and pavements. As such, cities must plan and build in resilience holistically, considering all stakeholders, especially those who are most vulnerable and at risk owing to their location (informal settlements) and/or available resources. Local and regional authorities hold the terrain-specific knowledge that is essential for integrating resilience measures into the urban fabric.

Strengthened local governance

Effective and transparent governance at all levels is a catalyst for sustainable urban development. Transparent processes at the local level increase engagement by civil society and develop shared values around common resources, including water. Local and regional authorities must be empowered and given the resources required to work transparently and effectively.

GLOBAL FRAMEWORKS

NEW URBAN AGENDA

SUSTAINABLE DEVELOPMENT GOALS

The United Nations Summit for the adoption of the post-2015 development agenda was held 25–27 September 2015 in New York and was convened as a high-level plenary meeting of the General Assembly. Resolution A/RES/70/1, 'Transforming our world: the 2030 Agenda for Sustainable Development',[5] was endorsed and includes the following relevant statements:

2. On behalf of the peoples we serve, we have adopted a historic decision on a comprehensive, far-reaching and people-centred set of universal and transformative Goals and targets. We commit ourselves to working tirelessly for the full implementation of this Agenda by 2030. We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development. We are committed to achieving sustainable development in its three dimensions – economic, social and environmental – in a balanced and integrated manner. We will also build upon the achievements of the Millennium Development Goals and seek to address their unfinished business.

7. In these Goals and targets, we are setting out a supremely ambitious and transformational vision. We envisage a world free of poverty, hunger, disease and want, where all life can thrive. We envisage a world free of fear and violence. A world with universal literacy. A world with equitable and universal access to quality education at all levels, to health care and social protection, where physical, mental and social well-being are assured. A world where we reaffirm our commitments regarding the human right to safe drinking water and sanitation and where there is improved hygiene; and where food is sufficient, safe, affordable and nutritious. A world where human habitats are safe, resilient and sustainable and where there is universal access to affordable, reliable and sustainable energy.

[5]   Resolution A/RES/70/1 adopted by the UN General Assembly:
http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

34. We recognize that sustainable urban development and management are crucial to the quality of life of our people. We will work with local authorities and communities to renew and plan our cities and human settlements to foster community cohesion and personal security and to stimulate innovation and employment. We will reduce the negative impacts of urban activities and of chemicals which are hazardous for human health and the environment, including through the environmentally sound management and safe use of chemicals, the reduction and recycling of waste and the more efficient use of water and energy. And we will work to minimize the impact of cities on the global climate system. We will also take account of population trends and projections in our national rural and urban development strategies and policies. We look forward to the upcoming United Nations Conference on Housing and Sustainable Urban Development to be held in Quito.

From health to humanitarian action, education to ecosystem protection, water is a central resource that relates to almost all aspects of development. It is fundamental to the inner workings of cities, and all users – people, organizations and structures – are stakeholders. The responsibility for SDG 6 – access to water and sanitation for all – falls implicitly to local authorities in many countries and contexts. This Goal cannot be achieved without good local governments that are empowered to sustainably manage natural resources and foster well-planned urbanization. In addition, the drive to "make cities and human settlements inclusive, safe, resilient and sustainable" (SDG 11) will require innovative water and waste management solutions to urbanization, with local and regional authorities on the frontline of these efforts.

The three pillars of sustainability are reflected throughout the SDGs and relate to water and subnational governments in many cross-cutting and overlapping ways:

- Environmental: Cities have a greater negative impact on our environment than rural areas, producing more carbon dioxide and consuming more of the world's natural resources. The negative impact of urban areas on their surrounding hinterlands, through the extraction of water and/or the returning dangerous wastewater, threatens biodiversity.
- Social: Through economies of scale and proximity, cities offer citizens increased possibilities to access basic services, fulfill their potential and lift themselves out of poverty. When managed well, our urban spaces can be havens for all who inhabit them.
- Economic: Urban spaces have become the main drivers of our economies and a source of wealth for residents and for connecting hinterlands and rural areas.

The recurring action areas relating to water and local and regional authorities in the SDGs include:

Access for all

SDG 6 on water and sanitation emphasizes the growing global demand on basic services in urban settings. Local and regional authorities are responsible for providing basic services and building/maintaining the infrastructure on which these services depend. Supporting local and regional authorities, therefore, contributes directly to delivering universal and equitable access to water (SDG 6.1) and adequate sanitation (SDG 6.2).

Efficiency

Cities are the biggest consumers of natural resources, including water. Local and regional authorities can lead the call to make water use – domestic and industrial – more efficient and sustainable (SDG 6.3) and can engage in cooperation and capacity development to share good practices and training (SDG 6.a). Cities have the potential to optimize the productive use of water for different purposes (recognizing the multiple roles of water), promote conservation and sustainable use/reuse (including treating wastewater) and foster synergies at the water–food–energy nexus. Adopting a territorial approach to water management that considers the entire water cycle requires coordination and agility; local and regional authorities are well positioned to lead this charge.

Urban resilience

Recognizing that our climate is changing and disasters are increasingly compromising development gains, the SDGs stress the importance of reinforcing resilience in cities. Resilient infrastructure and systems, combined with disaster preparedness (SDG 11.5), are essential in urban areas if cities are to withstand and recover from shocks and stresses. Local and regional authorities must be given the tools, resources, and knowledge to address these challenges.

Urban health

Water-borne diseases affect large numbers of people in urban areas owing to the density of cities. Eliminating water-borne diseases requires improved water quality, access to sanitation, and wastewater treatment for all, especially for those who are traditionally subject to low quality or limited basic services. Empowering local and regional authorities to engage and lead action in this area will contribute to a reduction in the number of deaths associated with water-borne diseases (SDG 3.9).

Waste treatment

The SDGs aim to ensure that the impact of human activity is minimized and does not affect nature beyond a level from which it can recover (SDGs 6.3 and 9.4). In terms of water and local and regional authorities, this action area is extremely pertinent since cities are the biggest contaminators of water resources, often owing to a lack of regulation, financing and/or coordination. Local and regional authorities should work

alongside national governments and industry to ensure waste treatment standards are established and met.

Sanitation

Building on the unfinished business of the MDGs, the SDGs underline that the sanitation gap must be addressed in both urban and rural settings (SDG 6.2). Empowering service providers and local and regional authorities to find solutions tailored to their contexts will be important, and special consideration must be given to vulnerable communities that are often excluded.

Cooperation

Global cooperation, with the aim of developing capacity, fostering collaboration, identifying synergies and pooling efforts, is an important mechanism highlighted in SDG 17. In the water and sanitation sector, there is also a need for cooperation across different types of borders. Local and regional authorities are well positioned to broker or lead such partnerships, and the international municipal movement has been engaging in decentralized cooperation for over 100 years.[6]

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[6]   The Sustainable Development Goals – What local and regional authorities need to know (UCLG):
      https://www.uclg.org/sites/default/files/the_sdgs_what_localgov_need_to_know_0.pdf

SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

'The Sendai Framework for Disaster Risk Reduction 2015–2030'[7] was adopted at the Third UN World Conference in Sendai, Japan, on 18 March 2015 and endorsed as resolution A/RES/69/283 on 23 June 2015 by the UN General Assembly. It states:

6. Enhanced work to reduce exposure and vulnerability, thus preventing the creation of new disaster risks, and accountability for disaster risk creation are needed at all levels. More dedicated action needs to be focused on tackling underlying disaster risk drivers, such as the consequences of poverty and inequality, climate change and variability, unplanned and rapid urbanization, poor land management and compounding factors such as demographic change, weak institutional arrangements, non-risk-informed policies, lack of regulation and incentives for private disaster risk reduction investment, complex supply chains, limited availability of technology, unsustainable uses of natural resources, declining ecosystems, pandemics and epidemics…

The Sendai Framework is the successor instrument to the 'Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters'. It aims to continue the work done by States and other stakeholders under the HFA while introducing several innovations called for during the consultations and negotiations leading up to the adoption of the new framework.

As opposed to the Hyogo Framework, the Sendai Framework places a strong emphasis on disaster risk management as opposed to disaster management. It defines seven global targets with disaster risk reduction as an expected outcome and its goals focus on preventing new risk, reducing existing risk and strengthening resilience. The Sendai Framework also has a set of guiding principles to assist States which have primary responsibility for preventing and reducing disaster risk, through engaging with civil society and state institutions. In addition, the scope of disaster risk reduction has been broadened significantly to focus on both natural and human-made hazards, including risks related to environmental, technological and biological hazards. Health resilience is strongly promoted throughout.

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[7] The Sendai Framework for Disaster Risk Reduction 2015–2030:
http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf

There is one recurring action area relating to water and local and regional authorities in the Sendai Framework, which is:

Urban resilience

Water must be a key component of building resilience into any urban settlement. Risk assessment and planning must include water considerations at all stages and with all stakeholders, whether it is risk from flooding, water stress, drought or water-borne diseases. There is no one-size-fits-all model to make cities more resilient; however, common methodologies can be adapted and applied to local contexts. Local and regional authorities are well placed to lead the adaptation of these methodologies because they are familiar with their local contexts and communities, and they should be empowered to do so.

GLOBAL FRAMEWORKS

SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

GLOBAL FRAMEWORKS

PARIS AGREEMENT

At the Paris climate conference (COP21) in December 2015, 195 countries adopted the Paris Agreement,[8] the first-ever universal, legally binding, global climate deal.

The agreement aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, through mitigation and adaptation measures. Mitigation measures aim to keep the increase in the global average temperature to well below 2°C above pre-industrial levels, and limit the temperature increase to 1.5°C. Adaptation measures aim to foster climate resilience and increase capacity to adapt to the adverse impacts of climate change in a manner that does not affect food production. Climate change adaptation was a major theme at COP21 due to undeniable and unexpected affects already witnessed; whereas previous negotiations and climate agreements, such as the Kyoto Protocol, had principally considered mitigation. Country commitments to climate mitigation and adaptation are determined through the Nationally Determined Contributions.

According to the Intergovernmental Panel on Climate Change, "Cities consume around three-quarters of the world's natural resources, utilize around 80% of the global energy supply and produce approximately 71–76% of energy related CO_2 emissions." Thus, human activities in cities are in large part responsible for the current climate change trends and dynamics. Moreover, human settlements are vulnerable to the increasing negative effects of climate change and to the direct effects of pollution. Owing to their complex nature, urban systems are strategically poised at the forefront of integrated and holistic solutions that can combine mitigation and adaptation processes, hereby rethinking the way cities are planned, constructed, managed and inhabited.

The recurring action areas relating to water and local and regional authorities in the Paris Agreement include:

Urban resilience
Many of the effects of the changing climate will be experienced through water-related shocks and stresses. With sea-level rise and unpredictable weather patterns, coastal cities (accounting for the majority of the world's urban centers), will be particularly affected. Local and regional authorities can take action now to evaluate their level of resilience and take resilience-building measures.

Resource efficiency
With resources becoming ever more scarce, the huge demand on water in growing cities will require increased efficiency in terms of the way water is accessed, used and

PARIS AGREEMENT

[8]   The Paris Agreement:
      http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf

treated. Local and regional authorities can lead innovative practices by learning from each other and reducing the impact of the city on the ecosystem.

Cooperation for transformation

The Paris Agreement recognizes the role of cities and other subnational authorities, civil society, and the private sector in addressing climate change. The agreement calls for increased cooperation between these sectors, and that local and regional authorities should continue to embark on regional and international cooperation projects to address climate change.

OTHER FRAMEWORKS

Daegu-Gyeongbuk Water Action for Sustainable Cities and Regions

The Local and Regional Authorities process of the 7th World Water Forum produced a strategy document for action in cities. Endorsed by 95 local and regional authorities from 26 countries, the Daegu-Gyeongbuk Water Action for Sustainable Cities and Regions[9] is a roadmap that provides concrete tools to guide local and regional authorities in the implementation of sustainable water management strategies.

The document uses two approaches: building strategies for local and regional authorities to improve management, and soliciting national governments to help create the enabling environments needed to achieve national and global goals. The document highlights, among many issues, the important role of local authorities in implementing and achieving the SDGs, as well as how these authorities can deliver their share of the responsibilities in the most effective and efficient way.

The supporters of the Water Action document committed:

- To apply the principles of good governance, in particular the principles of equity, transparency and accountability, including the enforcement of existing water laws;
- To link water management more closely with urban planning, design and development as well as other relevant urban management sectors;
- To step up integrated and circular approaches, in particular by making water of different quality fit for different purposes and promoting the reuse of treated wastewater;
- To take into account nature-based approaches such as enhancing ecosystems services and green infrastructure solutions for more sustainable water management, in particular for stormwater management;
- To use the tariff system to regulate water demand and encourage water conservation while ensuring the affordability of water and sanitation services for all;
- To enhance the sharing of experiences on innovative financing mechanisms such as Payment for Ecosystem Services;

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[9]   Daegu-Gyeongbuk Water Action for Sustainable Cities and Regions:
     http://www.worldwatercouncil.org/en/publications/daegu-gyeongbuk-water-action-sustainable-cities-and-regions

- To accept that long-term investments in the water sector will yield their benefits only beyond local election periods and will need the courage of elected decision makers to enter into debt in the short term;
- To manage water at local and regional levels by including the appropriate consideration of water needs and multiple uses in the wider catchment;
- To create widespread public awareness about the value of water and the need to treat it as a precious and limited resource;
- To enter into targeted alliances with relevant stakeholders at all levels.

They also called on national governments to help accelerate the achievement of national policies and globally agreed water-related goals by capacitating local and regional authorities and involving them more deeply in all decision-making processes related to water resources management.

