



Input to the 2020 High-level Political Forum on Sustainable Development (HLPF) *'Accelerated action and transformative pathways: realizing the decade of action and delivery for sustainable development'*

Stockholm International Water Institute (SIWI)

Who is SIWI?

SIWI is a water institute. We leverage knowledge and our convening power to strengthen water governance for a just, prosperous, and sustainable future. SIWI focuses on a range of research and development topics within and around water that support decision-makers worldwide. SIWI hosts the World Water Week, the world's leading annual water event, and awards the Stockholm Water Prize, the world's most prestigious water award, and the Stockholm Junior Water Prize to foster future generations of water excellence. SIWI also hosts several flagship programs, including the UNDP-SIWI Water Governance Facility, the International Centre for Water Cooperation (ICWC), and the Action Platform for Source-to-Sea Management (S2S Platform). SIWI is also home to the Swedish Water House, which connects Swedish water stakeholders with each other and to international processes.

Water as a catalyst for sustainable development

The UN Secretary General's Sustainable Development Goals Report 2019 implores that we as a global community undertake a much deeper, faster, and more ambitious response to unleash the transformation needed between now and 2030. We are falling disparagingly short of meeting many of the essential goals required to safeguard the natural environment and human welfare beyond 2030. What is needed now is for governments and civil society to prioritize strategies and actions on the transformative principles of the 2030 Agenda. The most efficient and effective pathway to success is to undertake an integrated approach to sustainable development, one that takes into account and ensure policy coherence among all dimensions of the SDGs. According to the latest independent assessment of Voluntary National Review reports (VNRs), only 25% of VNRs touched on linkages between the goals, and in general, less and less countries are focused on policy coherence for sustainable development (Kindornay et al., 2020).

Water, by virtue of its characteristics as an essential resource required for both human and environmental livelihoods, can help chart a truly transformative pathway to sustainable development. It plays a critical role in poverty reduction, maintaining healthy ecosystems, in the mitigation of and adaptation to climate change, and is indispensable for economic development. To accelerate the kind of urgent, efficient, and effective action needed to achieve the sustainable development agenda, it is crucial to address interconnectedness and recognise the central role of water as a catalyst for action and progress across all SDGs.

On clean water and sanitation, SDG 6, progress has been alarmingly inadequate according to UN-Water's SDG6 Synthesis Report (2018). 785 million people do not have access even to a basic

drinking water service and 3 billion people lack basic hand washing facilities at home. Furthermore, 700 million people practice open defecation. Some 2 billion people live in countries experiencing high water stress. By 2030, 700 million people could be displaced because of intense water scarcity. In the context of climate change, the number of people who may lack sufficient water, at least one month per year, will soar from 3.6 billion today to more than 5 billion by 2050 (GCA 2019). Adaptation measures that focus on water management can bring multiple benefits that consist of avoided losses, positive economic benefits through reduced risk, and social and environmental benefits.

Water is not merely a passive indicator, nor is it a discrete sector or resource. Water is a catalyst for action, for our collective pursuit of an integrated and transformative global agenda. Water can drive progress across all 17 SDGs. Moreover, water is essential to fulfilling the aims of other urgent global development Agendas such as the Paris Climate Agreement, the Addis Ababa Action Agenda, the Sendai Framework for Disaster Risk Reduction, as well as the New Urban Agenda.

Connecting the dots¹



General recommendations:

- Recognizing the interconnectedness and central role of water for the achievement of all SDGs, not only SDG 6, especially in the context of climate change. To this end, taking into consideration SDG 6 in all six sessions that constitute 2020 HLPF thematic reviews of progress on the Sustainable Development Goals such as the session on Ending hunger and achieving food security for all, Protecting the planet and building resilience, and Sharing economic benefits.
- Recognizing the central role of resilient water management in climate change adaptation and disaster risk reduction, and the multiple benefits it brings.
- Ensuring equitable access to clean, reliable water resources for both humans and nature.
- Improving transparency, accountability and participation in water governance from local to transboundary levels.
- Recognizing the key role of public, private and civil society actors working in concert through multi-stakeholder platforms and alliances.
- Recognizing water's value when it comes to both social, environmental and economic prosperity.
- Taking a human-rights based approach to water and ensuring that women, youth, indigenous populations and vulnerable groups are empowered to take action and become right holders as well as duty bearers.

