"New Water" under Scarcity

The Challenge: The effects of water scarcity are intensifying variably all over the world. Besides increasing numbers of extreme weather events, human-induced impacts on water quality and poor governance exacerbate the water scarcity problem.

150-200 million

Number of people will be displaced due to extreme weather events globally by 2050. *(UN WWDR, 2018)*

+$100 billion

Cost of droughts over European economy over the past three decades *(European Commission, 2019)*

Is it possible to be indifferent to water scarcity?

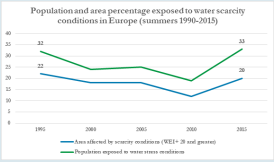
Water scarcity is commonly described as the physical absence of freshwater to meet the water demands for human, sectoral and ecological needs.
Because water resources are distributed unevenly across regions, it is estimated that nearly one-third of the global population (2.1 billion people) living under extreme water scarcity conditions do not have access to safely managed drinking water services, whereas the number of people who do not have access to safely managed sanitation services is 4.2 billion (WHO, 2019) .
However, assuming that "relatively less water stressed two-third of the population will be exempt from extreme scarcity risks in the future" could be a short sighted proposition.

1 in 3 people globally do not have access to safe drinking water

The scarcity trend is likely continue to escalate

The long term projections reveal that water scarcity will continue to exacerbate in most regions. Even Europe, with its relatively abundant freshwater resources, is more frequently experiencing conditions of water scarcity.

The Water Exploitation Index (WEI+) reveals that 20% of the European landscape is already affected by water scarcity conditions (European Commission, 2012). It is estimated that the number of European river basins affected by water scarcity will increase by up to 50% by 2030.



Source: European Environmental Agency, 2019

Searching for "New Water": Integrated Solutions to Overcome Scarcity

The complex nature of water scarcity challenges does not allow for one-size-fits-all approach. Instead, a catalogue of solutions can help building up an inventory of integrated water management options. The following key messages can be considered by decision makers at all levels to implement 'new water' solutions to overcome various facets of water scarcity. **The 'new water' concept may refer to a range of solutions for improving water efficiency capacity; including water reuse, recycling, treatment, water saving, stormwater management, rainwater harvesting, as well as measures to increase governance capacity.**

KEY MESSAGES:

1. Start with understanding interactions, challenges, trade-offs and opportunities around UN SDGs and water scarcity through **stakeholder mapping, dialogue and engagement.**

2. Leave no one behind without access to water, sanitation and hygiene (WASH) services by any means possible, including **cost-efficient solutions at local or household level.**

3. Give priority to **equitable, resource-efficient, demand management solutions** to decouple water use from economic growth.

4. Implement **climate-smart applications with multiple benefits** to mitigate the effects of climate change.

5. Monitor the progress and uptake the best-practices with **Living-Lab applications that allow for user centered research and innovation processes** with public-private-people partnerships.

Projects to contribute "New Water" Solutions:*

*Click on acronyms to access project web pages

The following projects implemented by the Water4SDGs Knowledge Hub experts are aspiring for the success of proposed key messages.

i. The SDG Interlinkages Project, South Africa: The project brings SDG interlinkages to the surface and highlights areas where governance can be improved at national level, both within the water sector and beyond, in order to take advantage of synergies and minimise trade-offs across.

ii. PANIWATER and WATERSPOUTT: These projects utilize several innovative technologies to treat water and wastewater at household level to produce new water for drinking, sanitation and irrigation purposes.

iii. ENJUSTESS: The project fosters stakeholder dialogue to analyse the notion of equity with regards to access to ecosystem services, while developing new governance mechanisms.

iv. MADFORWATER: The project aims to develop integrated demand management approaches by focusing on capacities of wastewater treatment (supply) and water reuse in agriculture (demand) in selected basins in Egypt, Morocco and Tunisia.

v. InSpect: The project aims to develop novel sampling and treatment methods to remove micropollutants from water.

vi. POLDER ROOF: The aim of the project is to design, install and monitor the performance of prototype green roofs with multiple functions including rain-water harvesting, flood management, heat reduction and urban farming that supports climate smart agriculture.

vii. CLEAN WATER: The project develops new methods for identifying sewage flows in the stormwater systems and early warning systems in cases of risk.

viii. PAVITRA GANGA: The project promotes Circular Economy principles to exploit the economic opportunities of waste-to-energy, water reuse and resource recovery, while fostering participatory monitoring approaches and training activities at two living-lab sites in India.

ix. ATeNaS: The project team closely collaborates with city planners, practitioners and managers to create, evaluate, select, and suggest re-design of Nature Based Solutions (NBS) for stormwater management and natural cycling of water for improved ecosystem services.

x. DEPCAT: The project develops new equipment that combines oxidation processes aiming the degradation of organic pollutants and water disinfection to increase water reuse capacity under living-lab conditions.

About the Water4SDGs Knowledge Hub

Motivated by providing a fresh impetus to international collaboration and knowledge dissemination activities, the second Knowledge Hub of the Water JPI was launched in December 2019. Abbreviated as the **Water4SDGs**, the new Knowledge Hub is a platform to transfer recent knowledge on water across international communities by producing outputs and organizing workshops. The Water4SDGs Knowledge Hub specifically addresses the global water challenges posed against achieving UN Sustainable Development Goals (UN SDGs) under the theme "New Water under Water Scarcity". Currently fifteen water experts from eight Water JPI members countries are actively involved in the knowledge hub activities.

For more information about the Water4SDGs Knowledge Hub and to access the full version of the policy brief please visit:

http://www.waterjpi.eu/implementation/thematic-activities/water-jpi-knowledge-hub-1/knowledge-hub-on-un-sdgs