Istanbul Water Consensus

In 2009, at the 5th World Water Forum, local and regional authorities endorsed the Istanbul Water Consensus,[10] expressing their commitment to sustainable urban water management. Since then, over 1,000 local and regional authorities from all around the world have signed the Consensus.

Building on previous commitments, the Consensus aims to develop water management strategies in the face of global changes and calls on national governments for a more effective partnership. Among other things, the signatories:

- Recognized the human right to water and its nature as a public good to be under strict public control, independently of whether or not the services are delegated to the private sector;
- Acknowledged that sanitation provision is equally important to water supply;
- Called on national governments and international institutions to give higher priority to water security in national and international policies and to speed up the implementation of commitments made for improving access to water and sanitation;
- Supported establishing a dialogue to ensure that local and regional authorities, through an effective transfer of competencies and means, have the legal authority, financial resources, institutional capacity and adequate human and technical skills to manage water supply and sanitation locally and regionally;

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[10] Istanbul Water Consensus for Local and Regional Authorities:
http://www.worldwatercouncil.org/fileadmin/wwc/World_Water_Forum/WWF5/Istanbul_Water_Consensus_Eng_Final.pdf

- Encouraged local and regional authorities to be involved in defining and implementing political strategies taken at the national and supra-national level, as well as at the watershed level, for sustainable water management;
- Addressed investment and innovative financing mechanisms and regulatory frameworks;
- Pledged to do everything in their power to improve water governance and increase sustainability in water management and hydraulic infrastructure development by:
  - Assessing internal and external pressures on local water resources;
  - Conducting an inventory of policies, strategies and plans to cope with threats;
  - Organizing multi-stakeholder dialogues;
  - Defining clear targets adapted to their situations, accompanied by an action plan, monitoring and reporting.

The IWA Principles for Water-Wise Cities

The IWA brings together members from around 130 countries and is one of the largest networks of water professionals. IWA develops research and guidance, and gathers good practices to improve water management globally.

The IWA Principles for Water-Wise Cities are part of the Association's effort to support city leaders' work towards safer water and sanitation services in their cities. The Principles focus on the need to ensure that water is considered as early on as possible during the planning and design stage of cities, thereby resulting in high-quality, efficient and sustainable services as well as increased resilience and livability for inhabitants.

The ultimate goal of the Principles is to "encourage collaborative action, underpinned by a shared vision, so that local and regional authorities, urban professionals, and individuals actively engage in addressing and finding solutions for managing all waters of the city."[11]

The 17 Principles are grouped into four categories:

Regenerative water services

A holistic water cycle approach that integrates the different aspects of urban water management and links it with other affected urban management sectors such as health, housing, drainage, energy and waste management, can reveal opportunities for regeneration, recycling and reuse. From the enforcement of building codes to service provision, local and regional authorities are central actors in many of these sectors.

[11] International Water Association: http://www.iwa-network.org/about-us/

Water-sensitive urban design

Water and wastewater management should be linked more closely with urban planning, design and development, as well as with other relevant urban management sectors. Local and regional authorities, their representative associations, and international institutions can play a role in sharing good practices through peer-support initiatives in water-sensitive urban design.

Basin-connected cities

Cities should focus efforts on doing more with what they have and, where possible, avoid using expensive solutions to water shortages. Cities that are connected to basins can better plan for shortages and manage withdrawal responsibly. Local and regional authorities can lead this process and, where required, work with neighboring municipalities to ensure a fair and sustainable use of resources.

Water-wise communities

Raising awareness among service users (domestic and industrial) about responsible use of water will build the necessary support to put water high on the political agenda. Local governments and their associations can lobby national governments and international bodies to allocate resources to increase the commitment to water. Working with local communities can also give water issues more visibility.

Action Framework for the Implementation of the New Urban Agenda

The AFINUA is a roadmap of urban strategies for national and local governments wanting to meet the targets and goals set out in the New Urban Agenda. This framework provides strategies for addressing the shortfall in water supply and sanitation and presents a set of actions to meet the growing needs of a rapidly urbanizing world. The AFINUA sets the tone for greater and more productive collaboration between national and local authorities, as well as government, non-government organizations (NGOs) and civil society organizations (CSOs).

The framework calls for policies and actions that ensure urban services (e.g. water, sanitation, electricity, food, ICT, education and health facilities) are delivered as an integrated, intersectional package with priority given to underserved and marginalized groups.

The AFINUA is grouped into five categories, all of which are relevant to local and regional government action in water-related issues:

National urban policies (NUPs)

Develop and implement NUPs in which urban water and sanitation are integrated. Plans should be developed to ensure access to water and sanitation services for all, and standards for services delivery should focus on the urban poor and vulnerable groups.

Legislation and governance

Apply principles of good governance, and particularly the principles of equity, transparency and accountability in sanitation and water management, including the enforcement of existing laws on water and wastewater.

Urban planning and design

Take into account water-sensitive design at the planning stage to increase efficiency, prevent retrofitting and ensure water security for urban dwellers. Training planners on water design will reap fruit for future urban areas.

Urban economy and municipal finance

To meet the basic needs of city inhabitants, ensure there is adequate financing for water and sanitation infrastructure and its maintenance, especially when these are managed by local governments.

Local implementation

Respect the principle of subsidarity, and that local governments are the closest level of governance to inhabitants of the city. As such, these governments must be engaged with their community and lead efforts to improve water sustainability in the city.

RECOMMENDATIONS

1 | Not leaving anyone behind: Equity

2 | Removing barriers: Water-sensitive national
and urban planning

3 | Setting fair rules for everyone: Legislation and governance

4 | Allowing investment for the future: Urban water finance

5 | Planning out risk: Urban water resilience

6 | Building the right skills for the job: Capacitated cities

7 | Maximizing resources: Efficiency

8 | Addressing the gap: Sanitation
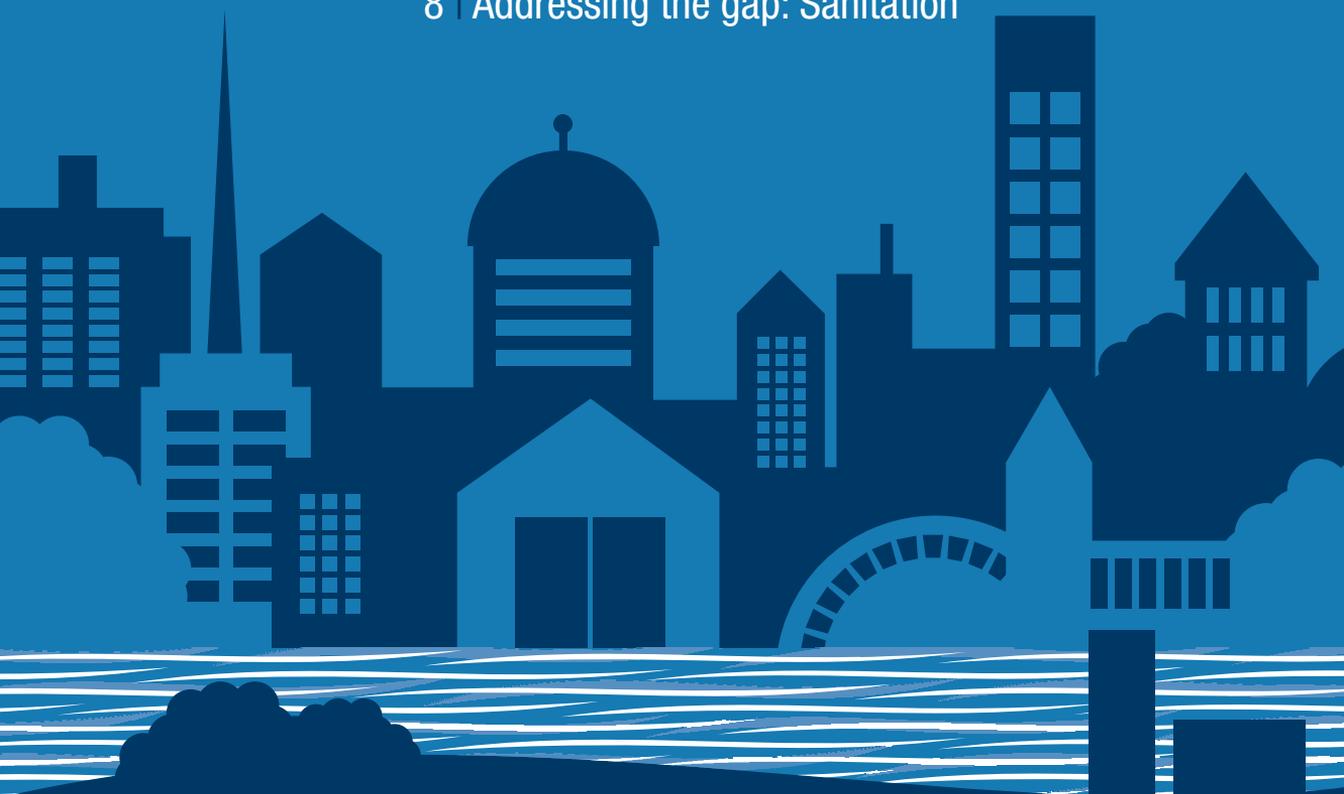
RECOMMENDATIONS

All global development frameworks have major implications for local, regional and subnational actors. From service provision to resilience building, planning to policy, urban design to social inclusion, sustainable development in urban contexts relies on the expertise, engagement and efforts of those on the frontline. Local and regional authorities in particular have a central role to play in achieving many of the targets and monitoring progress along key indicators.

As the level of governance closest to city inhabitants, local and regional authorities are well placed to take swift action that is appropriate and tailored to the needs of the city. Local and regional authorities are the trusted and long-standing partners of other local actors, from NGOs to civil society and grass-roots organizations. This positioning means that they are powerful influencers within their cities and can be effective catalysts for positive transformation, propelling action forward and often serving as the essential link to national governments.

The recommendations in this guide recognize the centrality of water in sustainable development and the key role that local and regional authorities play in achieving many of the goals and targets related to water, and map out those targets that require the engagement of local and regional authorities to be effective. A cross-cutting theme across all of these recommendations is a call for increased decentralization of competencies, resources and responsibilities, and a call for increased partnerships around communities of practice (in line with SDG 17).

As governance structures vary, and the role, mandate and competencies of local and regional authorities are not universally comparable, these recommendations may need to be adapted to some contexts. Local and regional authorities are invited to use these recommendations as a basis for establishing their own priority actions tailored to their unique challenges and opportunities. Aligning actions with these recommendations will allow authorities to track their efforts in relation to global frameworks and, where required, support reporting mechanisms at local, regional or national levels.

Based on the water-related cross-cutting themes from the New Urban Agenda, Sustainable Development Goals, and the Sendai Framework for Disaster Risk Reduction, the following recommendations are made to local and regional authorities.

1 Not leaving anyone behind: Equity

Equity must not be about access alone, it must also take into account quality and quantity. Priority must be given to those communities who are marginalized and/or excluded from the city space, its services, processes, opportunities and decision making; these are most notably women, the infirm, elderly and indigenous, and those people living in informal settlements. Water is a human right that must be guaranteed for all.

2 Removing barriers: Water-sensitive national and urban planning

All national and urban planning should be water sensitive and promote integrated urban water practices, taking into account basic human rights and services. Water systems must be efficient, and recycle and capture the value of by-products of water use, and cities must be planned with this approach in mind.

3 Setting fair rules for everyone: Legislation and governance

Legislation must regulate all stages of the water cycle to promote the efficient, fair and sustainable use of water resources and minimize the impact on the environment. As our most valuable resource, water must be subject to good governance.

4 Allowing investment for the future: Urban water finance

Investment in the water sector is overdue. Decentralized financing must be increased to allow local and regional authorities to meet the immediate needs of inhabitants, while innovative financing mechanisms must be explored to ensure the future of infrastructure and services.

5 Planning out risk: Urban water resilience

Cities must actively plan out risk and build in resilience, with particular attention to water-related hazards like drought and flooding. Intensified and changing natural hazards mean that cities must look beyond traditional risks and prepare for new and intensified shocks.

6 Building the right skills for the job: Capacitated cities

Developing the capacity of all levels of government in water-sensitive governance will help overcome global water challenges; however, this must be reinforced with an evaluation of capacity gaps and training of citizens to take ownership of their water resources. From training to exchange and outsourcing, local and regional authorities should explore innovative ways to fill gaps in their capacity to manage their water resources.

7 Maximizing our resources: Efficiency

Resources are dwindling due to added stress, mismanagement and increased demand. Water management must become efficient and smart, recognizing the value of waste, and promoting integrated management approaches and energy efficiency. Technology is offering new ways to increase efficiency and these new innovations are needed to meet the challenge of resource demands.

8 Addressing the gap: Sanitation

Poor sanitation endangers life, health, growth and dignity, and insufficient headway was made in improving sanitation under the MDGs. The challenges are complex, but sanitation must be placed at the top of the water agenda and incorporated into all of these recommendations.

1 | NOT LEAVING ANYONE BEHIND: EQUITY

Equity must not be about access alone, it must also take into account quality and quantity. Priority must be given to those communities who are marginalized and/or excluded from the city space, its services, processes, opportunities and decision making; these are most notably women, the infirm, elderly and indigenous, and those people living in informal settlements. Water is a human right that must be guaranteed in our urban settings.

There is growing appreciation for the fact that numerous geographical, social and political factors make it difficult to bring water and sanitation services to 800 million people who do not have access to safe drinking water. More than twice as many lack an adequate toilet. No simple continuation of the status quo will suffice.