Recommendations for accelerated action and transformative pathways

Strengthening human well-being and capabilities (most closely related SDGs include SDG 1, SDG 4, SDG 6, SDG 16, and SDG 17)

Access to clean water is one of the basic human rights and elementary to human dignity and development. Access to water is, for many people, a matter of daily survival or can help to break the vicious circle of poverty. Today, more than two billion people are drinking contaminated water, and as a result, every minute a child dies (GSDR, 2019). Some 844 million people live without access to any kind of water service (Ibid). Economic growth can contribute to absolute income poverty alleviation, but will not address the multidimensional poverty, which include deprivation and inequalities in access to clean water.

Water and sanitation development often focus heavily on infrastructure investments, overlooking the importance of also investing in the capacities and institutions at national, regional and local levels responsible for delivery, governance and maintenance of water and sanitation services – in other words, good water governance. Water governance refers to the political, social, economic and administrative systems in place that influence water's use and management. Essentially, water governance is about who gets what water, when and how, and who has the right to water and related services, and their benefits. It determines the equity and efficiency in water resource and services allocation and distribution, and balances water use between socio-economic activities and ecosystems. Sustainable water governance is a prerequisite for providing water resources and services for all people, uses and sectors. To ensure this, there is a need for improved transparency, accountability and inclusivity in water governance from local to transboundary levels.

Access to clean water and sanitation also underpins human well-being and capabilities linked to other areas, such as achievement of SDG 4 on inclusive and equitable quality education and lifelong learning opportunities for all. There are many water-related barriers to education, including the need for women and children to spend hours collecting water or the limited availability of sanitation services at school. Extreme weather events such as floods and drought keep children out of classrooms. Addressing local water challenges is a key element to improving opportunities for all children to learn and thrive and the achievement of SDG 4.

The UNDP Water Governance Facility

[The UNDP Water Governance Facility](#) at SIWI provides strategic water governance support to developing countries on a demand basis, to advance socially equitable, environmentally sustainable and economically efficient management of water resources and water and sanitation services.

The Facility represents a partnership between UNDP and SIWI, established in 2005 with the support of the Swedish International Development Cooperation Agency (SIDA), serving to strengthen UNDP's capacity to provide relevant policy support and advice to countries, and to build the knowledge and capacities for improved water governance within governments and civil society as well as among UN agencies.

Cooperation over shared water resources can be an important factor in strengthening political stability and peace toward the achievement of SDG 16 on peaceful and inclusive societies and to

build effective, accountable and inclusive institutions. Some 276 river basins cross the political boundaries of two or more countries and are home to about 40 per cent of the world's population. However, roughly two-thirds of these do not have a cooperative management framework. The likelihood and intensity of water conflicts is linked to the rate of physical or institutional change in the water system, as well as the strength of the cooperative institutions linking countries sharing the same water basin. Hence, very rapid changes that cannot be managed by the existing institutional capacity are at the root of most water conflicts. Good water governance can serve as a model for improving governance in general. For example, the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention) can serve as a model for promoting peace, inclusivity, transparency and cooperation between neighbouring states.

Working on water integrity, which includes key elements such as transparency, accountability and participation, is also key to building systems and decision-making processes that prevent corruption. Inclusive and equitable decision-making also require taking into account women's perspectives on water and development issues. These approaches are relevant not only to water management and can be adapted to a range of governance issues and scales.