The MDGs addressed equity mainly in terms of improving access to a source through infrastructure. Yet an assessment of equity in water services requires an examination of the quantity and quality of water accessed through that infrastructure, and the price. The categories of served and unserved obscure certain inequities – the served do not all have the same level of service, while the unserved have different capacities to access water. Documenting inequality is critical and needs to take into consideration the proportion of household income spent on water in order to understand how services should be prioritized. These data will also inform dialogue with governments, communities, regulators, providers and other stakeholders.

In cities, water and green spaces are sources of leisure and well-being for city inhabitants and should therefore be made available and accessible to all inhabitants equally. Green spaces create healthy cities and improve citizen well-being, but require good water management at the local level. Although the return on investment may seem low, green spaces are catalysts for sustainable growth within a city.

Governments are not investing in water and sanitation service expansion fast enough to meet the needs of growing populations, resulting in more unserved urban dwellers. The unserved are not evenly distributed across all groups and profiles, but consist mainly of those who are most vulnerable – the poor and those in informal settlements. Inequalities are equally reflected in access to water and green spaces for leisure activities, with those living in informal settlements most affected. These disparities are produced by the social environment, namely through the different prices paid for the different ways of accessing water services, and can therefore be addressed through social change.

Action areas for local and regional authorities

■ Local and regional authorities should engage with NGOs and CSOs working with marginalized and vulnerable groups to take stock and decide appropriate actions to increase equity in water and sanitation services.

■ Clear, inclusive, participatory and transparent decision-making processes and public policies can reduce inequities. Local and regional authorities should adopt these approaches to water management and planning in the city by creating open spaces for dialogue and discussion and by raising awareness among communities.

■ Local and regional authorities can introduce or exploit existing monitoring mechanisms to gather data on access (quantitative and qualitative). Making use of the technology accessible to the municipality can help reduce costs associated with monitoring.

■ Local and regional authorities must be trained and clear on the characteristics of equitable service provision to ensure that these are being implemented in the city.

■ Where private tenders are sought for service provision, local and regional authorities should define clear criteria for contracts that respect human rights and take into account vulnerable groups.

EQUITY REFERENCES IN DEVELOPMENT FRAMEWORKS

NEW URBAN AGENDA	2 / 13(a) / 14(a) / 25 / 29 / 36 / 65 / 70 / 72 / 81 / 85 / 88 / 91 / 99 / 109 / 119 / 120
SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1, 1.4, 1.5) / GOAL 4 (4.A) / GOAL 6 (6.1, 6.2, 6.4, 6.B) / GOAL 6 (6.1, 6.2, 6.B) / GOAL 11 (11.5) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)
SENDAI FRAMEWORK	28(d) / 34(e)

SAFER WATER FOR THE COMMUNITY AND LESS STRESS ON THE HEALTH SYSTEM

A story from Abaetetuba, Brazil

A riverside community analysis revealed that low-income riverside communities were using untreated water from the Cariá River and tubular wells, causing a crisis of water-related diseases (diarrhea, hepatitis A and typhoid fever). This directly impacted the municipal health system causing increased demand for services and treatments. The municipal government engaged in public meetings with communities, where participants identified access to potable water as a top priority.

In partnership with Brazil's National Health Foundation (FUNASA), the Foundation's regional section in the State of Pará and local communities, the municipal government implemented the SALTA-Z project. The project's main action involved implementing simplified water collection and treatment solutions using a filter developed by environmental health service technicians. The technology developed through SALTA-Z proved effective, so the municipality established a technical cooperation agreement with FUNASA to implement it locally. The project also included actions to raise awareness on waste management, conservation of equipment, water use, water quality control and capacity building among municipal officers and community members. The local government was responsible for mobilizing stakeholders, financing the project and carrying out awareness-raising workshops. Special initiatives were developed to raise awareness among children and young people.

More than 500 families living in the communities around the Cariá now have access to drinking water free from fecal coliforms. As a result, cases of disease have decreased along with demand on the health system. A financial burden has been lifted as families no longer have to buy mineral water. The project was implemented in four more communities with another 15 forecast and a potential scale up to the 72 islands in the Municipality of Abaetetuba.

The most important lesson learned for the city of Abaetetuba was the importance of engaging the community and conducting participatory work. Local people were fully involved and responsible for this project's implementation.

GOOD WATER MANAGEMENT PRACTICES FOR MORE SUSTAINABLE SERVICES

A story from Canindé (Ceará), Brazil

Canindé is a town located in the central backlands of Ceará State, Brazil. It has approximately 80,000 inhabitants, half of whom live in the rural area of the town. It has a predominantly hot climate and an average rainfall of 750 mm per year.

This region has adopted the Fresh Water Program, which aims to ensure drinking water for the rural communities in the town. However, a scarcity of water due to consecutive years of cyclic droughts has made implementing this program challenging.

The "smart pond" (Açude Inteligente) initiative was developed as an effective solution to water stress. The pond is deep with only a small surface area, hereby reducing losses from evaporation. The construction of the smart pond was led by Ematerce – Ceará's Technical Assistance and Rural Extension Enterprise – with assistance from the local government and residents of Canindé.

Another initiative, the PRODHAM project, sought to improve natural resource management in the region by installing 828 sediment containment dams, underground dams and cement cisterns, and also educating the community on sustainable resource use. The infrastructure installed improved the land conditions in the region, resulting in higher water infiltration and less surface drainage. Riparian forests were conserved as part of the project, which has had a positive environmental impact, including higher humidity observed in the forested areas supporting a recovery of fauna. The PRODHAM project also created economic opportunities for the local workforce on some occasions.

Canindé's population now benefits from higher-quality water in steady supply, even in periods of drought. As a result, incidents of disease have decreased.

2 | REMOVING BARRIERS: WATER-SENSITIVE NATIONAL AND URBAN PLANNING

All national and urban planning should be water-sensitive and promote integrated urban water practices, taking into account the human rights of end users. Where possible, planning should preempt demand to ensure newcomers can achieve their potential and become assets to the city. Cities should be basin connected.

Water management globally has become more efficient, informed and environmentally sensitive; however, urban planning in many countries is still outdated and lacks innovation. Unplanned cities lead to pollution, congestion, segregation and sprawl, which in turn lead to frustrations, inequalities and even civil unrest. The majority of the urban settlements forecast for the coming century have yet to be built. This is a huge challenge and a unique opportunity to learn from outdated planning, which was reliant on a model of infinite resources and largely was not water-basin sensitive.

In national and urban planning, water must be a primary consideration and, as such, all water stakeholders must be engaged in planning processes along with the main beneficiaries. Stakeholders are those connected with the cycle at any stage, from extraction at the river basin through to treatment at discharge; this includes end users, industry, service providers, regulators, planners and all levels of government. In many cities, stakeholders may be beyond the city boundaries. Where river basins are shared or supply comes from multiple sources outside of the city limits, a territorial approach must be adopted.

The impacts of climate change are increasing in frequency and magnitude, and urbanization is intensifying. When coupled with human interventions such as deforestation, pollution and over-consumption, this makes urban spaces more prone to water-related shocks and stresses than their rural counterparts. Cities have to plan, adapt and transform through shocks and stresses and adjust to shifting environments. Planning and design must mitigate the negative effects of water – surplus (floods) or shortages (drought) – in urban systems. A "sponge" city can retain large quantities of water during heavy rains and release it again during drier periods. These considerations must be addressed at the planning stage, and local and regional authorities must have the training, expertise and tools to do the job.

To be sustainable, water management must move away from ad hoc or retrofit solutions to a holistic approach that considers all uses of water at all stages in the cycle (upstream and downstream). Recovering energy and valuable resources from wastewater will become an environmental and fiscal imperative as cities continue to grow; however, this requires a paradigm shift in the way we plan our cities. Urban planning should consider all uses of water in the urban space beyond the provision of drinking water (wastewater collection, treatment, recycling, food and energy production, health, leisure, industry, aesthetics, etc.), and should take into account those who do not traditionally have a voice in consultations or decision-making processes, such as vulnerable groups, informal-settlement dwellers and children, as well as other under-represented groups.

On the brink of the fourth industrial revolution, data-informed planning and design is now more available than ever before. So-called "green infrastructure" allows for smart systems that reduce transport of water by (re-)using existing resources, e.g. capturing and treating storm water. Water systems must therefore be efficient and recycle and capture the value of by-products of water use. Our cities are facing a growing number of shifting water challenges and so must be designed to be resilient and find opportunities within these challenges.

Action areas for local and regional authorities

- Local and regional authorities and other local actors, such as urban planners and think-tanks, are familiar with the needs and potential of their territories and can lead this process.

- Local and regional authorities can play a leading role in identifying, consulting and aligning all stakeholders in planning processes and fostering a territorial approach.

- Using their knowledge of the local territory and learning from tried and tested solutions to land tenure challenges, local and regional authorities can mediate urban planning processes to ensure due consideration of excluded groups and of the environment.

- Local and regional authorities should lead the charge in promoting and adopting integrated water management by bringing all actors together to catalyze this paradigm shift.

- Where appropriate, local and regional authorities can (co-)create river basin committees, transboundary frameworks and other such initiatives as a vehicle for bringing together stakeholders.

RECOMMENDATIONS

REMOVING BARRIERS: WATER-SENSITIVE NATIONAL AND URBAN PLANNING

2

- Training must be provided to promote water-sensitive design in cities. Local and regional authorities are well placed to identify the key actors and facilitate training for these groups from third parties or through peer-exchange with other local government partners.

- Owing to their knowledge of the territory and actors within their cities, local and regional authorities are aware of water use all the way from upstream withdrawal to downstream return. This unique perspective means that they are well placed to identify recycling and reuse opportunities.

- Local and regional authorities approve new constructions and can therefore ensure that building codes are respected. However, they must be given the capacity to evaluate proposals from a water perspective.

WATER-SENSITIVE NATIONAL AND URBAN PLANNING REFERENCES IN DEVELOPMENT FRAMEWORKS

	NEW URBAN AGENDA	2 / 13(a) / 13(h) / 14(a) / 25 / 64 / 65 / 70 / 71 / 72 / 73 / 74 / 81 / 85 / 88 / 91 / 95 / 96 / 99 / 109 / 119 / 120 / 123
	SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1, 1.4) / GOAL 3 (3.9) / GOAL 6 (6.1, 6.2, 6.3, 6.4, 6.5, 6.A, 6.B) / GOAL 11 (11.5, 11.6) / GOAL 12 (12.4, 12.5) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)
	SENDAI FRAMEWORK	18(d) / 28(d) / 33(c)

CONNECTING BASIN COMMUNITIES AND INNOVATIVE WATER POLICIES

A story from Piracicaba (São Paulo), Brazil

Located in eastern São Paulo State, the city of Piracicaba sits on the banks of the Piracicaba River and is home to around 400,000 people. In the 1950s, numerous gilded catfish (*Zungaro zungaro*) were found dead at Cachoeira do Mirante waterfall as a result of river pollution. The site is the main tourist attraction in the town and the community created a municipal council to find solutions to the poor water quality of the river. Although vinasse (a byproduct of the sugarcane industry) was originally thought to be the source of the pollution, it was discovered that other industries and discharged untreated domestic waste were also polluting the water.

The "Year 2000 Campaign: Ecological Redemption of Piracicaba River" was launched in 1985, and created the Inter-municipal Consortium of Piracicaba, Capivari and Jundiai River Basins (PCJ Consortium). As water pollution affected all towns, regional action was required and the watershed was collectively considered in the Consortium's planning activities. Financial resources were required for the recovery of the rivers and Piracicaba was the first to launch a voluntary water charge in 1999. This led to the creation of a mandatory charge in 2006 in all of the PCJ Basins, and the collected resources allowed the 76 towns within these basins to increase their waste treatment from 3% to 75%. The region became the national cradle of good water resources management practices, highlighting how to solve a chronic issue through initiatives and actions in partnership with public institutions and organizations, while ensuring economic and water sustainability for the communities involved.

The PCJ Consortium fueled the creation of São Paulo State's Water Resources Policy in 1991, and the national equivalent in 1997. These were leading actions in the country and supported the foundation of Brazil's first River Basin Committee, which took further inspiration from the good practices developed in Piracicaba on waste treatment and fish population restoration.

GOOD PRACTICES IN RECIFE: CAPIBARIBE PARK

A story from Recife, Brazil

Capibaribe Park aims to strengthen connectivity between the Capibaribe River and its margins, redirecting people towards the river. The project makes water and water-related issues more visible within the city, and serves as a guide to prioritizing actions on drainage, sewage and revitalization of the riparian forest.

The park is part of the city's macro planning, which includes becoming a "park city" by Recife's 500th anniversary in 2037 and the city's GHG Emission Reduction Plan.

In the park, filter gardens will be installed in channeled and polluted rivers flowing into the Capibaribe River to help reduce water pollution. These gardens will also provide new open spaces that contribute to the health and well-being of the city's residents.

The Capibaribe Park project also aims to reconnect 30 km of previously fragmented banks using pathways and bridges for pedestrians and cyclists, with potential as well for a system of boats as another mode of transportation within the city.

Recife's other planning processes, the Drainage Plan and City Master Plan, are being finalized and aligned with the Capibaribe Park project, making Recife truly a city connected through water.

By reconnecting citizens with the Capibaribe River, the park brings new opportunities for engaging people on issues around water and the environment. This was achieved also with another park in Recife, the Jardim do Baobá, which opened up new access along the river; it brought visibility to a previously forgotten space for the city. Currently, Jardim do Baobá is organized and maintained through active citizen groups.

3 | SETTING FAIR RULES FOR EVERYONE: LEGISLATION AND GOVERNANCE

Legislation should regulate all stages of the water cycle to promote efficient, fair and sustainable use of water resources and minimize impact on the environment. Regulations should be enforced and monitoring bodies strengthened, while innovative approaches are facilitated and encouraged. Owing to their knowledge of local contexts, governments closest to end users must be given autonomy for water management, and they should be consulted on legislation and decision making.

Our cities and their inhabitants are changing: consumption patterns, population shifts, resource scarcity, among many other challenges, mean that urban legislation must keep abreast of the world of today. The quality of urban life affects the well-being of billions of individuals and legislation can have positive or negative effects on social justice, good governance, democratic decision making, economic development, and the upholding of fundamental rights and transparency.

Legislation must ensure the maximal use, quality and protection of our most valuable resource – water. Regulation must cover land use and water bodies to ensure long-term sustainability and equity for all and for future generations, upholding the human right to water and sanitation for all. Returning used water safely to the environment in a way that allows it to replenish, rather than pollute water sources, must become standard practice through the enforcement of rules and regulations with the accompanying best practices and training.

Legal frameworks, be they fiscal, administrative or political, can ensure effective decentralization of responsibilities and resources. Legislation must also promote citizen participation and accountability in decision making and monitoring. Adherence to accountability rules can provide invaluable data that can support national standards and benchmarks.

Participatory and transparent processes should be adopted to ensure inclusivity, accountability and transparency. These characteristics of good governance must be applied to water management, including the drafting, adoption and implementation of legislation to promote more active ownership and buy-in.

Action areas for local and regional authorities

- Local and regional authorities are well placed to evaluate the needs of all water users in the city and advise on legislation that ensures fair and sustainable use of resources. Where legislation is not water informed or transparent, local and regional authorities can lobby their national governments for reform in this area or through their representative organizations at the global level.

- To ensure the health and well-being of the growing number of urban dwellers, regulations must be enforced. Local and regional authorities, along with regulating bodies, are well placed to record and/or act when legislation is not being respected.

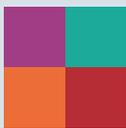| LEGISLATION AND GOVERNANCE REFERENCES IN DEVELOPMENT FRAMEWORKS	
NEW URBAN AGENDA	2 / 13(a) / 13(h) / 25 / 81 / 85 / 88 / 91 / 95 / 119
SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1, 1.4) / GOAL 6 (6.3, 6.4) / GOAL 11 (11.6) / GOAL 12 (12.4) / GOAL 14 (14.1, 14.3) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)
SENDAI FRAMEWORK	18(d)

FUNDING WASTEWATER TREATMENT THROUGH AN ENVIRONMENTAL TAX

A story from Catalonia, Spain

Returning used water to the environment under optimal conditions is critical to ensure people's health and the preservation of water ecosystems. The municipalities in one of Catalonia's prime tourist areas, the Costa Brava, became pioneers in their wastewater treatment during the 1980s.

In Catalonia, municipalities are responsible for the evacuation and treatment of wastewater. However, at that time, the municipal councils had limited resources, and the Catalan government took responsibility for wastewater treatment as an issue of public interest. For this reason, in the late 1980s, the Government of Catalonia implemented the Wastewater Treatment Plan of Catalonia, which provided services for 97% of Catalonia's population, and involved the construction of more than 500 sewage treatment plants. The Catalan Water Agency (ACA) was founded at the same time as the adoption of the European Union's Water Framework Directive 2000/60/EC, and established a framework for community action in the field of water policy. Consequently, ACA became Catalonia's administrative body responsible for water.

The success of the Catalan government's strategy is based primarily on the fact that it was accompanied by an environmental tax that has financed essential services for the improvement and enhancement of citizens' quality of life. This policy has also been possible thanks to the approval, in 2003, of Catalonia's own law on water, which is pioneering in Spain.

Thanks to the combined efforts of the Government of Catalonia and local administrations and agencies, the Plan has guaranteed optimal water for consumption and restored the environmental quality of rivers and coastal waters. The Government of Catalonia is implementing a new phase of the Plan, which includes around 1,000 measures that will ensure wastewater treatment for the entire population of Catalonia by 2027.

RECOMMENDATIONS

SETTING FAIR RULES FOR EVERYONE: LEGISLATION AND GOVERNANCE

3

THE BUENOS AIRES EXPERIENCE: LEGISLATION AND GOVERNANCE

A story from Buenos Aires, Argentina

The Matanza–Riachuelo River has historically suffered extensive degradation, mainly caused by local industries, particularly those involved in cattle processing. Over decades, the biodiversity of the river was lost and its banks were occupied by irregular settlements.

In 2004, a local group filed a citizen's lawsuit for environmental damage, claiming for recovery of the watershed. The Supreme Court of Argentina ruled that the Government of Argentina, the City of Buenos Aires and the Province of Buenos Aires were all responsible for the river's current situation. The Court determined each level of government responsibilities for restoring the river's environmental quality through an action program.

This historical decision changed the river basin's management, leading to the establishment of Law number 26168 of 2006, which created a river basin level authority (ACUMAR – Spanish abbreviation for Matanza–Riachuelo River Basin Authority). ACUMAR is responsible for territorial and environmental planning, as well as managing and executing the Integrated Plan for Pollution Control and Environmental Recovery. Furthermore, the Law establishes an Environmental Compensation Fund, a Municipal Council and a Commission for Social Participation. Monitoring, using social and ecological indicators, has shown an improvement in the environmental quality of the river.

This political process demonstrates the importance of local voices, judicial acknowledgment and sub-national action, particularly when it comes to water management at the basin level where integrated governance is required. A strong governance structure must promote cooperation between different stakeholders, enable engagement and coordinate implementation at the local level.

4 | ALLOWING INVESTMENT FOR THE FUTURE: URBAN WATER FINANCE

Decentralized financing must be increased to enable local and regional authorities to meet immediate and future water needs. Innovative financing mechanisms must also be explored, promoted and shared between local governments and water suppliers. For long-term sustainability, service providers must be able to generate income and access funding.

Financial sustainability is fundamental for the provision of water and sanitation services in cities. However, water utilities in many countries have little say in the planning of investments or setting of tariffs. Operators without sufficient and predictable finances struggle to deliver the essential public services that underpin a healthy society. Clear and reliable revenue streams allow service providers to train staff, pay bills, buy needed equipment, keep systems maintained, develop resiliency plans and invest in new technology. Local governments supplying water and sanitation services must look principally at domestic resource mobilization rather than continued reliance on donors. Many developing countries have huge growing capital markets that should be tapped for development.

Aging and inadequate (or absent) infrastructure is a major obstacle for local and regional authorities providing basic services to their inhabitants and guaranteeing the human right to water and sanitation. Local and regional authorities therefore need the powers and autonomy to establish water tariffs and/or the ability to prove their creditworthiness in order to leverage much-needed funding. Financial incentives to fix old/decaying infrastructure must be provided so that local and regional authorities may take on these tasks confidently.

Expanding services into informal settlements also incurs costs beyond infrastructure, such as subsidies and capacity development, which local and regional authorities cannot generate through tariffs alone. Innovative financing models are becoming increasingly available: the use of official development assistance to leverage further funding; scaling-up of financing through improved access to financial markets; blending investments in water, energy and transport; and generating income from waste.

States must ensure local and regional authorities have sufficient and appropriate resources to successfully carry out the tasks entrusted to them. In this respect, increasing transfers from the State, local taxation and appropriate tariffs are required

to develop high-quality public water and sanitation services that are available to all. Considering the significant needs, it is also essential in the short term to increase the use of loans and other mechanisms of financial intermediation.

Operators should move away from total reliance on taxes and transfers and towards tariff-based revenues. In order for this to be possible, operators need to focus on efficiency. In terms of innovative financing, greater attention should be given to bond markets, capital markets and pension funds, all of which are seeking sustainable and cost-effective investments. The sector must become more cost-effective and develop bankable and robust business plans that can be presented to the private sector or commercial banks for financing. The challenge is to find a good compromise between financially sustainable and socially acceptable tariffs.

Action areas for local and regional authorities

- Governments at all levels must recognize sanitation and water as sound investments and provide financing for needed infrastructure.

- Local and regional authorities should invest in exploring innovative financing options by learning from other cities and seeking advice from impartial advising bodies.

- Having the autonomy to engage in partnerships can help close investment gaps. Where local and regional authorities have autonomy, they should explore their partnership options and/or propose collaborations with regional, subnational or national governments to find appropriate financing models.

- To address the challenges of service provision, local and regional authorities must explore alternative and innovative financing mechanisms such as sub-sovereign funding, development assistance fund leveraging, etc.

URBAN WATER FINANCE REFERENCES IN DEVELOPMENT FRAMEWORKS

	NEW URBAN AGENDA	2 / 13(a) / 29 / 85 / 88 / 109 / 119
	SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1, 1.4) / GOAL 11 (11.5) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)

AN INNOVATIVE AND SUSTAINABLE FINANCING MODEL

A story from City of Bayonne, USA

In 2012, the city of Bayonne, located in New Jersey, USA and with a population of around 70,000, decided to implement a new sustainable investment framework for underground infrastructures in order to improve municipal water and wastewater systems for the coming 40 years. The framework also sought to clear the municipality's millions of dollars of accumulated debt, while maintaining public ownership and stewardship of these water systems. United Water, a leading provider of water and wastewater services in the USA, and KKR, a leading global investment firm, entered into a joint venture to acquire a 40-year water and wastewater concession from the Bayonne Municipal Utilities Authority (BMUA).

Within two years of implementing this framework, BMUA's debt of US$135 million was cleared; new technologies had been implemented, including smart metering; and safety had been improved in the work place.

The partnership between United Water and the municipality is the first of its kind in the USA. It has attracted long-term private investment to improve municipal water systems in a way that enables the local authority to clear millions of dollars of debt, while continuing to govern and approve water rates. The risk of high repair costs caused by major system failures is reduced as capital investment in the water infrastructures is guaranteed.

Technically, United Water partnered with an institutional investor (KKR) to form an entity that provides the city with a lump sum to eliminate accumulated debt and initiate capital investment in its water system. This money is not, however, a loan to the city. The city maintains ownership and regulatory oversight of the utility, meaning that it never leaves public hands. The city also continues to govern and approve water rates. United Water, for its part, will then take over operations and repairs in exchange for standard, resident-paid water usage fees.

RECOMMENDATIONS

ALLOWING INVESTMENT FOR THE FUTURE: URBAN WATER FINANCE

4

PROMOTING EFFICIENCY THROUGH INNOVATIVE FINANCIAL INSTRUMENTS

A story from Quito, Ecuador

The Metropolitan District of Quito relies on the surrounding mountains and grassland ecosystems for its water supply, but accelerated urbanization and population growth have put increasing pressure on these ecosystems. The Municipality of Quito has implemented an Integrated Water Resource Management Plan that includes the protection and conservation of ecosystems upstream, while ensuring adequate provision of water and sanitation for the population downstream.

An independent fund, the Fund for Water Protection (FONAG), was created to sponsor watershed conservation, environmental education, environmental capacity building and research activities around Quito. The municipal water company provided the original seed grants and contributed to the fund by allocating 1% of drinking water sales. Other funders include Quito´s electricity company, The Nature Conservancy, the National Beer Company, Tesalia Springs Company and Camaren. FONAG provides a transparent method to channel resources to upstream communities from downstream industries, hereby producing long-term financing for conservation actions that generate ecosystem services.

Recognizing the importance of multi-stakeholder co-responsibility and partnership between farmers, landowners and private water users, the Municipality's Secretary of the Environment, together with FONAG and The Nature Conservancy, developed the Water Footprint Replenishment Scheme. This is an innovative financial instrument that capitalizes on the fund to implement projects upstream and downstream. The scheme is directed at companies and industries and is divided into three steps: 1) companies measure their water footprint; 2) they reduce the footprint in their operations; and 3) they invest in water-related projects in areas determined by FONAG and the Secretary of the Environment. This mitigates the impact companies have on water resources and replenishes water through conservation and ecosystem recovery projects. The Water Footprint Replenishment Scheme aims to reduce the use, consumption and contamination of fresh water leading to better management of water resources.

5 | PLANNING OUT RISK: URBAN WATER RESILIENCE

Climate change is manifesting through many water-related shifts, and cities must be prepared and able to act. Cities must actively plan out risk and build in resilience, with particular attention to water-related hazards, using tested tools and approaches. Intensified and changing natural hazards mean that cities must look beyond traditional risks and take action to prepare for sudden shocks and progressive stresses.

Resilience thinking goes beyond disaster risk reduction and seeks to adapt, transform and adjust to hazards across the entire urban system, while learning and, where possible, adopting a "build back better" approach. Resilience in cities must therefore be addressed holistically and through engagement with all actors and stakeholders. Water in urban contexts can be a shock (flooding) and/or a stress (shortage, overwhelming demand) but will always be a primary need for city inhabitants in post-disaster situations.

As crises become more urban, building resilience into urban water systems can prevent loss of life, livelihoods and infrastructure. Technology is enabling cities to become more resilient by collecting large data sets in real time (big data) that can assist in monitoring trends and patterns with respect to hazards. It remains essential to invest in critical water infrastructure based on verifiable and reliable needs assessments and evaluation of risks.

Through the 'Declaration of Local and Regional Governments' adopted at the '2017 Global Platform for Disaster Risk Reduction' held in Cancun in May 2017, local and regional governments made a global commitment to build resilience into urban areas. Initiatives to build resilience in cities should give significant focus to water.

Early-warning systems and response procedures must be in place for cities to face natural and human-made hazards with minimal impact. Adaptation measures must be put in place before the impact of climate change further intensifies. For water-related hazards, this means renewing and upgrading infrastructure (drainage, storage, cyclone measures, among others).