Water diplomacy

Water diplomacy is a dynamic process that seeks to develop reasonable, sustainable and peaceful solutions to water allocation and management while promoting or influencing regional cooperation and collaboration. It enables countries to navigate this risk through the negotiation of agreements on the allocation and management of shared waters such as rivers and aquifers. Water diplomacy opens the cooperation dialogue to multiple stakeholders, including municipalities, provinces and civil society, while recognizing the mandate and responsibility of central government representatives to ensure a water-secure future for their country.

[SIWI has offered bespoke water diplomacy training courses](#) to inter-governmental organisations (such as the European Commission), river basin organisations (Mekong, Orange-Senqu, Incomati, Nile) and national governments (Botswana, Ethiopia, Kenya, Palestine, Indonesia).

Shifting toward sustainable and just economies (most closely related SDGs: SDG 5, SDG 7, SDG 8, SDG 10, and SDG 17)

Sustainable economic growth is not possible without the sustainable use of natural resources. Global freshwater resources are finite, and poor water governance have detrimental impacts on economic productivity and the availability of decent work. The shift to a sustainable circular economy in which the central role of water is fully recognized leads to the creation of more sustainable jobs and much greater social inclusion. Three out of four jobs worldwide are water-dependent (WWAP, 2016). From its collection, through various uses, to its ultimate return to the natural environment, water is a key factor in the development of job opportunities directly related to its management (supply, infrastructure, wastewater treatment, etc.) and in water-dependent economic sectors including agriculture, fishing, energy, industry and health.

Today, two thirds of the global population are estimated to live under conditions where water is scarce for at least one month of the year (Mekonnen, Hoekstra, 2016). Climate change is expected to increase that exposure, especially for disadvantaged groups such as rural households engaged in agricultural production in low income countries. Equitable access to water for agricultural production, even if only for supplemental watering of crops, can make the difference between farming as a mere means of survival and farming as a reliable source of livelihoods (WWDR 2019). While smallholder farmers constitute the backbone of national food supplies, contributing to more than half of the agricultural production in many countries, they themselves often suffer from food insecurity and malnutrition.

The GSDR (2019) states that gaps in access to water services and basic sanitation increase inequality within and across countries. The situation is worst in the LDCs, where only 32 per cent have access to basic sanitation services and only around 27 per cent have home access to handwashing facilities. The report also states that about more than half of the 844 million people without access to water services that are drinking water from unprotected sources live in Sub-Saharan Africa, and 80 per cent live in rural areas. Women and infants in low income communities in developing countries are faring the worst.

Inequalities related to WASH are reinforced and are formed by structural social, political, economic and cultural inequalities that permeates each society, but take on different expressions over time, scale and location. As a consequence, women's control and access to and use of a range of resources (e.g. land, income, social networks) and services (e.g. health, education, justice) affect and are affected by inequalities in WASH access, management and use.

Indigenous peoples and ethnic minorities also suffer disproportionately from economic, social and political marginalization and human rights violations, including poor access to water and sanitation services. As custodians of many of the world's most fragile and important ecosystems, their knowledge and participation are essential to ensure respect for their rights and to achieve equitable and sustainable water management.

Building sustainable food systems and healthy nutrition patterns (most closely related SDGs: SDG 2, SDG 3, and SDG 17)

Globally, approximately 70% of the fresh water used annually is for the production of food. By 2030, half the global population will live in water scarce areas, and the global demand for freshwater will exceed sustainable supply by 40 per cent (UNEP, 2016). This will create great challenges for a water intense sector such as conventional food production. Climate change is making extreme weather events more frequent and severe. Farmers will be hit not only by disasters such as floods and droughts, but increasingly unpredictable rainfall patterns can also cause crop failure and jeopardize food security.

Investments in rainfed agriculture are crucial to limit freshwater withdrawals for food production. This is especially the case in sub-Saharan Africa, which is one of the driest places on Earth, with highly valuable rainfall. In the coming years, rainfall variability and evapotranspiration are expected to increase, at the same time that the population will grow rapidly. To ensure food security, significant investments are needed in rainfed agriculture.