Post disaster, cities should be in a position to evaluate the events and apply the build back better approach. Previous events have demonstrated that the urgency of post-disaster situations often leads to temporary solutions that incur further long-term risk for the beneficiaries, including epidemics, water shortages and flooding. Putting in place action plans and protocols (Water Safety Plan, Sanitation Safety Plan) can help

avoid introducing further risk. These actions help to assess the entire chain of water production; however, new tools and new approaches will also be required. Most importantly, more data are required to make informed decisions within the utility.

Investing in prevention is more cost-effective than recovery; however, it requires a longer-term vision. Building resilience to variable hazards is one part of the challenge, but cities are also required to adapt urban practices to reduce their impact on the environment.

Action areas for local and regional authorities

- Local and regional authorities committed to long-term resilience should initiate an evaluation of resilience and implement priority actions to secure their cities.

- Social resilience is an important characteristic for all cities, and local and regional authorities should initiate and foster discussion on resilience, engagement and training of all communities, especially traditionally excluded groups.

- Restoring aquatic ecosystems and avoiding constructions in high-risk areas, such as riverbeds, can prevent hazards becoming disasters. Where the capacity to act is limited, local and regional authorities should seek training and learn from best cases to implement low-cost actions and take preventative measures.

- Local and regional authorities must look beyond their city limits when building resilience and adopt a territorial approach.

- Through prior data collection, local and regional authorities can support humanitarian groups in acting more effectively in post-crisis situations, and address key priorities.

- Local and regional authorities should take active steps to evaluate their resilience to the plausible effects of climate change in their city.

- Where climate change poses a serious threat to the livability of a city (e.g. sea-level rise), local governments should work with national governments to find long-term solutions for inhabitants.

URBAN WATER RESILIENCE REFERENCES IN DEVELOPMENT FRAMEWORKS

	NEW URBAN AGENDA	2 / 13(h) / 14(c) / 29 / 64 / 65 / 73 / 85 / 88 / 119 / 120 / 123
	SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1, 1.5) / GOAL 11 (11.5) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)
	SENDAI FRAMEWORK	18(d) / 26 / 28(d) / 33(c) / 33(e) / 34(e)

RECOMMENDATIONS

PLANNING OUT RISK: URBAN WATER RESILIENCE

AN INTEGRATED AND DECENTRALIZED APPROACH TO PROTECTING LAKE BIZERTE

A story from City of Bizerte, Tunisia

A project was undertaken to rehabilitate the environment and water quality of Lake Bizerte using an integrated approach that tackled all main sources of pollution. These depollution efforts improved aquatic life and living conditions for the surrounding communities.

The project aimed to improve sanitary and environmental conditions for an estimated 400,000 inhabitants living close to the sources of pollution (531,000 in the entire governorate), as well as develop activities and local employment opportunities in the fields of sewage, waste management, fisheries and agriculture.

The project invests in four priority areas of depollution:

- Industrial pollution: investment in the steel, cement and oil sectors to bring industrial or atmospheric pollution of water and air into compliance with Tunisian standards;
- Urban wastewater: investment in extension and rehabilitation works to bring wastewater collection and treatment up to Tunisian standards;
- Solid waste: the remediation of landfills, securing storage areas, the creation of a treatment plant and construction of transfer centers in rural areas;
- Coastal zone management: cleaning and landscaping the lakeshore, and extending fishing harbors.

The project is led by the Ministry of Local Affairs together with the Municipality of Bizerte, and is supported by the European Union and the European Investment Bank.

The investment component of the project is complemented by specific decentralized cooperative actions carried out by local authorities on environmental follow-up, governance, communication and awareness raising.

The project has already helped to eliminate the main sources of pollution contaminating the lake. The bordering communities are benefitting from a healthy environment and improved quality of life, as well as the development of sustainable urban and economic activities, such as agriculture, industry, tourism, aquaculture and fisheries.

STAKEHOLDER ENGAGEMENT FOR INCREASED WATER RESILIENCE

A story from Asunción, Paraguay

The city of Asunción, capital of Paraguay, suffers from numerous shocks and stresses related to water. Heavy rain leads to flooding (shocks) that can paralyze parts of the city and compromise city functionality. Fluvial floods, in Asunción, are mainly due to the rise of water level of the Paraguay River during storm seasons and other periodic rises of the river. Also, Asunción has pluvial floods, during storm seasons and related to the failure of the drainage system. Floods occur mainly in the riparian zones of the Paraguay River (areas of the city known as "Bañado Sur" and "Bañado Norte"), where there are settlements of low-income families.

In line with the "Asunción Somos Todos" initiative, the city is implementing the City Resilience Profiling Tool to identify key actions that can be taken across the urban system to increase resilience to water hazards. The approach relies on data obtained from local government, as well as from other actors in the water cycle who are operating in the city, and stakeholder groups, such as energy companies, industry, and regional and national governments. To gather the relevant data, the city conducts training sessions and stakeholder meetings to explain the resilience agenda; obtain the required data; and train key partners from within the different sectors in order to build in resilience thinking.

The outcome of this process is a more water-resilient city achieved through better informed, evidence-based actions; investments in infrastructure; and creation of a network of trained actors working across different sectors connected with the water cycle. These actors have a shared knowledge of hazards and challenges and a common vision for a resilient city.

6 | BUILDING THE RIGHT SKILLS FOR THE JOB: CAPACITATED CITIES

Developing capacity for water-sensitive governance and management of resources will help overcome global water challenges. However, this must be reinforced with an evaluation of capacity gaps and training of citizens to encourage them to take ownership for the management of their water resources as a shared responsibility. Giving service providers the resources, capacity and mandate to provide sustainable services and engage in partnerships will move cities towards sustainable development.

Capacity is arguably one of the less evident challenges to address in terms of service provision, urban planning and design. Capacity is expected of those on the frontlines of service delivery; however, capacity development and training are required at all levels of decision making, governance and action in the water cycle. Policy makers, first responders in a crisis, and NGOs working in urban contexts must have access to the right tools and guidelines to make informed decisions.

Urban service providers supply over half of the global population with basic services, including water and sanitation. They have a direct impact on the well-being of citizens in terms of health, education, gender equality and economic development, among others. Because many challenges are linked to lack of or aging infrastructure, informality of the city, lack of data for informed decision making and/or climate change impacts, increased capacity in these areas can allow service providers to do more with what they have and more sustainably.

New technology is offering more ways to engage in training, peer-support, distance learning through videoconferencing, Massive Open Online Courses, and remote exchange with knowledge centers. Water Operators' Partnerships are growing in number, and knowledge institutes are taking advantage of new opportunities to extend their reach and promote partnerships between research and practitioners.

Participatory and transparent processes are also behaviors that cities can learn and share. Capacitated cities should be able to track actions and consult inhabitants for democratic and transparent action resulting in a more active ownership of water resources and buy-in for investment.

Capacitated cities must provide inhabitants with the knowledge and information they need to feel engaged in the management and use of water in the city. Local and regional authorities can use their platform to inform city inhabitants and leverage support.

Action areas for local and regional authorities

■ Local and regional authorities should engage with communities of practice, academia and innovators from the public and private sectors to enhance and disseminate knowledge within cities about all aspects of water management.

■ As outlined during the World Water Forum in Korea, local and regional authorities and their partners in the water sector must embrace science and technology to develop capacity and increase efficiency.

■ Local and regional authorities should adopt participatory and transparent processes in decision making where possible. This includes decisions over shared resources, such as water.

■ Local and regional authorities must work with service providers to ensure the quality and sustainability of services and that the impact on the environment is limited.

CAPACITATED CITIES REFERENCES IN DEVELOPMENT FRAMEWORKS

	NEW URBAN AGENDA	2 / 13(a) / 21 / 25 / 29 / 64 / 65 / 70 / 71 / 73 / 74 / 81 / 85 / 88 / 91 / 95 / 96 / 99 / 109 / 119 / 120 / 146 / 147
	SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1) / GOAL 3 (3.3, 3.9) / GOAL 4 (4.A) / GOAL 6 (6.1, 6.2, 6.3, 6.4, 6.5, 6.A, 6.B) / GOAL 11 (11.5) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)
	SENDAI FRAMEWORK	18(d) / 18(f) / 28(d) / 33(c)

RECOMMENDATIONS

BUILDING THE RIGHT SKILLS FOR THE JOB: CAPACITATED CITIES

6

CAPACITY BUILDING THROUGH PEER SUPPORT TO ADDRESS CLIMATE CHANGE

A story from Rio de Janeiro state, Brazil and San Francisco, USA

Water utilities around the world share many common challenges, and yet they are not equally equipped to deal with them. Through the initiative Water Operators Partnerships (WOPs), utilities that have successfully confronted a challenge can help their struggling peer utilities to build the capacity they need to overcome their own challenges. In these not-for-profit, win–win engagements, what one utility gains in capacity and performance improvement, the other gains in internal benefits like human resource development or corporate respectability.

With the impact of climate change, water scarcity is a reality faced by more and more water service providers, particularly in rapidly developing countries with burgeoning urban populations and high informality. The drought of 2014–2016 made the Brazilian water service provider, CEDAE, keenly aware of its need to strategically conserve its water and protect its more than 10 million customers in the Rio de Janeiro state against more serious scarcity events.

Faced with reoccurring droughts for the past 30 years, the San Francisco Public Utilities Commission (SFPUC) has been implementing a range of innovative demand management and water supply diversification measures, with remarkable success. The US Water Partnership identified the opportunity for a WOP with CEDAE. With funding from the Inter-American Development Bank and under the WOP-Latin America and the Caribbean (WOP-LAC) platform, the SFPUC, together with the California State Water Resources Board, has been helping CEDAE develop a plan to address ongoing water loss, increase water use efficiency, and plan against droughts.

BELÉM RIVER BASIN REVITALIZATION

A story from Curitiba, Brazil

The Belém River is part of the heritage of the City of Curitiba, Brazil; it has witnessed city growth and urban development through the years. The river's entire course is located within the perimeter of the city, from its spring to where it meets the great Iguaçu River.

The Belém River, covering an area of 84 km², has been modified and impacted by human activity. Like in any other urban river, these impacts are mostly associated with the discharge of solid waste, domestic and industrial sewage.

The revitalization of the Belém River Basin requires that a number of actions be set into motion: sustainable management of water resources; integration between governmental agencies and the society, such that actions and responsibilities are shared; the optimization of human, financial and natural resources; and education of communities so that they might acting as guardians of this heritage.

Curitiba had already come up with feasible alternatives to minimize the negative impacts to urban rivers in the 1970s. Public parks were built by riversides, with artificial lakes to retain the rainwater and reduce floods. Used as leisure spaces, these parks prevent irregular occupation of the river banks and preserve the biodiversity. Programs of environmental education, inspection, and monitoring, as well as specific legislation and infrastructure projects, have complemented these actions.

During the Belém River revitalization, federal, state and municipal governments funded infrastructure projects, and the city has built sewage systems that now complement 98% of the existing network. Other highlights from the revitalization project are the creation and expansion of the Environmental Conservation Units and the establishment of permanent environmental education actions.

Some results have already been observed: floods were reduced in areas of the river where project actions were taken; the water quality has shown improvement or been maintained in 14 of the total 26 locations analyzed, and the population's participation as guardian of this resource has increased.

RECOMMENDATIONS

BUILDING THE RIGHT SKILLS FOR THE JOB: CAPACITATED CITIES

6

7 | MAXIMIZING RESOURCES: EFFICIENCY

Natural resources, including water, are under greater stress due to unpredictable meteorological patterns, mismanagement and increased demand. Water management must become efficient and smart, recognizing the value of waste, and promoting integrated management approaches and energy efficiency. Technology offers new ways to increase efficiency, and the scale of global challenges demands this new innovation.

Maximizing the efficiency of existing infrastructure can delay the need for new costly hardware in certain sectors, hereby allowing for investment to be made in more pressing areas, such as the extension of services to informal settlements. Ensuring the resident capacity within the government bodies responsible for managing water services can ensure that the life of infrastructure is maximized.

Efficient water operators, sensitized users and an integrated approach can alleviate the stress on limited water resources. Utilities are resource intensive – the water used as the main input to services, the energy used in extraction, treatment and pumping, and the failure to reuse resources that are then carried away in "wastewater" are significant resource drains. Reducing inefficiencies and wastage in the use of resources by utilities can contribute directly to the protection of the environment, including the urgent task of mitigating climate change. Utilities can then redirect these resources, and also finance, to more constructive uses.

Local and regional authorities can use their platform to inform citizens of good water practices, and where they do not directly manage services, work with service providers to promote such incentives. Local and regional authorities can, for example, ensure that building codes promote the sustainable use of water, and provide water-efficient materials and training to local builders.

Cities may be the drivers of economic growth, but they are also leaders in resource consumption, based on their scale alone. By adopting sustainable approaches to water management, local and regional authorities can lead the way in reducing resource consumption, avoiding potential shortages. Planning cites that allow for natural ecosystems and green spaces to exist in harmony with urban activity and multi-usage spaces can increase efficiency and, hence, act as a catalyst for sustainable consumption.

Cities should consider how to match the quantity and quality of water to its intended use, while looking at the entire water cycle from a systems perspective in which all water is good water and resource (nutrients, energy) recovery is maximized. Decentralized, fit-for-purpose water treatment facilities can be more cost-effective than the expansion of centralized systems in growing cities. Smart networks that build sensors into the body of pipes to help identify early deterioration and system leaks, reduce friction and even heal damaged pipes, will help reduce the enormous wastage that occurs due to compromised infrastructure.

Rather than tapping into remote and expensive sources in other basins, sustainable cities must choose to adapt by doing much more with the water they have. Ongoing efforts to reduce unnecessary demand for high-quality drinking water through more efficient technology, better urban planning, pricing and behavior change will be increasingly important.

As the global population grows and becomes more urban, the demand for water, energy and food will grow. Coupled with consumption patterns that are more resource intensive, all three issues must be considered together. Food production uses more of the world's fresh water than any other sector, and energy production is still highly water intensive.[12] Efficiencies in one area will have drastic implications on the other two areas, and using the least energy-intensive but fit-for-purpose water quality will provide a substantial return on investment.

Integrated water management supports sustainable consumption patterns by exploiting opportunities to replenish, reduce and recover water throughout the cycle, and influence land use to protect ecosystems, wetlands and biodiversity. Recovering energy and valuable resources from wastewater will become an environmental and fiscal imperative as cities continue to grow; however, this will require a paradigm shift in the way we consider, collect and manage our waste.

Action areas for local and regional authorities

- Local and regional authorities are well positioned to: promote and regulate the multi-sector use of water infrastructure; adopt and promote the most efficient use of natural resources; and make the global case for interdependencies between water, energy and food.

- Using their knowledge of local territories, local and regional authorities should explore opportunities for energy or transport savings by sourcing materials close to the city, reducing costs and resource use.

[12] UN Water: http://www.unwater.org/water-facts/water-food-and-energy/

■ Local and regional authorities should learn from innovative practices across the globe by researching best practice cases and tested solutions for increasing the efficient use of resources, and then replicating and adapting these practices for their cities.

EFFICIENCY REFERENCES IN DEVELOPMENT FRAMEWORKS

NEW URBAN AGENDA	2 / 65 / 72 / 73 / 119
SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1. 1.4) / GOAL 6 (6.4, 6.5, 6.A) / GOAL 12 (12.5) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)

A WATER OPERATORS PARTNERSHIP FOR REDUCING WATER LOSSES

A story from Bali (Denpasar), Indonesia

In 2013, the water utility of Bali (PDAM Kota Denpasar) was suffering from heavy water losses, lacked basic skills in non-revenue water (NRW) management, and was unable to expand coverage in its service area. WaterLinks[13] was asked to help and in September 2013 identified Ranhill Water Services (Malaysia) as a partner that could help PDAM Kota Denpasar through an 18-month Water Operator Partnership (WOP). The two utilities agreed on a work program with verifiable results, which began in October 2013.

By March 2015, an NRW Control Department had been established within PDAM; active leakage control teams were set up with trained staff; three district-metered areas (DMAs) were established, and water losses declined substantively; customer tagging was organized within DMAs; and the saved water was used to connect 600 poor households in Serangan, a coastal community that had no previous access to clean water.

This WOP benefitted from US$35,000 worth (approximately 2.8 km) of pipes contributed by Borouge, a leading pipe material supplier. Ranhill staff were enthusiastic in transferring their skills and experience to Bali; commonalities in language and cultural environment helped. The local government, and the mayor in particular, was impressed with the results and assured the provision of additional funds to replicate these successes in other DMAs.

Going forward, the PDAM committed to establish another three DMAs in 2015, two in 2016, and one in 2017. Clearly, the concept of efficiency in water supply had taken root and sufficient basic skills had been transferred through the WOP to enable the PDAM to address the serious operational issue of NRW management as a priority task.

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[13] WaterLinks is an international NGO registered in the Philippines. It has pioneered Water Operator Partnerships in the Asia-Pacific region. Over 80 WOPs since 2008 have delivered clean water to 1.5 million people, trained 3,500 personnel, and catalyzed 300 innovations.

RECOMMENDATIONS

MAXIMIZING RESOURCES: EFFICIENCY

7

MORE EFFICIENT FOUNTAINS IN INFORMAL SETTLEMENTS

A story from Rabat, Morocco

Morocco's hydrological context is characterized by irregular yearly rainfall and a steady demand on services. Alternating periods of heavy rainfall and intense droughts have a strong impact on water patterns and local authorities look for the best adapted solutions to provide the local population with drinking water, especially those in informal douars (a community of tents or huts clustered in a camp-like space).

The local government in Rabat provides informal douars with drinking water through public fountains, and these are essential in resolving water challenges. However, the local government became aware of substantial wastage in these neighborhoods and was faced with heavy bills from the operator.

The solution was to install automatic drinking fountains called "Saqayti" (Arabic for "my fountain"). Developed in partnership with two national companies, the fountains are connected to the main network and serve as collection points for water. The Saqayti fountains provide free water to residents with an electronic key. Keys are distributed by local authorities to eligible inhabitants with a monthly social quota to meet essential water needs. The water distributed for free is charged directly to the municipality by the operator. Fountains have one or several taps and a chip reader similar to those found on ATMs. The magnetic keys are credited automatically each month with the amount of water corresponding to the quota agreed by the local government. Many of the fountains now run on solar energy.

Saqayti fountains have allowed the local government to reduce its water bill by 25%. The system allows for better control of overuse without restricting access to water at the fountain, which could create divides in the communities. Thirty fountains provide water to over 1,375 people and this innovative apparatus is a transitory solution as part of the wider political aim to address the needs of the target population and promote healthy living conditions.

8 | ADDRESSING THE GAP: SANITATION

Poor sanitation endangers life, health, growth (economic and social) and dignity, and insufficient headway was made in improving sanitation under the MDGs. The challenges are complex, but sanitation must be placed at the top of the water agenda and be encompassed by all seven previous recommendations.

Globally, special attention must be given to the sanitation gap that currently leaves 2.5 billion people without access to improved sanitation and the even greater number that do not have access to safe or reliable services. The economic benefits alone of improved sanitation and wastewater treatment, for example, tend to greatly outweigh the revenue that utilities are able to collect for providing these services. Recognizing waste as a resource can leverage further investment from the private sector.

Urban sanitation is often considered as an add-on to water, which consists exclusively of sewers and wastewater treatment plants. However, these are nineteenth century solutions that are costly and do not harness the full potential of waste. In this sense, planning can and must be innovative, forward-thinking and exploit the latest approaches and techniques.

Ensuring that cities can accommodate new and growing populations falls on the shoulders of local and regional authorities in many countries. Basic services are one of the biggest challenges in rapidly growing urban contexts and have a direct impact on health, education, employment and safety for the population.

Sanitation involves a range of processes and responsibilities, not only the installation of latrines and the provision of access, but also collection, evacuation and treatment, while also keeping in mind the complementarity between collective and non-collective systems. Using new technologies, and with sound investment, sanitation can innovate towards on-site solutions and contribute to circular economies.

For local and regional governments to move towards this vision, national governments and other decision makers must recognize the potential of sanitation and ensure service providers have adequate mandates and resources.

Action areas for local and regional authorities

■ Local and regional authorities in developed and developing countries cannot afford to maintain the status quo in terms of sanitation services. To do so is passing up a valuable opportunity to increase the health and sustainability of cities. Indeed, investing in improved sanitation yields exponential savings in public health costs down the line. Sanitation should be positioned centrally within the agenda of local governments, in recognition of the challenges and opportunities available.

■ Local and regional authorities should consider waste as a resource and thereby a potential source of income to cover service costs and fund the necessary investment in infrastructure.

■ Recognizing the global gap in sanitation funding, local and regional authorities should lobby national governments and seek partners to address this gap. Special attention must be given to those whose health, well-being and dignity have been compromised by a lack of sanitation.

SANITATION REFERENCES IN DEVELOPMENT FRAMEWORKS

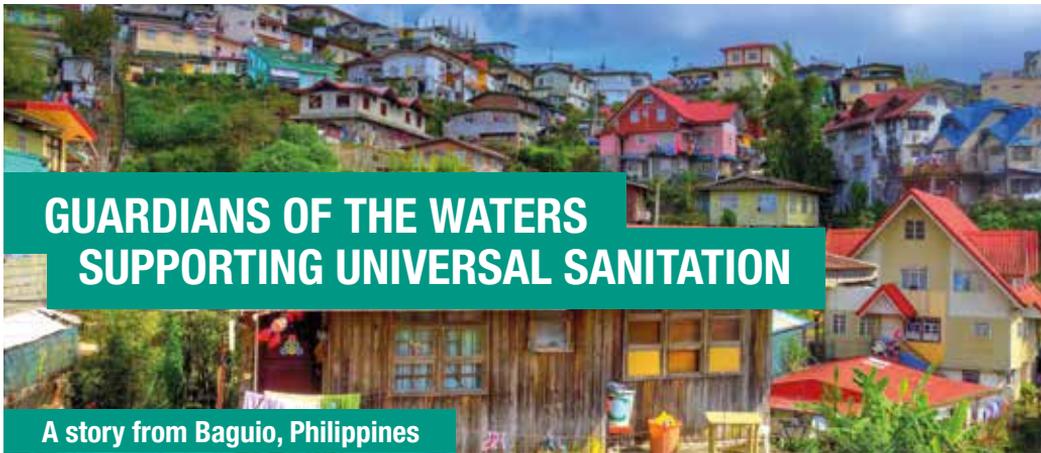|	
NEW URBAN AGENDA	2 / 13(a) / 29 / 36 / 73 / 74 / 85 / 88 / 95 / 119 / 120
SUSTAINABLE DEVELOPMENT GOALS	GOAL 1 (1.1) / GOAL 3 (3.3, 3.9) / GOAL 4 (4.A) / GOAL 6 (6.1, 6.2, 6.3, 6.A, 6.B) / GOAL 11 (11.6) / GOAL 12 (12.4) / GOAL 14 (14.1, 14.3) / GOAL 17 (17.6, 17.7, 17.8, 17.9, 17.13, 17.14, 17.15, 17.16, 17.17, 17.18, 17.19)
SENDAI FRAMEWORK	18(d) / 33(c)

GUARDIANS OF THE WATERS SUPPORTING UNIVERSAL SANITATION

A story from Baguio, Philippines

Baguio is a city in The Philippines with a population of 350,000. The city government has a Wastewater, Water and Ambient Air Management Division (WAMD–CEPMO), responsible for sanitation. About 67% of households have on-site sanitation (almost all septic tanks), while 28% are served by a small sewerage system in the city center and about 5% by communal septic tanks. Only a small fraction of the fecal sludge reaches the sewage treatment plant. The indiscriminate disposal of wastewater and septage has polluted waterways and caused a legal conflict with a municipality downstream.

The city government has a planning aspiration to provide universal sewerage by 2035, but this has no meaningful finance plan. The city charges a small sanitation tariff only to the households connected to the sewerage system and its expenditure on sanitation far exceeds its revenue from tariffs. Traditionally, there has been a lack of communication and awareness activities, which meant customers were often unwilling to pay for services.

In 2011, WAMD–CEPMO launched a program called "Salaknib Ti Waig", or "Guardians of the Waters". Although the program focused on protecting rivers against pollution, many of its messages related to sanitation. The Guardians initiative sought to inform all stakeholders of the importance of sanitation and river protection by campaigning among local communities and elected officials. This initiative is supplementary to the regular programs and activities of the sanitation division under the Health Services Office (HSO) of the city.

In effect, due to collective action by WAMD–CEPMO, HSO and the local neighborhoods, awareness of sanitation issues has improved at both the neighborhood and city levels. As a result, the people and local government officials are now better positioned to move towards the 2035 objective.

SELLABLE PRODUCTS FORM SLUDGE FOR SUSTAINABLE SERVICES

A story from Durban, South Africa

Over the past decades, eThekwini Water Services (EWS), the municipal water and sanitation service provider for the 3.6 million people of Durban, South Africa, has made exemplary strides in delivering water and sanitation services that are "equitable as well as environmentally, socially and financially sustainable, and technically excellent." It places gender equity as a high priority, ensuring that at least 75% of all local project employment created goes to women, and that services are sensitive to women and girls.

EWS's service area was radically increased in the mid-1990s to include extensive peri-urban and rural zones where difficult terrain, high densities and insecurities posed barriers to traditional waterborne sewerage approaches. This increase required EWS to shift its focus from infrastructure to service delivery and beyond sewer networks to a mix of technologies across the sanitation services chain.

Under new EWS policy, ventilated pit latrines are emptied every five years and the sludge is processed free of charge. After removing the solid waste, the sludge is dehydrated and pasteurized to produce pellets that can be used as a soil conditioner or fertilizer. There are now also 85,000 urine diversion toilets in place across the city, offered to households at no cost thanks to cross-subsidies on water and sanitation charges. The remaining fecal matter is treated in decentralized Black Soldier Fly (BSF) plants, which create sellable products, including oil from larvae, animal feed and biochar.

Where household-level service is not feasible, community ablution blocks provide separate male/female toilets, showers and laundry areas to around 75 households. These are managed locally and connected to the sewer mains. EWS has learned the importance of addressing the entire sanitation chain; considering long-term operation and maintenance, including incorporating long-term community engagement; and engaging with researchers and the local private sector.