Transforming Investments in African Rainfed Agriculture (TIARA)

[The TIARA initiative](#) focuses on how rainfed agriculture and the storage and capture of green water can contribute to reduce poverty among many subsistent famers in Sub-Saharan Africa, for whom lack of water and land degradation creates food and livelihood insecurity. More than one third of people across the African continent are facing severe food insecurities and 22.8 per cent of the population in Sub-Saharan Africa are undernourished (FAO, 2019). The TIARA initiative is working to scale up rainfed agriculture across Africa through financial investments and political leadership, to address inequalities and food insecurity.

There is a need for more sustainable food systems and consumption patterns. Compared to the situation some fifty years ago, the water budget to cater for contemporary food preferences, has increased by about a ton per person and day (Lundqvist, Unver, 2018). The difference is due to an increase in average food production/supply and a higher share of animal-based foods in the preferred diets. To reverse the trend of increasingly water-intense diets, a first step is to become aware of how much water is needed to produce different kinds of food. The world, the poor as well as the rich, needs more nutritious food and efficient and fair distribution, rather than more energy dense food. Farmers must be given incentives, economic or otherwise, to contribute to a transformation where more nutrition is produced per drop. There is also a need to reduce the losses and waste of food, which includes both overeating and throwing away food, that is currently on the rise.

As acknowledged in the GSDR (2019) more efficient use of water in agriculture production in water scarce areas would potentially have much greater impact on local water availability than restrictions on household water consumption level. Hence it is important to work throughout the whole food supply chain, including foody industry and retailers, to assess sustainability of production and export due to local context and water availability.

Achieving energy decarbonization and universal access to energy (most closely related SDGs: SDG 7, SDG 12, and SDG 17)

Present water and energy systems are highly interdependent. Fossil fuel production, which is still a dominant part of the global energy mix, is highly water intensive as well as biofuel production and the growing practice of shale gas extraction – or ‘fracking’ (UN-Water, 2020). Water scarcity and variability are already increasing the vulnerability of energy systems. There is a need to recognize the need for water in mitigation and clean energy measures that otherwise risk failing due to lack of access of available water, or risk to jeopardize availability to water resources for drinking water, sanitation or environmental needs. At the same time, the growing need for water treatment and desalination to provide clean water is very energy intense. The problem is exacerbated by the fact that energy and water systems tend to be developed, managed, and regulated independently both on the national and international level. Future water and energy policy and governance will have to address this interconnectedness to properly assess synergies and trade-offs.

Water is a key factor for various global supply chains and the demand from all water-using sectors is projected to increase. Nearly half of the targets in SDG 12 require improved management and governance of water resources and wastewater treatment.

Promoting sustainable urban and peri-urban development (most closely related SDGs: SDG 9, SDG 11, and SDG 17)

By 2050, it is estimated that nearly 68 per cent of the world's population will be living in cities (UN, 2018). The "water footprint" of cities—the area of their water sources—accounts for 41% of the Earth's land surface (GSDR 2019). Water plays a critical role in enabling resilient urban development. An urban water system cannot be thought of in isolation from the hydrological context within which it sits. Industry, the environment and citizens present competing demands within the city and across the basin. For example, in the case of flooding, one cannot understand and mitigate risk without considering the upstream basins that contribute to flows through the city. In order to build the resilience of any city, one must understand and embrace the complexity of its urban water system. This means taking a holistic, water cycle approach.

City Water Resilience Approach

[The City Water Resilience Approach \(CWRA\)](#) aims to enable cities to take a holistic view of their water systems, inform decision-makers of a strategy to take forward and collaboratively build resilience to local water challenges. The objective is to create a model that can be applied nearly anywhere in the world. CWRA is a joint effort supported by the Resilience Shift and the Rockefeller Foundation and developed by Arup and SIWI, along with city partners in Amman, Cape Town, Greater Miami and the Beaches, Mexico City, Kingston Hull, Greater Manchester, Rotterdam and Thessaloniki, and with contributions from 100 Resilient Cities and the Organisation for Economic Co-operation and Development (OECD).