ANNEXES

Annex 1 | New Urban Agenda

Annex 2 | Sustainable Development Goals

Annex 3 | Sendai Framework for Disaster Risk Reduction

Annex 4 | Action Framework for Implementation of the
New Urban Agenda (AFINUA)

ANNEX 1 | NEW URBAN AGENDA

PARAGRAPH	RELATED RECOMMENDATION
2 By 2050, the world's urban population is expected to nearly double, making urbanization one of the 21st century's most transformative trends. Populations, economic activities, social and cultural interactions, as well as environmental and humanitarian impacts, are increasingly concentrated in cities, and this poses massive sustainability challenges in terms of housing, infrastructure, basic services, food security, health, education, decent jobs, safety, and natural resources, among others.	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation

Our shared vision

13   We envisage cities and human settlements that:

(a) Fulfil their social function, including the social and ecological function of land, with a view to progressively achieving the full realization of the right to adequate housing as a component of the right to an adequate standard of living, without discrimination, universal access to safe and affordable drinking water and sanitation, as well as equal access for all to public goods and quality services in areas such as food security and nutrition, health, education, infrastructure, mobility and transportation, energy, air quality and livelihoods;	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **6** Capacitated cities **8** Sanitation
(h) Protect, conserve, restore and promote their ecosystems, water, natural habitats and biodiversity, minimize their environmental impact and change to sustainable consumption and production patterns.	**2** National and urban planning **3** Legislation and governance **5** Urban water resilience

Our principles and commitments

14   To achieve our vision, we resolve to adopt a New Urban Agenda guided by the following interlinked principles:

(a) Leave no one behind, by ending poverty in all its forms and dimensions, including the eradication of extreme poverty, by ensuring equal rights and opportunities, socioeconomic and cultural diversity, and integration in the urban space, by enhancing liveability, education, food security and nutrition, health and well-being, including by ending the epidemics of AIDS, tuberculosis and malaria, by promoting safety and eliminating discrimination and all forms of violence, by ensuring public participation – providing safe and equal access for all, and by providing equal access for all to physical and social infrastructure and **basic services**, as well as adequate and affordable housing;	**1** Equity **2** National and urban planning
(c) Ensure environmental sustainability by promoting clean energy and sustainable use of land and resources in urban development, by protecting ecosystems and biodiversity, including adopting healthy lifestyles in harmony with nature, by promoting sustainable consumption and production patterns, by building urban resilience, by reducing disaster risks and by mitigating and adapting to climate change.	**5** Urban water resilience

PARAGRAPH	RELATED RECOMMENDATION
Call for action	
21 We urge all national, subnational and local governments, as well as all relevant stakeholders, in line with national policies and legislation, to revitalize, strengthen and create partnerships, enhancing coordination and cooperation to effectively implement the New Urban Agenda and realize our shared vision.	**6** Capacitated cities
Transformative commitments for sustainable urban development	
24 To fully harness the potential of sustainable urban development, we make the following transformative commitments through an urban paradigm shift grounded in the integrated and indivisible dimensions of sustainable development: social, economic and environmental.	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
Sustainable urban development for social inclusion and ending poverty	
25 We recognize that eradicating poverty in all its forms and dimensions, including extreme poverty, is the greatest global challenge and an indispensable requirement for sustainable development. We also recognize that growing inequality and the persistence of multiple dimensions of poverty, including the rising number of slum and informal-settlement dwellers, are affecting both developed and developing countries, and that the spatial organization, accessibility and design of urban space, as well as the infrastructure and the **basic services provision**, together with development policies, can promote or hinder social cohesion, equality and inclusion.	**1** Equity **2** National and urban planning **3** Legislation and governance **6** Capacitated cities
29 We commit ourselves to strengthening the coordination role of national, subnational and local governments, as appropriate, and their collaboration with other public entities and non-governmental organizations in the provision of social and **basic services** for all, including generating investments in communities that are most vulnerable to disasters and those affected by recurrent and protracted humanitarian crises. We further commit ourselves to promoting adequate services, accommodation and opportunities for decent and productive work for crisis-affected persons in urban settings and to working with local communities and local governments to identify opportunities for engaging and developing local, durable, and dignified solutions while ensuring that aid also flows to affected persons and host communities to prevent regression of their development.	**1** Equity **4** Finance **5** Urban water resilience **6** Capacitated cities **8** Sanitation
36 We commit ourselves to promoting appropriate measures in cities and human settlements that facilitate access for persons with disabilities, on an equal basis with others, to the physical environment of cities, in particular to public spaces, public transport, housing, education and health facilities, public information and communication (including information and communications technologies and systems) and other facilities and services open or provided to the public, in both urban and rural areas.	**1** Equity **8** Sanitation

PARAGRAPH	RELATED RECOMMENDATION
Environmentally sustainable and resilient urban development	
64 We also recognize that urban centres worldwide, especially in developing countries, often have characteristics that make them and their inhabitants especially vulnerable to the adverse impacts of climate change and other natural and human-made hazards, including earthquakes, extreme weather events, flooding, subsidence, storms, including dust and sand storms, heatwaves, water scarcity, droughts, water and air pollution, vector-borne diseases and sea level rise, which particularly affect coastal areas, delta regions and small island developing States, among others.	**2** National and urban planning **5** Urban water resilience **6** Capacitated cities
65 We commit ourselves to facilitating the sustainable management of natural resources in cities and human settlements in a manner that protects and improves the urban ecosystem and environmental services, reduces greenhouse gas emissions and air pollution and promotes disaster risk reduction and management, by supporting the development of disaster risk reduction strategies and periodical assessments of disaster risk caused by natural and human-made hazards, including standards for risk levels, while fostering sustainable economic development and protecting the well-being and quality of life of all persons through environmentally sound urban and territorial planning, infrastructure and **basic services**.	**1** Equity **2** National and urban planning **5** Urban water resilience **6** Capacitated cities **7** Efficiency
70 We commit ourselves to support local provision of goods and **basic services** and leveraging the proximity of resources, recognizing that heavy reliance on distant sources of energy, **water**, food and materials can pose sustainability challenges, including vulnerability to service supply disruptions, and that local provision can facilitate inhabitants' access to resources.	**1** Equity **2** National and urban planning **6** Capacitated cities
71 We commit ourselves to strengthening the sustainable management of resources, including land, **water** (oceans, seas and freshwater), energy, materials, forests and food, with particular attention to the environmentally sound management and minimization of all waste, hazardous chemicals, including air and short-lived climate pollutants, greenhouse gases and noise, and in a way that considers urban-rural linkages, functional supply and value chains vis-à-vis environmental impact and sustainability and that strives to transition to a circular economy while facilitating ecosystem conservation, regeneration, restoration and resilience in the face of new and emerging challenges.	**2** National and urban planning **6** Capacitated cities
72 We commit ourselves to long-term urban and territorial planning processes and spatial development practices that incorporate **integrated water resources planning and management**, considering the urban-rural continuum on the local and territorial scales and including the participation of relevant stakeholders and communities.	**1** Equity **2** National and urban planning **7** Efficiency
73 We commit ourselves to promoting the conservation and sustainable use of **water** by rehabilitating water resources within the urban, peri-urban and rural areas, reducing and treating wastewater, minimizing water losses, promoting water reuse and increasing water storage, retention and recharge, taking into consideration the water cycle.	**2** National and urban planning **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation

PARAGRAPH	RELATED RECOMMENDATION
74 We commit ourselves to promoting environmentally sound waste management and to substantially reducing waste generation by reducing, re-using and recycling waste, minimizing landfills and converting waste to energy when waste cannot be recycled or when this choice delivers the best environmental outcome. We further commit ourselves to reducing marine pollution through improved waste and wastewater management in coastal areas.	**2** National and urban planning **6** Capacitated cities **8** Sanitation

Effective implementation

81 We recognize that the realization of the transformative commitments set out in the New Urban Agenda will require enabling policy frameworks at the national, subnational and local levels, integrated by participatory planning and management of urban spatial development and effective means of implementation, complemented by international cooperation as well as efforts in capacity development, including the sharing of best practices, policies and programmes among Governments at all levels.	**1** Equity **2** National and urban planning **3** Legislation and governance **6** Capacitated cities

Building the urban governance structure: establishing a supportive framework

85 We acknowledge the principles and strategies contained in the International Guidelines on Decentralization and Strengthening of Local Authorities and the International Guidelines on Access to Basic Services for all, adopted by the Governing Council of the United Nations Human Settlements Programme (UN-Habitat) in its resolutions 21/3 of 20 April 2007 and 22/8 of 3 April 2009.	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **8** Sanitation
88 We will ensure coherence between goals and measures of sectoral policies, inter alia, rural development, land use, food security and nutrition, management of natural resources, provision of public services, **water and sanitation**, health, environment, energy, housing and mobility policies, at different levels and scales of political administration, across administrative borders and considering the appropriate functional areas, in order to strengthen integrated approaches to urbanization and implement integrated urban and territorial planning strategies that factor them in.	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **8** Sanitation
91 We will support local governments in determining their own administrative and management structures, in line with national legislation and policies, as appropriate, in order to adapt to local needs. We will encourage appropriate regulatory frameworks and support to local governments in partnering with communities, civil society and the private sector to develop and manage **basic services** and infrastructure, ensuring that the public interest is preserved and concise goals, responsibilities and accountability mechanisms are clearly defined.	**1** Equity **2** National and urban planning **3** Legislation and governance **6** Capacitated cities

PARAGRAPH	RELATED RECOMMENDATION
Planning and managing urban spatial development	

95 We will support the implementation of integrated, polycentric and balanced territorial development policies and plans, encouraging cooperation and mutual support among different scales of cities and human settlements, strengthening the role of small and intermediate cities and towns in enhancing food security and nutrition systems, providing access to sustainable, affordable, adequate, resilient and safe housing, infrastructure and **services**, facilitating effective trade links across the urban-rural continuum and ensuring that small-scale farmers and fishers are linked to local, subnational, national, regional and global value chains and markets. We will also support urban agriculture and farming, as well as responsible, local and sustainable consumption and production, and social interactions, through enabling and accessible networks of local markets and commerce as an option for contributing to sustainability and food security.

2 National and urban planning
3 Legislation and governance
6 Capacitated cities
8 Sanitation

96 We will encourage the implementation of sustainable urban and territorial planning, including city-region and metropolitan plans, to encourage synergies and interactions among urban areas of all sizes and their peri-urban and rural surroundings, including those that are cross-border, and we will support the development of sustainable regional infrastructure projects that stimulate sustainable economic productivity, promoting equitable growth of regions across the urban-rural continuum. In this regard, we will promote urban-rural partnerships and inter-municipal cooperation mechanisms based on functional territories and urban areas as effective instruments for performing municipal and metropolitan administrative tasks, **delivering public services** and promoting both local and regional development.

2 National and urban planning
6 Capacitated cities

99 We will support the implementation of urban planning strategies, as appropriate, that facilitate a social mix through the provision of affordable housing options with access to **quality basic services** and public spaces for all, enhancing safety and security and favouring social and intergenerational interaction and the appreciation of diversity. We will take steps to include appropriate training and support for service delivery professionals and communities in areas affected by urban violence.

1 Equity
2 National and urban planning
6 Capacitated cities

109 We will consider increased allocations of financial and human resources, as appropriate, for the upgrading and, to the extent possible, prevention of slums and informal settlements, with strategies that go beyond physical and environmental improvements to ensure that slums and informal settlements are integrated into the social, economic, cultural and political dimensions of cities. These strategies should include, as applicable, access to sustainable, adequate, safe and affordable housing, **basic** and social **services**, and safe, inclusive, accessible, green and quality public spaces, and they should promote security of tenure and its regularization, as well as measures for conflict prevention and mediation.

1 Equity
2 National and urban planning
4 Finance
6 Capacitated cities

PARAGRAPH	RELATED RECOMMENDATION

119 We will promote adequate investments in protective, accessible and sustainable infrastructure and service provision systems for **water**, **sanitation** and hygiene, sewage, solid waste management, urban drainage, reduction of air pollution and storm water management, in order to improve safety in the event of water-related disasters, improve health, ensure universal and equitable access to safe and affordable drinking water for all, as well as access to adequate and equitable sanitation and hygiene for all and end open defecation, with special attention to the needs and safety of women and girls and those in vulnerable situations. We will seek to ensure that this infrastructure is climate resilient and forms part of integrated urban and territorial development plans, including housing and mobility, among other things, and is implemented in a participatory manner, considering innovative, resource-efficient, accessible, context-specific and culturally sensitive sustainable solutions.

1 Equity
2 National and urban planning
3 Legislation and governance
4 Finance
5 Urban water resilience
6 Capacitated cities
7 Efficiency
8 Sanitation

120 We will work to equip public water and sanitation utilities with the capacity to implement sustainable water management systems, including sustainable maintenance of urban infrastructure services, through capacity development, with the goal of progressively eliminating inequalities and promoting both universal and equitable access to safe and affordable drinking water for all and adequate and equitable sanitation and hygiene for all.

1 Equity
2 National and urban planning
5 Urban water resilience
6 Capacitated cities
8 Sanitation

123 We will promote the integration of food security and the nutrition needs of urban residents, particularly the urban poor, in urban and territorial planning, in order to end hunger and malnutrition. We will promote coordination of sustainable food security and agriculture policies across urban, peri-urban and rural areas to facilitate the production, storage, transport and marketing of food to consumers in adequate and affordable ways in order to reduce food losses and prevent and reuse food waste. We will further promote the coordination of food policies with energy, **water**, health, transport, and waste policies, maintain the genetic diversity of seeds, reduce the use of hazardous chemicals and implement other policies in urban areas to maximize efficiencies and minimize waste.

2 National and urban planning
5 Urban water resilience

Means of implementation

146 We will expand opportunities for North-South, South-South and triangular regional and international cooperation, as well as subnational, decentralized and city-to-city cooperation, as appropriate, to contribute to sustainable urban development, developing capacities and fostering exchanges of urban solutions and mutual learning at all levels and by all relevant actors.

6 Capacitated cities

147 We will promote capacity development as a multifaceted approach that addresses the ability of multiple stakeholders and institutions at all levels of governance and combines the individual, societal and institutional capacity to formulate, implement, enhance, manage, monitor and evaluate public policies for sustainable urban development.