The development of CWRA leverages knowledge, data and lessons learnt from previous resilience work (such as the [City Resilience Index](#), [100 Resilient Cities](#) and [Welsh Water Resilience Framework](#)), fieldwork in cities conducted in 2018 and use them as a blueprint for defining the characteristics of a resilient urban water system.

Securing the global environmental commons (most closely related SDGs: SDG 12, SDG 13, SDG 14, SDG 15, and SDG 17)

Sustaining and nurturing our environmental commons is critical for our future. It is expected that by 2025, 1.8 billion people will experience absolute water scarcity and two thirds of the world population will be living under water-stressed conditions. Drought and water scarcity are considered to be the most far-reaching of all natural disasters, causing short and long-term economic, health and ecological losses (GSDR 2019). People and nature alike experience climate change primarily through impacts to the water cycle. Changes to the frequency, timing and magnitude of hydrologic events as a result of increasing temperatures are becoming the new normal. The world is experiencing a continuous rise in extreme weather events, which could destroy any developments low-income countries have made over that last decades. Extreme weather events such as extreme

heat, intense rainfall, floods, landslides, sea level rise and drought also disrupt the supporting, regulating and provisioning services of ecosystems.

Nature-based solutions, such as maintaining wetlands and green spaces to support water supply, urban runoff and temperature regulation in a city, are key for resilient water management. Forested watersheds provide an estimated 75 percent of the world's accessible freshwater resources, on which more than half the Earth's people depend for domestic, agricultural, industrial and environmental purposes (Unasylva, 2019). Sustainable forest and multi-functional landscape management is essential for good water management, and it can provide "nature-based solutions" for many water-related challenges

Water in the Landscape

[Productive, multifunctional landscapes](#) – with healthy ecosystems and a mix of trees, forests and agricultural lands – support and regulate the hydrological cycle whilst contributing to climate change mitigation and adaptation. Water resource management that supports the productivity of landscapes is key to poverty reduction and improved livelihoods for people, production of raw materials, enhanced biodiversity, and maintenance of the water cycle. Strengthening multilevel governance arrangements that enable genuine stakeholder participation is key. Sustainable water resource management in landscapes supports several SDGs and provides important links between SDG 2 on Zero Hunger, SDG6 on Clean Water and Sanitation, SDG 12 on Sustainable consumption and production, SDG13 on Climate Action and SDG15 on Life on Land, as well as contributing to achieving the Paris Agreement.

Oceans play a central role in regulating temperature and precipitation, transporting heat across the globe and as important carbon sinks. The dynamic interface between land and oceans captures a key development and environmental challenge of our time. Unsustainable human activities are imposing a heavy burden on water related ecosystems. Approximately 8 million tons of plastic enter the ocean from land-based sources every year (IUCN, 2018). Nutrient loads from unmanaged agricultural runoff and inadequate wastewater treatment continue to cause eutrophication and spread of dead zones in our coastal and marine waters. Globally over 80% of all wastewater is discharged without treatment causing ecological damage, health risks and economic loss (WWDR, 2017). Flows of some rivers are so highly diverted that little water actually reaches the sea, robbing coastal ecosystems of the water, sediment and nutrients they need. The degradation of freshwater and marine environments has a direct impact on crucial ecosystem services and thereby on livelihoods and food security, especially for the poorest people.

Source to Sea (S2S) Platform

[The Action Platform for Source-to-Sea Management](#) is a multi-stakeholder initiative that helps freshwater, coastal and marine experts to contribute to global knowledge generation on source-to-sea interconnections, connect and engage in collaborative projects, promote best practices, and take collaborative action to improve the management of land, water, coastal and marine linkages. The approach involves system-wide thinking and acknowledges the interdependencies of flows and services throughout river basins, deltas, coasts and marine areas. By addressing these linkages, it is possible to achieve much-needed coordination across institutions, sectors and public uses.

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