6 Capacitated cities

ANNEX 2 | SUSTAINABLE DEVELOPMENT GOALS

SDG	TARGET	INDICATOR	RELATED RECOMMENDATION
1	**End poverty in all its forms everywhere**		
	1.1 By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than US$1.25 a day	**1.1.1** Proportion of population below the international poverty line, by sex, age, employment status and geographical location (urban/rural)	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	1.4 By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance	**1.4.1** Proportion of population living in households with access to basic services	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **7** Efficiency
	1.5 By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters	**1.5.3** Number of countries that adopt and implement national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015–2030	**1** Equity **5** Urban water resilience
3	**Ensure healthy lives and promote well-being for all at all ages**		
	3.3 By 2030, end the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases	**3.3.4** Hepatitis B incidence per 100,000 population	**6** Capacitated cities **8** Sanitation

SDG	TARGET	INDICATOR	RELATED RECOMMENDATION
3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination	**3.9.2** Mortality rate attributed to unsafe water, unsafe sanitation and lack of hygiene (exposure to unsafe Water, Sanitation and Hygiene for All (WASH) services)	**2** National and urban planning **6** Capacitated cities **8** Sanitation

4	Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all		
4.A	Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all	**4.A.1** Proportion of schools with access to (a) electricity; (b) the Internet for pedagogical purposes; (c) computers for pedagogical purposes; (d) adapted infrastructure and materials for students with disabilities; (e) basic drinking water; (f) single-sex basic sanitation facilities; and (g) basic handwashing facilities (as per the WASH indicator definitions)	**1** Equity **6** Capacitated cities **8** Sanitation

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	**6.1.1** Proportion of population using safely managed drinking water services	**1** Equity **2** National and urban planning **6** Capacitated cities **8** Sanitation
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	**6.2.1** Proportion of population using safely managed sanitation services, including a handwashing facility with soap and water	**1** Equity **2** National and urban planning **6** Capacitated cities **8** Sanitation
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	**6.3.1** Proportion of wastewater safely treated **6.3.2** Proportion of bodies of water with good ambient water quality	**2** National and urban planning **3** Legislation and governance **6** Capacitated cities **8** Sanitation

SDG	TARGET		INDICATOR	RELATED RECOMMENDATION
	6.4	By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity	**6.4.1** Change in water-use efficiency over time **6.4.2** Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	**1** Equity **2** National and urban planning **3** Legislation and governance **6** Capacitated cities **7** Efficiency
	6.5	By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate	**6.5.1** Degree of integrated water resources management implementation (0–100)	**2** National and urban planning **6** Capacitated cities **7** Efficiency
	6.A	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	**6.A.1** Amount of water- and sanitation-related official development assistance that is part of a government-coordinated spending plan	**2** National and urban planning **6** Capacitated cities **7** Efficiency **8** Sanitation
	6.B	Support and strengthen the participation of local communities in improving water and sanitation management	**6.B.1** Proportion of local administrative units with established and operational policies and procedures for participation of local communities in water and sanitation management	**1** Equity **2** National and urban planning **6** Capacitated cities **8** Sanitation
11	**Make cities and human settlements inclusive, safe, resilient and sustainable**			
	11.5	By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	**11.5.1** Number of deaths, missing persons and directly affected persons attributed to disasters per 100,000 population	**1** Equity **2** National and urban planning **4** Finance **5** Urban water resilience **6** Capacitated cities

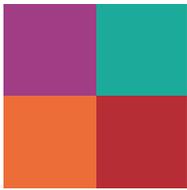| SDG	TARGET	INDICATOR	RELATED RECOMMENDATION
	11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	**11.6.1** Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities	**2** National and urban planning **3** Legislation and governance **8** Sanitation
12	**Ensure sustainable consumption and production patterns**		
	12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	**12.4.1** Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement **12.4.2** Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment	**2** National and urban planning **3** Legislation and governance **8** Sanitation
	12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	**12.5.1** National recycling rate, tons of material recycled	**2** National and urban planning **7** Efficiency
14	**Conserve and sustainably use the oceans, seas and marine resources for sustainable development**		
	14.1 By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution	**14.1.1** Index of coastal eutrophication and floating plastic debris density	**3** Legislation and governance **8** Sanitation
	14.3 Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels	**14.3.1** Average marine acidity (pH) measured at agreed suite of representative sampling stations	**3** Legislation and governance **8** Sanitation

SDG	TARGET	INDICATOR	RELATED RECOMMENDATION
17	Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development		
	Technology		
	17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism	**17.6.1** Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation **17.6.2** Fixed Internet broadband subscriptions per 100 inhabitants, by speed	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed	**17.7.1** Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology	**17.8.1** Proportion of individuals using the Internet	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	Capacity building		
	17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the sustainable development goals, including through North-South, South-South and triangular cooperation	**17.9.1** Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation

ANNEXES

SDG	TARGET	INDICATOR	RELATED RECOMMENDATION
	Systemic issues		
	17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence	**17.13.1** Macroeconomic Dashboard	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	17.14 Enhance policy coherence for sustainable development	**17.14.1** Number of countries with mechanisms in place to enhance policy coherence of sustainable development	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development	**17.15.1** Extent of use of country-owned results frameworks and planning tools by providers of development cooperation	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	17.16 Enhance the global partnership for sustainable development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the sustainable development goals in all countries, in particular developing countries	**17.16.1** Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
	17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	**17.17.1** Amount of United States dollars committed to public-private and civil society partnerships	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation

SUSTAINABLE DEVELOPMENT GOALS

2

SDG	TARGET	INDICATOR	RELATED RECOMMENDATION
17.18	By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts	**17.18.1** Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics **17.18.2** Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics **17.18.3** Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation
17.19	By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries	**17.19.1** Dollar value of all resources made available to strengthen statistical capacity in developing countries **17.19.2** Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **7** Efficiency **8** Sanitation

ANNEX 3 | SENDAI FRAMEWORK FOR DISASTER RISK REDUCTION

TARGET/GOAL	RELATED RECOMMENDATION
18 (d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;	**2** National and urban planning **3** Legislation and governance **5** Urban water resilience **6** Capacitated cities **8** Sanitation
18 (f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030.	**6** Capacitated cities
26 Disaster risk governance at the national, regional and global levels is of great importance for an effective and efficient management of disaster risk. Clear vision, plans, competence, guidance and coordination within and across sectors, as well as participation of relevant stakeholders, are needed. Strengthening disaster risk governance for prevention, mitigation, preparedness, response, recovery and rehabilitation is therefore necessary and fosters collaboration and partnership across mechanisms and institutions for the implementation of instruments relevant to disaster risk reduction and sustainable development.	**5** Urban water resilience
28 (d) To promote transboundary cooperation to enable policy and planning for the implementation of ecosystem-based approaches with regard to shared resources, such as within river basins and along coastlines, to build resilience and reduce disaster risk, including epidemic and displacement risk.	**1** Equity **2** National and urban planning **5** Urban water resilience **6** Capacitated cities
33 (c) To promote the resilience of new and existing critical infrastructure, including water, transportation and telecommunications infrastructure, educational facilities, hospitals and other health facilities, to ensure that they remain safe, effective and operational during and after disasters in order to provide live-saving and essential services;	**2** National and urban planning **5** Urban water resilience **6** Capacitated cities **8** Sanitation
33 (e) To adopt public policies and actions that support the role of public service workers to establish or strengthen coordination and funding mechanisms and procedures for relief assistance and plan and prepare for post-disaster recovery and reconstruction.	**5** Urban water resilience
34 (e) To support, as appropriate, the efforts of relevant United Nations entities to strengthen and implement global mechanisms on hydrometeorological issues in order to raise awareness and improve understanding of water-related disaster risks and their impact on society, and advance strategies for disaster risk reduction upon the request of States.	**1** Equity **5** Urban water resilience

ANNEX 4 | ACTION FRAMEWORK FOR IMPLEMENTATION OF THE NEW URBAN AGENDA (AFINUA)

KEY ITEM	DESCRIPTION	IMPLICATION FOR LOCAL AND REGIONAL AUTHORITIES	RELATED RECOMMENDATION
1 National Urban Policies (NUPs)			
1.6 Promote jurisdictional coordination and coherence.	A national urban policy promotes the horizontal coordination of policies and plans across jurisdictions for the efficient, equitable and affordable delivery of basic services and infrastructure, according to an agreed set of standards.	Local and regional authorities must be consulted and actively engaged in the development of NUPs. As actors on the ground, they can identify the real needs, challenges and opportunities in urban areas.	**1** Equity **2** National and urban planning **3** Legislation and governance **5** Urban water resilience **6** Capacitated cities **7** Efficiency
2 Urban Legislation, Rules and Regulations			
2.8 Establish national minimum standards for universal access to basic services reflecting the right to an adequate livelihood and above and beyond these minimum standards allowing for subnational variation according to need and situation.	Law must clearly support basic services policy and be regularly scrutinized. Benchmarks should be based on equitable access to water, public transport, energy, waste management, digital infrastructure and ICT.	Local authorities are more often than not responsible for the provision of basic services and are required to gather accurate information about challenges in this sector.	**1** Equity **3** Legislation and governance **8** Sanitation
3 Urban Planning and Design			
3.5 Make effective use of urban design to provide livable spaces, walkability and a sense of place.	Pay attention to plot-building interface and quality of public space (e.g. accessibility, safety, inclusivity and distribution). Provide good neighbourhood design to promote livability, sense of place, safety, walkability and access for all.	Local governments are called upon to develop and/or revise their planning and design processes to promote sustainable urban development.	**2** National and urban planning **4** Finance **5** Urban water resilience

KEY ITEM	DESCRIPTION	IMPLICATION FOR LOCAL AND REGIONAL AUTHORITIES	RELATED RECOMMENDATION
3.6 Protect and preserve natural resources and cultural heritage.	Planning and design at all scales should protect natural resources and land features, control pollution, minimize vulnerability, prioritize the use of renewable energy resources, adopt energy and resource efficiency measures, provide adequate space for parks, wildlife habitat and biodiversity hotspots. It should also preserve cultural heritage and local identity reflected in material culture and other formal elements of the urban landscape.	Local governments are called upon to develop and/or revise their planning and design processes to promote sustainable urban development.	**2** National and urban planning **4** Finance **5** Urban water resilience
3.7 Promote housing as an integrating element of urban planning.	Implementing the principles of housing at the Centre of the New Urban Agenda can help relate adequate and affordable housing strategies and interventions with diverse land/ tenure options, achieve inclusive land use that supports integrated socioeconomic groups, promote investments in infrastructure, and provide proximity and equitable access to employment, services, facilities and transport.	Local governments are called upon to develop and/or revise their planning and design processes to promote sustainable urban development.	**2** National and urban planning **4** Finance **5** Urban water resilience

ANNEXES

AFINUA

4

KEY ITEM	DESCRIPTION	IMPLICATION FOR LOCAL AND REGIONAL AUTHORITIES	RELATED RECOMMENDATION
4 Urban Economy and Municipal Finance			
4.1 Establish principles for enhancing the role of local government in fostering inclusive, equitable and sustainable urban development and strengthen local leadership capacity for inclusive municipal finance.	Principles for municipal finance, may include a cadastral register as basis for urban assets, property taxes, expenditures and local infrastructure, and transfers, etc, and must create an enabling environment and support mechanisms for local revenue generation. They must create enabling conditions for access to credit by local authorities. And they must be based on a human rights approach.	All key items call for local governments to be empowered to foster sustainable urban development.	**1** Equity **4** Finance **6** Capacitated cities
4.4 Design and implement tools for fostering inclusive local economic development (e.g. job creation, entrepreneurship, microfinance, etc).	Helping local authorities design and implement programmes and tools that improve, inter alia, value chains/supply chains, and their links with physical landscape and layout, with a particular focus on SMEs, gender- and age-sensitive employment opportunities, etc.	All key items call for local governments to be empowered to foster sustainable urban development.	**1** Equity **4** Finance **6** Capacitated cities
4.5 Help local authorities design and implement systems that ensure social, economic and safe physical access to quality basic services by all, and local economic development platforms that support community-led initiatives in service delivery.	Investments are important for municipal own-source revenue. Multi- year capital planning— including comprehensive infrastructure assessments—can help ensure productive and efficient basic services (including ICT) and networks and their maintenance and meet backlogs and anticipated demands. Such investments must be structured to encompass total economic value, including land value appreciation and all other economic, social and environmental impacts and benefits.	All key items call for local governments to be empowered to foster sustainable urban development.	**1** Equity **4** Finance **6** Capacitated cities

KEY ITEM	DESCRIPTION	IMPLICATION FOR LOCAL AND REGIONAL AUTHORITIES	RELATED RECOMMENDATION
5 Local Implementation			
5.1 Use tools that proactively address as-yet-unbuilt urban growth at the local scale (e.g. planned city extensions).	Preparedness to make room for growth where needed at multiple scales, including through planned city extensions, can ensure a sufficient supply of buildable plots and integration and connection to existing urban fabric and access to jobs and services, avoiding the development of isolated 'bedroom' communities and fragmentation of the landscape, particularly in the peri-urban continuum.	By connecting with other government bodies, from surrounding rural areas, hinterlands, cities, and national governments, local governments can plan growth that creates more sustainable and inclusive settlements.	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **8** Sanitation
5.4 Provide integrated, efficient and equitable urban service frameworks, particularly in unplanned, built urban areas.	Redistributive policies and in-situ improvements —including incremental implementation—that ensure that urban services (e.g. water, sanitation, electricity as well as food, ICT and education and health facilities) are delivered as an integrated, intersectional package go to under serviced and marginalized groups. Provision of common space for rights-of-way and improved access to open and green space.	As key actors in service provision and management, local governments must play an active role in this objective.	**1** Equity **2** National and urban planning **3** Legislation and governance **4** Finance **5** Urban water resilience **6** Capacitated cities **8** Sanitation

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